TOWN OF LEDYARD
CONNECTICUT

741 Colonel Ledyard Highway
Ledyard, Connecticut 06339

Water Pollution Control Authority

~ AGENDA ~

Chairman
Ed Lynch

Regular Meeting

Tuesday, October 28, 2025 **6:30 PM** **Council Chambers - Hybrid**

REMOTE MEETING INFORMATION

Zoom Meeting:
https://us06web.zoom.us/j/82809055115?pwd=Qojwskvxi1A3puAQAYaitfvmono6EM.1
Meeting ID: 828 0905 5115
Passcode: 314220
One tap mobile
+13052241968,,82809055115#,,,,*314220# US

I. CALL TO ORDER

II. ROLL CALL

III. APPOINTMENT OF ALTERNATES

IV. PLEDGE OF ALLEGIANCE

V. RESIDENTS & PROPERTY OWNERS COMMENTS

1. Habitat for Humanity development update from Sarah Lufler, Executive Director of Habitat for Humanity.

VI. REVIEW AND APPROVAL OF MINUTES

1. Motion to APPROVE the Regular Meeting Minutes from September 23, 2025.

   Attachments: WPCA minutes 9-23-25

VII. COMMUNICATIONS AND CORRESPONDENCE

1. Operations Report.

   Attachments: Hydraulic Model PO
   Ledyard_water_systems_report_20251020

2. Service Correspondence.

Attachments: Water_Rate_Increase_communication
2023 - 2025 Water Rate Schedule
2026-2028 Water Rate Schedule
Thompson_St_Water Main_Ledyard_20251014
Thompson_Street_water_Main_repair_notice
Project Map- Thompson St Water Main Replacement 10-20-25

3. Aged Reports/Finance.

4. Year to Date Water/Sewer Report.

5. PSR - Steve Banks.

Attachments: October 2025 PSR

6. Groton Utilities Hydraulic Model Calibration, Field Verification, and Water Age Analysis letter dated September 29, 2025.

Attachments: GU hydraulic model update and water age analysis 9-29-25

VIII. OLD BUSINESS

1. 15 Stoddards Wharf Road Sewer Request.

Attachments: Water Main Extension Agreement_15_Stoddard_Wharf_Road

2. Lead Survey Proposal Review Sewer Decision.

Attachments: Ledyard Lead and Copper Rules Revisions Compliance RFQ 2026-02
Ledyard_LCRR Compliance_103063882 Arcadis
Town of Ledyard LCRR Compliance Program_H2M_Digital
Weston & Sampson_Lead and Copper Rules Revisions Compliance – RFQ 2026-02
Clean_Lead_Survey_Spreadsheet
Clean_Lead_Survey_Spreadsheet_EBL
Meeting with Ledyard 10.22.2025

3. Holmberg Pump Repair and Preventive Maintenance.
The approval of the repair to the Holmberg tank emergency fire pump and 5-year maintenance agreement.

Attachments: Ordinance_Proposal
City of Groton Holmberg PM
Invoice_2831L_from_Northeast_Pumps

4. Ordinance Update Proposal amend section 3 of ordinance ORD200-001 rev1 - discussion. What is the maximum emergency number for exclusion of ordinance?

Attachments: ORD 200-001 (rev.1) Ordinance for Purchasing January 2022 (1)
Ordinance_Proposal

5. Rate Increases - discussion.

6. CUSI Purchase Order Approval.

   Attachments: Contracts Invoice-INVC-13024 (1)

7. Hydraulic Model Purchase Order Approval.

   Attachments: Hydraulic Model PO

8. Any Other Old Business to Come Before the Commission.

IX. NEW BUSINESS

1. Motion to APPROVE the WPCA 2026 Calendar Year Meeting Schedule as written.

   Attachments: WPCA meeting schedule 2026

2. WPCA Town Council Presentation.

   Attachments: ACTION LTR-TOWN COUNCIL MTG-2025-10-08
   Governance Training Presentations Reqeusted-Community Relations
   DEI-Memo-2024-10-24
   Ledyard WPCA Town Council presentation

3. Discussion and possible approval of extending the "east-west" spur to the eventual Tri-Town Trail (TTT) along Stoddards Wharf Road to the Gales Ferry Schools complex/Route 12 over an existing Groton Utilities easement for water pipes.

   Attachments: Email Dennis Main email 10-22-25
   L0153 - GU easement for water pipe on SWR - Pfizer

4. 7000 gallon/day leak at Gales Ferry residence at curve stop before the meter.

5. Any Other New Business to Come Before the Commission.

X. ADJOURNMENT

DISCLAIMER: Although we try to be timely and accurate these are not official records of the Town.

TOWN OF LEDYARD

741 Colonel Ledyard
Highway
Ledyard, CT 06339-1511

File #: 25-2541 **Agenda Date:** 10/28/2025 **Agenda #:** 1.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Habitat for Humanity development update from Sarah Lufler, Executive Director of Habitat for Humanity.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

File #: 25-2676 **Agenda Date:** 10/28/2025 **Agenda #:** 1.

MINUTES

Minutes:
Motion to APPROVE the Regular Meeting Minutes from September 23, 2025.

TOWN OF LEDYARD

Water Pollution Control Authority

Meeting Minutes

741 Colonel Ledyard Highway
Ledyard, Connecticut 06339

Chairman
Ed Lynch

Regular Meeting

Tuesday, September 23, 2025 **6:30 PM** **Council Chambers - Hybrid**

I. CALL TO ORDER

The meeting was called to order by Chairman Lynch at 6:30 p.m.

II. ROLL CALL

Present	Board Member Terry Jones
	Board Member Stanley Juber
	Board Member Sharon Wadecki
	Board Member Edmond Lynch
	Alternate Member James A. Ball
Excused	Board Member Monir Tewfik
Alternate	Alternate Member Jeremy Norris
	Alternate Member Tony Capon

Jeremy Norris was present via Zoom.
Also in attendance;
Mauricio Duarte, Groton Utilities General Foreman Water Operations.

III. APPOINTMENT OF ALTERNATES

Jim Ball was appointed as a voting member.

IV. PLEDGE OF ALLEGIANCE

V. RESIDENTS & PROPERTY OWNERS COMMENTS

None.

VI. REVIEW AND APPROVAL OF MINUTES

1. Motion to APPROVE the Regular Meeting Minutes from August 26, 2025.

RESULT: APPROVED AND SO DECLARED
MOVER: Edmond Lynch
SECONDER: Sharon Wadecki

AYE 5 Jones Juber Wadecki Lynch Ball

EXCUSED 1 Tewfik

VII. COMMUNICATIONS AND CORRESPONDENCE

1. Operations Report.

Mr. Jones asked for more details about the three leaks that were detected. Mauricio Duarte, Groton Utilities General Foreman Water Operations said that two of the leaks were in the Barry Drive area and the third one was on OakRidge Drive, all three are in Gales Ferry. Nothing was found in the Highland area. Mr. Duarte reported that the work on Thompson Street in the Highlands is planned to start in two weeks.

RESULT: DISCUSSED

2. Service Correspondence.

The Commissioners will review the rates that Groton Utilities charges to see if the WPCA rates need re-vamping.

RESULT: DISCUSSED

3. Aged Reports/Finance.

No comments.

4. Year to Date Water/Sewer Report.

Ms. Wadecki said that she would like to see last fiscal year's year-end report. She added that it will be helpful when creating next year's budget.

RESULT: DISCUSSED

5. PSR - Steve Banks.

Smith & Loveless finally sent the module for the screen/compactor/ washer. The unit is back up and running well.

Chairman Lynch pointed out that the report said that the flows are currently under 100,000 gallons per day. The groundwater table is negligible.

VIII. OLD BUSINESS

1. 15 Stoddards Wharf Road Sewer Request.

Chairman Lynch said that the developer would like to put in 103 units and added that the WPCA has approval from Weston & Sampson that would allow usage of 90 gallons per day per unit. The 12 commercial units are a possible concern. The average estimated usage is 1,000 gallons a day but that depends on what kind of commercial business goes into the unit. Chairman Lynch said for example if a Starbucks is put in a commercial unit the average usage would be approximately 5,000 gallons a day. Chairman Lynch said there would need to be a caveat in the agreement that if more than 1,000 gallons a day is used by the commercial units the agreement will need to be re-negotiated.

ACTION ITEM:
Chairman Lynch will draft a Stoddards Wharf sewer installation commitment letter including a caveat for the Authority to review in the event more sewer needs to be processed.

RESULT: DISCUSSED

2. SCWA/WPCA Exclusive Service Area Agreement – WUUC Meeting update.

Chairman Lynch said the vote by the WUUC to approve the swap was 6-0. The next step is to have the topical maps created of the new service areas which the WUUC will have a contractor create.

RESULT: DISCUSSED

3. Review and approve the request for CUSI software upgrade – continued.

Chairman Lynch reported that Tina Daniels, Groton Utilities Customer Service General Manager gave a rough estimate of the cost of conversion to GU's billing system of $400,000 for 1,400 customers which the Authority agreed is too costly. There was question as to when the one-time migration fee of $15,000 would be due, Ms. Wadecki thought it was the end of the calendar year. The funds would be taken from Capital.

ACTION ITEM:
Chairman Lynch said he would ask Ms. Daniels for a due date and invoice for the one-time migration fee and the annual fee.

RESULT: DISCUSSED

4. Lead Survey Meeting Summary with Groton Utilities. Status of grant submittal.

There is no news on the grant yet.

5. Holmberg Pump Repair and Preventive Maintenance.
The approval of the repair to the Holmberg tank emergency fire pump and 5-year maintenance agreement.

Chairman Lynch told Mr. Duarte that the WPCA needs a single invoice for the repair of the pump. Ms. Wadecki said the issue is that the invoice needs to be billed to the WPCA not Groton Utilities. Ms. Jones added that another solution would be for GU to pay the invoice, then bill the WPCA.

Mr. Duarte said after the WPCA approved the preventative maintenance contract he called Cummins and scheduled the first maintenance. He added that the WPCA should see the first installment invoice come through soon.

Chairman Lynch said Ian Stammel, Assistant Finance Director sent him an email prior to the meeting with a new invoice that will need addressing. The invoice was not put on the agenda because Mr. Stammel contacted GU to ask for the invoice to be separated into single invoices and for the work order numbers to be corrected. At the time of this meeting, the correction has

not been completed yet.

RESULT: DISCUSSED

6. Motion to APPROVE payment of Groton Utilities invoice #0028441, dated July 31, 2025, in the amount of $4,539.68, for Ledyard Bike path support SVCS.

The Authority stated that this invoice #0028441 from Groton Utilities for Ledyard Bike path support SVCS is not the responsibility of the WPCA.

ACTION ITEM:
Chairman Lynch needs to contact Steve Masalin, Public Works Director to resolve this issue.

RESULT: NO ACTION

7. Any Other Old Business to Come Before the Commission.

None.

IX. NEW BUSINESS

1. Ordinance Update Proposal amend section 3 of ordinance ORD200-001 rev1.

Chairman Lynch said he spoke with Mayor Allyn III about the WPCA emergency repairs bid waiver issue. Chairman Lynch said that GU goes through their own purchasing process in vetting best cost/qualification and in an emergency, and it would seem unproductive for the Town to repeat this process. Ms. Wadecki added that GU should be on the approved list of contractors not requiring a bid waiver and that the WPCA should not have to go out to bid for anything that GU is doing for the WPCA as GU is a single provider. Chairman Lynch said that the WPCA is at a disadvantage because they do not have a Liaison present at their meetings as they did when Bill Saums was on the Town Council.

ACTION ITEM:
Chairman Lynch will make a request to have Groton Utilities added to the Town's approved contractor list not requiring bid waivers.

RESULT: DISCUSSED

2. 15 Stoddards Wharf Commitment Letter discussion.

Discussed previously in the meeting.

3. Any Other New Business to Come Before the Commission.

Master Meter Route 12 request to Preston to assign an address for Eversource billing.

Motion to APPROVE payment of Groton Utilities invoice #0028508, dated August 31, 2025, in the amount of $832.24, for lead inventory.

RESULT: APPROVED AND SO DECLARED
MOVER: Edmond Lynch
SECONDER: Sharon Wadecki

AYE 5 Jones Juber Wadecki Lynch Ball

EXCUSED 1 Tewfik

X. ADJOURNMENT

Motion to ADJOURN the Regular Meeting at 7:20 p.m.

RESULT: APPROVED AND SO DECLARED
MOVER: Edmond Lynch
SECONDER: Sharon Wadecki

AYE 5 Jones Juber Wadecki Lynch Ball

EXCUSED 1 Tewfik

DISCLAIMER: Although we try to be timely and accurate these are not official records of the Town.

TOWN OF LEDYARD

741 Colonel Ledyard
Highway
Ledyard, CT 06339-1511

File #: 25-2673 **Agenda Date:** 10/28/2025 **Agenda #:** 1.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Operations Report.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

PURCHASE ORDER CURRENT LIST

```
Purchase Order       Type: Normal      Fiscal Yr/Per 2026/04     PO# 20262231
   Batch             1                 PO Date       10/20/2025
   Requisition       0000000
   Department Code   0505              WATER
   Allocation Code   00000000
   Buyer ID          6695ista          Ian Stammel
   Needed By Date
   General Commodity
   Vendor            901937            GROTON UTILITIES
                                       295 MERIDIAN ST
                                       GROTON, CT 06340
   Ship To Address   WATER             WATER DEPARTMENT
                                       TOWN OF LEDYARD
                                       741 COLONEL LEDYARD HIGHWAY
                                       LEDYARD, CT 06339
   Ship To Reference
   Shipping Method
   Bill To Address   WATER             WATER DEPARTMENT
                                       TOWN OF LEDYARD
                                       741 COLONEL LEDYARD HIGHWAY
                                       LEDYARD, CT 06339
   PO Description    Hydraulic Model
   Special Handling  None       Status Posted            Distribution 1

   Total PO Amount       $12,250.00
     Liquidated              $ 0.00
   Open Encumbrance      $12,250.00


Line Item Details
   Line 001   Commodity
       Req          Qty           1.00 UOM  EACH       Unit Price     12,250.00000
       %Disc   0.00 Credit        0.00 Freight         0.00 Sales Tax         0.00
       ------------------------------------------------------------------------
                                  Line Item Total     $12,250.00
       Qty Received        0.00    Liquidated            $ 0.00
       Qty Canceled        0.00    Canceled              $ 0.00
                             Line Item Open Encumbrance $12,250.00
       ------------------------------------------------------------------------
       Description
              Hydraulic Model
       ------------------------------------------------------------------
       Department  0505   1099 Box    Capital AssetN Needed By
       Quote      Bid
       Work Order:      Task:
       ------------------------------------------------------------------
       Allocation Details
           Org       Obj     Proj  Description              Encumbered Amt Bud
           ------------------------------------------------------------------
           51510101  58915         UNDESIGNATED               $12,250.00   U
                                          Liquidated              $ 0.00
                                          Canceled                $ 0.00
                                Allocated Open Encumbrance     $12,250.00
```

GROTON UTILITIES

Subject: **Ledyard Water Systems**
Monthly Report: September/October 2025

To: Ed Lynch, WPCA Chairman
Cc: Joseph Pratt, Manager Water & Wastewater

From: Mauricio Duarte

Date: October 20, 2025

Water Operations and Maintenance Monthly Report and Updates for 9/15 to 10/15/2025.

Operations:

- Daily rounds of all systems
- Operation and maintenance
- Manage water storage tanks.

Laboratory:

- Distribution system sample testing per CTDPH schedule (microbiological & physical analyses). All results met CTDPH standards.

- Submitted results of monthly microbiological & physical analyses to CTDPH via CMDP (Compliance Monitoring Data Portal) as required.

- Completed data entry and e-mailed all required monthly forms to CTDPH.

- Blending of raw water sources at the Groton WTP continues to reduce total organic carbon, thereby reducing the THMs leaving the WTP, and helping to reduce THMs in the Ledyard Center and Gales Ferry systems.

- Routine flushing of specific hydrants and blow-offs continues to be conducted, assisting LWPCA to reduce water age in both the Ledyard Center and Gales Ferry systems, as part of our efforts to maintain the lowest THM levels possible in both systems. This flushing will continue through October, until reduced water temperatures decrease the production of THMs in both water systems.

- The Gales Ferry TTHM OEL calculation (Q3) required an OEL report to be prepared and submitted to DPH for Q3 2025. Please see previous comment regarding efforts to reduce water age. That report is Work in Progress and will be submitted in October. The Q3 TTHM result did not trigger an NOV. Gales Ferry water system is in compliance with THM/HAA5 regulations.

- Q3 TTHM results for Ledyard Center brought 13 Village Dr. back into compliance; the Ledyard Town Hall site remains in compliance.

- By late September LWPCA still had not received the NOV notice that was anticipated for 13 Village Dr., for Q2 2025. An e-mail was sent to Cindy Sek in late September inquiring about this, and the following day she confirmed that the RAA calculation exceeds the MCL (Q3 result = 0.081 mg/L), and that an NOV will be issued. She stated that someone from DPH will call us to advise us on steps to take; in addition, an NOV letter will be forthcoming from DPH to Ledyard. Work to prepare the notice to the customers will begin as soon as is practicable.

Distribution:

- **Meter and ERT Box Repair:**
  Routine monthly repairs were completed for various meters and ERT boxes. Trouble sheets were addressed for both the Ledyard and Gales Ferry service areas.

- Assisted Woodard & Curran in connecting the Ledyard and Gales Ferry systems at the Preston line that feeds into Norwich. Issues were identified with the registers on both meters, once connected to SCADA, faulty readings were confirmed. Replacement parts have been received, and the meters are scheduled for repair later this week.

- **Leak Detection and Repairs:**
  We have completed repairs on three of the four leaks identified by the leak detection contractor:

  10 Mill Cove Road – Repaired a leaking 1” water service, the leak did not surface but was successfully located and repaired.

  Fire Hydrant Leak – The leaking hydrant has been turned off, due to age and condition, replacement is recommended.

  Village Drive – The leak was traced to the flushing line, which has since been turned off.

  8 Smith Pond Road – The leak is on the customer’s side of the service. We are currently in communication with the property owner and assisting as needed to complete repair.

- **Daily Operations:**
  Routine responsibilities continue, including "Call Before You Dig" mark-outs and scheduled inspections of tanks and pump stations.

File #: 25-2679 **Agenda Date:** 10/28/2025 **Agenda #:** 2.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Service Correspondence.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

Hi Tina - sorry I have not replied to this as things have been way too busy for a volunteer - anyway - see my spread sheet attached as it shows the percent increase. The 11% in January is a whopper! We did accumulate a 4% increase this past July and so we should have in the bank a modest amount of money put away for July, August, and September and we should continue with that increase until January 1. We anticipated an increase in October of 6% so again we should be OK, but after January - well - we will run short until we ask for another increase by 1 July 2026. My one question is are the estimated numbers you show below. So starting on 1 October we see an increase in water purchase (typical 2024) of $3,968.32 and after 1 January an additional increase of $4,087.63 so a total of $8055.95 per month. Because we anticipated a 6% increase and not an 11% increase, we might fall short about $3,000/month or about $18,000 until we ask for another rate increase. This would represent about another 4 to 6% increase (our budget reflects more than just water cost so it is not a % to % same increase.

Anyway - thanks for the heads up.

Ed Lynch, WPCA

Mobile 646-732-9224

On September 15th, The City of Groton, City Council approved increases to the current water rate schedule through 2028. We want to assure you that this decision was made with careful consideration for the long-term health of our water infrastructure and our financial responsibilities.

We recognize that a rate increase is never easy, and we share your concern about rising costs. The national trend of increasing water rates—at nearly double the inflation rate—is a challenge we're also facing locally. is due to aging infrastructure, new regulations, and rising costs for essential resources like energy, chemicals, and labor.

The Ledyard WPCA will see an estimated average increase of $8,500 per month by mid-2026. While these increases are necessary, please know we are committed to minimizing the impact on our customers. We are actively pursuing all available funding, including state and federal grants, to offset these costs. Additionally, we are investing in technology like automated meter reading (AMR) and have recently completed a leak detection survey to improve efficiency and reduce water loss.

Our goal is to continue providing high-quality drinking water to southeastern Connecticut for generations to come. We appreciate your understanding and are dedicated to serving our community as a premier water utility. Please feel free to reach out with any questions.

Estimated Increase effective, October 1, 2025, = $3,968.32

Estimated Increase effective, January 1, 2025, = $4,087.63

***Estimates are based on 2024 usage

Tina M Daniels

General Manager|Customer Service

A picture containing logo

Description automatically generated

860.446.4006 | danielst@grotonutilities.com

www.grotonutilities.com

GROTON UTILITIES
295 Meridian Street
Groton, Connecticut 06340

WATER RATE SCHEDULE FOR GROTON UTILITIES

BILLED ON AND AFTER October 1, 2023, October 1, 2024, October 1, 2025 respectively

AVAILABILITY: Year-Round Water Service for use in a single or multi-family dwelling, business, or industrial establishment. Temporary water service can be available providing all Rules and Regulations of this Department have been met.

1. MONTHLY RATE IS THE SUM OF THE SERVICE CHARGE AND THE CONSUMPTION CHARGE:

   a. The Monthly SERVICE CHARGE is based on meter size:

Service Charges			
Meter Size	**October 1, 2023**	**October 1, 2024**	**October 1, 2025**
5/8" or 3/4"	$ 19.00	$ 19.25	$ 19.50
1"	$ 26.00	$ 26.50	$ 27.00
1.5"	$ 35.00	$ 36.00	$ 37.00
2"	$ 67.00	$ 68.25	$ 69.50
3"	$ 148.00	$ 150.00	$ 152.00
4"	$ 218.00	$ 221.00	$ 224.00
6"	$ 385.00	$ 410.00	$ 425.00
8"	$ 700.00	$ 760.00	$ 775.00
10" or Larger	$ 1,300.00	$ 1,300.00	$ 1,300.00

   b. The Monthly CONSUMPTION CHARGE is based on the number of Cubic Feet (CF) recorded on the meter during the billing month in accordance with this schedule:

Consumption Charge - Cubic Feet (CF) Per Month			
Consumption	**October 1, 2023**	**October 1, 2024**	**October 1, 2025**
First 10,000 CF	$ 0.050300	$ 0.051600	$ 0.053000
Additional CF	$ 0.041200	$ 0.044100	$ 0.046500

2. HYDRANT AND FIRE SPRINKLER ANNUAL CHARGES:

Fire Sprinkler Annual Service Fee			
Connection Size	**October 1, 2023**	**October 1, 2024**	**October 1, 2025**
Hydrants	$ 588.00	$ 594.00	$ 600.00
2"	$ 72.00	$ 75.00	$ 78.00
3"	$ 126.00	$ 132.00	$ 138.00
4"	$ 225.00	$ 234.00	$ 243.00
6"	$ 420.00	$ 438.00	$ 456.00
8"	$ 720.00	$ 750.00	$ 780.00
10"	$ 1,020.00	$ 1,080.00	$ 1,140.00

3. TERM OF SERVICE: Water Service is on an annual basis. Seasonal Service requires payment of Twelve (12) Monthly Service Charges plus any Consumption Charge incurred.

GROTON UTILITIES
295 Meridian Street
Groton, Connecticut 06340

WATER RATE SCHEDULE FOR GROTON UTILITIES

BILLED ON AND AFTER January 1, 2026, October 1, 2026, October 1, 2027, October 1, 2028, respectively

AVAILABILITY: Year-Round Water Service for use in a single or multi-family dwelling, business, or industrial establishment. Temporary water service can be available providing all Rules and Regulations of this Department have been met.

1. MONTHLY RATE IS THE SUM OF THE SERVICE CHARGE AND THE CONSUMPTION CHARGE:

   a. The Monthly SERVICE CHARGE is based on meter size:

Service Charges				
Meter Size	January 1, 2026	October 1, 2026	October 1, 2027	October 1, 2028
5/8" or 3/4"	$ 20.00	$ 20.50	$ 21.00	$ 21.50
1"	$ 30.00	$ 35.00	$ 42.00	$ 46.00
1.5"	$ 45.00	$ 55.00	$ 68.00	$ 86.00
2"	$ 86.00	$ 105.00	$ 130.00	$ 160.00
3"	$ 190.00	$ 235.00	$ 295.00	$ 375.00
4"	$ 280.00	$ 360.00	$ 445.00	$ 520.00
6"	$ 525.00	$ 650.00	$ 825.00	$ 1,050.00
8"	$ 950.00	$ 1,200.00	$ 1,525.00	$ 1,900.00
10" or Larger	$ 1,600.00	$ 1,980.00	$ 2,400.00	$ 2,750.00

   b. The Monthly CONSUMPTION CHARGE is based on the number of Cubic Feet (CF) recorded on the meter during the billing month in accordance with this schedule:

Consumption Charge - Cubic Feet (CF) Per Month				
Consumption	January 1, 2026	October 1, 2026	October 1, 2027	October 1, 2028
First 10,000 CF	$ 0.054500	$ 0.058600	$ 0.063000	$ 0.067900
Additional CF	$ 0.049500	$ 0.055000	$ 0.061100	$ 0.067900

2. HYDRANT AND FIRE SPRINKLER SERVICE – ANNUAL CHARGES:

Hydrants & Fire Sprinkler Annual Service Fee				
Connection Size	January 1, 2026	October 1, 2026	October 1, 2027	October 1, 2028
Annual Hydrant	$ 675.00	$ 750.00	$ 825.00	$ 900.00
Fire Sprinkler 2"	$ 87.00	$ 96.00	$ 102.00	$ 111.00
Fire Sprinkler 3"	$ 153.00	$ 168.00	$ 183.00	$ 198.00
Fire Sprinkler 4"	$ 261.00	$ 279.00	$ 297.00	$ 318.00
Fire Sprinkler 6"	$ 510.00	$ 564.00	$ 621.00	$ 675.00
Fire Sprinkler 8"	$ 891.00	$ 1,002.00	$ 1,116.00	$ 1,227.00
Fire Sprinkler 10"	$ 1,260.00	$ 1,380.00	$ 1,500.00	$ 1,620.00

3. TERM OF SERVICE: Water Service is on an annual basis. Seasonal Service requires payment of Twelve (12) Monthly Service Charges plus any Consumption Charge incurred.

GROTON UTILITIES

October 14, 2025

Dear Customer:

This letter is to notify you of an upcoming water system project on Thompson Street and the intersection of Highland Drive. This work is being completed ahead of the Town of Ledyard's paving of Thompson Street, planned for Spring of 2026. In continuing efforts to improve water quality and the Ledyard water system infrastructure, Groton Utilities will be installing approximately 300 feet of replacement water main. Work will include trench excavation and the installation of new piping on the south side of the street and a connection to the water main on Highland Drive. After the water main and valves are installed water service reconnections will be made to the new water main.

The tentative schedule for mobilization to the site is Friday, October 17, 2025. The project is scheduled to begin the week of October 20 with work hours scheduled from 7:30 am – 2:30 pm on weekdays. The estimated completion date for this project is November 21, 2025.

Water service will remain undisturbed for most of the project. There will be a temporary shutdown and loss of water for customers, when connecting the existing water services to the new water main. Groton Utilities will notify customers before any planned shutdowns. You may also check Groton Utilities Outages web site for updates.

Groton Utilities would appreciate your cooperation by parking all vehicles in driveways during work hours; this will leave both sides of the street open throughout the duration of the construction project. Groton Utilities will be sharing information on this project with Ledyard Dispatch, Police and Fire Departments, as well as the school bus company. Garbage trucks and mail carriers will have normal access to residences.

We regret any inconvenience this important work may cause and thank you for your cooperation. Water is always available at Groton Utilities Water Treatment Plant located at 1240 Poquonnock Road.

In the event of any ***water emergency*** please contact Groton Utilities Customer Care at ***860-446-4000***.

Sincerely,
GROTON UTILITIES
Water Project Manager

Kate Blacker
Project Manager
860-625-0720

295 Meridian Street
Groton, CT 06340
T 860-446-4000 F 860-446-4098

Good afternoon,

This email is sent on behalf of Groton Utilities to share information on upcoming work for Ledyard’s water system in the Highlands neighborhood.

Groton Utilities will be replacing a water main on Thompson Street, off of Highland Drive. This work will precede the Town of Ledyard’s paving of Thompson Street planned for Spring 2026. The water main work is scheduled to begin next week, Monday October 20th and proceed for approximately one month. Working hours are planned from 7:30 – 3:00 Monday through Friday. The project will involve excavation in the street the entire length of Thompson with a connection to the existing water main near house #58 on Highland Drive.

The attached map and notification letter are being shared with the neighborhood residents. This email is to ensure the Town departments are informed of this work. Please share the information if it needs to be disseminated further.

The near-by fire hydrant #15 on Highland Drive will remain in service.

Groton Utilities outage website is updated with information on planned and emergency outages for Groton and Ledyard.

Please reach out to us if you have any questions.

Project Contact Information:

Water Project Foreman: Mo Duarte (860) 625-0634

Project Manager-Water : Kate Blacker (860) 625-0720

Groton Utilities Customer Service: (860) 446-4000

Thank you,

Kate

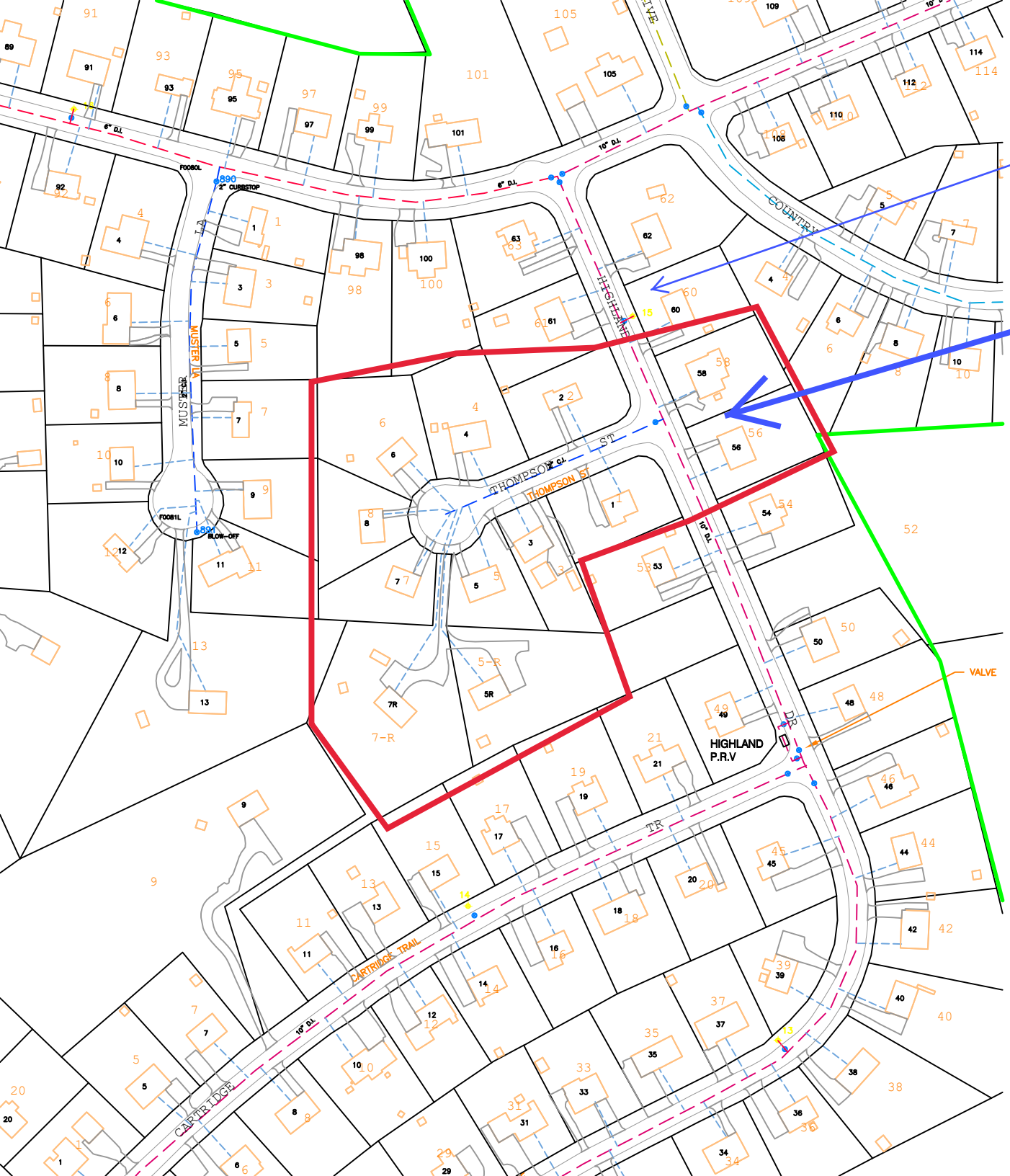
Justin Dube

Daniels, Tina <danielst@grotonutilities.com>
water pollution control authority
Hi Tina,

I have it posted at: https://www.ledyardct.org/CivicAlerts.aspx?AID=1093
and will get it on our Facebook page.

Thanks and have a nice weekend,

Justin



OVERVIEW -
THOMPSON STREET,
HIGHLANDS, LEDYARD

GROTON UTILITIES SWATER
MAIN REPLACEMENT
PROJECT SCHEDULE
10-20-25 - 11-21-25

HYDRANT #15 WILL REMAIN IN SERVICE

File #: 25-2672 **Agenda Date:** 10/28/2025 **Agenda #:** 3.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Aged Reports/Finance.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

File #: 25-2674 **Agenda Date:** 10/28/2025 **Agenda #:** 4.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Year to Date Water/Sewer Report.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

File #: 25-2678 **Agenda Date:** 10/28/2025 **Agenda #:** 5.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
PSR - Steve Banks.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

Town of Ledyard
Highlands W.W.T.F.
Plant Supervisor's Report
Meeting October 28, 2025

The goal of the plant staff is to efficiently collect and treat the wastewater and to produce the best quality effluent possible while maintaining the equipment and protecting the Town's assets.

- **Basin # 1 is back in service. Building up solids every day. Plant is back in two basin operation and running well.**
- **Beaver activity on property is being addressed. Public works is clearing a path for trapper.**
- **Lakeside pumps are running well after rebuilding pump 1. Will have to upgrade pumps and controls in a few years.**
- **GU is working on a water main upgrade on Thompson. They are storing material for the project at the plant. Will clean up after the job is completed.**
- **Town Council needs to appoint a liaison for the WPCA.**
- **Town Council needs to be made aware that they oversee the water department budget with advisement from the WPCA.**
- **Skips Wastewater service has performed well so far removing solids and transporting sludge to Mattabassett.**
- **Polymer system is down for maintenance.**
- **Flows have increased slightly as groundwater levels have increased.**
- **In-situ relining of sanitary sewer collection system will allow for more flows into the facility.**

Respectfully submitted,

Stephen W. Banks

File #: 25-2628 **Agenda Date:** 10/28/2025 **Agenda #:** 6.

AGENDA ITEM
CORRESPONDENCE

Subject:
Groton Utilities Hydraulic Model Calibration, Field Verification, and Water Age Analysis letter dated September 29, 2025.

Correspondence List:
(type text here)

GROTON UTILITIES

September 29, 2025

Edmond Lynch
Chairman
Ledyard Water Pollution Control Authority
741 Colonel Ledyard Highway
Ledyard, CT 06339-1511

Chairman Lynch,

Re: Hydraulic Model Calibration, Field Verification, and Water Age Analysis

Groton Utilities, Contract Operator of the Ledyard WPCA, has requested Wright-Pierce Engineers to perform water distribution hydraulic model updates and water age analysis of the Gales Ferry and Ledyard Center Water Distribution Systems. Groton Utilities Finance requests a Purchase Order in the amount of $12,250.00 for the proposed work referenced above, which includes $9,500.00 for the Wright-Pierce scope of work as specified in their May 23, 2025, proposal (attached) as well as estimated GU labor of $2,750.00 for coordination and hydrant flow testing.

Please contact me with any additional information that you may need in regard to this project.

Sincerely,

GROTON UTILITIES

Douglas L. Lafontaine
Water Division Project Manager

DLL/te

295 Meridian Street
Groton, CT 06340
T 860-446-4000 F 860-446-4098

WRIGHT-PIERCE
Engineering a Better Environment

213 Court Street, Suite 501
Middletown, CT 06457
860.343.8297 | wright-pierce.com

May 23, 2025

Michael S. Weber, Manager
Water & Wastewater Engineering
Groton Utilities
295 Meridian Street
Groton, CT 06340

SUBJECT: Groton Utilities Hydraulic Model Calibration, Field Verification and Water Age Analysis – Ledyard System

Dear Mike,

Wright-Pierce is pleased to submit our scope and fee proposal for water distribution hydraulic model update and water age analysis related to the operations of the Groton's water system and water supply to the Town of Ledyard.

Project Understanding

Groton's water distribution system computer hydraulic model was created in 2007 by Stantec. The latest model update and calibration was completed in 2014 by Fay, Spofford & Thorndike (FST). The model includes 171 miles of water distribution piping (125 miles of Groton's system and 46 miles of Ledyard's system) ranging in size from less than 6-inch to 36-inch water and transmission mains, water treatment plant, pumping stations, water storage tanks, pressure reducing and flow control valves and regional interconnections. The model update included incorporating the Town of Ledyard into the Groton's system and model calibration using twenty hydrant flow tests to simulate existing conditions.

In 2023, Wright-Pierce further updated the water distribution hydraulic model to include the new finish water pumps and storage tanks at the Poquonnock Road Water Plant, the upgraded Walker Hill Pump Station and storage tank, Tollgate Road and Walker Hill Road 16-inch water main and resolved other miscellaneous distribution system connectivity issues. In addition, Wright-Pierce has recommended additional field pressure and fire flow testing using flow and residual hydrants to update calibration of the model.

Additionally, GU requested to complete a water age analysis throughout the system including Ledyard system to evaluate potential solutions to improving water age and chlorine residuals.

The following scope outlines the proposed project to check and recalibrate the Groton Utilities hydraulic model of the Town of Ledyard system.

Scope of Services

Based on our understanding of the project, we propose the following scope of services:

1. Project Management:
    a. Facilitate a kickoff meeting with GU staff to review any distribution piping changes and any known closed valves since the last model update in December 2023.
2. Fire Flow Field Testing:
    a. Develop a fire flow test plan of up to 10 (1 day) hydrant flow tests in Ledyard.
    b. Field, water storage tank, pump station and hydrant flow and pressure data will be collected and will be used to calibrate the model to actual operating conditions of the system. Wright-Pierce will provide two members of staff and the required equipment to conduct fire flow tests including flow dissipaters, hydrant tools, pressure gauges and pitot gauges. All work will be coordinated well in advance with GU and Town of Ledyard. The field work will include fire flow testing to collect flow and pressure in areas of the system. We will work with GU staff to determine optimal test locations prior to conducting the proposed program of field fire flow tests. Our scope includes 4 additional hours of fire flow and field testing in the Town of Ledyard, working together with the GU staff who will provide traffic control and operate valves and hydrants. A minimum of 3 GU staff will be required during the proposed field testing.
3. Model Calibration:
    a. Wright-Pierce will replicate the hydrant flow tests in the hydraulic model, update the hydraulic model calibration, and develop tables and figures which compare model results to field test results. Wright-Pierce anticipates adjusting Hazen-William C-value coefficients to improve the model to field agreement. Because it is highly likely that anomalies (e.g., partially closed valve, air in pipes, etc.) in the water system exist that would hinder model calibration, Wright-Pierce will assist GU and the Town of Ledyard with one (1) additional day of field flow testing to further refine calibration related to flow testing, C-factor testing, and/or select valves to confirm open/closed status.
    b. Evaluate accuracy of demand allocation and controls by comparing modeled tank level trends to actual level trend measurements.
4. Water Age Analysis:
    a. Wright-Pierce will develop an extended period simulation (EPS) model scenario and calibrate model parameters to reflect daily diurnal demand patterns (under average and low flow conditions).
    b. After the extended period hydraulic and model verification efforts are complete, Wright-Pierce will develop and execute the following existing system EPS model scenarios:
        - Annual Average Daily Demand (AADD)
        - Annual Winter Demand (AAWD)
        - Annual Maximum Daily Demand (MDD)
    c. Using the revised model, develop operational and capital improvements to reasonably satisfy the goals to reduce water age in the Ledyard's system. This effort will also focus on better maintaining chlorine residuals throughout GU system and Ledyard, reducing the maximum water age and improving system flushing. The following potential improvements will be considered:
        - Increasing the rate of flow through piping in areas with low chlorine residuals based on water flow direction in the water distribution system.

- Completing loops, installing check or control valves, closing valves, and/or installing low head recirculation pumping stations.
- Beneficial unidirectional flushing locations and procedures.
- Modifying the current flushing plan (e.g., flushing locations, volumes, and times of operation) and/or installing additional automatic flushing devices in the system.

d. Observations and recommended improvements will be summarized and described as discrete projects for potential implementation.
e. Conduct one workshop with GU to review progress and refine goals.

5. Report Preparation:
   a. A draft report of the observations and recommendations will be submitted to GU and Town of Ledyard WPCA for review. Three (3) hardcopies and one (1) digital copy (PDF format) will be provided.
   b. After meeting with GU to discuss any comments, a final version of the report will be developed and submitted. Three (3) hardcopies and one (1) digital copy (PDF format) will be provided.
6. Data and services from GU:
   a. GIS shape (.shp) files of hydrants and valves locations throughout the system.
   b. GU to verify the status of valves and hydrants to be operated during field testing activities.
   c. Operational SCADA data (water plant and pump stations flows, tank levels, discharge pressures).
   d. Hydrant flushing locations.
   e. Water quality data (chlorine residuals, temperature, TTHMS).
   f. Traffic control during field testing activities.

Additional Services

During the course of the project, it may become apparent to either GU or Wright-Pierce that Additional Services not included in the basic Scope of Services are needed. Wright-Pierce will undertake to provide such Additional Services upon written authorization.

Fee Proposal

For the proposed scope of services, we propose a not-to-exceed fee of $9,500 for the Town of Ledyard system We propose these fees on a Time-and-Materials (T&M) basis. WP will not exceed the proposed fee without written authorization from GU. If this proposal is acceptable, we will perform this work under the terms and conditions of our Master Services Agreement with the City of Groton dated February 12, 2021, and amended on December 6, 2023.

Sincerely,
WRIGHT-PIERCE

Mariusz Jedrychowski, PE
Regional Group Leader / Senior Project Manager
mariusz.jedrychowski@wright-pierce.com

WRIGHT-PIERCE
Engineering a Better Environment

File #: 25-2681 **Agenda Date:** 10/28/2025 **Agenda #:** 1.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
15 Stoddards Wharf Road Sewer Request.

Background:
From September 23, 2025:
Chairman Lynch said that the developer would like to put in 103 units and added that the WPCA has approval from Weston & Sampson that would allow usage of 90 gallons per day per unit. The 12 commercial units are a possible concern. The average estimated usage is 1,000 gallons a day but that depends on what kind of commercial business goes into the unit. Chairman Lynch said for example if a Starbucks is put in a commercial unit the average usage would be approximately 5,000 gallons a day. Chairman Lynch said there would need to be a caveat in the agreement that if more than 1,000 gallons a day is used by the commercial units the agreement will need to be re-negotiated.

ACTION ITEM:
Chairman Lynch will draft a Stoddards Wharf sewer installation commitment letter including a caveat for the Authority to review in the event more sewer needs to be processed.

Department Comment/Recommendation:
(type text here)

WATER AND SEWER MAIN EXTENSION AGREEMENT

This Agreement, entered into by and between **THE TOWN OF LEDYARD**, a municipal corporation, acting through its Water Pollution Control Authority; and **Eastern Connecticut Housing Opportunities, Inc.**, a Connecticut limited liability company, hereinafter called the "Owner", whose mailing address for the purpose of carrying out the terms of this Agreement is 165 State Street, Suite 311, New London, Connecticut 06320.

WITNESSETH

WHEREAS, the Owner has a serious need to have its properties located at lot 15 Stoddard Wharf Road in Ledyard service by public water and sewer and has requested the Town of Ledyard Water Pollution Control Authority to provide such service;

WHEREAS, the Town of Ledyard, acting through its Water Pollution Control Authority provides a public water supply and sewer service to portions of the Town of Ledyard, including properties in the vicinity of Colby Drive and will reserve a nominal rate of 22,000 gallons/day for up to 5 years after which if the Owner does not complete the development in 5 years said rate capacity of 22,000 gallons/day at the discretion of the Water Pollution Control Authority may be reallocated to another development and

WHEREAS, the Town of Ledyard is going to provide the requested services as long as there is no appreciable cost to the Town of Ledyard and agrees to process a nominal sewer rate of 22,000 gallons/day:

NOW, THEREFORE, the parties agree as follows:

1. The Owner, or its agents, in accordance with current policies, procedures and standards adopted by the Town of Ledyard Water Pollution Control Authority and/or its consulting agent, the City of Groton acting through its Department of Public Utilities governing the installation of water mains at customer request on public streets, or streets to be developed as public streets, will install, including all trenching, backfilling and materials, approximately (?') feet of eight (8") inch Class 52 Ductile Iron water main and necessary appurtenances to be located in, as more fully delineated on a plan entitled add detailed plan title here Ledyard, Connecticut Scale: add detail scale and engineering firm here".

2. The Owner agrees to install, at its sole cost and expense, and in accordance with all rules, regulations, ordinances and specifications adopted by the Town of Ledyard, acting through its Water Pollution Control Authority, in accordance with the plan referenced in Paragraph 1 hereof, the water and sewer main described therein and all appurtenances required in connection therewith by the applicable rules and regulations of the Town of Ledyard Water Pollution Control Authority, including any additional regulations promulgated by its consultant, the City of Groton acting through its Department of Public Utilities and adopted by the Town of Ledyard Water Pollution Control Authority, including the cost of supervision of testing and sanitizing the installed facilities.

3. In addition, the Owner agrees to pay the full and actual cost incurred by the Town of Ledyard Water Pollution Control Authority for the following:

a. The connection of the water main described in Paragraph 1 hereof to the existing water main in Route 117.

b. Construction inspection fees incurred by the Town of Ledyard Water Pollution Control Authority.

c. Testing of the water main and appurtenant facilities.

d. Interconnection of the individual units to the existing water main.

e. The connection of the sewer main described in Paragraph 1 hereof to the existing sewer main across Route 117 to the sewer connection next to the library at the end of the multi-purpose trail.

f. Any leak test requirements for the new sewer line installation.

4. The Owner agrees to pay to the Town of Ledyard, in advance of construction, in accordance with a written proposal, the anticipated cost to be incurred by the Town of Ledyard, acting through the Water Pollution Control Authority, for the work to be conducted by the Town of Ledyard as provide in Paragraph 3 of this Agreement. Any funds so collected, which are in excess of actual costs, shall be refunded to the Owner.

5. The Town of Ledyard agrees to pay the full and actual cost of the following:

a. The review of the customer's request to determine the relationship to system requirements, size of facilities to be built and procedures to be followed.

6. Title to all water and sewer mains installed under the terms of this Agreement shall vest in the Town of Ledyard which shall assume full responsibility for the maintenance thereof. The Town of Ledyard, acting through its Water Pollution Control Authority, agrees that it will levy a benefit assessment, special connection charge, or end connection charge, against any property owner who connects to the new main during the next ten years and the net amount collected from such charge or assessment shall be remitted to the Owner as partial reimbursement for its expenses under this Agreement. Any benefit assessment, special connection charge, or end connection charge shall be computed by multiplying the "cost of the main per benefitted foot" by the benefitted front lot frontage or in the case of end connection by the minimum lot frontage permitted in the zone. The "cost of the main per benefited foot" shall be calculated in accordance with the following formula:

$$\frac{\text{Total Cost Of Main}}{2\ (\text{Length of main parallel to front lot line}) + (\text{Minimum lot frontage in zone})}$$

Notwithstanding the foregoing paragraph, no benefit assessment, special connection charge, or end connection charge shall be applied to or assessed against any building lot developed by the Owner which connects to the water and sewer main.

7. All reimbursement to the Owner shall be made to the address contained in this Agreement. It shall be the responsibility of the Owner, in this Agreement, to advise the Town of Ledyard of any changes in address. Should any reimbursement mailed to the Owner be returned for lack of sufficient address, the Town of Ledyard shall be relieved of any further obligation to reimburse the Owner.

   Should title to the Owner's property be transferred to any other person, firm or agency, reimbursements shall continue to be made to the Owner as defined in and under the terms of this Agreement.

8. Nothing contained herein shall obligate the Town of Ledyard to make payments to the Owner from their own funds in the event any assessment or charge is found to be illegal, excessive or uncollectible for any reason.

9. In consideration of the commitment by the Town of Ledyard, acting through its Water Pollution Control Authority, to provide water service to the Owner, the Owner waives any objections, known or unknown, to the regularity or authority for this Agreement.

Dated at Ledyard, Connecticut, this ___ day of state month, state year.

TOWN OF LEDYARD WATER POLLUTION CONTROL AUTHORITY

_____ By_____ (L.S.)
Edmond Lynch, Its Chairman

_____
ECHO Homes

_____ By_____ (L.S.)

_____

File #: 25-2704 **Agenda Date:** 10/28/2025 **Agenda #:** 2.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Lead Survey Proposal Review Sewer Decision.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

Town of Ledyard, CT
Request for Qualifications 2026-02
Lead and Copper Rules Revisions Compliance

Section 1 – Summary

The Town of Ledyard (Town) seeks a qualified consultant to develop and oversee a comprehensive Lead and Copper Rules Revisions (LCRR) Compliance Program. The program will include support to the Town with other aspects of the final Lead and Copper Rule Revisions (LCRR) and the Lead and Copper Rule Improvements (LCRI). This program is anticipated to last for at least five years. A Request for Qualifications is being used to select a firm who can develop such a program.

Interested firms should submit statements of qualifications (3 copies) to the Mayor's Office, 741 Colonel Ledyard Highway, Ledyard, CT 06339 no later than 2:00 PM on Thursday, October 2, 2025. They should be marked "Lead and Copper Rules Revisions Compliance – RFQ 2026-02." Additionally a full electronic copy of the submission is required to be emailed to finance.director@ledyardct.org immediately FOLLOWING the 2:00 PM submission deadline.

The Town intends to pursue project funding through the State of Connecticut Department of Public Health, and accordingly all terms and conditions of the grant will be applicable and included in the Agreement with the selected firm including Minority Business Enterprise requirements.

Section 2 – Overview

Since 2010, the Town of Ledyard has contracted with Groton Utilities to operate and maintain the Town's water system. Fully treated water is delivered through two interconnections, one on Route 12 and the other on Route 117. There are two separate distribution systems with the Route 12 interconnection supplying the Gales Ferry and Avery Hill areas, and the Route 117 interconnection supplying the Ledyard Center area and its immediate environs. As of 2016, the combined systems have about 1,320 metered service connections and two storage tanks, partially dependent on two booster pump stations in both Groton and Ledyard to provide adequate supplies and pressure.

The Town has been in compliance with lead and copper limits under the Lead and Copper Rule as demonstrated through periodic water sampling and reporting in the Annual Water Quality Reports. Most recent lead and copper sampling was performed in 2024; maximum detected levels of lead (1.9 ppb) and copper (0.063mg/l) in the Gales Ferry System and lead (ND<1.0ppb) and copper (0.02mg/l) in the Ledyard Center System were below the action limits for these constituents. The Town uses sodium hydroxide and phosphate as corrosion control inhibitors and is working to identify the location and extent to which lead service lines exist within the distribution system.

In January 2021, the United States Environmental Protection Agency (USEPA) published the final Lead and Copper Rule Revisions (LCRR) with the goal of reducing risks from lead exposure in drinking water to children and families by requiring earlier action and increased transparency and communication around lead in water systems. The Town of Ledyard has maintained compliance with established lead and copper action levels in its water system providing high quality drinking water to its customers. To continue to comply with and exceed the new regulations the Town is proactively advancing a program around lead service line education, inventory, and replacement.

Under the LCRR water systems are required to develop and maintain a lead service line (LSL) inventory within the first three years of the published rule. Ledyard requires support in developing a lead service line inventory and assuring compliance with the requirements under the LCRR.

The LCRR also requires all systems with known or possible LSLs to develop a lead service line replacement (LSLR) plan. As part of the lead service line inventory and replacement program, Ledyard will also provide appropriate education and outreach to its customers to provide both general information around lead and copper in water and specific information to property owners with lead service lines.

Ledyard water operations has the capacity to complete lead service line replacements from the water main to the curb stop. Separate contractor(s) would perform coordinated replacement of the private side service from the curb stop to the meter. The selected consultant will develop the lead service line replacement program and oversee the full LSL replacement (including pre- and post-construction activities) at each property.

Section 3 – Project Scope

The items listed below represent the anticipated minimum scope of work that will be required to be completed by the selected firm. SOQ submissions are expected to include suggestions for the project scope that would enhance the quality of the proposed program, and result in the best project outcomes.

Task 1 – Lead Service Line Inventory

Perform a review and analysis of Ledyard's Lead Service Line Inventory to validate compliance with LCRR requirements and leverage the inventory in the development of the LSLR Program. Effort may include:

- Confirm inventory development in accordance with LCRR.
- Review of service line materials indicated in the current inventory and how those materials were determined.
- Recommend improvements to the lead service line inventory.
- Recommend process for inventory update and availability of the inventory database to comply with LCRR/LCRI.
- Perform needed work to update inventory.

Task 2 – Lead Service Line Replacement Plan

Develop a lead service line replacement strategy that will meet the needs of Ledyard and provide the greatest benefit for the customer base, ensuring participation from homeowners for achieving full lead service line replacement.

- Develop strategies to ensure homeowner participation in full lead service line replacement program.
- Develop LSL annual replacement goals.
- Develop a communication program that promotes customer participation in LSLR and related water quality testing.
- Develop a method to calculate service line volumes to:
  - Support any service line sampling.
  - Demonstrate time needed to flush to get to water in the supply main.
- Assist in identifying and coordinating with funding sources for a LSLR program.
    - Prepare a report (LSLR Plan) sufficient for Ledyard, CT DPH, and funding/regulatory agencies, including:
- Strategy for determining the composition of lead status unknown service lines in its inventory,
- Procedures to conduct full LSLR,
- Strategy for informing customers before a full or partial LSLR,
- Recommended LSLR goal rate in the event of a lead trigger level (TL) exceedance,
- Procedure for customers to flush service lines and premise plumbing of particulate lead,
- Procedure for pitcher filter distribution/maintenance and tap sampling,
- LSLR prioritization strategy based on factors including but not limited to the targeting of known LSLs, LSLR for disadvantaged consumers and populations most sensitive to the effects of lead, and
- Funding strategy for conducting LSLRs which considers ways to accommodate customers that are unable to pay to replace the portion they own.
    - Assist Ledyard with development of legal agreements for work on private side.
    - Develop and maintain lead service line replacement plans including typical lead service line replacement drawings, details and specifications sufficient for Ledyard's use in replacing lead service lines on the public side.
    - Prepare construction contract documents in accordance with CT bidding laws for lead service line replacement on private side. Assist procurement with bid phase services.

Task 3 – Lead Service Line Replacement Program Management

Provide LSLR Program Management services, including:

- Construction management services for LSLR work
- Management of pitcher filter distribution/maintenance
- Management of tap sampling before and after LSLR work
- Coordinate public education and outreach in areas where LSLR activities are conducted.

Task 4 – Public Education and Outreach Plan

Develop and maintain customer communications and educational materials for general customers:

- Evaluate current communications materials on lead and copper and compliance with LCRR.
- Prepare education and communication materials such as, messaging, website content, door hangers, fact sheets, etc.
- Provide guidance/strategies for use of social media to educate customers.
    - Develop and maintain customer communications and educational materials for those who will be impacted by lead service line replacement activities.
- Provide communication with customers who have an identified lead service line.
- Prepare outreach plan for distribution of communications regarding lead service line replacement program including pre- and post-construction activities.

Task 5 – LCRR/LCRI Support Services

Advise Town on new requirements under the LCRR/LCRI and compliance requirements. These activities may support the requirements under Tasks 1 through 4. Activities may include:

- Adjustments to lead and copper tap sampling procedures
- Selection of lead and copper sampling sites
- Desktop evaluation of corrosion control treatment approaches
- Development of Water Quality Parameter Monitoring Program

Section 4 – Minimum Qualifications

Firms shall submit a Statement of Qualifications that addresses each of the items below, with specific reference to successful project work. Firms shall also review the proposed general scope of services and provide input on additions to the scope that would ensure complete project success. The Firm selected through this process will be asked to submit a proposal for the purpose of entering into an agreement.

Qualifications Statement

Firms will provide a qualifications statement (no longer than 20 pages excluding resumes) to establish their ability to provide the services required to proactively position Ledyard and its residents to comply with the Lead and Copper Rule Revision (LCRR) and exceed the requirements for replacement of lead service lines. Firm qualification shall demonstrate:

- Mastery of the requirements of the LCR and LCRR.
- Experience implementing lead and copper programs for similar sized water systems.
- Specific experience in conducting lead service line inventory and replacement programs, including other utility practices related to lead service line inventories, replacement programs, procedures, policies, funding mechanisms and lessons learned.

- Experience in employing known methods and unique/innovative solutions to address lead service lines. Such experience may include:
  - Innovative communications strategies for educating customers about lead in drinking water.
  - Gaining the most value from available funds and working with funding agencies.
  - Multi-faceted approaches that consider more than customer tap lead levels in approach and success.
  - Differing construction methods for lead service line replacement.
- Experience with computer hydraulic and water quality models and GIS/mapping to guide lead service line replacement
- Experience with coordinating with local and state health departments, specifically the CT DPH, DEEP and the EPA.
- Experience with all aspects of Connecticut Drinking Water State Revolving Fund requirements.
- Familiarity and prior experience with projects funded in whole or part by grants from the State of Connecticut and ability to meet required participation of Minority & Women Business Enterprises.
- Experience with multi-year construction management programs, including coordination of multiple contracts and work in private rights-of-way.
- Experience with the coordination and delivery of professional-level communications and campaigns through community outreach, social media, newsletters, and website content to educate internal and external audiences and promote the program goals and purpose.

Section 5 – Written Qualifications

Firms are required to submit statements of qualifications as outlined in Section 1. Submissions shall be limited to 20 pages (total excluding resumes). Resumes shall be limited to 2 pages each.

The submission must be organized with the following sections:

1. **Table of Contents** – Include a Table of Contents at the beginning, which clearly outlines the contents of your submission.

2. **Cover Letter** (no more than one page) – Indicate your firm's commitment to the project and how it will meet or exceed the Owner's expectations. Specifically, describe how your firm will maintain consistent leadership throughout the design and construction of the project, and how it will meet the requirements set forth in this RFQ.

3. **Company Information** – Provide a brief history of your company including the number of years in business, identification of company ownership, number of employees, number of employees that will be assigned to serving the Ledyard area, and overview of services provided. Include similar information for all proposed sub-consultants.

4. **Experience** – Provide specific experience relevant to the scope and qualifications items presented in this RFQ. Provide examples of how your firm is an industry leader in lead and copper. Demonstrate recent experience with projects funded by grants administered by the State of Connecticut.

5. **References** – Provide a minimum of four reference projects relevant to the scope and qualifications items presented in this RFQ. At least two references shall demonstrate LCRI/LCRR regulatory experience in the State of Connecticut. References should be willing and able to discuss their experience working with your project team. Include for each reference: Name and address of the client, Name and contact information for the contact person, and Summary of the services provided.

6. Project Team / Organization (no more than three pages not including resumes) – Indicate how your firm will staff this project and provide an organization chart. Your response must include any subconsultant(s) you intend to utilize for this program and your experience working with each subconsultant. Provide the resumes for the Project Manager, Construction Manager, and Lead and Copper Subject Matter Expert (no more than two pages each) that will be assigned to this project.

7. Project Approach – Describe your firm's proposed approach to accomplish the scope items listed in this RFQ. This section should also include relevant additional scope items that your team deem to be important to ensuring a successful project.

8. Statement of Equal Opportunity / Affirmative Action Policy of the Firm

Section 6 – Selection

Selection will be made after an evaluation of the firm's qualifications, confirming fulfillment of the minimum requirements, and the criteria identified above, and verification of the respondent's firm ability to meet all the requirements of the RFQ. All properly prepared and submitted Qualifications Statements shall be subject to evaluation deemed appropriate for the purpose of selecting a candidate firm that will receive a request for proposal. Evaluation of the SOQ submittals will be based entirely on the qualifications and specific relevant experience submitted.

Submissions conforming to the requirements set forth in this RFQ will be evaluated by a selection committee. Selected personnel from the Town will form an evaluation committee for this SOQ. It will be the responsibility of this committee to evaluate all properly prepared submittals for the RFQ and make a recommendation for a firm with which to solicit a request for proposal.

Criteria	**Standard**	**Weighting Factor**
Project Team	Do the personnel have firsthand experience in this type of work? Does the Project Management team have direct experience working with the CT Department of Public Health on LSLR programs? Is the Subject Matter Expert knowledgeable in LCRI and LCRR requirements?	4
Firm Experience	Does the firm have the appropriate support capabilities to meet the demands of the program? Has the firm done previous programs of this type of scope? Demonstrated experience prioritizing LSL replacements in CT with direct experience with LCRR model approval from CT DPH. Has the firm previously worked with CT funding agencies? How much money have they gotten for CT communities on LSL programs? Demonstrated experience for work on private property- creative approaches to gain access and limit Town liabilities. Demonstrated experience with public outreach and consensus building for LSL replacement programs in CT.	3
Project Approach	Does the project approach show an understanding of the program objectives and the results desired from the program? Does the project approach show creative solutions to meeting project objectives?	3

The scale of the criteria is from 1 to 10; 1 is a poor rating, 5 is an average rating, and 10 is an outstanding rating. Criteria will be multiplied by the associated weight to give a weighted criteria score. The weighted criteria scores will be summed for a cumulative score. The maximum possible cumulative score is 100.

Submission of a cost proposal is not required at this time. The Town will review and rank all SOQs received. The highest-ranking firm will then be selected to receive a request for cost proposal. The selected firm will coordinate with the Town to develop a detailed scope of services that will form the basis for the cost proposal. Following review and acceptance of the cost proposal, the Town will execute a professional services agreement with the selected firm. If agreement on the scope of services or agreement cannot be reached the next highest-ranking firm will be contacted.

ARCADIS

Request for Qualifications

Town of Ledyard, CT

Lead and Copper Rules Revisions Compliance

October 2025

Section 01.

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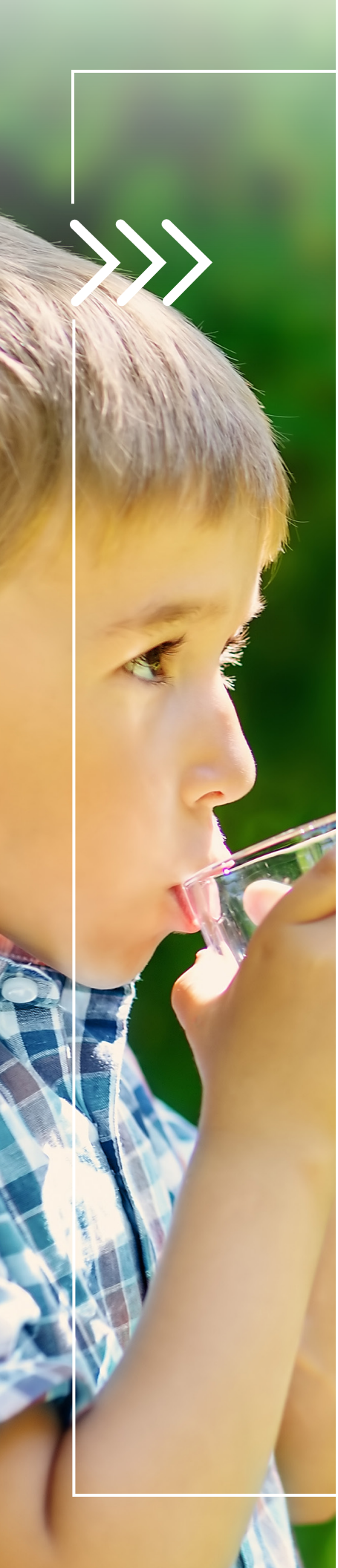

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Section 02.

Cover Letter

Arcadis U.S., Inc.
213 Court Street Suite 700
Middletown, CT 06457
Tel: 781.213.4923
www.arcadis.com

Matthew Bonin, CPA
Director of Finance
Town of Ledyard
741 Colonel Ledyard Highway
Ledyard, CT 06339

October 2, 2025

Re: Lead and Copper Rules Revisions Compliance RFQ2026-02

Dear Mr. Bonin,

Arcadis is excited to submit our qualifications for consideration to partner with the Town of Ledyard, CT, to provide engineering services for the Lead and Copper Rule (LCR) Revisions (LCRR) compliance. Arcadis U.S., Inc. provides the Town a nationally recognized teaming partner that specializes in consulting, design, engineering and management services as well as industry leadership in LCRR compliance. Our office, staff and team are close to the Town of Ledyard. As with our current Lead Service Line (LSL) Replacement (LSLR) work for nearby communities such as the City of Norwich, City of Meriden, City of New London, and Groton Utilities the Arcadis team differentiates ourselves in several key areas.

Expertise and Excellence in Delivering Cost Efficient Lead & Copper Compliance Plans. A significant factor in successfully delivering a comprehensive Lead and Copper Compliance Plan is how well the selected team understands existing and future regulatory requirements. Arcadis brings expertise on the current and revised Lead and Copper Rules (LCR, LCRR) and LSLR from planning through construction, combined with our local knowledge. We have also developed inventories for over 1,800 water systems and understand how to reduce unknown service line materials efficiently.

Nimble, Agile and Creative Solutions. Arcadis invests in digital tools which benefit our clients by providing more information at less cost. As such, we have several creative options for the public outreach efforts to keep everyone informed about the LSL program progress. Solutions like websites, pioneered by Arcadis, allow us to regularly update the public on this program, answers questions, and decreases the workload for Town of Ledyard. We also have cost saving ideas for project execution such as utilizing mathematical algorithms to decrease unknown service line materials in systems with little or no lead. This saves money by digging in the right locations the first time. We also have several tools for program management oversight such as Power BI Dashboards, which affords the Town real-time updates on program progress and aids in managing capital outlays and reporting.

Long-Standing Relationships Provide Trust and Early Insights to Engage Quickly. Arcadis has been serving Connecticut for more than 100 years. Since 2021, we have been working directly with Connecticut Department of Public Health (CT DPH) on LCRR and are trusted advisors for the state as they move forward with LCRR compliance. We consistently bring innovative solutions and project funding options to clients in Connecticut. Our program's organizational chart has long standing experience working together on Connecticut projects with over 50 years of combined experience, including Program Director Jennifer Kelly Lachmayr, Project Manager Amy Anderson George, Project Engineer Sydney Lewis, Public Outreach Specialist Kathryn Edwards, and Geographic Information System (GIS) and Data Management Leader James McCallon. Our team has assisted several communities in Connecticut on LCRR programs receiving State Revolving Funds (SRF) and DPH loan forgiveness of more than $14 million in the past four years.

Please reach out to me directly at 781.213.4923 or Jennifer.Lachmayr@arcadis.com should you have any questions or require additional information. We look forward to working with you.

Sincerely,
Arcadis U.S., Inc.

Jennifer Kelly Lachmayr, PE, BCEE
Program Director / Principal-in-Charge
✉ jennifer.lachmayr@arcadis.com

Amy Anderson George, CPM
Project Manager
✉ amy.anderson@arcadis.com

Section 03.

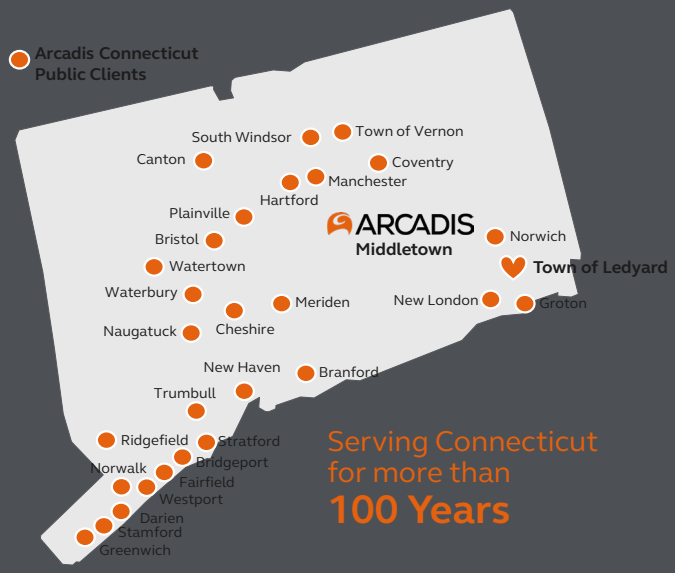
Company Information

03. Company Information

Expertise in LCR and Excellence in Delivering Lead Service Line Inventories

About Arcadis

Arcadis is a global company that has a strong local presence and a passion for improving the quality of life in the communities we serve. We have access to over 36,000 engineers, scientists, planners, management consultants, and support staff worldwide, including more than 7,000 personnel located in the United States. We have a network of more than 130 branch and field offices located around the U.S. and more than 350 offices around the world, enabling us to offer a global perspective combined with local knowledge. Currently, our organization is working on environmental and infrastructure projects in more than 30+ countries.



Arcadis offers a comprehensive range of water engineering and management consulting services—from investigations, planning and feasibility studies through design, permitting, instrumentation and controls, construction administration, resident inspection, O&M, and startup.

Arcadis was established in the U.S. in 1957. The firm expanded in response to water supply problems created by a major drought in the Northeast. Arcadis U.S., Inc., is now one of the world's leading engineering, consulting and program management firms. Arcadis U.S. Inc. is wholly owned by Arcadis North America, Inc., a Colorado Corporation, whose sole shareholder is Arcadis USA, B.V., a Dutch company.

The Arcadis team combines our local and national presence, familiarity with your requirements, national technical expertise and global resources to deliver superior professional engineering services for the Town of Ledyard. **Company information for our subconsultants are located in Section 6.**

Delivering Full-Service LCR Solutions That Connecticut Utilities Can Rely On

In addition to our strong national presence, we also have tremendous local resources. We have 19 offices in New England and New York State. All of our discipline leads and the majority of our senior engineers and critical staff are based out of Middletown, CT, East Greenwich, RI and Wakefield, MA offices, which makes our team easily accessible to the Town of Ledyard with a total of 165 staff members within the area.

Our sizable local delivery team led by Project Management team **Amy Anderson George** and **Sydney Lewis**, has the resources and bandwidth to deliver this important project. Supported by a suite of lead and copper specific digital tools for data collection and management, and established libraries of documentation for reporting, Arcadis will maximize efficiency in the development of your program, saving the Town of Ledyard time and money.

Arcadis at a Glance

Worldwide

- 36,000 + Staff
- 30+ Countries

North America

- 7,000 + Staff
- 130+ Offices

- Arcadis Generates Over 5 Billion in Revenues
- Founded in 1888 in the Netherlands

Section 04.

Experience

04. Experience

Relevant Experience

The Town of Ledyard can rely on our team's expertise and practical experience in lead service line programs encompassing regulatory and industry best practices around service line inventory development and improvements, lead service lines replacement planning, design and construction management, state and federal funding, data management and public education and outreach.

Arcadis has assisted multiple clients with similar programs, including Norwich, CT, New London, CT, Appleton, WI, Aqua America, Meriden, CT, Rochester, NY, NHDES, Trenton, NJ, Birmingham Water Works Board, and Groton Utilities. Arcadis has also provided construction management and support, public outreach support for the LSLR program for DC Water. Similarly, Arcadis has been assisting the Chicago Department of Water Management for over seven years beginning with development and implementation of a lead testing kit program and expanding into lead service line inventory (LSLI), replacement, and data management and integration support.

What do our clients think of Arcadis' LCRR support?

"Arcadis was hands down the best consultant for helping New London develop and execute a proactive LSLR program. Being the first utility to do this in the State of Connecticut, the Arcadis team has walked us and the state regulators through every step with a fully developed program, outreach materials and construction documents in just over six months. Their staff have also been able to fill every resource gap within the City to successfully and seamlessly execute this entire program in our community."

-Joe Lanzafame
City of New London Director of Public Utilities

Arcadis LCR Service Line Inventory Experience

- Inventory review and development
- Automated reports for state submittals and notifications to the customer
- Tap card digitization
- Dashboards for tracking and stakeholder updates
- Statistical analysis and predictive modeling
- Integration with GIS, CRM, EAM and LIMS applications and development of statewide portals
- Evaluation of conventional and emerging service line investigation techniques
- Funding applications and tracking

By The Numbers

30+
Years of Leadership in Regulatory Development

60+
National LCR/LSL Experts

1,800+
Public Water System (PWS) Inventories

3 Million Service Lines Modeled
Results submitted to regulators in 12 different states

>$125M
Obtained in Loans & Grants for LSLR/LSLI

Lead Service Line Replacement

Arcadis brings experience in planning, program management, design and construction management services for LSLR programs. Arcadis has also provided powerful dashboards to support ongoing projects with Chicago Department of Water Management, New London and others. These dashboards can pull from multiple data sources, including GIS or work order management systems, to deliver a one-stop, real-time update to project stakeholders on the entire program including participating rates, pitcher filter distribution, service line inventory, sample tracking and results, and schedule.

Corrosion Control Treatment (CCT)

Arcadis has experience developing and conducting CCT studies to address action level exceedances, optimize or evaluate alternate CCT strategies for all size systems, or evaluate changes in source water and/or treatment. Our team has performed desktop and demonstration studies (i.e., bench, coupon and pipe loop testing) for over 50 utilities across the U.S. We have the capabilities of planning and tailoring a study, depending upon the client's objectives, end goals, distribution system materials, sources and lead and copper levels. Upon completion of testing, we have supported dozens of utilities with recommended next steps, whether that be follow-up testing, design and implementation of CCT, and/or additional water quality analysis. We have also helped clients throughout the U.S. address some of the most challenging and infamous corrosion-related water quality challenges.

Sampling & Monitoring

Arcadis has designed, implemented and supported both compliance and residential sampling programs. In 2016, the City of Chicago allowed residents who were concerned about lead in their drinking water to request a free lead test, which resulted in thousands of sample requests. Arcadis was employed to develop and implement a lead kit testing program. This included a comprehensive analysis of lead testing protocols, created sampling, testing, reporting standard operating procedures (SOPs), and training for the Chicago Department of Water Management. Arcadis also provided assistance with water quality analysis and statistics, and based on results, has provided recommendations to improve data collection methods and improve asset management techniques.

Funding Support

Arcadis has developed an excellent working relationship with the authorities having jurisdiction in Connecticut, and we have assisted many Connecticut public authorities, municipalities, and industries in complying with the range of regulations governing safe drinking water and water quality. This familiarity with the Connecticut regulations, in combination with our extensive engineering experience has enabled Arcadis to develop practical, cost-effective and implementable solutions for our Connecticut clients. Over the last 10 years, we have successfully assisted in securing well over $100 million worth of state funding for projects in Connecticut.

In addition to state funding, the federal funding landscape is swiftly evolving and in the coming years we expect more dollars will be available for resilience, mitigation, infrastructure, and economic development than ever in history. Arcadis takes a proactive approach to assist our clients with funding needs. We have professional staff whose responsibility is to track and maintain current knowledge of the variety of available funding opportunities for our clients, including a working knowledge of eligibility criteria and positioning opportunities.

Public Education, Outreach and Training Materials

Arcadis has assisted multiple clients with lead in drinking water outreach programs, including the New London, CT, Meriden, CT, Norwich, CT and Groton Utilities. Drawing upon our deep understanding of LCR and LCRR compliance, Arcadis collaborates with in-house and external graphics and communication professionals to develop outreach messaging and materials (web pages, FAQs, door hangers, flyers, yard signs, etc.), and then partners with the water supplier and trusted community members in delivering messaging to the public through open houses, block events, social media, door knocks, and more. We combine unparalleled technical experience with proven consensus-building skills that allow for meaningful input resulting in inclusive, multilingual solutions that integrate the needs and interests of all stakeholders.

Arcadis has developed lead related education materials for every aspect of a lead and copper program from a high velocity flushing protocol developed as part of WRF 4713: Full Lead Service Line Replacement Guidance to homeowner guides to managing lead. We have also leveraged a variety of virtual, interactive tools to keep customers informed. As a creative alternative approach to stakeholder engagement and outreach, our team began preparing a customized website for the New London LSL Replacement Program. Website is a digital platform for a virtual, interactive and anytime-anywhere experience that integrates our subject matter expertise to offer an appropriate and enhanced platform built to meet stakeholder needs. A customized website can be created for the Town of Ledyard to be placed as a link

on the Town's webpage and allow for frequent updates performed by Arcadis, saving time and effort for your staff.

Data Management and Integration

Arcadis provides a wealth of expertise, resources and support services that transcend just software. In the past 20 years, our focus has been on providing public clients a data management solution that breaks down silos, allows various departments to work seamlessly together and provides their workforce accurate and reliable information. For example, our construction management software solution, Portfolio Insights, pioneered by Arcadis is a response to the evolving needs of our long-time public clients whose vision and mission are similar to the Public Works. These public agencies include the Chicago Department of Water Management, the New York City Mayor's Office of Recovery and Resiliency, the Army Corps of Engineers, and the City of Columbus. With Portfolio Insights, we help these clients focus on realizing their mission in the most transparent way.

Our experts have supported hundreds of clients in the U.S. and globally on all data management and integration needs including system implementation, configuration, hosting and platform services, integration, training and support and maintenance. In addition to information technology experts, our team is comprised of engineers, planners, project and construction managers who have strong qualifications, experience and leadership working on various compliance programs. Their extensive experience in management and delivery of these programs uniquely enables them to propose practical solutions.

Finally, we bring experience working with all types of data and systems necessary for a successful lead and copper compliance program including GIS, customer information systems (e.g., Oracle, Banner, SAP), work order management systems, laboratory information management systems, mobile applications (e.g., FieldMaps), and more.

Past Experience within Last 5 Years

Current Similar Project Experience within the last 5 years	Program Management	Public Outreach and Engagement	Funding	Planning and Procurement of LSLR Construction	Construction Management	Post Construction Water Quality Testing
Lead Service Line Replacement Program | City of New London, CT	●	●	●	●	●	●
Comprehensive LCRR Compliance Program | Norwich, CT	●	●	●	●	●	●
Engineering Services for LCRR Compliance | Meriden, CT	●	●	●	●		
Lead and Copper Rule Compliance | Groton, CT		●	●			
PWS LSLI & LSLRP Assistance | New Hampshire Department of Environmental Services, NH	●	●	●	●		
Lead Service Line Replacement Plan | City of Appleton, WI		●	●	●		
LSLR Program Management | DC Water, Washington, DC	●	●		●	●	●
Lead Service Line Replacement Project | Youngstown, OH		●	●	●	●	●
Program Management and LSLR Program Support | Chicago Department of Water, Management, Chicago, IL	●	●	●		●	●
Comprehensive Corrosion Control Optimization Study | Great Lakes Water Authority, Detroit, MI	●	●	●			
LCRR Compliance Assistance | Philadelphia Water Department, PA	●	●	●	●		
LCRR Compliance Assistance | SAWS, San Antonio, TX	●	●	●	●		
LCRR Program Management | Monroe County Water Authority, NY	●	●	●	●		
LCRR Program Management | Erie County Water Authority, NY	●	●	●	●		

Section 05.

References

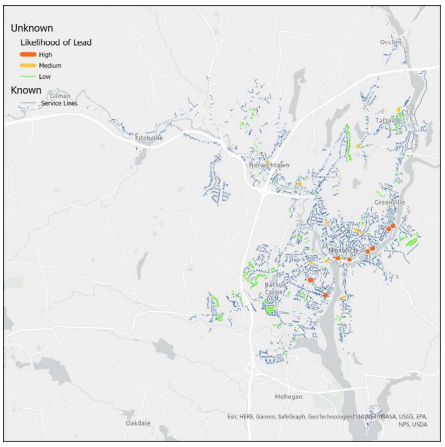
05. References

Comprehensive LCRR Compliance Program
Norwich Public Utilities

Norwich Public Utilities (NPU) provides drinking water to approximately 36,000 customers through roughly 12,800 water services. To reduce customer exposure to lead and proactively achieve compliance with the recently finalized LCRR, NPU is embarking on a comprehensive LCRR compliance program.

Arcadis is assisting NPU with development and execution of their Comprehensive LCRR Program. In addition, Arcadis is assisting NPU with the funding, design and construction of 180 lead service line replacements in high-vulnerability areas. A summary of services is as follows:

- Service line inventory development and validation
- Data and funding management
- Development of a lead service line replacement plan
- Desktop corrosion control assessment
- Lead and copper sampling plan program development
- Develop and execute a public education and outreach program
- Design and construction administration



Alisa Morrison, PE
Associate Utility Engineer
173 North Main Street
Norwich, CT 06360
860.823.4527
Alisa.Morrison@npumail.com

Lead Service Line Replacement Program
City of New London Department of Public Utilities

The City of New London serves 60,000 customers through 14,000 water services and is aware that approximately 2,400 of these services contain lead. To reduce customer exposure to lead and proactively achieve compliance with the LCRR, the City acting through the leadership of the Water & Water Pollution Control Authority has embarked on a comprehensive full LSLR Program.

Arcadis is providing inventory development, LCRR compliance, design, construction administration, and resident engineering support in development and execution of that program. As the program manager, Arcadis is responsible for developing the LSLR program and overseeing the replacements (including pre- and post-construction activities) at each property.

Work under the program began in early 2022 and includes execution of the public outreach plan, construction management for the replacement of up to 600 lead service lines, capital improvement program (CIP) updates and progress tracking.

Construction Contracts Phase 1A and 1B for removal and replacement of 250 lead services lines began in November of 2023 and are ongoing. Phase 2, which will address an additional 350 replacements and over 1500 test pits is anticipated to be awarded in December of 2025. All of these construction contracts received federal and state grand monies.

Joseph Lanzafame, PE
Director of Public Utilities
15 Masonic Street
New London, CT 06320
860.437.6365
jlanzafame@newlondonct.org

Lead and Copper Rule Compliance
City of Meriden

Meriden Water Division (MWD) serves approximately 17,630 customers in the municipalities of Meriden, Berlin, Cheshire, Southington, and Wallingford. The drinking water system includes four water treatment facilities, four surface water reservoirs, six groundwater wells, and 228 miles of distribution and transmission lines. To achieve compliance ahead of the new requirements under the LCRR, Lead and Copper Rule Improvements (LCRI) MWD is proactively advancing a program to develop a LSLI and LSLR Plan, updated sampling plan, corrosion control assessment, and educate their customers with public outreach resources.

Arcadis is providing lead and copper rule compliance, including inventory development, development of a lead service line replacement plan, corrosion control, strategies for reducing the number of unknowns throughout the City, and development and execution of a public outreach and education program.

Bill Norton
Former Director of Public Utilities Meriden, CT
203.410.8569
wnorton@cityofglensfalls.com

Lead and Copper Rule Compliance
Groton Utilities

Arcadis provides technical support and expertise as needed assistance with lead and copper rule compliance. Work includes development of public outreach materials, interpretation of LCRR/LCRI and ongoing compliance support.

Kelsey Odell, PMP
Project Manager, Projects & Planning
295 Meridian Street
Groton, CT 06340
Office: 860.629.7007
Cellphone: 860.941.8187
odellk@grotonutilities.com

Community Water Systems LSLI & LSLRP Assistance
New Hampshire Department of Environmental Services

Arcadis is working with 220 New Hampshire Community Water Systems (CWSs) to assist them with meeting the requirements of the LCRR. Work includes completing lead service line inventories, replacement and sampling plans as well as public outreach and training.

The purpose of this project is to assist New Hampshire CWSs with LCRR compliance including development of a lead service line inventory, replacement, and sampling plans. This effort is in response to the Environmental Protection Agency published regulatory revisions to the National Primary Drinking Water Regulation for Lead and Copper Rule Revisions under the authority of the Safe Drinking Water Act.

The project involves coordination with and assisting the 220 CWSs with their lead service line inventory preparation. This includes program sign-up for the CWSs, a detailed inventory survey and data gathering with each CWS, assisting each CWS to draft their lead service line inventories, advising the PWS on strategies to reduce unknowns and developing a verification plan, assistance with updating each CWSs sampling plan to align with new requirements, and the final lead service line inventory to be submitted to New Hampshire Department of Environmental Services.

Jennifer Mates
Project Manager
29 Hazen Drive, P.O. Box 95
Concord, NH 03302
603.599.0028
Jennifer.S.Mates@des.nh.gov

Section 06.

Project Team/Organization

06. Project Team/Organization

Organization Chart

Arcadis will leverage our national expertise in Lead Service Line Replacement through our local team who has demonstrated our capabilities with these programs throughout New England. **Resumes for staff indicated on the organization chart can be found in Appendix A.**

The Town of Ledyard Connecticut

Lead and Copper Subject Matter Experts

Erica Walker
Hannah Rockwell, PE, CDT

Program Director/PIC

Jennifer Kelly Lachmayr, PE, BCEE*

Project Manager

Amy Anderson George, CPM

Project Engineer

Sydney Lewis

Key Staff

LCR Compliance
Karen Casteloes, PE, CDT

Reporting and Dashboard
Ashis Kumar Pal, IAM

GIS and Data Management
James McCallon, GISP
Whitney Campbell

Predictive Modeling
Robert Tuttle, PhD
Rebecca Ventura, PhD

Inventory
Alyssa Gouveia
Mikayla Billiter

Public Education and Outreach
Alyssa Gouveia
Kathryn Edwards, PE

Funding
Jennifer Kelly Lachmayr, PE, BCEE*
Amy Anderson George, CPM

Construction Manager
Sofia Lee, EIT

Construction Contract Documents
Sofia Lee, EIT
Sean Mitchell, PE*

Inspectors
Alyssa Gouveia
Hector Salazar
Mikayla Billiter

Additional Support

Pereira Engineering, LLC **(MBE)**

JKMuir, LLC **(WBE)**

JKB Consulting, LLC **(WBE)**

* Connecticut PE

Relevant Experience Overview

Arcadis experts closely follow funding opportunities for Comprehensive Lead & Copper Compliance Planning and Replacement, including Drinking Water State Revolving Funds, Community Development Block Grants, and Federal loan programs.

We partner with our clients to enhance sustainability and currently, we are working on several LCRR Compliance Programs including Lead Service Line Replacement Programs as outlined throughout our response – a key step toward improving the standard of living for both the residents and the commercial spaces they rely upon.

Demonstrated by our successful record of accomplishment nationally (Chicago, Washington DC), you can rely on our Team's proven commitment to deliver quality work and provide practical and cost-effective solutions that meet local and national regulatory requirements. Based on the significance and complexity of this Program, we invited local and specialty subconsultants to enhance the outcomes of this project.

Arcadis' expertise relative to lead and copper corrosion control is recognized by United States Environmental Protection Agency (USEPA) and American Water Works Association (AWWA) due to our advisory status

on rule making and development of guidance manuals for utilities across the country.

We have helped major utilities deal with recent lead and copper crises including Tucson Water, Washington Aqueduct and City of Flint. Currently we are working with the City of New London providing engineering support in development and execution of their comprehensive LSLR Program. As the program manager, Arcadis is responsible for developing the LSLR program and overseeing the replacements (including pre- and post-construction activities) at each property. Our work on this assignment includes:

- Program Management
- Lead Service Line Inventory
- Lead Service Line Replacement Plan
- Public Education and Outreach Assistance
- Funding Assistance
- Technical Implementation and support
- Pitchers and Filters/Cartridges

Our Team is comprised of local and national experts who are actively entrenched in LCRR compliance planning and lead service line replacement Plans and processes in the New England region and across the U.S., partnered with the best subconsultants working in Connecticut.

Arcadis has successfully supported our clients in securing project eligibility for the Drinking Water State Revolving Fund (DWSRF) program.

We have close relationships with local MBE/WBE subconsultants who will be engaged in our work for the Town. From years of working together, we understand their strengths, recognize their value, and are able to thoughtfully apply their talents.

Project Management

Project management is critical to compliance with the LCRR and the overall success of the Town of Ledyard's program. We will initiate the work with a Kickoff Meeting to introduce key team members, establish lines of communication, confirm objectives, and review the proposed scope and schedule. Our key team includes:

Amy Anderson George, CPM is a proven project manager who is adept at meeting project deadlines and building consensus among many different stakeholders. Amy will host progress calls with the Town of Ledyard to provide regular updates on completed and upcoming activities and coordinate on any additional information needs or scheduling.

Jennifer Kelly Lachmayr, PE, BCEE, our Program Director, together with Amy will be involved through all phases of work and will report directly to the Town of Ledyard with project administration, scheduling, budget, communication and project metrics for success. Jenn will assure that Arcadis brings its best tools to deliver outstanding technical cost-effective outcomes for this program. Both Jenn and Amy have direct experience working with CT DPH and CWSRF funding programs on LCRR Compliance Programs.

Sydney Lewis is a passionate civil engineer within the New England Resilience Water Business Area, looking to improve water quality through engineering. Her professional experience includes over 2 years working on wastewater and water resources design, engineering, and construction responsibilities. Sydney has direct relevant experience assisting CT communities with LCRR compliance.

Erica Walker is Arcadis' National Lead and Copper Rule Practice Leader and brings over 12-years' experience in the areas of water quality analytics, training, regulatory compliance, asset inventory, replacement planning and implementation, data management, funding, and technical management of programs. She specializes in helping water utilities and state agencies prepare for federal and state regulations targeting lead and in locating and remediating sources of lead in distribution and premise plumbing systems.

Hannah Rockwell, PE, CDT is a senior water engineer with more than ten years of experience. She serves on Arcadis' National Lead and Copper team, collaborating on LCRR / LCRI compliance with communities around the country. She has experience with a wide range of drinking water quality, and her current work includes LSLI inventory and replacement plans, predictive modeling, LSL replacements and the development of comprehensive LCR public education and outreach programming.

Subconsultant Utilization

Arcadis actively supports all programs relating to small, disadvantaged, emerging business, woman-owned, and minority-owned businesses enterprises. While Arcadis is not a DVBE/SLBE/ELBE/SBE/WBE/DBE/MBE firm, we frequently seek out these firms to augment the services we provide.

We have worked with a broad range of firms certified in these specific areas and have become familiar with their internal structures and areas of technical

expertise. Such diversity not only improves our ability to provide high-value services for a broad range of clients and projects, but strengthens our communities and the society in which we live.

Arcadis is committed to equal opportunity and employment diversity and that commitment is reflected in the composition of our staff and management. We are also committed to using diverse and local subcontractors and consultants, and promoting equal opportunity through our business transactions.

Minority/Women Business Enterprise Relationships

Arcadis is one of the world's largest engineering firms active in the fields of water, infrastructure, environment and buildings and is a nationally recognized consulting, design, engineering and management services firm. The Town of Ledyard can look to many of our projects across the country and the globe as examples of the breadth of LCRR Compliance and LSLR Programs that we have led.

We leverage world-class experience with local presence and understanding to engineer optimal water management solutions in every community we serve. We have deep roots in the Northeastern United States, and a long history of helping New England communities improve their quality of life – hundreds of Arcadis professionals live and work in the New England area and over 6,000 professionals in North America.

JKMuir, LLC (WBE)

Role: Energy Efficiency Reviews

JKMuir is a Connecticut-based environmental and energy consulting firm specializing in the water and wastewater industry. The firm's services focus on providing practical energy management strategies that lower costs, decrease greenhouse gas emissions, reduce carbon footprint, and allow for greater control of pumping systems, power consumption, and treatment processes. JKMuir has worked closely with various state and utility rebate and incentive programs to submit project applications, calculate potential energy savings and obtain significant funding. With experience in the planning, detailed design, and construction of water and wastewater infrastructure projects, JKMuir provides technical and engineering services for the development of energy projects and other facility improvements.

JKB CONSULTING, LLC
Environmental Permitting, Planning & Compliance

JKB Consulting, LLC (WBE)

Role: Permitting

Julie K. Bjorkman, PE, is the principal, owner and sole member of JKB Consulting, LLC. Ms. Bjorkman handles all aspects of business for JKB Consulting, LLC, including but not limited to all accounting, project management, report and deliverable preparation, and administrative functions. JKB Consulting, LLC maintains one office location in Connecticut. Ms. Bjorkman, a civil engineer, has over 30 years of professional experience in environmental consulting, specializing in handling various Connecticut Department of Energy & Environmental Protection (CTDEEP), Army Corps of Engineers and local wetlands and planning and zoning permitting, wastewater and industrial wastewater discharge permitting, facility pollution prevention planning, and regulatory compliance.

PE PEREIRA ENGINEERING, LLC
Civil • Environmental • Land Surveying

Pereira Engineering, LLC (MBE)

Role: Civil, Site, Survey

Pereira Engineering, LLC is a privately owned Civil & Environmental Engineering and Land Surveying firm located in Shelton, Connecticut. Pereira Engineering (PE) is also certified as a Minority Business Enterprise in Connecticut and Rhode Island and a Disadvantaged Business Enterprise in Connecticut, Massachusetts, New Jersey, New York State, Rhode Island, and Vermont. PE takes a hands-on approach to each phase of the design, construction, and inspection process. PE offers everything you would expect from a top-notch consulting firm. We have a strong vision of commitment and strive to provide our clients with personalized engineering solutions.

Section 07.

Project Approach

07. Project Approach

System Background

The Town of Ledyard serves approximately 1,320 metered service connections in the Gales Ferry and Ledyard Center areas of Ledyard. The Town has contracted with Groton Utilities since 2010 to operate and maintain the Town's water system through two interconnections, one on Route 12 and one on Route 117.

There are two separate distribution systems with the Route 12 interconnection supplying the Gales Ferry and Avery Hill areas, and the Route 117 interconnection supplying the Ledyard Center area.

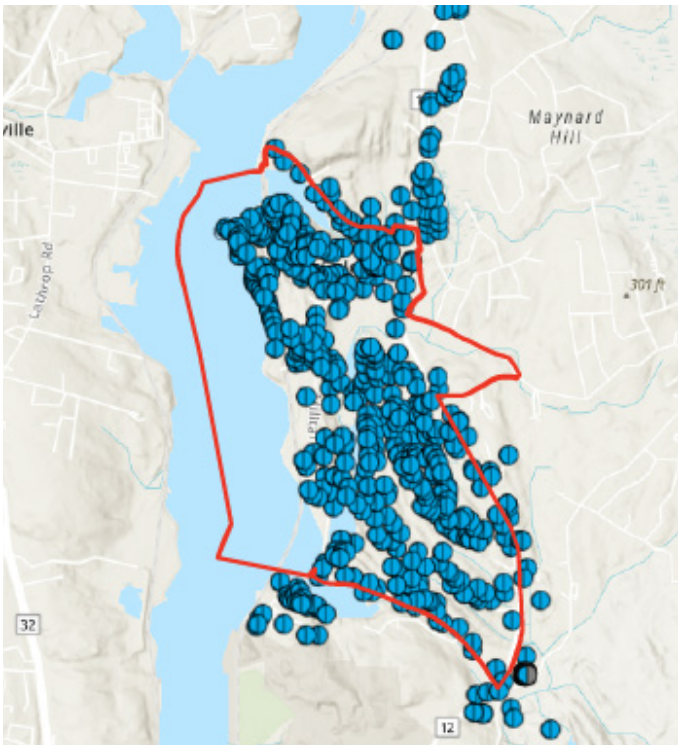
The Town has been in compliance with lead and copper limits under the Lead and Copper Rule as demonstrated through periodic water sampling and reporting in the Annual Water Quality Reports and the Town utilizes sodium hydroxide and phosphate as corrosion control inhibitors as part of the lead and copper control program.

Approach to Program Implementation

We understand the relationship that the Town of Ledyard has with Groton Utilities and recognize the need to reduce the number of unknowns in the LSLI. The Town wishes to prepare for new LCRR through the development of a compliance program in accordance with the revised USEPA LCRR as administered by the CT DPH that makes certain that all requirements are met in accordance with the required timeframe.

The Town also wants to take advantage of available funding mechanisms, including funds available under the CT DPH (loan forgiveness) and Drinking Water State Revolving Fund Loans to lower the burden of cost on their customers.

Successful development of LCRR compliance plans requires in depth knowledge of the regulations and available funding, as well as flexibility and a continuous improvement mindset to adapt to changing conditions and information. Our experience covers each key component of a lead and copper compliance program, ensuring all your needs are met and work is successfully planned and executed throughout the entire life of the program. Additional details on several of these components is provided in the following tasks.



Unknown service lines in Gales Ferry

Task A. Service Line Material (SLM) Inventory

The Town has limited historical records on the utility side of the service and some records on the customer side. The Town has worked closely with Groton Utilities to develop an initial inventory, however 1,200 unknown service lines still exist within the Ledyard Center and Gales Ferry portion of the system.

Arcadis proposes a three-step process to cost effectively validate the full LSL inventory – on both the Town's and customers portions – such that the Town can enhance communication to their customer and execute a cost-effective successful replacement program.

STEP 1: Review of Existing Information

The Arcadis team will review available Town service line records to establish a documented common understanding of all available data sources and how those records were or were not used to develop the existing inventory.

Step 1 will begin with a thorough review of existing information, followed by a meeting with key Town staff conducted by core members of our team to discuss/ confirm the following:

- Available records/information
  - Historical records
  - Tap/service cards
  - Permits for new services
  - Publicly available information (i.e., tax records for home age, plumbing codes or ordinances)
- Current inventory
  - Format: Scanned versus digital information, GIS compatible, availability of unique premise identification number, etc.
  - Documented data fields: Fields that are available for data input and the percentage of information known.
  - Assumptions: Understanding which assumptions have been applied to current inventory (i.e., all homes built after 1988 have been designated as non-lead on the customer side of the service line).
  - Workflows: General procedure for collecting information and storing in central database.

As part of our work with Norwich Public Utilities, Arcadis collected service line materials by visiting resident's homes and identifying materials using lead swabs (example shown in photo), magnets, scratch tests and photo verification. Arcadis also developed procedures for field confirmation including configuration of a tablet app that was used to collect and track field data results, which could easily be integrated into their existing database.

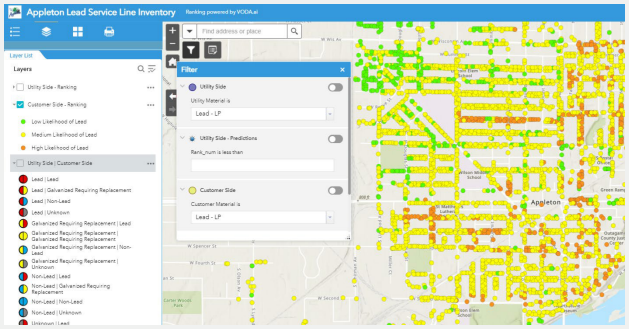
- Ongoing practices to verify unknown materials, such as:
  - Identification of the material on city-portion as part of capital improvement projects
  - Identification of the material on private-portion as part of any in-home water quality investigations, meter replacements/repairs, or proactive in- home identification
  - Customer self-identification/feedback
  - Development of self-reporting portal

TABLE 1. SERVICE LINE MATERIAL INVENTORY IDENTIFICATION STRATEGIES

Strategy	Public	Private	Considerations
Inspection by utility staff during water main or service line replacements or breaks	✓	✓	• While the staff is already in the field, service line material information can be collected through forms or mobile applications
Verification inside the customer's home near the meter through visual observation, scratch tests, magnetic tests, and/or lead swabs and self-reporting by the customer		✓	• Self-identification websites are an easy way for the customer to self-report service line material. Customer surveys could also be used. • Self-reporting by the customer may not be reliable unless clear photos are attached
Inspection inside the customer's home near the meter by the utility staff or contractor service line sampling	✓	✓	• Can be conducted by system staff during meter readings, replacements/repairs, water quality concerns, and other similar situations or by Arcadis staff • Sampling methods and training must be conducted
Traditional excavation methods such as testpits	✓	✓	• Field technique • Perform at curb stop to understand both public and private side materials • Contingent on available funding
Predictive models that determine the probability of a given material	✓	✓	• Great tool for understanding extent and approximate location of LSLs in system
Emerging techniques like electrical resistance measurement, acoustic wave, eddy current	✓	✓	• Field technique • Need access to the curb stop and requires specialized equipment and calibration

Significant Experience with Modeling Techniques to Reduce Unknowns

Our team has deployed service line predictive models for over 30 water systems including systems in Connecticut and will help you drive down overall inventory costs. We regularly partner with the major predictive modeling experts in the U.S., including the EPA's Office of Research and Development and understand the challenges and trade-offs of various modeling strategies. We have used modeling to help several systems reduce unknowns by over 90%. **We are currently using models in Norwich, Meriden, and New London, CT to identify unknowns in the SL Inventory.**



STEP 2: Opportunities for Tracking and Updating Service Line Materials

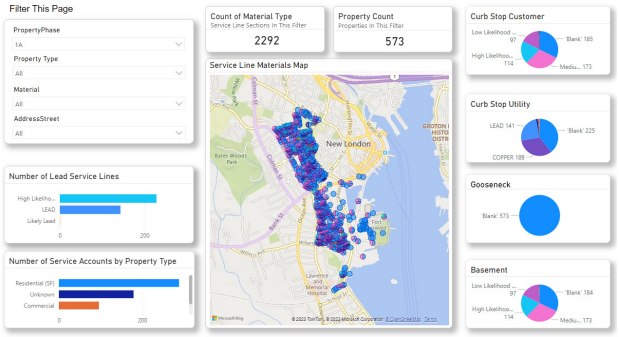
Arcadis will work with Town's staff to identify feasible methods to determine service line material for unknown services, which may include, but are not limited to those outlined in Table 1 on the previous page. Our team will also review or develop relevant procedures and workflows including methods for tracking and updating materials as part of any LSLR work.

For viable options, Arcadis will summarize the estimated costs, pros/cons and schedule impacts. If needed, Arcadis can assist with development and implementation of any of the proposed strategies, such as conducting in-home inspections and documentation of resulting using our ready to go field data collection template configured in ArcGIS Field Maps. Arcadis' previous and current experience working with similar projects in Connecticut provides the team with a clear understanding of the acceptable forms of verification of service line materials. Arcadis can work with the Town's staff to provide insight on the CT DPH's expectations around service line inventory verification forms.

STEP 3: Present Recommendations

As the next step, Arcadis will present the findings and recommendations from the earlier steps to the Town in a workshop. The recommendations developed as part of this task will take into consideration the existing inventory practices, the number of service lines that are unknown or likely lead as compared to the entirety of the system, staff resources, schedule, or other criteria identified during the kickoff meeting.

Currently for the Town, we anticipate a low number of lead service lines but a higher level of unknown SL materials. We will work with the Town on the best approach for moving forward to complete inventory.



The above PowerBI dashboard was created for the New London Lead Service Line Replacement Program

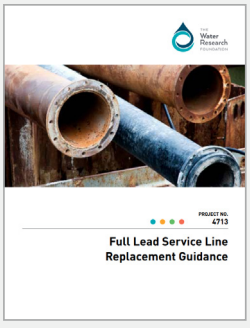
It is important to reduce the number of unknowns service line materials as quickly as possible as annual reporting to EACH address is required for any unknown service line materials. Our approach will work to succinctly reduce the number of unknown service lines as quickly and cost effectively as possible.

Task B. Lead Service Line Replacement Plan

Once the inventory has been solidified, we will develop a LSLR Plan that meets the requirements of the LCRR and CT DPH, the funding program(s) and the overall objectives of the Town. To do this, we will: (1) confirm existing practices around LSLs, including typical replacement costs, policies and procedures, (2) facilitate workshop(s) to discuss program goals, options, approaches, costs, (3) evaluate and select the appropriate option(s), and (4) develop the draft LSLR Plan. We will meet with your team and regulators to review comments on the plan and finalize potential solutions several key components of this phase are presented in the table below. Arcadis will work with staff to prepare the cost estimates that will be included in the CIP budget and potentially in SRF (and other funding program) requests.

TABLE 2: KEY COMPONENTS OF THE LSLR PROGRAM AND POTENTIAL SOLUTIONS

Category	Arcadis Solutions
Strategies for homeowner participation to achieve full LSLRs	• Develop a targeted education and outreach campaign • Develop mandatory ordinance requiring customers to replace their LSL • Use grant funding to cover a portion or all of the cost of the private-side replacement
Procedures to conduct full LSLRs	• Assist/oversee development and bidding a municipal contract and/or, • Assist/oversee issuing and reviewing received Request for Qualifications/Proposals for qualified plumbers and/or contractors to replace LSLs • Support development of the necessary authorization forms permitting the Town's staff or selected contractors to perform the work
Strategies for informing customers before a LSLR	• Develop and implement a multi-faceted communication approach that includes: a virtual, interactive web-based platform, written materials (such as post cards and/or door hangers), social media posts, block meetings, and door-to-door communication
Recommended LSLR goal rate in the event of a lead trigger level (TL) exceedance	• Develop a solid LSL inventory to minimize the number of service lines with unknown materials, as these would have to be counted in the overall replacement goals. • Identify the appropriate annual replacement goals given but not limited to various factors including available resources (i.e., human and financial), the overall time period for replacing all lead service lines, and other ongoing work in the system and communities
Procedure for customers to flush service lines and premise plumbing of particulate lead	• Utilize the flushing procedures and infographics developed by this team as part of the WRF Project #4713: Full Lead Service Line Replacement Guidance • Host training session(s) to review the appropriate flushing procedures and customer outreach materials
Procedure for pitcher filter distribution/ maintenance and tap sampling	• Hand delivery as part of the contractor pre-LSLR activities and/or establish select customer pick up centers; leverage mobile devices to allow real-time tracking • Monitor filter distribution and tap sampling results using PowerBI dashboards or existing cloud-based solutions
LSLR prioritization strategy	• Leveraging the results of the inventory in combination with other factors for prioritization such as low income / disadvantaged communities, homes with vulnerable populations, and alignment with other capital projects (replacement of aging watermains)
Funding strategy for public and private-portion LSL replacements, considering customers that are unable to pay for their portion	• Maximize State & Federal grants to help support private side replacements • Evaluate other sources like Community Development Block Grants, property tax assessments, or advertisement or cell tower space • Develop an application to prioritize funding for low-income families



Arcadis, as a subconsultant to Cornwell Engineering Group, assisted with the development of guidance for PWSs when planning and conducting full lead service line replacements (FLSLR) to reduce lead exposure. This study included three main components: (1) evaluating the effectiveness of whole-house high velocity flushing (HFV) to reduce particulate levels of lead and other metal at customer tap after LSLRs through field studies conducted at over 100 single family homes with LSLs and 10 single family homes with lead goosenecks, (2) documenting experiences from 16 PWSs who have previously embarked on LSLR, to identify trends and best practices in addition to successes, challenges, and lessons learned, and (3) developing a FLSLR Guidance Toolbox for water systems to use to plan and conduct FLSLRs, including communication with customers before, during, and after these efforts.

Task C. Development of Sampling Program

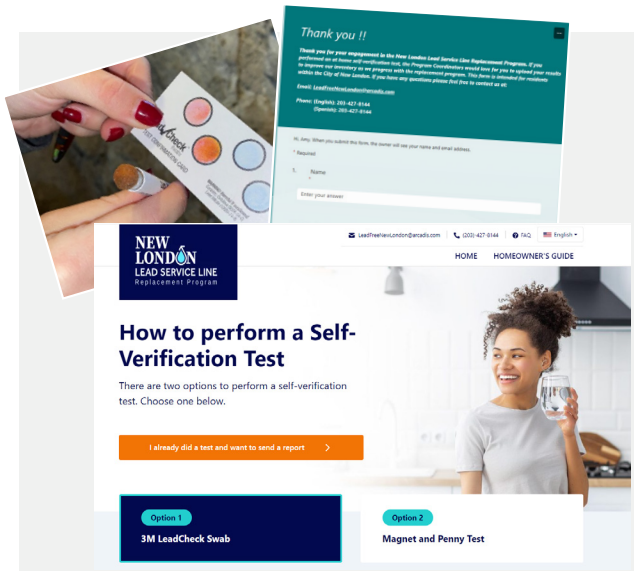
One of the continual challenges in assessing the effectiveness of lead and copper corrosion control efforts is where and how to sample. The LCRR established new sampling tiers (shifting from three tiers to five tiers) and modified the sampling protocol for LSL sites (i.e., LCRR Tier 1 and 2 sites), requiring a 1st liter sample for copper and a 5th liter sample for lead for those homes served by a LSL. Our team has assisted utilities in reviewing LCR sampling pools, sample collection procedures, chain-of-custody, sample collection forms, and regulatory reporting as well as developing monitoring programs for assessing CCT effectiveness and regulatory compliance.

Under this task, Arcadis will:

- Review the existing sampling pool, and if needed, recommend modified locations for compliance monitoring based on the final inventory to align with the new LCRR and provide a robust and representative set of sites
- Provide an updated sampling protocol for conducting 5th liter sampling sites served by an LSL and conduct training for key staff
- Review any existing water quality parameter sites, and if needed, recommend modified locations to support any likely find-and-fix assessments
- Update the existing LCRR sampling plan
- Provide regular updates to the sampling plan as LSLs are replaced

Arcadis can also help develop and implement a comprehensive approach to monitoring in schools and childcare facilities through the following activities:

- Define program goals, scope, schedule, budget, resources/responsible parties
- Provide clear, simple instructions for sample collection and remediation through infographics and templates for each school/building type to be sampled (note these are based on the USEPA Guidance Document: 3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities, but are streamlined to improve understanding and reduce collection errors)
- Conduct a recorded, training session on sampling (e.g., locations, collection protocol to sample, reporting)
- Create integrated dashboards for tracking lead sample results and remedial activities



In Home Inspections/Swab Kits

Arcadis can provide best practices and recommendations for in-person inspection or swab kits.

Similar to residential customers, schools and childcare facilities are often reluctant or unable to participate in sampling. To increase participation, Arcadis recommends and can support the following activities:

- Identify key partners (e.g., department of education, childcare licensing agency, parent-teacher associations) for sampling and communication of results
- Conduct walkthroughs at select facilities to understand water use and identify targeted faucets
- Investigate funding sources including sources to support remediation
- Create a recognition program

Task D. Corrosion Control Treatment

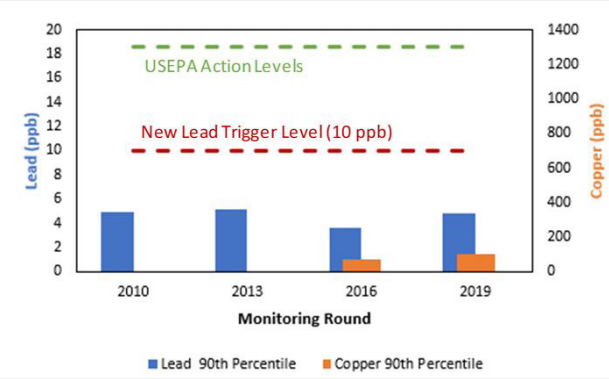
Corrosion control is complex and influenced by system specific factors including water quality and treatment, system materials, distribution system operations and maintenance practices as well as residential plumbing configurations and usage. As such, we would begin with a desktop study to assess CCT current performance and identify opportunities for improvement or additional study. Each major task is described further below.

Desktop Evaluation

The Arcadis team will begin with a review of available data and information to establish a documented common understanding of the system's history and current CCT practices and performance.

Changes in water quality and operations such as a change in pH or decrease in chlorine residual can directly impact corrosion related water quality parameters, existing scale structures and stability or cause physical disturbances or increased microbial growth which can lead to increased metals release. As such, we will conduct a comprehensive review of your treatment systems and historical water quality and operational data, provided as part of the initial RFI, including treatment plant processes, chemical usage, and raw and finished water quality data. In addition to your historical 90th percentiles for lead and copper, we will examine min., max, 25th, 50th and 75th percentile and site-specific trends to assess current CCT performance and potential compliance concerns with the lead action or trigger levels, if sufficient data are available.

Our team will analyze the data by examining trends in various percentiles including 10th, 25th, 50th, 75th, and 90th as well as minimum and maximum values both system- wide and by site. Seasonal and diurnal variations, particularly leaving the reservoirs, will also be examined. For lead and copper, we will also take a deeper dive into samples above the lead and copper action levels, and any sites where frequent elevated levels have been observed. Finally, where 5th liter data are available, we will evaluate impacts to the 90th percentile to determine if there is an increased potential for exceeding the action or new trigger level for lead, both of which could trigger a CCT evaluation.



In addition to your historical 90th percentiles for lead and copper (shown here), we will examine min., max, 25th, 50th and 75th percentile and site-specific trends to assess current CCT performance and potential compliance concerns with the lead action or trigger levels, if sufficient data are available.

Recommendations for Improvement

CCT is not a "one-size-fits-all", and as such, neither are the methods with which it can or should be studied. There are a number of tools that can be used to (re) evaluate CCT should it be determined that there is room for further optimization or for compliance with the LCRR or forthcoming LCRI requirements.

The next step in the process is to identify and describe in detail the appropriate methods to study, which will be documented as part of the CCT Study Plan and may include recommendations for enhanced monitoring (e.g., sequential sampling scale analysis, total and dissolved lead analysis, or additional water quality parameter monitoring, bench (e.g., coupon) testing, or pipe loop testing. The appropriate corrosion control studies will be refined based on the findings of materials review and through collaborative workshops with all parties. As such, we will follow a thorough, step-wise approach to evaluate alternative CCT strategies.

Task E. Public Education and Outreach Assistance

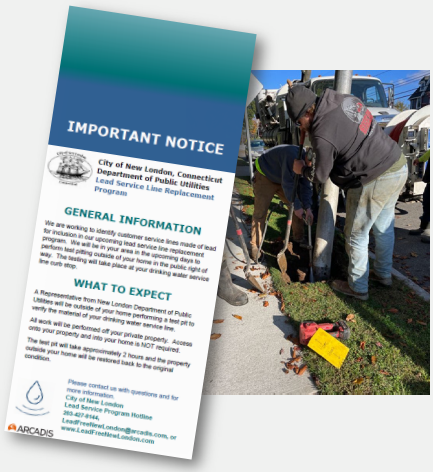
Our team will assist the Town with all communications associated with the LCRR compliance plan to encourage customer participation in the program as well as enhance education and outreach around lead in drinking water as a whole.

We will host workshop(s) to discuss the key building blocks of a robust communications program, including the specific regulatory compliance and policy goals to be supported by the communications program, target audiences, key messages, call-to-action, and methods for measuring success. Once these basic parameters have been established, we will review the existing website, printed information and any social media presence in detail and make recommendations for enhancement, leveraging available information developed by Arcadis as well as materials from the USEPA, AWWA, the Lead Service Line Collaborative, and best practices from other cities. Working closely with the Town, our team will develop an education and outreach plan that will:

- Document key messages and establish expectations to maintain consistency among key parties that may be interacting with the public
- Describe each communication tools/activities, frequency of and lead person responsible for distribution
- Identify partnering organizations, such as neighborhood associations or plumbers, and their roles in the program
- Identify and prioritize materials, processes and resources necessary to successfully address LCRR communication gaps

City of New London Lead Service Line Replacement Program - Public Outreach

Because property owners in New London own their water service lines from the curbstop into the house, there is a shared responsibility to manage lead exposure. Arcadis works with the community to replace lead service lines and answer the communities questions about water quality to help reduce lead exposure.



Our team will also work with Town staff to develop customized outreach content, procedures/workflows and/ or implement selected components of the plan, which could include:

- Systemwide (i.e., Tier 1 Public Notice) and individual notices where lead levels are measured above 15 ppb
- Letters to inform customers of their service line material
- Website instructing customers how to determine and report their service line material
- Postcard or door hanger to notify customers of the planned replacement work
- Educational videos and infographics that explain how to identify if you have a LSL, conduct high-velocity flushing, and properly use and maintain filters
- Facebook posts to educate customers about lead in drinking water and LSL

Task F. Funding Assistance

Our prior experience and familiarity with the unique requirements for state and federally funded projects has allowed Arcadis to develop an established approach to securing and ensuring compliance and funding eligibility. Arcadis has developed an excellent working relationship with the authorities having jurisdiction in Connecticut, and we have assisted many Connecticut public authorities, municipalities, and industries in complying with the range of regulations governing safe drinking water and water quality. We supported several communities throughout Connecticut in their grant applications to CT DPH for their LSLR programs, resulting in over $14,000,000 of loan forgiveness.

Under this task, Arcadis will continuously review and summarize available funding sources, including eligibility requirements, for various components of the program including school and childcare sampling, inventory development or private side LSLR. We can help complete the necessary applications for submittal as well as any customer applications, should funding need to be prioritized to select customers. Arcadis will also continue to track alternative funding sources and/ or ways to administer or structure the LCRR program to benefit both the Town and its customers.

Task G. Additional LCRR Support Services

Although we currently do not anticipate Ledyard needing LSL replacement services, our team is well-equipped to support any additional needs to achieve full compliance with the LCRR. Potential activities are those outlined below.

Design and Construction Support

Our team is experienced in Connecticut preparing design details, specifications and contract documents for LSLRs, pitcher filters and more. We also provide bidding assistance and construction management services, including, but not limited to:

- Attend pre-bid meetings
- Prepare and distribute addenda
- Review and analyze bid results and make recommendations on the award of contract
- Review contractor submittals
- Furnish construction inspection
- Schedule and attend progress meetings
- Report on contractor progress
- Review contractor invoices

Our LSLR programs, for example, are guided by the following key objectives (in parenthesis are the steps that Arcadis will take to achieve them):

- Minimize disturbance to private properties. (Use of alternative construction technologies (e.g., pull method) to reduce impact to private and public space where possible.)
- Restore construction impacts to private properties without issue. (Documented pre-construction survey program and use of standardized restoration details.)

- Streamlined payment of contractors. (Use of unit price payment items that cover 95% of all situations.)
- Uniform field implementation. (Creation of "play book")

Key design activities could include:

- Initial property surveys to define the various property restoration needs and assess house setbacks and
- Surveys, where possible, of the house basements to understand if piping, meter, etc. is accessible and conditions affecting replacement.
- Develop schematic diagrams and standardized installation and restoration details (as opposed to plans and profiles) to define work scopes.

Additional Consulting Services

Our support services may include activities such as:

- Develop procedures and reporting templates for follow up find-n-fix efforts in the event that the lead level exceeds 15 ppb at a compliance sampling site
- Develop water quality monitoring dashboards to monitor and improve consistency with corrosion control/water quality targets
- Develop communication materials to encourage participation in school sampling program including sampling protocols, education materials and templates for rapid reporting to facilities, health departments and primary agency
- Develop and maintain web portal/dashboard for sampling and/ or replacement scheduling and reporting
- On-call support for any questions surrounding LCRR and compliance
- Develop or review the Town's LCRR compliance plan
- Develop an information management framework to improve program operations and communications

Reviewing existing workflows, data management processes, and providing recommendations for improvement

"Best in Class" Specifications and Details

Arcadis has developed best in class specifications and details through performance of similar programs and review of materials used by some of the largest LSLR programs throughout the country. These design elements have a tremendous impact on the success of any LSLR program. Arcadis would recommend an upfront meeting to review the Town's current specifications and details being used and discuss any lessons learned on past projects recently completed. Alternative strategies could be discussed and considered to address any concerns from past projects or the recent construction challenges with escalation and supply chain delays. Additionally, an annual review would be recommended as more experience with the expansion program is gained to maintain a best-in-class designation which will yield efficient and cost-effective program results.

Pitcher Filter Support

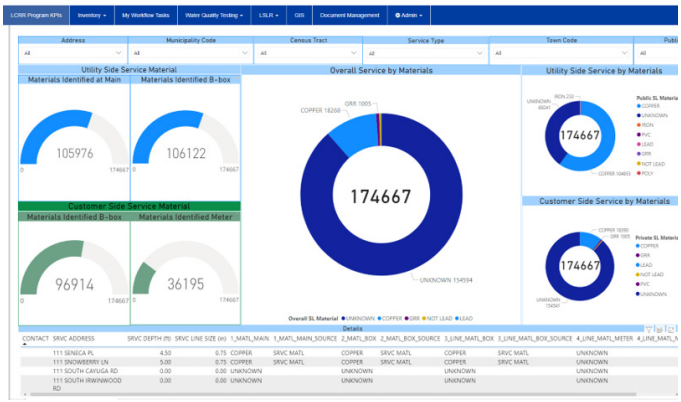
As part of the LCRR, systems are now required to provide pitcher filters or point of use devices to customers following disturbances and replacements of LSLs. Arcadis will work with the Town to develop a strategy for pitcher filter distribution that will allow tracking and monitoring of this important aspect of compliance.

This will include selection of an appropriate filter(s) that are NSF certified (or equivalent) for lead removal along with the appropriate number of replacement cartridges based on the manufacturers estimated filter life. We have experience providing such solutions, designed to ease the compliance burden and improve the customer experience.

Data Management, Dashboards and Reporting

LCRR compliance programs generate incredible amounts of data for tracking, analysis, reporting and notification. Arcadis offers several ready to go tools and applications (such as ArcadisGEN's Data Quality Repair) to support data cleaning, visualization and reporting. Several critical tools include:

ArcGIS Field Maps. Field maps can be used to collect data in the field as part of the inventory, replacement and sampling efforts by the Arcadis team and selected contractors. Automated workflows can be setup to manage the review process of the collected data.



Client Dashboard

Data Management

Arcadis proposes to leverage digital solutions for LCR compliance to manage the Town's LSLR program efficiently and effectively from start to finish. Our technology is a collaboration between water industry

experts who are managing lead service line projects every day and industry-leading software developers with decades of experience designing technology for the water sector.

Digital Tools for Compliance

- Unlimited users across this project, including the Town's staff, LSLR contractors, Arcadis staff, and subcontractors to support efficient collaboration.
- Custom workflows which allow users to assign activities to teammates and monitor the progress of those activities.
- Ability to collect data in the field with tablets and mobile devices, such as photos of the service line and site restoration work.
- Comprehensive data tracking capabilities where documents, communications tracking, and post LSLR sampling results are linked to each LSLR property.

Dashboards to Monitor Key Performance Indicators

We will also customize dashboard visualizations and reports within Lead Insights to support an at-a-glance understanding of key performance indicators such as:

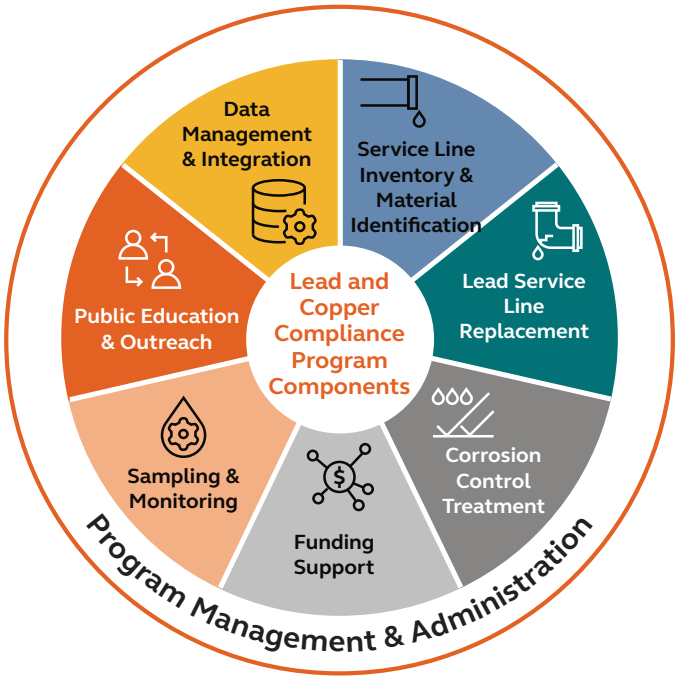
- Number of consent forms completed
- Number of LSLs replaced
- Post-replacement samples collected

Project Management

Project management is critical to compliance with the LCRR and the overall success of the Town's program. We will initiate the work with a kickoff meeting to introduce key team members, establish lines of communication, confirm objectives, and review the proposed scope and schedule. Arcadis will use the project kickoff workshop as a key time to establish clear expectations for the project, while also providing an open forum for Town staff to provide input on the project, such as individual staff member's goals, objectives, concerns, and questions.

Our project initiation /management phase provides the foundation for a collaborative approach to achieve buy-in to recommend lead service line inventory and replacement strategies and results in the most effective plan to achieve the Town's objectives. The project kickoff workshop will review the following items:

- **Communication protocols.** Arcadis will provide a monthly update format that will be used for the project duration. This will include work completed, work planned, budget/schedule status (% complete), and information needs. In addition, regular communication will occur throughout the month.
- **Task goals and objectives.** This project is inherently dynamic with multiple activities occurring in parallel. Fully understanding the Town's priorities will help the Arcadis team proceed efficiently and provide the most value to your staff. This discussion will identify opportunities to optimize and align our technical approach and schedule with your priorities.
- **Major areas of concern.** At the onset of the project, we want to understand what concerns you most, and find measures to mitigate the concerns and risks. For example, large numbers of service lines of unknown material may be a concern as these increase challenges with public communication and the required lead service line replacement counts if triggered into replacement. Delivering filters before the water is turned back on where a major disturbance has occurred requires field staff to have these on hand and be knowledgeable of the mitigation strategies and LCRR requirements. These and other concerns will be discussed in detail so we are on the same page from the beginning.



Appendix A.
Resumes

Jennifer Kelly Lachmayr, PE, BCEE

Program Director/Principal In Charge; Funding

Ms. Lachmayr serves as project principal for numerous municipal clients in Connecticut. She has a strong background in all phases of municipal engineering projects from planning and design through construction. She has over 38 years' experience in managing and conducting large, multi-phased water, wastewater, and stormwater projects in New England. Ms Lachmayr has assisted several communities in Connecticut on LCRR programs with receiving SRF funds and DPH loan forgiveness of more than $14 million dollars in the past four years.

Education/Qualifications

- BS, Mechanical Engineer, Cornell University, 1985

Years of Experience

Total – 38
With Arcadis – 21

Professional Registration/ Certifications

- Professional Engineer – CT, MA, ME, NH, RI
- Board Certified Environmental Engineer – US

Professional Associations

- American Water Works Assoc
- New England Water Environment Assoc, Vice President, WEF Delegate, Executive Committee
- Water Environment Federation, Member, Government Affairs Committee
- American Public Works Assoc
- New England Water Works Assoc, Sponsors Committee

Awards

- WEF Fellow
- Golden Manhole – WEF Collection Systems Committee
- Golden Shovel -Secret Society of Sludge

Office Location

Wakefield, MA

Relevant Experience

Lead Service Line Replacement Program
City of New London, CT

Program director / principal-in-charge for full lead service line (LSL) replacement program. Work includes LSL inventory development levering machine learning, design and bidding services, public outreach and communication, program development, and stakeholder communication and funding assistance.

Lead and Copper Rule Compliance Program
Norwich Public Utilities, Norwich, CT

Technical advisor for a comprehensive lead and copper rule revisions compliance program covering inventory development, basement inspections, predictive modeling, sampling updates, development updates, development of detailed design documents for lead service line replacement, and development of a test pit program.

Lead and Copper Rule Compliance
City of Meriden, CT

Serves as the project director providing lead and copper rule compliance, including inventory development, development of a lead service line replacement plan, corrosion control, and development and execution of a public outreach and education program. Work includes development of strategies to reduce the number of unknowns ahead of the LCRI compliance date.

Lead and Copper Rule Compliance
Groton Utilities, Groton, CT

Serves as the project director and technical resource for as-needed assistance with lead and copper rule compliance. Work includes development of public outreach materials, interpretation of LCRR/LCRI and ongoing compliance support.

PWS LSLI & LSLRP Assistance
New Hampshire Dept of Environmental Services, NH

Project director for the state of New Hampshire to assist 220 public water suppliers in developing lead service line inventory, replacement, and sampling plans. Project involves coordination with and assisting the 220 PWSs with their lead service line inventory preparation. This includes program sign-up for the PWSs, a detailed inventory survey and data gathering from each PWS, assisting each PWS to draft their lead service line inventories, advising the PWS on strategies to reduce unknowns and developing a verification plan, assistance with updating each PWSs sampling plan to align with new requirements, and the final lead service line inventory to be submitted to NHDES.

Lake Konomoc Influent Pump Station (IPS)
City of New London, CT

Arcadis provided services from preliminary design through construction oversight for 2,100 feet of new 36-inch HDPE intake pipe and a new pump station. The pump station has two 12-mgd split-case centrifugal pumps, a vacuum prime system, variable frequency drives, and associated valves and piping. The pump station is designed to operate under flow conditions equal to those of the water treatment plant, which was designed for an average flow rate of 9 mgd and a peak flow of 12 mgd. She served as the project principal for this assignment.

Watershed Management Plan
City of New London, CT

Project director to develop a Watershed Management Plan —an important step toward mapping out the city's environmental resources, identifying sources of water pollution, and addressing TMDLs and water quality impairments through prioritized improvements. The City recognizes the urgent need to evaluate hydrology, soils, flora, and fauna as they currently exist as a more reliable and research-based tool for developing a Natural Resource and Watershed Plan. Arcadis guided the process, engaged stakeholders and the general public in the planning, and developed a plan with recommendations on how the City can move forward to protect and manage its natural resources most effectively.

Fishtown Road Pump Station Rehabilitation
Town of Groton, CT

Project director for replacement of existing three pump dry-pit configuration with two submersible pumps utilizing the existing wet well. Services included hydraulic analysis of existing force main, pump selection, production of contract drawings and specifications, preparing project for public bid, services during bidding engineering services during construction.

Utility Replacement Design through Construction Administration and Resident Engineering
Town of Saugus, MA

Project director for the utility replacement project, which involves the replacement and/or upsizing of water, sanitary sewer, and drain in five different locations throughout the Town of Saugus. Infrastructure required replacement due to either being undersized or at the end of its useful life. Approximately 2,000 linear feet of buried infrastructure will be replaced. Due to most of the utilities being in the roadway, traffic design and pavement design were also completed. As part of the project, Arcadis also added streetscape features by designing new sidewalk complete with granite curbing and ADA compliant curb ramps.

Baxter Roadway Utility Relocation
Town of Nantucket, MA

Project director. The relocation of Baxter Road involves relocating utilities and roadway away from the 2030 and 2050 erosion hazard areas. Work also involves abandoning the existing utilities. The ongoing scope of work will provide for 'shovel ready' Bid Contract Documents for relocated of a portion of Baxter Road.

SCADA System Upgrade, Phases 1 & 2
City of Fitchburg, MA

Phase 1: Project director for evaluation of existing SCADA and telemetry equipment at the City's two water treatment facilities and remote sites. The controls and communication equipment at the plants and remote sites were inventoried. Alternatives evaluations were performed for SCADA software, the plant PLCs and the remote site PLCs. Webinars were held with SCADA software vendors to demonstrate features and functions to City personnel. A final draft version of the Phase 1 Feasibility study was submitted, and the details along with the engineer's opinion of probable cost were presented to the Water & Wastewater Commission.

Phase 2: Project director for design of new SCADA and telemetry equipment at the City's two water filtration facilities and remote sites. The design includes physical and network security, staging replacement of main control panels, and creating new standards across all the sites.

Amy Anderson George, CPM

Project Manager; Funding

Ms. Anderson George is a project manager for various projects in the New England area. She has vast knowledge and experience with planning stage projects analyzing flow data and SSES findings and developing recommendations for long-term infiltration and inflow (I/I) identification and removal programs. Ms. Anderson George provided program management for the City of New London's lead service line replacement program. She provided project management services for the City of East Providence contract operations negotiations between the City and the private contract operations firm. She is a proven project manager who is adept at meeting project deadlines and building consensus among many different stakeholders. She manages large teams of staff and subcontractors to deliver and present high quality results to our clients.

Education/Qualifications

- BS, Environmental Engineering, Roger Williams University, 2005

Years of Experience

Total – 20
With Arcadis – 20

Professional Registration/ Certifications

- Certified Project Manager (CPM)

Professional Associations

- Water Environment Federation
- New England Water Environment Association, Member
- Rhode Island Clean Water Association

Office Location

East Greenwich, RI

Relevant Experience

Lead and Copper Rule Compliance
City of Meriden, CT

Serves as the project manager providing lead and copper rule compliance, including inventory development, development of a lead service line replacement plan, corrosion control, and development and execution of a public outreach and education program. Work includes development of strategies to reduce the number of unknowns ahead of the LCRI compliance date.

Lead and Copper Rule Compliance
Groton Utilities, Groton, CT

Serves as the project manager and technical resource for as needed assistance with lead and copper rule compliance. Work includes development of public outreach materials, interpretation of LCRR/LCRI and ongoing compliance support.

Lead Service Line Replacement Program
City of New London, CT

Serves as the program manager for the design and construction of New London's Lead Service Line Replacement Program, assuring the Water and Wastewater Pollution Control Authority and other stakeholders are informed on all aspects of the program throughout the duration of both the design and construction phases. Responsibilities include coordination between the various aspects of the project for continued, smooth progression and that milestones are met on schedule. Responsibilities include holding all program progress meetings, all public outreach, development of construction documents, coordination of all construction related activities, compliance with the Lead and Cooper Rule Revisions, site visits, schedule, costs and funding.

Beaver Street Interceptor Replacement and New Pump Station

Town of Franklin Department of Public Work (DPW), Franklin, MA

Project manager for a sewer interceptor replacement project with new force main and pump station. Work includes rehabilitation of 7,000 LF of existing pipes, replacement/upsizing, and realignment of approximately 7,000 linear feet of gravity sewer, installation of new sewer under existing railroad tracks by jack and bore pipe installation at 3 locations, abandonment of existing pipes and manholes in place, and construction of a new wastewater pump station and associated 4,000 linear foot force main. Work includes extensive temporary bypass operations, environmental permitting, coordination with the DPW, residents, and businesses, acquisition of new temporary construction and permanent sewer easements, and relocation/replacement of several adjacent utilities, including 1,000 linear feet of water main.

East Central Street Force Main Replacement

Town of Franklin, MA

Served as the project engineer and resident engineer for the inspection, design, bidding and construction phase services for the design for the horizontal directional drill (HDD) a new 1,400 LF, 8-inch HDPE force main, 25-feet below all existing utilities, minimizing costs, construction schedule and impacts to numerous commercial businesses and the new State Highway. Construction took place Spring 2016 with a completion time of less than 2 months. Project included coordination with all utilities and stakeholders to minimize disturbance to all homeowners and businesses. Major work items included: drilling and installing 1,400 LF of 8-inch HDPE, installation of a new discharge manhole and connection to the existing sanitary sewer system, a new bypass vault chamber at the pump station.

Citywide Infiltration and Inflow Program

City of Portland, ME

Serves as the project engineer on the City-Wide Infiltration and Inflow Program for the City of Portland. Responsibilities include analyzing and preparing the GIS Data Gap Analysis, management of the flow monitoring program and SSES activities, and rehabilitation recommendations and coordination with the City on all project deliverables. Work included a series of project workshops to ensure all client goals and needs were met on time in accordance with the City's consent decree deadlines.

Townwide Infiltration and Inflow Program

Darien, CT

Facilitated workshop with Town to gather historical information on the system for I/I study planning and GIS updates. Implemented a flow monitoring program, including study area prioritization; selection, field verification, and installation of flow meters and groundwater and rainfall gauges; and data collection and maintenance of flow monitoring equipment. Utilized flow monitoring results to perform an infiltration and inflow analysis and identified follow-on priority SSES investigations. Performed visual condition assessment at all 14 of the Town's pump stations and conducted operation and maintenance interviews.

MDC SSO Elimination Program - SSES

The Metropolitan District, Hartford, CT

Engineer for the MDC's Sanitary Sewer Overflow Elimination Program for the communities of Rocky Hill, Wethersfield and Windsor, CT. This project includes a Sewer System Evaluation Survey, consisting of flow isolation of 550,000 LF of sewers, 280,000 LF of closed-circuit television inspection, 3,200 manhole inspections, 640,000 LF of smoke testing, dye water testing and flooding and 10,000 building inspections. The goal of the project is to eliminate SSO's in accordance with the EPA and CT DEP Consent Decree by eliminating sources of I/I.

Chelsea Creek Remote Headworks Facility Upgrades

Massachusetts Water Resources Authority, Chelsea, MA

Project engineer for the design and construction administration services improvements to the Chelsea Creek Headworks, 160-mgd average flow and 182- to 350-mgd maximum flow. The upgrade will include replacement and automation of all solids handling equipment including screens, grit collector systems and solids conveyance systems; odor control and HVAC systems will be replaced and redundancy added ancillary systems, including emergency generators and fuel oil tanks, will be replaced; and instrumentation and control systems will be upgraded.

Sydney Lewis

Project Engineer

Ms. Lewis is a passionate civil engineer within the New England Resilience Water Business Area, looking to improve water quality through engineering. Her professional experience includes over 3 years working on wastewater and water resources design, engineering, and construction responsibilities.

Education/Qualifications

- BS, Civil Engineering with Environmental Engineering, University of Hartford, 2022

Years of Experience

Total – 3
With Arcadis – <1

Professional Registration/ Certifications

- Engineer in Training – CT #EIT.0013288
- 10-Hour OSHA Construction Safety & Health Training
- 30-Hour OSHA Construction Safety & Health Training

Professional Associations

- New England Water Environment Association (NEWEA)
- American Water Works Association Connecticut Section (CTAWWA)
- Society of Women Engineers (SWE)

Office Location

Middletown, CT

Relevant Experience

Lead Service Line Replacement Phase 1A
New London, CT

Assisted as a project engineer, responsible for leading bid phase administration, construction administration, and assisting with field work for the mandated lead service line replacement efforts to comply with the EPA's LCRI. Construction administration includes managing customer outreach for inspections, replacements and tap sampling, as well as issuing balancing change orders, submitting monthly payment applications to the state for inventory and replacement program support. Field work includes inventory development by observing test pits and service line verification through basement inspections. Additionally, the role includes researching and developing a school and childcare program and a master meter inventory by working with the City's utility company and customers directly.

Lead Service Line Replacement Phase 1B
New London, CT

Assisted as a project engineer, responsible for leading bid phase administration, construction administration, and assisting with field work for the mandated lead service line replacement efforts to comply with the EPA's LCRI. Bid phase administration includes developing conformed bid documents, performing contractor evaluations, and leading contract issuance to the lowest bidder. Construction administration includes managing customer outreach for inspections, replacements and tap sampling, issuing balancing change orders and submitting monthly payment applications to the state for inventory and replacement program support. Field work includes inventory development by observing test pits and service line verification through basement inspections.

Lead Service Line Replacement Phase 2
New London, CT

Assisted as a project engineer responsible for leading bid phase administration to comply with the EPA's LCRI. Bid phase administration includes developing conformed bid documents, performing contractor evaluations, and leading contract issuance to the lowest bidder. Other responsibilities include working with subcontractors to review and research flood management certificates and National Diversity Data Base determination.

East Hartford Water Pollution Control Facility Aeration, DO Control and SCADA Upgrades – Phase 3B

The Metropolitan District, Hartford, CT

Assisted in construction administration as well as client and contractor correspondence for the Metropolitan District's East Hartford WPCF improvements project. Responsibilities include submittals and RFIs coordination and review, memorandum drafting, punchlist development, as-builts review, eOM drafting, and other closeout documentation and coordination with the client.

Richards Corner Dam Diversion Conduit Outlet Channel and Embankment Repairs

The Metropolitan District, Hartford, CT

Assisted in construction administration as well as client and contractor correspondence for the Metropolitan District's dam stabilization and rehabilitation project. Responsibilities include submittals and RFI's coordination and review, and punchlist development and coordination with the client.

South Hartford Conveyance and Storage Tunnel Pump Station

The Metropolitan District, Hartford, CT

Assisted in construction administration and management as well as client and contractor correspondence for the Metropolitan District's tunnel pump station project. Major items for work include a new control building, grit/screening facility, odor control facility, head tank, valve vault, and 54-inch force main to the Hartford Water Pollution Control Facility. Responsibilities include submittals and RFI's review and distribution as well as witnessing field testing, memorandum drafting, and weekly and monthly report drafting.

Annual Sanitary Sewer Cleaning & CCTV Inspection Program

Department of Public Works, Darien, CT

Assisted in construction oversight for the annual sanitary sewer cleaning and close-circuit television inspections. Responsibilities include field coordination and part-time oversight of CCTV contractor

Erica Walker

Lead and Copper Subject Matter Expert

Ms. Walker brings over 12 years of experience in the areas of regulatory compliance, funding management, water quality analytics, training, asset inventories, service line replacement planning, data management, and technical management of programs. She helps water utilities and state agencies respond to federal and state regulatory changes and specializes in locating and remediating sources of lead in distribution and premise plumbing systems. At Arcadis, Ms. Walker leads Arcadis' Lead & Copper Rule compliance practice with over 60 team members across the United States.

Education/Qualifications

- MSES, Water Resources, Indiana University 2015
- MPA, Policy Analysis, Indiana University 2015

Years of Experience

Total – 12
With Arcadis – 2

Professional Registration/ Certifications

- American Water Works Association (AWWA)
- Council of Infrastructure Financing Authorities (CIFA)

Office Location

Indianapolis, IN

Relevant Experience

LCR Data Management

Erie County Water Authority, NY

Task leadership and advisor for the development and implementation of a compliance program for the LCRR with a focus on data management and tap sampling. Program covers all aspects of the LCRR including the lead service line inventory, predictive modeling, lead service line replacement, school and childcare sampling, tap and water quality parameter monitoring, and public education and outreach.

Inventory Database & Predictive Modeling

NYC Department of Environment, New York, NY

Quality control and quality assurance manager on a project to develop a new service line inventory database with a customer-facing portal, support in scanning and utilizing over 2 million tap cards, as well as the development and utilization of a predictive model to reduce unknown service lines.

Service Line Inventory & Compliance Planning

City of Fort Lauderdale, FL

Technical advisor on an LCRR compliance program including the development of a service line inventory, field inspections, predictive modeling, public outreach materials, and strategic planning. The project resulted in reducing unknowns by over 90% in the first year.

Predictive Modeling & Field Service Line Inspections

Central Alabama Water, AL

Program advisor for multi-phase compliance project for a system with over 178,000 customer accounts. The project includes over 1,000 service line inspections, the use of predictive modeling, state revolving fund applications, database management tool development, LSLR plan development, and public outreach and education support.

LCRR Program Management
San Antonio Water System, San Antonio, TX

Technical advisor providing guidance and QA/QC of a compliance program for the LCRR with a special focus on Lead Service Line Inventories, School & Childcare Sampling, and Data Management. SAWS serves 2 million people or over half a million water customers (over 600,000 service connections). Program involves developing their service line inventory, data management dashboards and reporting system, predictive modeling outreach and education plan, school/day care sampling plan, compliance sampling plan, and LSLR Plan which will also include funding opportunities to fund replacements.

LCRR Program Management & Workforce Development
Philadelphia Water Department, Philadelphia, PA

Technical advisor providing guidance on a compliance program for LCRR, with a special focus on public communications and school/Childcare sampling. The program expands upon PWD's existing Lead Service Line Replacement effort to cover all areas of LCRR and involves management of and collaboration with numerous subconsultants. Arcadis collaboratively built a school and childcare sampling program with PWD and trained existing staff to conduct sampling and support registered facilities.

LCRR Program Management
Fairfax Water Authority, Fairfax, VA

Technical advisor providing LCRR compliance guidance for Fairfax Water Authority, serving 1.5 million customers in the D.C. area. Program covers lead service line inventory, lead service line replacement planning, school, and childcare sampling, tap and water quality parameter monitoring, and public education and outreach. The project team is currently working with state regulators to apply various modeling strategies across this very large distribution system to reduce unknowns in areas with and without a histories and evidence of lead service lines.

State-Wide LCR Compliance Support
Ohio Environmental Protection Agency, OH

Technical advisor on a state-wide technical assistance program offering support to over 150 water systems serving less than 10,000 customers. Arcadis assists water systems in the program in developing inventories, building LSLR plans, communicating with customers, and reducing unknowns through thousands of field inspections and the use of predictive modeling.

Prior Experience

Lead & Copper Rule Compliance Assessment
Suez North America, Paramus, NJ

Conducted a holistic review regulatory compliance needs for over 90 water systems owned and operated by Suez North America with respect to Lead Service Line Inventories, Lead Service Line Replacement planning, Tier Site Sampling, School & Childcare Sampling, Customer Notifications and Corrosion Control Treatment approaches. This project provided the company with an understanding of resource needs across the country.

WIIN Grant Management & Lead Service Line Funding Programs
Indiana Finance Authority, Indiana, IN

Program manager for IFA's Lead Sampling in School and Childcare program, which sampled over 1,500 facilities and was funded by an EPA WIIN Grant. Erica also developed programs to assist over 1,300 water systems across Indiana with access to funds and technical assistance for Lead Service Line inventory and replacement projects.

State Water Infrastructure Improvement Program
Indiana Finance Authority, Indianapolis, IN

Managed over 70 projects totaling $150 Million in infrastructure improvements across the state of Indiana to improve drinking, wastewater and stormwater quality for water utilities and communities

Hannah Rockwell, PE, CDT

Lead and Copper Subject Matter Expert

Ms. Rockwell is a senior water engineer for Arcadis in the Rochester, NY office with more than ten years of experience. She serves on Arcadis' National Lead and Copper team, collaborating on LCRR / LCRI compliance with communities around the country. She has experience with a wide range of drinking water quality, and her current work includes LSLI inventory and replacement plans, predictive modeling, LSL replacements and the development of comprehensive LCR public education and outreach programming. Additionally, Ms. Rockwell has been responsible for securing and oversight of over $40 million in state grants and more than $290 million in hardship, subsidized, and market rate SRF loans for critical infrastructure projects.

Education/Qualifications

- BS, Environmental Engineering, The University of Michigan, 2015

Years of Experience

Total – 10
With Arcadis – 10

Professional Registration/ Certifications

- Professional Engineer – NY
- Certified Construction Documents Technologist (CDT)

Professional Associations

- American Water Works Association
  - Lead in Water Subcommittee Member and Contributor to Schools and Childcare Sampling Guidance

Office Location

Rochester, NY

Relevant Experience

LCRR Program Management
Erie County Water Authority, Buffalo, NY

Program manager overseeing the development and implementation of a compliance program for the LCRR. Program includes lead service line inventory improvements, predictive modeling, test pits for service line inspections, lead service line replacement planning, design and funding support, data management strategy and implementation, school and childcare monitoring program development, tap and water quality parameter monitoring, and public education and outreach.

LCRR and LSLR Support
Hammond Water Works, Hammond, IN

Project manager and lead engineer for development and execution of an LCRR compliance program and a pilot lead service line replacement program for the City of Hammond Indiana. Work includes inventory development and investigations, LSLR construction documents, funding application and management support, and stakeholder coordination along with support for other components of the LCRR.

Service Line Material Inventory
Monroe County Water Authority, Rochester, NY

Project manager and lead engineer for development of a comprehensive service line inventory for LCRR compliance. Work includes development of initial inventory, determination of lead status and unknown service lines, created customer-interactive inventory, LSL replacement program, LSL inventory improvements in Oracle database, predictive modeling, design and bidding services for potholing, public outreach and notification for inspections, and public facing inventory.

SRF Funded Lead Service Line Replacements – City of Rochester, NY

City of Rochester Water Bureau, NY

Program manager and engineer of record for the design and construction of more than 2,000 lead service line replacements for the City of Rochester including implementation of all state revolving fund requirements. Work includes management of onsite resident project representative and ongoing construction administration and data management for regulatory and funding compliance through a mobile application.

LCRR Support – Communications and Outreach Materials

City of Appleton, WI

Leading development of public outreach strategy, messaging, branding and materials for the City's new mandatory lead service line replacement program including a program pamphlet, post cards notifying the customer of the service line material, letter to customers with lead service lines and more.

Lead and Copper Rule Revisions Support

Mishawaka, IN

Providing engineering support for compliance with the LCRR. Work includes a review of existing practices and identification of areas for improvement for compliance, largely focusing around the lead service line inventory in GIS and methods for identifying the service line material.

Lead Service Line Replacement (Communications and Outreach)

New London, CT

The project includes the development of a LSLR plan, construction documents for lead service line replacement, field inspection of service line materials, and the creation of outreach and communications materials to meet the requirements of the Lead and Copper Rule Revisions. Responsibilities include creation of targeted communications and outreach materials on the topics of LSLR program information and best practices following lead service line replacement.

Optimal CCT Study

Erie County Water Authority (ECWA), Buffalo, NY

Provided project engineering support for an evaluation of existing ECWA corrosion control practices and to provide an updated corrosion control desktop study to address current water quality. Work used several databases, including geospatial and historic sampling data using ArcGIS Pro, Power Business Intelligence and Rothberg, Tamburini and Winsor modelling.

Guidance for Using Pipe Loops to Inform Lead and Copper CCT Decisions (WRF #5081)

Water Research Foundation, Denver, CO

Project engineer assisting with the development of a "fit-for-purpose" guidance document for using pipe loops to inform lead and copper CCT decisions. Responsible for the review of historical pipe loop studies and documenting the most common operational parameters for pipe loop operations that will be summarized in the guidance document used to develop practical standard operating procedures for utilities.

Genesee County Expansion – Water Quality and LCRR Compliance Evaluation

Genesee County, NY

Project includes an initial risk and compliance assessment of operations and practices related to corrosion control treatment, lead service line inventory, and lead service line replacement strategies relative to the LCRR and a potential source water change. Following an intensive information review and desktop analyses, a series of workshops will be conducted to identify areas for improvement to comply with the LCRR. Project deliverables include a roadmap and budgetary estimates for recommended next steps to support capital planning and funding decisions related to LCRR compliance.

Initial LCRR Compliance and Risk Assessment

Town of Tonawanda Water Department, NY

Project includes an initial risk and compliance assessment of the Town's operations and practices related to corrosion control treatment, lead service line inventory, and lead service line replacement strategies relative to the LCRR. Following an intensive information review and desktop analyses, a series of workshops were conducted to identify areas for improvement to comply with the LCRR. Project deliverables included a roadmap and budgetary estimates for recommended next steps to support capital planning and funding decisions.

LCR Sampling and Compliance Support

City of Geneva, NY

Manage City's LCR tap sampling program to achieve and maintain compliance following an order on consent. Develop improved customer communications to build and maintain a sampling pool, perform exploratory 5th L testing, and develop / update service line inventory.

Education/Qualifications

- MS, Civil & Environmental Engineering, Purdue University, 2016
- BS, Environmental Engineering, San Diego State University, 2014

Years of Experience

Total – 9
With Arcadis – 9

Professional Registration/ Certifications

- Professional Engineer – IN
- Construction Documents Technologist (CDT)

Professional Associations

- American Water Works Association (AWWA)

Office Location

Indianapolis, IN

Karen Casteloes, PE, CDT

LCR Compliance

Ms. Casteloes is a water quality engineer with Arcadis and brings experience with high-profile drinking water projects, including drinking water treatment selection and optimization and regulatory compliance. She supports systems in developing lead service line inventories, service line materials identification, lead sampling programs, and demonstration studies. Ms. Casteloes is proficient in data management and analysis for water contaminants, such as lead.

Relevant Experience

Lead Service Line Replacement Program
City of New London, CT

Project engineer for full LSL replacement program. As part of this program, developed a complete service line materials inventory leveraging machine learning. Additionally, drafted a lead service line replacement plan, reviewed, and assisted in public outreach and communication, program development, and stakeholder communication.

Full Lead Service Line Replacement Guidance (#4713)
Water Research Foundation, Denver, CO

Currently assisting with a research project to evaluate strategies to reduce lead exposure after conducting full lead service line replacements. The study will determine how LSLR effectiveness, both short- and long-term, is impacted by several different characteristics, including size and source water type, corrosion control treatment method, LCR compliance history, demographics, and geographic location.

LCRR Program Management
Philadelphia Water Department (PWD), Philadelphia, PA

Task lead for the pitcher filters and schools and childcare facilities monitoring tasks. Program includes lead service line inventory improvements, and testing of emerging technologies, lead service line replacement planning, data management strategy and implementation, workflow development, school and childcare monitoring program development and pilot, corrosion control treatment scenario planning, tap and water quality parameter monitoring, pitcher filter evaluation, and public education and outreach plan and materials.

Service Line Inventory and LSL Replacement Project
Aqua America, Inc., IL, OH, NJ, PA

Reviewed 53 systems with suspected LSLs to improve their existing service line material inventories by identifying and locating LSLs and to bring consistency across the company. Developed work plans to improve the existing inventories that considered system size, available data regulatory requirements, and system practices. As a project engineer, she created a data dictionary,

performed a gap analysis, facilitated state regulator discussions, and presented service line material identification alternatives.

Small Public Water System (PWS) Lead Service Line Inventory and Replacement Assistance
New Hampshire Department of Environmental Services (NHDES), NH (Statewide)

Assisted and coordinated 220 New Hampshire public water systems (PWSs) to develop a LSL inventory, LSL replacement plan, and update their LCR tap sampling plan. As technical expert, assisted the PWSs in drafting their lead service line inventories, advising the PWS on strategies to reduce unknowns and developing a verification plan, assisted with updating each PWSs sampling plan to align with new requirements, and submitting the final lead service line inventory to NHDES. Created workflows, action plans, and a project management dashboard to track progress through the program.

Lead Program Management and Support
Chicago Department of Water Management (CDWM), Chicago, IL

Implemented a large, city-wide lead testing program with Chicago DWM. Performed data analysis on lab results and applied Geographic Information System (GIS) to improve process efficiency. Assisted the GIS team to create or improve mobile applications for both Water Quality and other groups within Department of Watershed Management. Worked to improve workflows and processes within the Water Quality department. Interfaced on a daily basis with client stakeholders for planning, goal setting, expectation management, and problem resolution. Developed Water Quality and other reports as well as organized and maintained historical information.

Lead and Copper Rule Revisions Impacts Evaluation
Pasco County, FL

Assisted the County in understanding changes in the LCR requirements and how they may impact the county will help with aligning system and practices with the LCRR. As project engineer, developed a service line inventory through a thorough review of existing data and practices as well as identified areas for improvement. Evaluated the current sampling plan, “find-and-fix” protocol, and developed a Tier 1 notification procedure and notice.

Lead and Copper Rule Revisions Program Support
Louisville Water Company, Louisville, KY

Given the complexity of the LCRR, the wide range of required activities, the number of stakeholders involved, and the sheer volume of information to be collected, managed, and analyzed, developing an action plan is a daunting task. As project engineer, providing on-call support to the LCRR team through monthly meetings with focused on utility questions and topics of interest, review of draft content and methodologies developed by the utility, relevant resources, and direct support for development and implementation of program elements.

LCRR Program Management
Monroe County Water Authority (MCWA), Rochester, NY

As a task leader, developed the lead service line replacement plan as well as reviewed service line inventory and predictive modeling results. Includes lead service line inventory improvements, lead service line replacement planning, data management strategy and implementation, workflow development, and public education/outreach plan and materials.

LCRR Program Management
Erie County Water Authority (ECWA), Buffalo, NY

Task lead focused on the sampling and monitoring and lead service line replacement tasks. Program includes lead service line inventory improvements, predictive modeling, test pits for service line inspections, lead service line replacement planning, design and funding support, data management strategy and implementation, school and childcare monitoring program development, tap and water quality parameter monitoring, and public education and outreach.

Ordinance Review and Updates
City of New London, CT

As project engineer, reviewed the current content and structure of the existing water ordinance and made recommendations for updates in accordance with best practices. As part of this work, identified which content should remain in the Ordinances, and which should be referenced in the Ordinance but moved to a regulations document(s). Included a review and addition of lead service line replacement requirements and regulations.

Ashis Kumar Pal, IAM

Reporting and Dashboard

Mr. Ashis Pal is a management consultant with expertise in data visualization, asset management, and geospatial analysis. At Arcadis, he has successfully contributed to various projects by combining his technical knowledge in Power BI, ArcGIS, and SQL with an understanding of environmental engineering principles. His work includes developing dashboards, optimizing inventory processes, conducting field inspections, and creating GIS-based maps that directly influenced project outcomes and decision-making. With a background in industrial and civil & environmental engineering, he focuses on delivering innovative and efficient solutions for complex challenges in water resources, stormwater management, and infrastructure systems.

Education/Qualifications

- MS, Civil and Environmental Engineering, Northeastern University 2024
- BS Industrial and Production Engineering, Bangladesh University of Engineering and Technology, 2017

Years of Experience

Total – 8
With Arcadis – 1

Professional Registration/ Certifications

- IAM Certificate – Institute of Asset Management

Office Location

Wakefield, MA

Relevant Experience

Lead Service Line Replacement Program
City of New London Department of Public Utilities, CT

Performed basement inspections to identify service line materials, contributing to the creation of accurate lead service line inventories. Also developed Power BI dashboards to track project progress, ensuring effective visualization of key metrics for better decision-making. These efforts supported compliance with regulatory requirements and informed strategies for the successful implementation of lead service line replacements.

Lead Service Line Inventory and Replacement Program
New Hampshire Department of Environmental Services (NHDES)

Served as a technical advisor, providing critical guidance on project workflows and compliance strategies. Developed a Power BI dashboard accessed and updated daily by clients, offering real-time insights into project metrics and enhancing decision-making processes. The contributions also included maintaining datasets to confirm accuracy and reliability, as well as supporting project management activities to streamline operations and achieve program goals effectively.

Municipal Separate Storm Sewer System (MS4) Management Program
City of Fitchburg and Town of Saugus, MA

Performed comprehensive fieldwork activities, including dry and wet weather inspections, to identify and address potential environmental compliance issues within the MS4. Contributed to the Stormwater Pollution Prevention Plan inspections, maintaining compliance with environmental regulations. The work also included supporting illicit discharge detection through outfall screenings and inspections, contributing to improved water quality management strategies.

Inventory Management Program

City of Virginia Beach Department of Public Works, VA

Supported the optimization of supply room and inventory management processes by aligning workflows with Lean principles. Contributed to documenting and improving inventory management practices, identifying gaps in existing systems, and recommending performance metrics to enhance accountability. Also identified non-moving and slow-moving items, providing recommendations for unstocking underutilized inventory. Additionally, developed a strengths and weaknesses matrix and proposed areas for improvement by leveraging data from Cartegraph, driving more efficient inventory management and operational effectiveness.

Electronic Operations and Maintenance (eOM) Support Project

Metropolitan District, Hartford, CT

Contributed to the development of an electronic library for storing critical documents such as vehicle repair manuals, maintenance guides, and inspection forms. Played a key role in designing prototype configurations for the eOM system, enhancing its usability and efficiency.

Sewer Line Rapid Assessment Tool (SL-RAT) Power BI Technical Support

New Castle County, DE

Supporting the Sewer Line Rapid Assessment Tool (SL-RAT) tracking system through advanced Power BI solutions. He troubleshot and optimized the Power BI semantic model, ensuring accuracy and reliability in data visualization. Dashboards were deployed on Power BI Services, enabling seamless access for stakeholders to track sewer line assessment progress. Additionally, he managed data integration and transformation from SQL Server, ensuring efficient workflows and real-time insights. Contributions enhanced the usability and performance of the SL-RAT tracker, facilitating data-driven decision-making and operational efficiency for the county.

Wastewater On-Call Engineer Project

New Hampshire Department of Environmental Services, Portsmouth, NH

An ArcGIS map of wastewater facilities across the state of New Hampshire was developed using tabular data from online sources. The map provided a clear and detailed visualization of facility locations and served as a critical component of the client presentation.

Green Infrastructure Research and Development (OGIRAD) Program

New York City Department of Environmental Protection (NYC DEP), NY

Ashis Supported NYC DEP’s green infrastructure efforts by developing a digital monitoring system using Power BI for asset condition assessment. Key dashboards include rain garden and infiltration basin maintenance, porous concrete pavement performance tracking, and an experiment index summarizing 12 GI studies across 100+ assets.

James McCallon, GISP

GIS and Data Management

Mr. McCallon brings over 11 years of experience in developing and implementing innovative digital solutions to support regulatory compliance and utility asset management and operations. He has led the effort to implement data management solutions for LCRR and LCRI compliance across several water systems to ensure proper data collection and reporting. With expertise spanning all phases of digital solution development and deployment, he ensures tailored results that meet the unique needs of his clients.

Education/Qualifications

- BS, Geosciences, Murray State University, 2013

Years of Experience

Total – 11
With Arcadis – 7

Professional Registration/ Certifications

- Geographic Information System Professional (GISP) – US

Office Location

Louisville, KY

Relevant Experience

Lead Service Line Replacement Program Management
City of New London, CT

Mr. McCallon served as the data management/GIS advisor overseeing the development and implementation of a data management solution for their replacement program. His efforts on this program include developing GIS based field applications for service line material identification, implementation of Lead Insights, and data integrations between GIS and Lead Insights.

LCRR Compliance Management
Erie County Water Authority, Buffalo, NY

Mr. McCallon served as the data management and GIS lead, overseeing the development and implementation of a comprehensive data management solution to support LCRR and LCRI compliance. His efforts included the creation of a detailed service line inventory, coordination of field verification activities, and the development of a public-facing inventory to enhance transparency. Additionally, he designed and implemented digital workflows to streamline sampling compliance, communication processes, and field operations, ensuring efficiency and alignment with regulatory requirements.

LCRR Compliance Management
Monroe County Water Authority, Rochester, NY

Mr. McCallon served as the data management and GIS lead, advising on the a comprehensive data management plan to support LCRR and LCRI compliance. His efforts included the support of a detailed service line inventory and the digital workflows to maintain it, the development of field tools for verification activities, and the development of a public-facing inventory to enhance transparency.

LCRR Compliance Management
City of Ft. Lauderdale, FL

Mr. McCallon served as the data management/GIS lead overseeing the development a service line inventory and field verification efforts His efforts include developing and implementing GIS based field applications for service line material identification and inspection management. He also developed a

Data Management Plan which outlined recommendations and procedures for overall data management with respect to LCRR compliance.

Asset Management Advisor
New York State Department of Environmental Conservation, New York, NY

Mr. McCallon served as the GIS lead overseeing implementation of ArcGIS Online, developing data standards, building QC scripts, and developing a data integration with Maximo. He built out a template geodatabase for participating communities to input linear assets. This geodatabase was run through the developed QC scripts before being published to ArcGIS Online. From there, ArcGIS Online was integrated bidirectionally with the state's Maximo deployment to have a complete asset management solution.

LCRR Program Management
Philadelphia Water Department, Philadelphia, PA

Mr. McCallon served as the data management and GIS lead, overseeing the development and implementation of a comprehensive data management solution to support LCRR and LCRI compliance, including service line replacements, inventory, sampling, and communication activities. His contributions to the program included the creation of a fully integrated service line inventory database, the development of a data management strategy, the implementation of a commercial data management solution, and the design of digital workflows to streamline operations. These efforts involved significant system integrations and the development of strategies to ensure long-term sustainability. Additionally, Mr. McCallon led the development and deployment of GIS-based field applications to support service line material identification and inspection management, enhancing field operations and data accuracy.

LCRR Compliance Management
San Antonio Water System, San Antonio, TX

Mr. McCallon served as the data management and GIS quality control lead, supporting the development of a comprehensive service line inventory, field verification efforts, and a data management strategy to ensure compliance with LCRR and LCRI regulations. His contributions included designing and implementing GIS-based field applications to facilitate service line material identification and inspection management, streamlining data collection and field operations. In addition, Mr. McCallon conducted quality control reviews of the Data Management Plan, ensuring alignment with LCRR and LCRI compliance requirements.

LCRR Compliance Management
City of Hollywood, FL

Mr. McCallon served as the data management/GIS lead overseeing the development a service line inventory and field verification efforts. His efforts include developing and implementing GIS based field applications for service line material identification and inspection management.

PWCSA Lead Service Line Inventory
Prince William County Service Authority, VA

Mr. McCallon served as the data management/GIS lead overseeing the development a service line inventory and public facing GIS applications. This development effort resulted in a SQL database solution that pulls together both static and living datasets to create internal, regulatory, and publishable inventories. This solution was designed to be repeatable, expandable, and modifiable as input datasets or regulatory requirements change.

Capital Program Management – Digital Solutions
Chicago Department of Water Management, Chicago, IL

As the GIS and digital team lead for a multi-year program, Mr. McCallon oversaw the deployment and management of digital solutions designed to support all aspects of the department's operations. This effort encompassed the development of applications, databases, and dashboards for a variety of critical programs, including CSO and MS4 permitting, service line inventory compliance, and the department's Capital Improvement Programs for both water and sewer systems. He also led the road mapping and implementation of a robust ArcGIS Enterprise platform, providing a web-based interface for over 800 internal users and enabling public access to GIS data. Additionally, he led the design and deployment of a fully integrated mobile solution that allowed the department to view and close 311 tickets in real time. This solution significantly improved response times for most department work orders, enhancing operational efficiency, reporting metrics, and customer service.

Whitney Campbell

GIS and Data Management

Ms. Campbell is a recent Western Kentucky University graduate, where she studied Political Science and International Affairs with a certificate in GIS. During her time at Western Kentucky University, she took courses focused on GIS, spatial data analysis, voting and environmental demographics, programming/modeling, and cartography. Since joining Arcadis as a GIS specialist, she applies her GIS experience to conduct application development, data analysis, and visualization for clients.

Education/Qualifications

- BA, Political Science, Western Kentucky University, 2023
- BA, International Affairs, Western Kentucky University, 2023
- Certification, Geographic Information Systems, Western Kentucky University, 2023

Years of Experience

Total – 2
With Arcadis – 2

Office Location

Louisville, KY

Relevant Experience

FFY22 LSLR Project
City of Rochester, NY

Arcadis was retained to provide engineering design, bidding, construction and administration services for a lead service line replacement program that includes three projects totaling more than 3,000 lead service lines. The first project is currently in the design phase, consisting of approximately 1,000 service line replacements. Assisting with developing design drawings, utilizing both CAD and ArcGIS to prepare quality plans.

Commonwealth of Kentucky Catastrophic Urban Flood Plan
Louisville Metropolitan Sewer District, Louisville, KY

GIS specialist for the development of a GIS-based, integrated web solution. This web solution serves in support of the Catastrophic Urban Flood Plan and as a template for other communities in their resilience efforts. It is designed to take in data sources with information related to possible flooding scenarios and display it in an interactive way to support users in planning and real time response activities.

Lead Inventory Technical Assistance Program
Indiana Department of Environmental Management, IN

Consultant for various Community Water and Non-Transient Non-Community Water Systems. This task included traveling on-site to provide service line identification assistance as well developing service line inventories that were in compliance of IDEM and USEPA guidelines.

Data Analyst
San Antonio Water System, San Antonio, TX

Data Management and GIS specialist for San Antonio Water System field inspections. This task has included building a field map application for field inspection data collection and monitorization of service line inspection results while conducing quality control on the data that is being submitted. The purpose of this task is to collect data to meet LCRR compliance requirements for San Antonio's service line inventories.

LCRR Data Management
Philadelphia Water Department, Philadelphia, PA

Consultant and GIS specialist assisting the development and implementation of a data management solution for LCRR compliance, including a field maps application. This field data collection, data management strategy and implementation, and quality control and quality assurance of the data being collected.

Lead Service Line Inventory Task Lead
Columbus City Utilities, Columbus, IN

Consultant responsible with developing and enhancing CCU's service line inventory to align with LCRR regulations. This includes compiling data from historical records, field data from potholing efforts, and asset management records.

Columbus City Utilities Data Analyst
Columbus City Utilities, Columbus, IN

GIS Specialist for development of field map applications for potholing efforts. This task includes monitorization of pothole material identification results while conducing quality control on the data that is being submitted. The purpose of this task is to collect data to meet LCRR compliance requirements for Columbus's service line inventory.

Get the Lead Out Initiative (GLO)
United States Environmental Protection Agency (USEPA)

Analyst assisting in evaluating and verifying lead service line (LSL) materials, supporting the development and maintenance of accurate LSL inventories through data collection and analysis. The role involves collaborating with communities to facilitate outreach initiatives and promote public awareness of LSL identification and replacement efforts, ensuring adherence to EPA guidelines and contributing to the advancement of the GLO initiative.

Education/Qualifications

- MS, Data Analytics, Georgia Tech, 2023-present
- PhD, Marine Microbiology, SIO - UCSD, 2018

Years of Experience

Total – 11
With Arcadis – 1

Technical Skills

- Numerous coding languages including: R, Python, SQL

Office Location

Philadelphia, PA

Robert Tuttle, PhD

Predictive Modeling

Dr. Tuttle is a specialist in predictive modeling and regulatory compliance for lead service line identification under the LCRR and LCRI. At Arcadis, he is a core member of the National Lead and Copper Team, where he develops and applies advanced predictive modeling solutions to help utilities identify lead and non-lead service lines, prioritize field investigations, and build defensible inventories. He has worked with dozens of utilities across the U.S. to design modeling strategies that meet local and state regulatory requirements, and has collaborated with over 12 state regulators to secure approval of modeling and thresholding approaches.

Prior to Arcadis, Dr. Tuttle spent five years in the Applied Research Program at the Philadelphia Water Department, where he led the drinking water lead group and managed the development of their lead service line inventory. His work included evaluating emerging technologies, improving data quality, and partnering with modeling vendors to build and validate predictive models. Dr. Tuttle holds a PhD in marine microbiology and analytical chemistry from Scripps Institution of Oceanography – UCSD and is currently completing a Master of Science in Data Analytics at Georgia Tech, where his studies focus on machine learning applications for the water sector.

Relevant Experience

Development of Lead Likelihood Model
Ohio Environmental Protection Agency, OH

Dr. Tuttle serves as the task lead for the development and application of predictive modeling solutions to identify lead service lines across more than 60 public water systems throughout Ohio. In this role, he coordinates closely with field teams to ensure statistically representative sampling and data quality for model calibration and validation. He leads the integration of public records, GIS datasets, and field inspection results, overseeing feature engineering and the application of advanced machine learning algorithms to generate reliable lead likelihood predictions.

Dr. Tuttle is responsible for guiding the modeling workflow—from data aggregation and model development through to prioritizing field verification and producing actionable outputs for inventory updates. His work supports compliance with the LCRR and LCRI, providing utilities and Ohio Environmental Protection Agency with defensible, data-driven strategies for reducing unknown service lines and planning lead service line replacements.

Development of Lead Likelihood Model
Mishawaka, IN

Dr. Tuttle serves as the technical lead overseeing the development of a predictive model to assess the likelihood of lead service lines in Mishawaka's water system. His role includes managing the project team and guiding the end-

to-end process—from initial data collection and preparation through to model delivery and client engagement. He ensures the modeling effort supports the utility's regulatory goals under the LCRR, and facilitates the translation of technical results into actionable strategies for field validation and inventory development.

Design of Lead Likelihood Model

New Hampshire Department of Environmental Services, NH

As a technical lead for a project with the New Hampshire Department of Environmental Services, Dr. Tuttle is working on helping the state implement a process for selecting and verifying emerging technologies capable of detecting in ground service line materials non-invasively. The work involves both vetting new technologies and developing sampling procedures to help states issue informed guidance on the use of these technologies.

Project Manager / Technical Lead

Fairfax County Water Authority, VA

Dr. Tuttle is currently serving as project manager and technical lead for Fairfax Water's lead service line predictive modeling and statistical analysis initiative. He is responsible for coordinating the development of the predictive model—led by a subcontractor—and ensuring alignment with Virginia Department of Health requirements. His role includes securing regulatory approval for the modeling and statistical approach, guiding how field investigation results are used to support the model, and managing the delivery of final outputs to the client for use in inventory and compliance planning.

Regulatory Coordination for Predictive Modeling Approvals

Multi-State / National Scope

Dr. Tuttle has led cross-jurisdictional efforts to gain regulatory approval for predictive modeling and statistical analysis approaches used to support service line inventories and compliance strategies under the LCRR and LCRI. He has worked directly with over 12 state regulatory agencies to review, refine, and validate modeling methodologies on behalf of multiple utility clients. These efforts have played a critical role in reducing uncertainty in service line inventories—helping utilities collectively identify and eliminate hundreds of thousands of unknown service lines across the country.

LCRR Program Management

San Antonio Water System, San Antonio Tx

Dr. Tuttle is currently serving as a technical lead on several tasks vital to San Antonio Water System's successful role out of their LCRR program. His work involves aiding in the development of the service line inventory, developing laboratory sampling plans to meet regulatory compliance, and designing workflows to help establish protocols related to service line disturbances are required in the LCRR.

Technical Lead

Prince William County Service Authority, VA

Dr. Tuttle is currently serving as a technical advisor for implementation of statistical methodology to rule out lead service lines at their authority. Part of his role is overseeing the development of a field maps application to be used by the utility and subcontractors as they complete required field sampling.

Design of Lead Likelihood Model

New Hampshire Department of Environmental Services, NH

As technical lead, Mr. Tuttle is working on determining the feasibility of developing a statewide lead likelihood model for over 200 primary water systems in New Hampshire. This work includes leading a team of Arcadians through the process of data collection, QA/QC, and build out of a machine learning model.

Technical Advisor

Monroe County Water Authority (MCWA), NY

Dr. Tuttle is currently serving as a technical advisor for MCWA's lead service line predictive modelling task. He is working with Voda.AI to help ensure the development of a statistically sound service line prediction model that meets both client and regulatory requirements.

Technical Advisor

Erie County Water Authority (ECWA), NY

Dr. Tuttle is currently serving as a technical advisor for ECWA's lead service line predictive modelling task. He is working with Blue Conduit and ECWA staff to help ensure the development of a statistically sound service line prediction model. The goal is to both reduce unknowns in the system as well as prioritize areas that may have higher chances of lead for targeted replacement strategies.

Rebecca Ventura, PhD

Predictive Modeling

Dr. Ventura is a dynamic and detail-oriented civil engineer and data scientist specializing in predictive modeling with a strong foundation in statistical analysis and machine learning. She has a proven track record of developing innovative solutions to complex drinking water and sanitation system challenges, leveraging state-of-the-art algorithms and data engineering skills. She is adept at transforming raw data into actionable insights, driving decision-making and strategic planning in research and municipal engineering environments. Dr. Ventura is committed to advancing public infrastructure systems through the integration of data science and civil engineering expertise.

Education/Qualifications

- PhD, Civil Engineering, Concentration in Civil Systems University of Colorado Boulder, 2023
- MSc, Civil Engineering, University of Colorado Boulder Concentration in Civil Systems & Graduate Certificate in Global Engineering, 2022
- BSc, Civil Engineering, University of Illinois at Urbana-Champaign, Concentration in Sustainable Resilient Infrastructure Systems & Environmental Engineering, 2017

Years of Experience

Total – 5
With Arcadis – >1

Office Location

Chicago, IL

Relevant Experience

Ohio Lead Service Line Inventory Modeling
Ohio Environmental Protection Agency (OEPA)
Machine learning modeling expert leading the development of a state-wide model for classifying unknown service lines as lead or non-lead. This work includes reviewing and cleaning data, feature engineering, and employing multiple machine learning models to identify the best methods for predicting lead service lines.

Lead Service Line Replacement Program*
Various Chicago, IL Suburbs
Led the design and application of machine learning modeling for LSLR and LSLI efforts for 14 client communities. Used modeled results to inform potholing plans, estimate quantities for upcoming LSLR projects, and submit updated inventories to the Illinois EPA (IEPA). Collaborated with the US EPA's Office of Research and Development (ORD) on the use of ensemble machine learning modeling to predict lead service lines in small communities (<10,000 service lines) and in communities with missing or limited data. Served as the lead community engagement expert for all resident outreach related to LSLR and LSLI programs. Developed bilingual LSLR program fliers, cover letters, open house invites, lead health risk fliers, post-replacement flushing instructions, and kid-friendly coloring pages. Updated and submitted LSLR Plans to IEPA. Budgeted and drafted Request for Proposals and amendments for potholing projects funded by inventory grants. Reviewed loan applications for submission to IEPA. Presented on LSLR programs at community Open House events. Designed a sequential water sampling protocol for lead service line inventorying. Reviewed potholing, inventory, and lead service line replacement data uploaded to ESRI ArcGIS by contractors.

Doctoral Researcher*
University of Colorado Boulder

Developed and executed multi-year, mixed-method research studies to investigate the social sustainability of international sanitation programs across community and regional-level scales. Designed and distributed a household-level survey in collaboration with a Peruvian non-profit organization. Led qualitative and statistical analyses of the survey data to characterize household sanitation preferences. Conducted and analyzed 24 semi-structured interviews with sanitation practitioners to identify 1) the benefits they believe drive positive sanitation programming outcomes and 2) the barriers they believe limit their program's impact. She systematically analyzed data for themes that spanned technical, psychosocial, and contextual factors.

Completed a case study analysis of seven international sanitation organizations to identify drivers of customer attrition and the strategies the organizations have employed to mitigate this attrition. Disseminated findings, including recommendations for improved collaboration between stakeholders, to practitioners and researchers alike through five conference presentations and two journal articles.

Water for People Practicum*
Water for People (Virtual)

Conducted a literature review and interviews to identify current methods and potential metrics to measure decentralized sanitation's impact on local and regional environmental health. Identified priority pathways to environmental contamination, with an emphasis on surface water sources. Developed a framework for a rapid assessment tool that would evaluate environmental contamination from sanitation systems at the community level.

Student Trainee Hydrology*
United States Geological Survey

Tested a storm water flood model for extreme rain events in DuPage County, IL, identified cases where the model was failing, and addressed those errors in the Fortran code to ensure the model ran smoothly.

Aided in the analysis of large agricultural runoff data sets for use in ESRI ArcMap and a model that tested the application of best management practices including cover crops and nutrient management plans.

Research Experience for Undergraduates (REU)*
University of Illinois-National Center for Supercomputing Applications (NCSA)

Supported the development of Python code using NumPy, math, and gdal modules for a genetic algorithm model. Researched regulations on rain garden placement in residential and commercial areas in the United States.

**Experience prior to Arcadis*

Alyssa Gouveia

Inventory; Public Education and Outreach; Inspector

Ms. Gouveia's undergraduate experience made her passionate about water resources and management. She has worked on various lead service line replacement and pump station upgrade projects for Arcadis to improve water quality services for respective clients for the last few months. Ms. Gouveia is currently pursuing her EIT Certification to further achieve her professional goals in engineering. Ms. Gouveia is currently working on public outreach material for clients to raise awareness of upcoming service line replacement and sampling events. She has worked on creating educational materials for school and childcare facilities.

Education/Qualifications

- BSE, Environmental Engineering, University of Connecticut, 2025

Years of Experience

Total – <1 year
With Arcadis – <1 year

Professional Registration/ Certifications

- Pursuing EIT Certification
- OSHA 10-hour Construction Safety and Health
- OSHA 40-hour HAZWOPER

Professional Associations

- Connecticut Water Environment Association (CTWEA)
- University of Connecticut Alumni Community

Office Location

Middletown, CT

Relevant Experience

Lead Service Line Replacement Plan
Norwich Public Utilities, Norwich, CT

The objective of this project is to identify, remove, and replace historically identified lead service lines. Assisted in public outreach to property owners included in the construction phase of replacement program. Responsibilities included compiling and distributing customer outreach materials. Assisted in the school and childcare facility required testing outreach. Responsibilities included creating school and childcare outreach materials for facility coordination and sampling guidance. Assisted in inventory management and Norwich GIS improvements. Responsibilities included manual review of original scanned town records against an AI model review. Assisted in putting together specification and Health and Safety packages. Responsibilities included document review. Current responsibilities will include leading field investigations, coordinating fieldwork, and managing ongoing project tasks. Fieldwork responsibilities include lead service line field work using various testing methods to determine the material of customer water service line at randomly selected sites. Recorded data in the field to be compiled into a model to best predict material of water service lines around the City of Norwich. Responsibilities will include multiple site visits to perform fieldwork and scheduling appointments with customers to test water service lines.

Lead Service Line Inventory
Meriden Water Department, Meriden, CT

The objective of this project is to identify, remove and replace historically identified lead services. Assisted in the school and childcare facility required testing outreach. Responsibilities included creating school and childcare outreach materials for facility coordination and sampling guidance. Current responsibilities will include field investigations to identify service line materials using various testing methods to determine the material of customer water service lines at customer reported lead sites.

Pump Station Upgrades
Town of Trumbull, CT

The objective of this project is to design pump station modifications to improve pump capacity. Assisted in compiling documents and data to be relayed back to the client. Responsibilities included creating client-ready AutoCAD drawings and Microsoft Excel graphs for design proposals. Current responsibilities include creating client-ready AutoCAD drawings for design proposals.

East Street Pump Station
Greater New Haven Water Pollution Control Authority, New Haven, CT

Assisted in putting together specification and Health and Safety packages. Responsibilities included document review. Assisted in creating documents for client and contractor use in the construction phase of the pump station upgrades. Responsibilities included creating conformed documents. Current responsibilities include assisting in the review of submittals for the construction phase of the project.

Wastewater Treatment Facility Improvements
York Sewer District, York, ME

Assisted in compiling data for the analysis of treatment efficiency. Responsibilities included compiling data and performing calculations from the treatment facility results in Microsoft Excel.

Sanitary Sewer Connection/Capacity Assessment
Town of Darien, CT

Assisted in putting together specification and Health and Safety packages. Responsibilities included document review.

Mikayla Billiter

Inventory; Inspector

Ms. Billiter has provided inspector services on multiple lead service line replacement projects at Arcadis, ensuring quality control, regulatory compliance, and safety at project sites. She has experience conducting on-site inspections, verifying installation methods, documenting field activities, and supporting clients in meeting Lead and Copper Rule requirements. As Task Lead, she has overseen project progress, coordinated with contractors and stakeholders, and ensured accurate reporting of field data. Ms. Billiter is currently pursuing her Engineer-in-Training (EIT) certification to further strengthen her technical expertise and professional growth in engineering inspection services.

Education/Qualifications

- BS, Civil Engineering, Concentration in Environmental Engineering, University of Maine, 2022

Years of Experience

Total – 2
With Arcadis – 2

Professional Registration/ Certifications

- OSHA 10-HR Certification
- Pursuing EIT Certification

Office Location

Middletown, CT

Relevant Experience

Engineering Services for LCRI Compliance
Meriden Water Division, Meriden, CT
Currently designated as the project engineer with responsibilities that include leading field investigations, coordinating field work, public outreach, and managing ongoing project tasks. The objective of this project is to provide consultant services to keep Meriden Water Division in compliance with EPA's Lead and Copper Rule Improvements.

Lead Service Line Replacement Program
Norwich Public Utilities, Norwich, CT
Conducted lead service line field work using various testing methods to determine the material of customer water service line at randomly selected sites. Recorded data in the field to be compiled into a model to best predict material of water service lines around the City of Norwich. Responsibilities included multiple site visits to perform field work and scheduling appointments with customers to test water service lines. The objective of this project is to identify, remove and replace historically identified lead service line.

Lead Service Line Replacement Program
City of New London, CT
Conducted service line material investigative field work and recorded field data. Assisted in public outreach to property owners for the first construction phase of the replacement program, including compiling and distributing outreach materials. Responsibilities included review of documents, gathered data into Microsoft Excel, and conducted research on trenchless water service line replacement methods and potential contractors in New England. Responsibilities included recording research findings, developing an understanding of replacement methods, and gathering contractor contact information. Additionally, gathered information on potential contractors for announcing upcoming construction.

Technical Assistance for Public Water Systems
New Hampshire Department of Environmental Services, NH

Assisted public water systems throughout New Hampshire in creating their service line inventories. Responsibilities involved maintaining records, ongoing communication with public water systems, and completing the lead service line inventory.

Engineering Services for LCRI Compliance
Meriden Water Division, Meriden, CT

Currently designated as the project engineer with responsibilities that include leading field investigations, coordinating field work, public outreach, and managing ongoing project tasks. The objective of this project is to provide consultant services to keep Meriden Water Division in compliance with EPA's Lead and Copper Rule Improvements.

Phase 2 Sewer Design and Rehabilitation
Town of Darien, CT

Assisted in putting together specification and Health and Safety packages. Responsibilities included document review. Future responsibilities include Closed Circuit Television Inspection (CCTV) training to review videos from the field. This project is a sanitary sewer project that will design and oversee contractors performing open-cut sanitary sewer rehabilitation.

Town-Wide Infiltration & Inflow and Sanitary Sewer Evaluation Survey
Town of Darien, CT

Assisted in reviewing CCTV sewer line inspection videos looking for defects, deformations, or obstructions to provide rehabilitation recommendations to the client. Responsibilities included reviewing NASSCO's Pipeline Assessment & Certification Program before CCTV review.

2023 Sanitary Sewer Rehabilitation
Town of Danvers, CT

Assisted in reviewing CCTV sewer line inspections videos looking for major defects and pipeline material to provide rehabilitation recommendations to the client. Future responsibilities include the review of more CCTV videos.

Preliminary Engineering Design Services for Relocation of Shipping Street Pump Station and Related Sewer Mains
Norwich Public Utilities, Norwich, CT

Currently designated as the project engineer. Conducted site visits and supervised the installation of flow monitoring devices. Analyzed flow results, prepared technical memos, participated in client meetings, and facilitated the development of subcontract agreements. This project is preliminary design options for the relocation of the Pump Station located in the regulatory floodway.

PFAS Sampling of Residential Drinking Water Supply Wells
Connecticut Department of Energy and Environmental Protection, Franklin, CT

Currently leading field investigations, tasked with creating subcontract documents, organizing a task list, and coordinating future fieldwork. This objective of this project is to sample and analyze potable well water for PFAS.

Franklin Phase 7 Rehabilitation
Town of Franklin, MA

Assisted in putting together Asset Management Plan documents and specification package. Responsibilities include document review and compilation of documents. This project is a sanitary sewer rehabilitation and design project.

Franklin 2023 Metering and SSE
Town of Franklin, MA

Analyzed flow meter data for high inflow/infiltration sites in Franklin, MA. Responsibilities include gathering and analyzing data using Microsoft Excel and Time Series Analyzer to report back to the client. This project analyzes and reports flow metering data to the client to determine if any rehabilitation steps are necessary. Flow metering is usually done on an annual basis.

Sandy Pond Road Sewer Rehabilitation Design
Town of Ayer, MA

Assisted in putting together specification package. Responsibilities included document review. This project is a sanitary sewer rehabilitation and design project.

Cooperative Extension and Diagnostic Research Laboratory
Orono, ME

Conducted field research in potato fields throughout Central Maine. Responsibilities included reporting of results and communication amongst clients. The purpose of this research was to report the conditions of the fields to the client.

Kathryn Edwards, PE

Public Education and Outreach

Ms. Edwards has more than 20 years' experience in water system, wastewater, stormwater, facilities, and water resources project planning, permitting, design, and construction. She has served as a public engagement specialist and facilitator for a variety of projects, notably climate resilience work and lead service line replacement programs. She works with many municipalities to achieve permitting and regulatory compliance and has assisted communities and state agencies in achieving measurable documented improvements, especially in their stormwater management programs. Ms. Edwards specializes in stormwater management, master planning, and resilience planning.

Education/Qualifications

- BS, Environmental Engineering, Roger Williams University, 2004

Years of Experience

Total – 20
With Arcadis – 20

Professional Registration/ Certifications

- Professional Engineer – MA
- Fundamentals of Engineering – RI
- Construction Documents Technologist – Construction Specifications Institute

Professional Associations

- New England Water Environment Association, Stormwater Committee
- Water Environment Federation

Office Location

Wakefield, MA

Relevant Experience

Lead Service Line Replacement Program
City of New London, CT

Serve as the public education and outreach lead to New London, assuring the public, W&WPCA, and other stakeholders are informed on all aspects of the program for the duration of both the design and construction phases. Responsible for the planning, implementation, and facilitation of all public meetings and stakeholder meetings. Work also includes collaborating with the USEPA on LPIPE Grant funding for implementation of portions of the outreach plan.

Lead and Copper Compliance Plan
Norwich Public Utilities, Norwich, CT

Serve as the public education and outreach lead for the lead and copper, compliance plan. Responsibilities include working with the client to identify public outreach and engagement needs and develop and implement a plan to address those needs. Work has included development of public outreach materials to keep the public and other stakeholders informed on all aspects of the program. Responsible for the planning, implementation, and facilitation of all public meetings and stakeholder meetings.

Watershed Management Plan
City of New London, CT

Project manager for the development of a Watershed Management Plan – an important step toward mapping out the City's environmental resources, identifying sources of water pollution, and addressing TMDLs and water quality impairments through prioritized improvements. We guided the process, engaged stakeholders and the general public in the planning, and developed a watershed plan with recommendations for structural and non-structural projects to assist the City to protect and manage its natural resources most effectively. This work included stakeholder engagement, watershed characterization, estimation of pollutant source loads and reductions, selection of management measures, and development of performance indicators.

MS4 Permit Assistance
City of Fitchburg, MA

Serve as project director for assisting with implementation of the City's MS4 Permit compliance program. Work includes Illicit Discharge Detection and Elimination program implementation including outfall inspections, GIS mapping updates using ESRI's ArcGIS online, operations and maintenance at municipal facilities, and annual reporting and recordkeeping assistance. The project also includes work to assess and develop potential rates for a sustainable funding source for stormwater. Previously served as project manager for the City's wastewater and stormwater ordinance updates and development of regulations, including working with City departmental stakeholders on key decisions throughout the
regulatory process.

Climate Ready South Boston, MA
City of Boston, MA

Seved as local lead for technical and policy solutions for design and implementation planning of coastal resiliency projects in the South Boston area. Heavily involved in stakeholder engagement bringing the City, business owners, developers, regulatory agencies, and residents together in strategic sessions to discuss the proposed plan, technical and regulatory solutions, and facilitate a plan for implementation of both near and long-term projects.

Stormwater Master Plan
Town of Saugus, MA

Served as project manager for the Town of Saugus on a comprehensive Stormwater Master Plan to address specific needs for a robust stormwater management program that meets regulatory MS4 permit requirements, provides conceptual solutions to known surface flooding problems, and explores funding frameworks for a more sustainable program. This project addresses several regulatory requirements, including a written plan, catchment area delineations, and outfall inspections and training for the Illicit Discharge Detection and Elimination Program, as well as some of the required operation and maintenance standard operating procedures for municipal facilities. As part of the plan, we reviewed 20 documented drainage problem areas and identified solutions for capacity improvements or additional infrastructure projects to minimize or eliminate surface flooding.

Climate Ready East Boston & Charlestown Phase II
City of Boston, MA

Served as project manager for design and implementation planning of coastal resiliency projects in the East Boston and Charlestown neighborhoods. Focused on implementable coastal resilience solutions for the near and long-term, and included a robust engagement program with community advisory boards formed for each neighborhood and public engagement.

Nantucket Coastal Resilience Plan
Town of Nantucket, MA

Project prioritization / implementation lead for a coastal resilience planning process for the Town and County of Nantucket. The plan addresses the entire island and involves a comprehensive assessment of coastal risks, including storm surge, tidal flooding with sea level rise, and erosion.

Flood Study & Green Infrastructure Planning
City of Newburyport, MA

Managed flood study analysis of the Little River and Industrial Park area of Newburyport including the development of a hydrologic/hydraulic model in XPSWMM. Coordinated and facilitated community stakeholder meetings to gain insight and feedback on watershed issues. Duties also included development of hydrologic and hydraulic parameters for input into the model, field investigations and inventory of critical culverts, coordination of survey and resource area delineation work, development of the Flood Study report, attendance and participation at public hearings, and preparation and filing of permits. Worked closely with the City, the public, Design Confirmation Report, MEMA, and Federal Emergency Management Agency during this project. Developed follow-on pilot program for green infrastructure initiatives. Facilitated consensus building meetings and workshops with City departments, community stakeholders, and conservation commissions in two towns. Developed a follow-on green infrastructure planning program to pilot realistic green solutions for stormwater management in this flood abatement area.

Sofia Lee, EIT

Construction Manager; Construction Contract Documents

Ms. Lee is a construction inspector with a focus on all aspects of lead service line replacement throughout Connecticut. In addition, she has performed construction inspection services on water main and service line installations. Ms. Lee is experienced with Phase I, II and III Environmental Site Assessments (ESAs), oversight of environmental drilling and remediation, inspection of construction activities, collection and characterization of environmental and geotechnical samples, and collection of hazardous building materials. She is familiar with various methods used in achieving compliance with the Connecticut Remediation Standard Regulations.

Education/Qualifications

- BS, Environmental Engineering, Renssalaer Polytechnic Institute, 2021

Years of Experience

Total – 4
With Arcadis – 2

Professional Registration/ Certifications

- Engineer-in-Training (EIT)
- OSHA 40-hour HAZWOPER
- OSHA 10-hour Construction Safety & Health Training
- OSHA 8-hour Refresher Training

Office Location

Middletown, CT

Relevant Experience

Lead Service Line Replacement Program
City of New London, CT

Serves as construction inspector for the City of New London's Lead Service Line Replacement Program. The program includes replacement of over 3,000 lead service lines throughout several phases of construction. Ms. Lee's role is to provide construction inspection of all test pits, customer and utility side lead service line replacements, sidewalk restoration, & paving. Responsibilities also include holding all construction progress meetings, performing basement inspections for service line verification, managing requests for information, involvement with public outreach and communication, preparation of construction contract documents for LSLR, coordination of all construction related activities and oversight, compliance with all LCRR construction requirements.

Environmental Site Assessments, Surveying, Evaluation, and Construction Inspection
Confidential Client, Rocky Hill, CT

Responsibilities include performing Phase I, II and III ESAs, Remedial Action Plans, and SEH Abatement. These entail site inspections, local and state file reviews, oversight of environmental drilling and monitoring well installation, characterization of environmental and geotechnical samples, generation of boring logs using gINT, sampling of soil, groundwater, and concrete, familiarity with achieving compliance with the Connecticut Remediation Standard Regulations and presenting findings in professional environmental reports. Surveying and GPS techniques to mark out explorations and site features and creating site plans and contour maps using AutoCAD. Evaluating the presence of hazardous building materials, such as those containing asbestos, lead, or PCBs, in site buildings. This entails sampling of various types of materials, testing, and reporting findings in technical reports. Construction inspection during water main installation. This entails tracking pay items, construction personnel, and equipment; overseeing water main installation, service line installation, milling,

trench restoration, lawn restoration, and CCTV inspection; and creating progress reports for clients.

Construction Inspection, Drinking Water Sampling
Confidential Client, Bennington, VT

Responsibilities include overseeing water main installation in neighborhoods with private wells affected by PFAS. This includes ensuring contractors were following the approved design specifications, tracking pay items, and writing daily reports on site progress. Collecting drinking water samples from households potentially contaminated by lead service lines, transporting samples to water treatment facilities for laboratory testing, and compiling the laboratory results in data tables.

Construction Inspection, Drinking Water Sampling
Confidential Client, Bennington, VT

Responsibilities include overseeing water main installation in neighborhoods with private wells affected by PFAS. This includes ensuring contractors were following the approved design specifications, tracking pay items, and writing daily reports on site progress. Collecting drinking water samples from households potentially contaminated by lead service lines, transporting samples to water treatment facilities for laboratory testing, and compiling the laboratory results in data tables.

Various Projects
Confidential Client, Vernon, CT

Identifying and removing invasive species on the Belding Wildlife Management Area by physical and chemical methods. Acting as a liaison and guide for school groups participating in outdoor experiments during field trips. Participated in various environmental groups, such as the Riffle Bioassessment By Volunteers, the CT Envirothon committee, and the Rivers Alliance of Connecticut.

Sean Mitchell, PE

Construction Contract Documents

Mr. Mitchell has broad experience in engineering consulting with a strong focus on infrastructure improvement projects. He has worked on projects in the study, design and construction phase, participating in fieldwork, evaluating data, as well as the design and bidding phases for projects throughout New England. He is familiar with the permitting process associated with working in roadways and easements and permitting issues that may arise when evaluating design options. He also has considerable experience designing and providing on-site inspection and oversight.

Education/Qualifications

- BS, Environmental Engineering, University of New Hampshire, 2012

Years of Experience

Total – 13
With Arcadis – 13

Professional Registration/ Certifications

- Professional Engineer – MA, CT

Office Location

Wakefield, MA

Relevant Experience

Lead Service Line Replacement Program
City of New London, CT
Construction contract documents specialist for full LSL replacement program. Work includes LSL inventory development levering machine learning, design and bidding services, public outreach and communication, program development, and stakeholder communication and funding assistance.

Sewer System Evaluation Survey in Woodbridge and East Haven
Greater New Haven WPCA, Woodbridge and East Haven, CT
Project engineer for the sewer system evaluation survey of five metered areas in Woodbridge and East Haven to identify excessive I/I sources. Work included evaluation of 73,000 linear feet of flow isolation data, development of a CCTV inspection program, 520 manhole inspections and 53,000 linear feet of CCTV inspections. A cost-effective analysis was utilized to develop cost effective rehabilitation recommendations.

I/I Rehabilitation Program State Street and Meter Area 10
Greater New Haven WPCA, East Haven and Hamden, CT
Resident engineer/project engineer for the sanitary sewer rehabilitation design/construction project to rehabilitate defective sewers in East Haven and Hamden. The project included design, permitting, bidding services, and construction oversight for the rehabilitation of approximately 35,000 linear feet of sanitary sewer pipe up to 27-inches in diameter with cured-in-place pipe lining and rehabilitation of over 200 manholes. Project included large-scale sewage bypass pumping during pipeline and lateral service rehabilitation along two major interceptors.

Sewer Improvements to Reduce I/I in East Haven and Hamden
Greater New Haven WPCA, East Haven and Hamden, CT
Project engineer for the sanitary sewer rehabilitation design contract to rehabilitate defective sewer assets in East Haven and Hamden. Work included design for rehabilitation of approximately 26,000 linear feet of sanitary sewer

pipe, ranging from 8-inch to 36-inch in diameter with cured-in-place pipe lining and rehabilitation of 260 manholes, development of local, state and federal permit applications for work in an environmentally sensitive area, coordination with residents, municipalities and permitting agencies, development of design plans, specifications, and cost estimate.

Utility Replacement Project
Town of Saugus, MA

Resident engineer for replacement of watermains and water services, sanitary sewers, and drain lines for five project sites in residential and commercial areas. Work also included full roadway reconstruction, including road reclamation, installation of new granite curbing, and construction of concrete sidewalks and ADA compliant ramps. Construction services included extensive coordination with various stakeholders, including dozens of residents, Town, and State entities.

Residential Water Main Extension and Water Treatment Plant Upgrades
Confidential Client, NH

Project engineer for design of a watermain extension to a residential subdivision, including 20+ new services. Work included coordination with stakeholders, development of bid ready design plans and specifications, and construction cost estimating. Served in a construction administration role, including coordination with the Contractor and Resident Engineer.

Beacon Street Interceptor Area Sewer Rehabilitation
City of Norwalk, CT

Construction administrator for the Beacon Street Interceptor Service Area Rehabilitation. Work included rehabilitation of 20,000 LF of 8-inch to 18-inch diameter pipe with cured-in-place lining , cured-in-place spot repairs, spot excavation repairs, manhole rehabilitation, and extensive temporary bypass operations.

Pilcher Drive Pump Station Wastewater Grinder
Town of Wilmington, MA

Project engineer for deign of a wastewater grinder unit at the Pilcher Drive Pump Station. Work included a condition assessment of the existing pump station facility, and development of plans and specifications for the installation of a new sewer manhole with a custom channel, installation of a wastewater grinder unit, and associated electrical work.

Reading Extension Sewer and Metropolitan Sewer Rehabilitation Design
Massachusetts Water Resources Authority, Stoneham, MA

Project engineer/resident engineer for the sanitary sewer rehabilitation design and construction contract to rehabilitate the Reading Extension Sewer and Metropolitan Sewer. Work included rehabilitation of approximately 14,000 linear feet of sanitary sewer pipe with cured-in-place pipe lining and inspection and rehabilitation of 64 manholes, coordination with residents, municipalities and permitting agencies, development of design plans and specifications, and development of construction sequencing and sewer bypass plans.

Beaver Street Interceptor Alternatives Analysis
Town of Franklin, MA

Project engineer for a condition assessment and an alternatives analysis of the Town's major sanitary sewer interceptor. The interceptor is in a railroad easement in a heavily wooded area with challenging accessibility. Work includes CCTV inspection and manhole inspections of the interceptor, a hydraulic model of the interceptor and tributary collector sewers, and development of in place and realignment alternatives to prolong the useful life and serviceability of the interceptor.

Sanitary Sewer I/I Reduction Program
Town of Stoneham, MA

Project engineer and resident engineer for Phases 5-7 of the sanitary sewer I/I reduction program. Work included development of a system-wide approach to identify and remove I/I, CCTV inspection 15,000 linear feet of pipe, inspection of 100 manholes, rehabilitation of approximately 6,000 linear feet of sanitary sewer pipe with cured-in-place pipe lining, cured-in-place spot repairs, testing and sealing of joints and services and manhole rehabilitation. This project also required close coordination with the Stoneham DPW and residents and businesses in the community.

Hector Salazar

Inspector

Mr. Salazar has 5 years' experience in the industry of environmental, health and safety (EHS) compliance. At Arcadis he has participated in environmental compliance projects, health and safety projects and consulting, environmental compliance and safety audits, spill prevention and inspections, hazardous waste contingency plan writing, hazardous materials inventory projects, ecological sampling and surveying projects, construction oversight projects, and coordination and task management for compliance auditing.

Mr. Salazar's additional certifications include HAZWOPER 40-hr, HAZWOPER 8-hr, National Registry of Emergency Medical Technicians, FEMA Certified Hazardous Materials Technician, CPR/AED, and Bloodborne Pathogen training.

Education/Qualifications

- B.S. Environmental Science and Anthropology: Archaeology Concentration, Connecticut College, 2020

Years of Experience

Total – 5
With Arcadis – 3

Training

- 40 Hour OSHA HAZWOPER OSHA 40 Hour Fall Protection
- 30-Hour OSHA CONSTRUCTION
- Smith Defensive Driving
- CPR/AED and First Aid
- Nationally Registered Emergency Medical Technician
- FEMA Certified Hazardous Materials Technician
- Pro-Board-Certified Structural Firefighter
- SDI certified open-water SCUBA diver

Office Location

Middletown, CT

Relevant Experience

Lead Service Line Inspections
City of New London, CT

Supported the execution of the lead service line replacement project to improve community water quality and regulatory compliance. This included conducting detailed field inspections of residential and commercial service lines to identify material, ensuring accurate assessment and prioritization for replacement. Tasks also included educating the residents about the risks of lead and the benefits of service line replacement.

Lead Service Line Inspections
Norwich Public Utilities, CT

Supported the planning and execution of the lead service line replacement project to improve community water quality and regulatory compliance. This included conducting detailed field inspections of residential and commercial service lines to identify material, ensuring accurate assessment and prioritization for replacement. Tasks also included educating the residents about the risks of lead and the benefits of service line replacement.

PFAS Sampling
North Franklin, CT

Conducted field sampling of residential well drinking water systems to assess PFAS contamination in accordance with EPA and state agency protocols. Tasks also included coordinating sampling logistics with homeowners, laboratory and regulatory agencies to ensure efficient and accurate collection of samples.

Stormwater Compliance
C&S Wholesale Grocers, Various Locations, USA

Assist in task managing client stormwater compliance through report preparation and permit assistance. Assist in the ongoing preparation, editing, and finalizing of discharge monitoring reports for various client facilities nationally. Additionally,

support client communications, coordination with analytical laboratory, and facility communications to ensure compliance with state and federal regulations related to stormwater permitting.

Stormwater Compliance
United Parcel Services, Various Location, CT

Conduct ongoing field-related project support, related to stormwater discharge monitoring in compliance with state and federal regulations related to stormwater discharge permits for multiple client facilities.

Hazardous Materials Inventory Project
The Harrington Group Inc, Various Location, USA

Assisted in the research, categorization, and preparation of hazardous materials inventory lists. Tasks included client product review, preparation, and categorization of inventory according to NFPA and IBC codes and regulations and verifying the accuracy and quality of final inventory deliverable.

Housatonic River Waterfowl Study
General Electric, Various Location, CT & MA

Assisted in the collection of Waterfowl Species in the Housatonic River ecosystem for the sampling of PCB contamination in Waterfowl tissue. Tasks included ecosystem evaluation, deployment of sampling equipment and supporting wildlife biology staff with data collection.

Hudson River Tunnel Project
Hudson Tunnel Project, Hoboken, NJ

Conducted oversight and monitoring of federally protected Atlantic Sturgeon in the Hudson River, during active pile driving construction operations. Task included daily river monitoring, construction oversight and documentation in the event of Sturgeon sightings.

Compactor Audit Coordinator/Task Manager
The Home Depot, Various Locations, CA

Support the coordination of client inspections of solid waste compactors for stored throughout the state of California. The client was monitoring compliance with policies for handling hazardous and other waste generated at store locations. The inspections focused on identifying the presence of potentially regulated waste stream items that could not be disposed of via conventional landfills. Tasks included client communication, hauler and disposal facility outreach and communication, allocation of Arcadis staff and resources, health and safety compliance and supporting all office related project functions.

Compactor Audit Coordinator/Task Manager
TJX Companies Inc., Various Locations, CA

Support the coordination of client inspections of solid waste compactors for stored throughout the state of California. The client was monitoring compliance with policies for handling hazardous and other waste generated at store locations. The inspections focused on identifying the presence of potentially regulated waste stream items that could not be disposed of via conventional landfills. Tasks included client communication, hauler and disposal facility outreach and communication, allocation of Arcadis staff and resources, health and safety compliance and supporting all office related project functions.

Waste Water Compliance
PCC Structurals Inc., Groton, CT

Conduct ongoing field-related project support, related to the collection of monthly and quarterly waste water samples to assure compliance with facilities Significant Industrial User General Permit and Pretreatment Permit. Assist in the ongoing preparation, editing, and finalizing of discharge monitoring reports for CT, Groton facility. Additionally, support client communications, coordination with analytical laboratory.

Emergency Planning and Community Right to Know Act (EPCRA) Tier II Plans
Panasonic, Olathe, KS, and Reno, NV

Prepared and submitted EPCRA Tier II for facilities nationwide and hazardous materials business plans for multiple sites within the state of California. Assisted client in gathering data to be reported and followed up on regulatory requests. Supported project management efforts to ensure timely submission of required reports.

Toxic Release Inventory (TRI) Program
H&T Group, Waterbury, CT

Prepared and submitted TRI Reports for facility withing the state of Connecticut. Assisted client in gathering and processing data related to report preparation.

Regulatory EHS Compliance Auditor
Pittsburgh Water and Sewer Authority (PWSA), Pittsburgh, PA

Conducted site visits to support the evaluation of client's compliance with state and federal health and safety obligations. This included evaluation of facility processes and procedures related to Occupational Health and Safety as well as PWSA's Company Policies and Best Management Practices.

Appendix B.

Statement of Equal Opportunity / Affirmative Action Policy of the Firm

ARCADIS

AFFIRMATIVE ACTION/EEO PLAN

DECLARATION OF POLICY: Arcadis U.S., Inc. affirms its commitment to the submittal of an Affirmative Action plan which has the purpose of maintaining equal employment and promotional opportunity, with particular emphasis on improving the Minority and/or Women work force population and utilization of Minority and/or Women owned professional firms, consultants and/or suppliers.

To make clear our commitment to this program, the intent of the plan and individual responsibility for its effective implementation will be discussed at management training programs and employee orientations. Special meetings may be conducted with executive management and supervisory personnel to further explain the affirmative action plan.

Outside sources such as recruiters, subcontractors, vendors and suppliers will be informed verbally and in writing about our affirmative action policies.

Dara Himes is Arcadis U.S., Inc.'s Affirmative Action Officer. She has the day to day responsibility for the implementation and monitoring of our plan.

The affirmative action plan is available for your review in the Human Resources Department during normal working hours. If you wish to review the plan or if you have any questions, please contact Dara Himes at 602.797.4504.

NARRATIVE OF PROGRAMMATICACTIVITIESAND/OR GOALS

In accordance with Executive Order 11246, Arcadis U.S., Inc. currently conducts the following programmatic activities and/or pursues the following goals in addressing critical areas of affirmative action in the employment and promotion of the diverse workforce.

RECRUITING AND ADVERTISING: Arcadis U.S., Inc. demonstrates its commitment to affirmative action in its recruiting and advertising efforts through the use of newspapers, trade journals and Professional journals. Arcadis U.S., Inc. identifies itself in printed advertising as an "Equal Opportunity Employer."

The employment application includes the following at the beginning of the form: "We are an

equal employment opportunity company. We are dedicated to a policy of non-discrimination in employment on any basis including race, creed, color, national origin, sex, age, disability, marital status, sexual orientation, citizenship status or any other basis prohibited by law."

When job postings are placed in minority colleges or universities, Arcadis U.S., Inc. identifies itself as an "Equal Employment Opportunity Employer". Arcadis U.S., Inc. is a member of the National Association of Colleges and Employers. Arcadis U.S., Inc. submits its job postings to the America's Job Exchange which is a nationwide job bank sponsored by an association of state departments of labor.

HIRING PROCEDURES: Arcadis U.S. Inc. strives to eliminate and minimize intentional or unintentional bias against applicants with regard to testing, interviewing and selection procedures. In accordance with its affirmative action plan, Arcadis U.S., Inc., recruits and hires in all job classifications without regard to race, color, religion, creed, gender, sexual orientation, citizenship status, gender identity or expression, national origin, age, disability, genetic information, marital status, amnesty, or status as a covered veteran in accordance with applicable federal, state and local laws. Employment decisions are made so as to further the principle of equal employment opportunity. The Company reviews its employment practices to determine whether members of the various protected groups are receiving fair consideration and to determine whether appropriate outreach and positive recruitment activities have been undertaken to remedy deficiencies.

PROMOTION PROCEDURES: Arcadis U.S., Inc. in accordance with its affirmative action plan, ensures that promotion and transfer decisions are made in accord with principles of equal employment opportunity by imposing only valid requirements for promotional opportunities. In all job classifications, the Company promotes individuals without regard to race, color, religion, creed, gender, sexual orientation, citizenship status, gender identity or expression, national origin, age, disability, genetic information, marital status, amnesty, or status as a covered veteran in accordance with applicable federal, state and local laws. Each employee's salary and position are reviewed annually through Arcadis U.S., Inc.'s merit program.

TRAINING PROCEDURES: Arcadis U.S., Inc. in executing its affirmative action plan ensures that company sponsored training, education and tuition assistance are administered without regard to race, color, religion, creed, gender, sexual orientation, citizenship status, gender identity or expression, national origin, age, disability, genetic information, marital status, amnesty, or status as a covered veteran in accordance with applicable federal, state and local laws. Tuition reimbursement is available

to employees enrolled in an accredited degree program and the course(s) must further the career of the individual at Arcadis U.S., Inc.

PUBLICITY (INTERNAL AND EXTERNAL): Internally, Arcadis U.S., Inc. maintains an affirmative action plan with which all employees must comply. This is described in the Employee Handbook: "It is Arcadis U.S., Inc.'s continuing policy to afford equal employment opportunity to qualified individuals regardless of their race, color, religion, creed, gender, citizenship status, sexual orientation, gender identity or expression, national origin, age, disability, genetic information, marital status, amnesty, or status as a covered veteran in accordance with applicable federal, state and local laws" and to conform to applicable employment laws and regulations. For further information or to report violations of the equal employment and sexual harassment policies, contact the Senior Vice President of Human Resources. Externally, the Company identifies itself as an affirmative action employer on recruiting materials.

PROCUREMENT POLICIES: Arcadis U.S., Inc. does not maintain company-wide procurement policies. However, the company does establish subcontracting plans for specific contracts when required by the governmental agency issuing the contract. As such, Arcadis U.S., Inc. shall follow the below procurement policy/plan when performing work under contracts issued by our client.

It is the policy of Arcadis U.S., Inc. that business concerns owned and controlled by socially and economically disadvantaged individuals shall have the maximum practical opportunity to participate in the performance of subcontracts awarded by Arcadis U.S., Inc. It is Arcadis U.S., Inc.'s intention to aggressively pursue, wherever possible, subcontracting opportunities with minority-owned, women-owned, veteran-owned and disabled veteran-owned small businesses and ell as Historically Black Colleges and Universities/Minority Institutions (HBCU/Mis).

SELF ANALYSIS AND GOAL SETTING

At the conclusion of every Affirmative Action plan year, goals are discussed at length with employment decisions makers within the organization. Discussion of these goals take place with Business Division leaders and their respective internal Recruitment Managers and it's through that process that our goals are approached and our corresponding strategy and action plans developed.

About Arcadis

Arcadis is the leading global design and consultancy firm for natural and built assets. Applying our deep market sector insights and collective design, consultancy, engineering, project and management services we work in partnership with our clients to deliver exceptional and sustainable outcomes throughout the lifecycle of their natural and built assets. We are more than 36,000 people, active in over 30 countries that generate over $5 billion in revenues. We support UN-Habitat with knowledge and expertise to improve the quality of life in rapidly growing cities around the world.

www.arcadis.com

Supporting our clients in their quest to become Fit-for-Future.

Utilities must plan for unprecedented scenarios while navigating a changing workforce, but where should leaders focus?

Use the QR code below to explore the five fundamentals of becoming a fit-for-future water utility and the common thread that unites them.

Arcadis. Improving quality of life

H 2 M architects + engineers

QUALIFICATIONS FOR

Lead and Copper Rules Revisions Compliance 2026-02

Google Map Data ©2

Qualifications for

Lead and Copper Rules Revisions Compliance 2026-02

10.02.2025

Contact

Joseph J. Todaro, P.E., LEED AP BD+C
Vice President, Deputy Market Director of Water/Wastewater

H2M Architects & Engineers, Inc.
360 Bloomfield Avenue,
Suite 406
Windsor, CT 06095

860.607.9011 ext.1445

jtodaro@h2m.com

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H2M architects + engineers
360 Bloomfield Avenue, Ste 406
Windsor, CT 06095 | tel 860.607.9011

October 2, 2025

Mr. Matthew Bonin, Finance Director
Mayor's Office
741 Colonel Ledyard Highway
Ledyard, CT 06339

RE: Qualifications for Lead and Copper Rules Revision Compliance 2026-02

Dear Mr. Bonin:

The Town of Ledyard (Town) is seeking a professional engineering consultant to manage its lead and copper rule compliance (LCRR) program. The selected consultant must be well-versed in developing service line inventories and replacement plans; managing service line inventory and replacement programs and related public outreach and education initiatives; and advising on Connecticut Department of Energy and Environmental Protection (CTDEEP), Connecticut Department of Health (CTDPH), and Drinking Water State Revolving Fund (DWSRF) requirements related to LCRR compliance.

H2M Architects & Engineers, Inc. (H2M) is pleased to submit our qualifications and approach for this important project. Founded in 1933, we are a multi-disciplinary engineering and architecture firm focused on providing clients quality services and creative, functional solutions. We have a history of working with various municipalities and utility companies to maintain accurate service line inventories, identify service line materials, and oversee the replacement of lead and galvanized service lines throughout the tristate area. Our LCRR-compliance projects have varied in size and scale but have all involved the utilization of our in-house GIS professionals, enabling municipal administrators to track, log, and visualize both the inventory and replacement process. We have significant experience coordinating with departments of health on behalf of our clients during the iterative inventory compilation process, which will bring considerable value to the Town for this project. Currently, we are performing this type of work for the Town of Winchester in Litchfield County. Additionally, we have significant experience in securing DWSRF funding as well as complying with the reporting and required conditions of this program.

To oversee this project, we propose Neil O'Connor, P.E., as our Project Manager. He has more than two decades of municipal engineering experience and is managing our project with Winchester. Before joining H2M, Mr. O'Connor worked as the Engineer Supervisor at the City of Albany Water Department, where he oversaw the City's lead service line inventory and replacement program. This involved utilizing ArcGIS online and Survey123 to update and maintain water service records and coordinating with the City after the inventory was developed. Moreover, Mr. O'Connor helped secure over $12.8 million in funding from the New York State Environmental Facilities Corporation (EFC) toward the City's inventory and replacement program. I will support Mr. O'Connor, the team, and overall performance of this project as our Principal-in-Charge. I have more than 35 years of water supply design and project management experience, with expertise in water treatment systems and the removal of emerging contaminants. We will maintain this team and leadership structure throughout the design and construction phases of this project.

H2M knows through firsthand experience how to deliver a successful LCRR compliance program and position the Town to meet future Lead and Copper Rule Improvements (LCRI) requirements. In addition to our water resource expertise, we will provide the Town with a 580+ personnel professional network equipped to handle any challenges that may arise during this project. Should you require additional information or have questions about our submission, please contact me at 860.607.9011 ext. 1445 or email at jtodaro@h2m.com. Thank you for your consideration.

Sincerely,
H2M Architects & Engineers, Inc.

Joseph J. Todaro, P.E., LEED AP BD+C
Vice President, Deputy Market Director of Water/Wastewater

TAB 1

Here at H2M, we value people.

H2M was organized in 1933 and founded on the principles of professional excellence, hard work, and integrity.

H2M is a multi-disciplined professional consulting and design firm with a proud legacy of client service and a proven ability to tackle complex architectural, engineering, and environmental challenges. Since 1933, we have played a vital role in shaping local communities — designing and improving essential infrastructure such as water treatment plants, emergency response facilities, schools, roadways, public buildings, and more.

The H2M companies consist of H2M Associates, Inc.; H2M Architects & Engineers, Inc.; and parent company H2M Architects, Engineers, Geology, Land Surveying and Landscape Architecture, DPC. With offices throughout New York, New Jersey, Connecticut, Pennsylvania, and Florida, H2M is uniquely qualified to provide responsive, personal service to our clients in the Northeast.

With decades of experience, we have built a reputation for delivering high-quality, client-focused solutions that balance innovation with practicality. Our approach is rooted in collaboration, technical excellence, and a deep understanding of the communities we serve. Whether navigating regulatory complexities, addressing evolving environmental concerns, or designing spaces that enhance everyday life, H2M remains committed to providing sound judgment, creative problem-solving, and exceptional service at every stage of a project.

H2M takes pride in the depth and diversity of our comprehensive in-house service capabilities. With a team of over 580 professionals — including engineers, architects, surveyors, scientists, planners, landscape architects, inspectors, and technical support specialists — we provide a fully integrated, multidisciplinary approach to our clients.

H2M Staff by Discipline

139 Architecture & Interior Design	76 Water	63 MEP	57 Environmental
30 Construction Inspection	30 Wastewater	29 Civil	12 Structural
10 Planning	8 Surveying	4 Landscape Architecture	3 GIS

OPERATING PHILOSOPHY

MISSION

Our People
We commit to developing our people and rewarding hard work with growth opportunities in an inclusive professional environment.

Our Clients
We commit to being trusted advisors for our clients and delivering problem solving value and quality on every project.

Our Communities
We commit to creating thriving and healthy communities by giving of ourselves and developing sustainable solutions that benefit everyone.

VISION

We exist to improve the quality of life for everyone in our reach by empowering our diverse talent to sustainably solve the challenges of the built environment.

VALUES

We Stand as One H2M
Inclusive. Supportive. Collaborative. No matter where you are.

We Challenge One Another
We show up curious and push boundaries.

We Do the Right Thing
Our character is built on doing what is right and ethical.

We Work Safely
We care for the lives of our people and their families.

We Own it
We hold ourselves accountable for team success and personal achievement.

We Embrace Diversity
We acknowledge and honor the fundamental value and dignity of all individuals.

TAB 2

Town of Winchester/Winsted Lead Service Line Inventory

To comply with the EPA's Lead and Copper Rule Revision (LCRR) requirements, the Town of Winchester/Winsted Water Works initiated a Lead Service Line (LSL) inventory project to be completed by October 16, 2024. H2M was awarded the project to assist the Town in meeting this regulatory deadline.

The historic Town of Winchester was incorporated in 1771 and owns some water infrastructure that predates 1900. The system includes over 40 miles of water mains and 2,575 service lines, serving a population of 7,700. The project aimed to document the current state of the water system, including upgrades and maintenance. H2M leveraged GIS services to accurately reflect and update the LSL inventory addressing challenges related to obtaining records and funding approvals. The project team worked to quickly scan and incorporate records into the GIS database. H2M expanded the scope to include customer notifications, reallocating some funds to ensure compliance.

Critical deadlines included submitting the LSL inventory by October 16, 2024, and notifying customers by November 15, 2024. Both deadlines were met and a robust GIS-based inventory was developed that will streamline LSL replacement in future phases The project received funding through Connecticut Department of Health Drinking Water State Revolving Fund (DWSRF) in two rounds for the inventory and field investigation. This successful collaboration has ensured the Town's drinking water system is well-documented and prepared for future improvements.

Town of Hempstead Lead and Copper Compliance Program Management

H2M was chosen by the Town of Hempstead to create a GIS-based digital archive of its LSL to meet Federal regulations put into effect in December 2021. The EPA's LCRR makes it incumbent upon water suppliers to create an inventory of all operational LSL supplying customers, communicate openly with customers about the risks of lead in drinking water, address how the supplier plans to replace these service lines, and meet additional requirements for lines servicing educational and childcare facilities. In addition to helping the Town work toward the eventual replacement of its active lead service lines, H2M assisted in helping the Town optimize treatment systems and meet the EPA's specification for sample collection. Building the Town LSL map involved the compilation, review, and integration of data of more than 130,000 residents into an interactive database. This involved using manual and programmatic research methods to review 100,000 print tap card records and 150,000 digital records from more than 6,000 residential addresses.

Passaic Valley Water Commission (PVWC) Subsurface Exploratory Investigation

PVWC suspected that a significant number of the existing customer water service lines in these four municipalities were lead or lead-lined. In response, PVWC implemented a program to identify and replace LSL, including the portion of the customers' service that is located on private property in an attempt to avoid partial lead service connections.

A subsurface investigation included approximately 6,200 locations on local, county, and state roads, of which approximately 4,700 were excavated through February 2022. The construction work involved excavating a test pit over the service at the curb stop valve box to identify the materials of construction and determine if the service is lead (galvanized pipe with lead lining) or copper. A combination of traditional excavation and vacuum excavation were utilized. H2M's professional engineers and field technicians provided construction inspection and management. We worked closely in concert with PVWC's project representatives to keep PVWC apprised of the progress throughout the course of the project. Additionally, our team served as a liaison between PVWC and its customers for information dissemination and education, receiving and processing complaints, and obtaining customer permission for water service line replacement on private property. We also coordinated work on County roads and prepared and submitted hundreds of County road opening permits. We also assisted PVWC by updating various databases on a routine basis with all pertinent information for the project, including customer water service information, field reports and project photos, status of agreement forms, restoration status, material inventories, and permit status.

Village of Garden City LSL Inventory & Replacement

To accommodate the EPA's revised LCRR, the Village must complete a comprehensive LSL inventory by October 16, 2024 and subsequently develop a LSL Plan. The results of the LSL inventory will inform the Village's LSLR program.

H2M's staff reviewed several thousand individual records provided by the Village, including Excel spreadsheets, building permits, plumbing permits, and nearly 1,500 engineering plans. Information pertaining to water main material was transposed from the source materials to the GIS data. Source documents were also attached to the GIS data to facilitate simplified, map-based retrieval in the future. In addition to scanned documents, H2M incorporated information from engineer field observations, customer reports, and date of construction, as documented by the Nassau County Office of the Assessor.

In the midst of this LSL work, the Village was presented with a dilemma as news of a resident with elevated blood levels spread. H2M assisted the Village with a widespread sampling program as well as with notifying the public, developing informational brochures, etc. The sampling results were used as an additional measure in making further determinations about the retirement and replacement of the Village's LSL.

The final deliverable to the Village is a GIS dataset stored within ArcGIS Online, which provides Village staff with an interactive, searchable map of customer locations and associated main material, along with assignment justification in the form of attached source documents.

Grant Applications & Funding

The DWSRF provides financial assistance for drinking water projects throughout the U.S. that are administered at the state level. Within the past five years, our firm has assisted local municipalities and water/wastewater authorities in the administration of nearly $500 million in grants for infrastructure improvement projects in the tristate area. We are well-versed in the procedures and requirements associated with DWSRF funding, grants, and financing, including MBE/WBE/SDVOB goals, American Iron and Steel, Build America, Buy America, and Davis-Bacon prevailing wage. Moreover, we have obtained grant funding and low/zero-interest financing for several projects similar to the Town's. We have an agent dedicated to handling and tracking funds and grants our clients have been awarded for their various projects. Her responsibilities include coordinating with our clients and funding agencies to ensure that paperwork is filed on-time, contractors comply with MBE/WBE/SDVOB requirements, and projects are progressing per schedule. Below are examples of funding we have helped our clients obtain and administer over the past five years:

Applicant Name	# of Projects	Approximate Project Cost	Approximate Funding Amount
Allamuchy Township	1	$682,800	$682,800
Bethpage Water District	4	$17,685,188	$9,013,913
Brick Township	1	$16,925,680	$16,925,680
Brielle, Borough of	2	$5,168,812	$5,168,812
Calverton Sewer District	1	$10,500,000	$6,941,000
Carle Place Water District	1	$8,800,000	$5,000,000
Dix Hills Water District	2	$10,087,750	$6,042,000
Dutchess County Water Authority	2	$12,072,276	$7,243,366
Fishkill, Village of	1	$5,507,789	$3,000,000
Franklin Square Water District	2	$11,871,000	$7,727,600
Garden City Park Water District	3	$18,672,000	$11,203,200
Garden City, Village of	6	$44,983,496	$25,670,098
Greenlawn Water District	4	$18,154,000	$10,794,300
Hampton Bays Water District	3	$12,400,000	$8,149,200
Hempstead, Town of	5	$59,779,000	$35,867,400
Hicksville Water District	6	$65,745,000	$36,594,400
Highlands, Borough of	2	$11,384,367	$11,384,367
Jericho Water District	1	$9,827,950	$5,896,770
Locust Valley Water District	3	$11,740,000	$7,744,000
Manhasset-Lakeville Water District	4	$31,460,500	$18,876,300
Nyack, Village of	2	$15,012,890	$7,749,320
Oyster Bay Water District	3	$11,936,000	$7,018,600
Patchogue, Village of	2	$31,800,000	$31,000,000
Plainview Water District	7	$64,105,970	$34,069,782
Riverhead, Town of	1	$2,260,000	$2,327,800
Roslyn Water District	3	$16,859,877	$10,115,926
Smithtown Water District	1	$1,426,000	$998,220
South Central Connecticut Regional Water Authority	1	$1,772,800	$1,772,800
South Farmingdale Water District	2	$17,312,000	$6,840,000
South Huntington Water District	4	$31,625,658	$15,609,677
Suffolk County	3	$127,200,000	$59,700,000
Wall Township	2	$4,401,620	$3,887,599

Water Authority of Great Neck North	2	$31,151,323	$8,000,000
Water Authority of Western Nassau	7	$84,366,730	$44,389,070
West Hempstead Water District	1	$6,540,250	$3,924,150
Westchester Joint Water Works	1	$8,000,000	$3,200,000
Westhampton, Village of	1	$21,300,000	$12,000,000
Weston, Town of	1	$442,019	$442,019
Winchester/Winsted, Town of	1	$260,000	$260,000
Yonkers, City of	2	$7,171,880	$4,663,128
TOTAL	101	$868,709,825	$498,210,497

TAB 3

References

H2M has successfully performed lead service line projects for various clients. We encourage you to contact the references provided below to verify our track record.

Client: Town of Winchester/Winsted Lead Service Line Inventory

Contact: Jim Rollins, Director of Public Works

Address: 189 Rowley Street, Winsted, CT 06098

Phone: 860.379.4101

Email: jrollins@townofwinchester.org

Client: Town of Newtown Water Main Replacement

Contact: Fred Hurley, Director of Public Works

Address: 4 Turkey Hill Road, Newtown, CT 06470

Phone: 203.270.4300

Email: fred.hurley@newtown-ct.gov

Client: Passaic Valley Water Commission Lead Service Line Replacement and Subsurface Exploratory Investigation

Contact: Patrick Porcaro, Chief of Engineering

Address: 1525 Main Avenue, Clifton, NJ 07011

Phone: 973.340.4355

Email: pporcaro@PVWC.com

Client: Hicksville Water District Lead Service Line Inventory

Contact: Paul Granger, Superintendent

Address: 10 Manetto Hill Road, Hicksville, NY 11803

Phone: 516.944.3549

Email: pgranger@hicksvillewater.org

Client: Town of Hempstead Lead and Copper Compliance Management Program

Contact: John Reinhardt, Commissioner

Address: 350 Front Street, Hempstead, NY 11550

Phone: 516.794.8300 ext. 8200

Email: JReinhardt@hempsteadny.gov

TAB 4

► Project Team/Organization

Joseph J. Todaro, P.E., LEED AP BD+C | Principal-in-Charge

Mr. Todaro brings over 35 years of expertise in water supply engineering, specializing in the analysis and design of water systems, treatment facilities, storage solutions, and pumping infrastructure. His responsibilities span the development of design plans and specifications, preparation of technical reports, system evaluations, and client engagement for project scoping and planning. He also oversees construction administration, ensuring seamless execution from concept to completion and is H2M's Deputy Market Director of Water and Wastewater.

Neil J. O'Connor, III, P.E. (NY) | Project Manager

Mr. O'Connor is a professional engineer with 20 years of experience delivering design solutions for a broad range of public and private sector projects. His expertise spans water, sewer, stormwater, and site layout design. He has a deep understanding of regulatory requirements from the Connecticut Department of Energy and Environmental Protection (CTDEEP) and Department of Health (DOH). He is also proficient in industry-standard software including AutoCAD, Autodesk, and ArcGIS, supporting his ability to deliver efficient and compliant project designs.

William F. Delnero, P.E. (NY) | Lead & Copper Subject Matter Expert (SME)

Mr. Delnero is a seasoned civil and environmental engineer with over 15 years of experience in water resources and wastewater engineering. His areas of expertise include lead service line replacements, water main design, treatment plant design for emerging contaminants, storage tank inspections, and the design of wastewater pump stations. He also has a strong background in storm hardening and resiliency planning. In addition to his technical capabilities, he has successfully managed several design-build projects, demonstrating his ability to lead complex initiatives from concept through completion.

Andrew M. Manfredi, P.E. (NY) | Technical Advisor

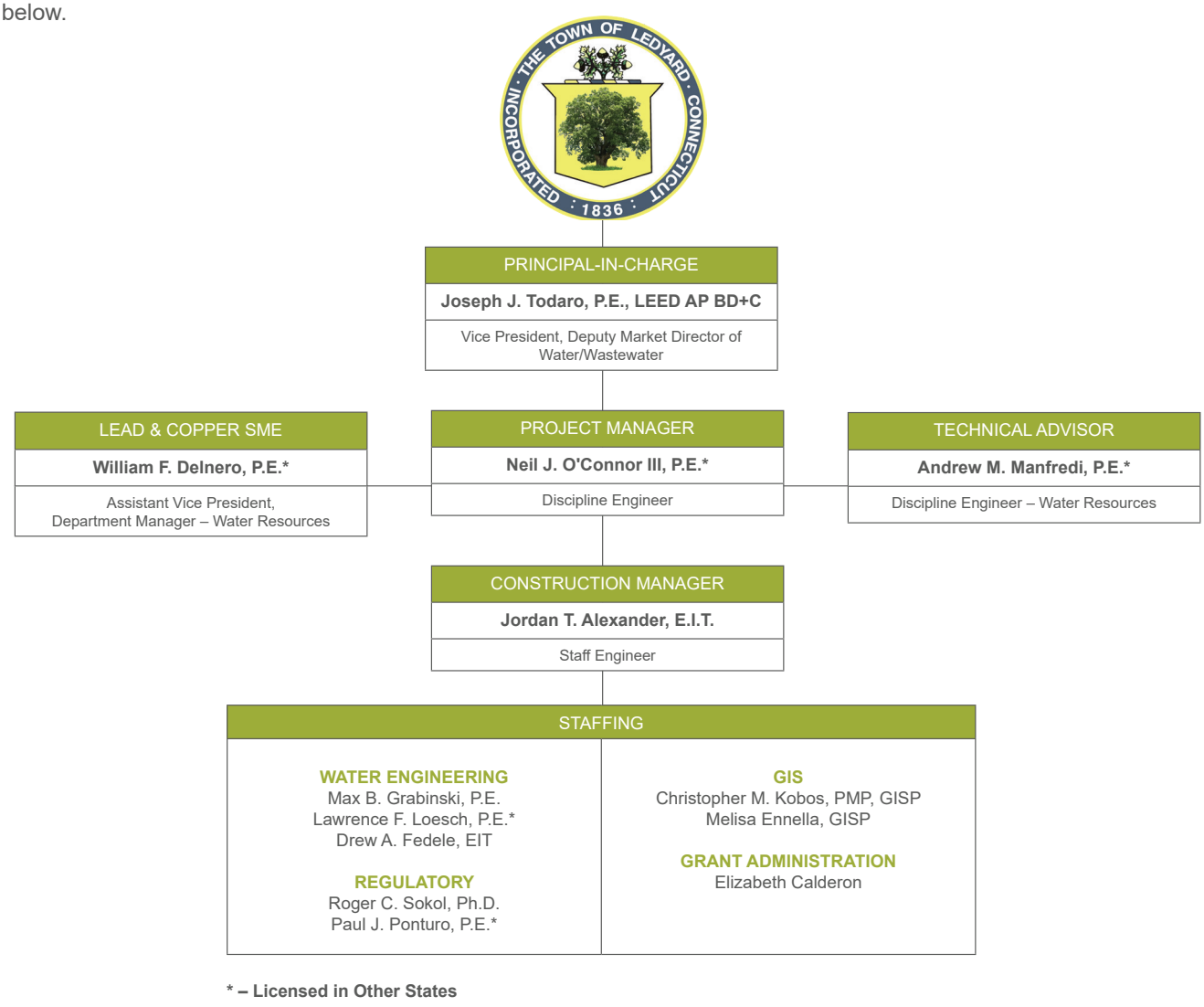
Mr. Manfredi is an experienced engineer specializing in water treatment technologies and public works project delivery. His responsibilities include preparing engineering reports, specifications, and design plans to support regulatory approvals and competitive bidding processes. His technical expertise spans optimal corrosion control evaluations, advanced oxidation processes (AOP), granular activated carbon systems, and packed tower aeration. His additional project experience includes the rehabilitation and construction of elevated water storage tanks. He is proficient in BIM software and advanced applications such as 3D laser scanning and modeling, enhancing both design accuracy and project visualization.

Jordan T. Alexander, E.I.T. | Construction Manager

Mr. Alexander is a staff engineer with hands-on experience in clean water, wastewater, and stormwater infrastructure projects. His background includes the design of gravity and low-pressure sewer collection systems, as well as construction administration and inspection for clean water mains and water pumping stations. His practical field knowledge and design capabilities support the successful delivery of municipal and utility projects.

► Project Team/Organization

The successful completion of a project requires a diverse pool of experienced personnel capable of performing tasks within their area of expertise. H2M's management and project managers are also aware that the success of any project is dependent upon the close cooperation required between H2M staff and the project personnel of the Town of Ledyard. The proposed organization of personnel and resources is intended to bring together a team of professionals that can focus on project objectives as well as respond to unanticipated circumstances or issues. Billing rates for our proposed personnel are provided in the organizational chart below.



*** – Licensed in Other States**

Resumes for the above key personnel follow this page.

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Joseph J. Todaro P.E., LEED AP BD+C

Vice President, Deputy Market Director of Water/Wastewater

Mr. Todaro has 35 years of water supply engineering experience including water systems analysis and the design of water supply, water treatment, water storage, and pumping facilities. Mr. Todaro's responsibilities include the preparation of design plans and specifications, technical reports, system evaluations, client liaison for project scoping and planning, construction administration.

Education

M.S., Environmental Engineering; Polytechnic University

B.S., Civil Engineering; Polytechnic University

Water Distribution Network Modeling Seminar

Risk Assessment Methodology for Water

Licenses/ Certifications

Professional Engineer: NY, NJ, CT, FL, MA, RI

LEED Accredited Professional, USGBC

H2M Project Management Certification

Memberships

American Water Works Association

Long Island Water Conference

National Society of Professional Engineers

U.S. Green Building Council

Selected project experience

- Winsted Water Works Lead Service Line Inventory; Winchester, CT: Serving as the Technical Advisor to a team developing a GIS database of the Town's water service lines to achieve compliance with the Lead Service Line Inventory and Lead and Copper Rule Revisions. Overseeing and advising on coordination with Town staff to obtain, track, and manage records for their review to determine line composition. Working alongside GIS lead to ensure GIS data infrastructure meets the Town's needs and can inform the future line replacement program.
- Hicksville Water District Lead Service Line Inventory; Hicksville, NY: Served as the Technical Advisor to a team developing a GIS database of the Town's water service lines to achieve compliance with the Lead Service Line Inventory and Lead and Copper Rule Revisions. Oversaw and advised on coordination with Town staff to obtain, track, and manage records for their review to determine line composition. Partnered with GIS lead to ensure data infrastructure met the Town's needs and could inform a future line replacement program.
- Town of Hempstead Lead and Copper Rules; Hempstead, NY: As Technical Advisor, advised a team of GIS professionals and water resources engineers in the development of an inventory to bring the Town in compliance with the Lead and Copper Rule Revisions. Oversaw and advised on coordinating with Town staff to obtain, track, and manage records for their review to determine line composition. Partnered with GIS lead to ensure data infrastructure met the Town's needs and could serve as the basis of a future line replacement program.
- Town of Newtown Fairfield Hills Campus Water Distribution System Replacement; Newtown, CT: Design services for the replacement of the existing potable, public water system on the Town of Newtown, Fairfield Hills Campus. The project involves the design and implementation of a water main replacement in the campus hub, water main relining, and rehabilitation of Well No. 8, including mechanical and electrical upgrades.
- Lead Investigation for the Village of Garden City. Project Manager for the investigation into an elevated blood lead level and ensuing Village wide evaluation, including coordination with NYS and Nassau County Health Departments, developing plans for critical area sampling, evaluating results, notifying residents, preparing a corrosion control study and developing and implementing two rounds of lead and copper compliance sampling.
- AOP Pilot Study and Design Program for the Village of Garden City. Program manager for the deployment of numerous pilot studies and interim and final designs for the treatment of emerging contaminants, 1,4-Dioxane and perfluorinated compounds (PFOS) at all the wells in the Village to have enough supply to handle demands once the regulations are promulgated. All wells in the Village are impacted with emerging contaminants and a planning study was performed to evaluate options. Arranged for Village to purchase equipment directly for these wells to expedite process and timeframe for installation and operation. Coordinated the design of all ten well's AOP treatment systems and scheduling to ensure the Village can operate during system testing and changeovers.
- New Water Supply Well and Pump Station at South Park Drive for Bethpage Water District. Project manager for a new 2,000 gpm water supply well and pump station within an easement in Bethpage State Park. Project included interior pump station design and layout to allow the facility to be an educational outlet with equipment viewing areas. Design included coordination with NYSDOT and Parks departments for the modification and traffic control systems along the State's Shared Use Path.

Next ⟶

Joseph J. Todaro
P.E., LEED AP BD+C

Vice President, Deputy Market Director of Water/Wastewater

- New Water Supply Well and Pump Station at Greenlawn Water District Plant No. 18. Project manager for a new 1,4000 gpm water supply well and pump station at an existing District facility. Project included construction of a satellite pump station and incorporation of electrical and mechanical equipment within the existing pump station of a previously abandoned well.

- Expansion of Potable Water Transmission Infrastructure for the City of Glen Cove. Project Manager for the installation of 9,000 feet of water main for improvements to the City's distribution system, as well as, necessary distribution improvements to supply the Water Development Area. This project was coordinated with the design of the Herb Hill - Garvies Point Road reconstruction project.

- Volatile Organics Removal at Roslyn Water District Plant No. 8. Project Manager for the design and construction of a packed tower aeration facility including incorporation of existing granular activated carbon treatment into the process design.

- Volatile Organics Removal system for the Roslyn Water District Plant No. 1. Project Manager for emergency design and construction of new granular activated carbon system for peak summer demands requiring fast track design.

- Volatile Organics Removal at Roslyn Water District Plant No. 4. Project Manager for the design and construction of a packed tower aeration facility originally slated for fast track construction on site, but later revised for construction in an adjacent park. Services included coordination with various municipalities for proper approvals and consent for construction.

- Well rehabilitations for various water districts. Projects include the replacement of pump bowl and column pipe assemblies, cleaning casings, and in some cases, chemical treatment of the wells.

- Rehabilitation and repainting of a 2.0 million gallon standpipe for Roslyn Water District. Services included full containment, tank repairs and full interior and exterior coatings.

- Developed a five year master plan for Roslyn Water District to establish the basis for bond and reserve funding to address system capacity and water quality issues. Plan involved creating a distribution model and evaluating District pumpage demands, system capacity, distribution system, etc. Plan included projects consisting of treatment for volatile organics, new transmission mains, storage tank rehabilitations, new water supply well and pump station, etc.

Prior to joining H2M, Mr. Todaro worked for a consulting firm where he served as head of the water resources department handling the design and management of various water supply and treatment projects, studies and evaluations. In this capacity, he was district engineer for numerous water suppliers, where his duties included providing systems evaluations, capital improvement planning, engineering reports and studies, plans and specifications. Some representative projects include the following:

- Packed Tower Aeration facilities for volatile organics removal including Village of Garden City Plant No. 9, Water Authority of Great Neck North Plant Nos. 2A and 9, Jericho Water District Plant Nos. 25 and 26 and Albertson Water District Plant Nos. 1 and 2 and Plant No. 5.

- Granular Activated Carbon facilities for volatile and synthetic organics removal including Jericho Water District Plant Nos. 5, 9, 13 and 14, Greenlawn Water District Plant No. 8, City of Glen Cove Duck Pond Road Plant for Well Nos. 30 and 31 and Seaman Road Plant and Water Authority of Great Neck North Plant Nos. 12 and 13.

- Replacement water supply wells and building modifications including Lido-Point Lookout Water District Plant Nos. 1 and 2, Village of Sand Point Well Nos. 2 and 5, Water Authority of Great Neck North Plant No. 10.

- Water storage tanks including 500,000 gallon elevated storage tank and 1.0 MG ground storage tank and booster station for Water Authority of Great Neck North and 1.0 MG ground storage tank for Locust Valley Water District.

- Water storage tank rehabilitation and re-painting including Jericho Water District, Locust Valley Water District, Massapequa Water District, etc.

- Water System Evaluations – Developed a water distribution system network map; established network parameters regarding "C" factors and usage demands; calibrated networks using ISO fire flow data and performed analysis of potential future design demands and scenarios, including the addition of new storage facilities, new supply wells, transmission main improvements at the Carle Place Water District, City of Glen Cove, Lido-Point Lookout Water District, Massapequa Water District, Roslyn Water District, Village of Freeport, Water Authority of Great Neck North, Locust Valley Water District.

Neil J. O'Connor III P.E.

Discipline Engineer - Wastewater Engineering

Mr. O'Connor is a professional engineer with 20 years of experience in the design of a wide range of public and private projects, including water, sewer, stormwater, and site layout projects. He has a strong understanding of the rules and regulations of the New York State Department of Environmental Conservation (NYSDEC), New York State Environmental Facilities Corporation (EFC) and New York State Department of Health (DOH). Mr. O'Connor is proficient in AutoCAD, AutoDesk, and ArcGis.

Education

B.S., Civil Engineering; Syracuse University

Licenses/ Certifications

Professional Engineer: NY

H2M Project Management Training Program

Offices Held

NYWEA, Capital Chapter, Director and State Board Director

Memberships

New York Wastewater Environmental Association (NYWEA)

American Water Works Association (AWWA)

Selected project experience

- Westchester County Department of Public Works and Transportation CompostED Facility Leachate Discharge; Valhalla, NY: Project Manager and client liaison for the CompostED Facility leachate discharge project on the Valhalla campus.
- Etain Health Public Water Supply Technical Due Diligence Report; Chestertown, NY: Project Manager and client liaison responsible for engineering due diligence and analytical activities related to the registration of a new public water system for an agra manufacturing facility. Development of a report in compliance with NYS and Warren County Department of Health standards and regulations.
- Dutchess County Water and Wastewater Authority (DCWWA) Tertiary Filter and Disinfection Evaluation; Beekman, NY: Evaluation of the existing tertiary rapid sand filter and UV disinfection systems at the Dalton Farms Wastewater Treatment Plant (WWTP). Both systems were non-operational due to a series of equipment failures. The team provided an engineering design report with proposed alternatives; the DCWWA selected to replace the systems with ones that aligned with their long-term goals, including sustainability, efficiency, cost effectiveness, and regulatory compliance.
- Winsted Water Works Lead Service Line Inventory; Winchester, CT: Project Manager and Client Liaison for a project to achieve compliance with the federally-mandated Lead Service Line Inventory and Lead and Copper Rules. Oversaw and coordinated field work to identify the materials used across the Town's service lines. Worked alongside a multidisciplinary team to develop the inventory of pipes utilizing ArcGIS software, and ensured the timely delivery of the inventory list to the Connecticut Department of Public Health.
- City of Albany Department of Water and Water Supply; Albany, NY: As Engineer Supervisor:
  - Oversaw the daily workload of staff of nine professionals in engineering, permit administration, GIS and recordkeeping, NYSDEC CSO/MS4 and DOH drinking water compliance
  - Led development of in-house design of construction documents related to stormwater, sanitary sewer, and water design utilizing design tools such as AutoCAD Civil 3D, SWMM5 modeling, and Storm and Sanitary Analysis. Particular focus on green infrastructure design to reduce on-street flooding and combined sewer overflows.
  - Implemented the capital plan, including coordination/oversight of work of engineering consultant feasibility, preliminary, and final design plans. This included the development of scope and oversight of payment applications and ensuring project goals were achieved.
  - Community and stakeholder coordination, outreach, and communication, including organization of meetings, public presentations, and development of community outreach materials and surveys
  - Project management and oversight related to design, bidding, and construction of capital projects, as well as construction management/inspection utilizing cloud-based project management tools
  - Reviewed site plans for the development of stormwater, sanitary sewer, and water reports in accordance with state and local regulations and the NYSDEC Stormwater Design Manual
  - Served as Project Manager/Owner's Representative for design and construction administration for daylighting of 1,8000 LF of Patroon Creek buried within Tivoli Preserve
  - Served as Project Manager/Lead Designer/Construction Manager for the complete street redesign of Ramsey Place to mitigate downstream flooding

William F. Delnero P.E.

Assistant Vice President,
Department Manager - Water Resources

Mr. Delnero has more than 15 years experience as a water resources engineer, wastewater engineer, and civil engineer. His expertise includes lead service line replacements, water main design, emerging contaminants treatment plant design, storage tank inspections, wastewater pump station design, and storm hardening/resiliency design. In addition, Mr. Delnero has managed several design-build projects.

Education

B.S., Civil Engineering; Stevens Institute of Technology

Licenses/ Certifications

Professional Engineer: NJ, NY

Memberships

American Water Works Association

Selected project experience

- Township of Wayne Indian Hills Water Storage Tank Rehabilitation; Wayne, NJ: Project Manager for rehabilitation of the existing 1.5 million gallon Indian Hills steel ground storage tank. The design included complete exterior painting removal, new coating system, and miscellaneous hot work upgrade items. The interior included spot blasting and spot painting, minor repairs, and miscellaneous hot work.
- Veolia Lead Service Line Replacement Program; Bergen and Hudson Counties, NJ: Project Manager for the construction administration and construction observation of over 2,200 water service verifications and replacement of more than 1,200 lead service lines.
- Veolia Distribution System Improvement Charge (DSIC); Bergen and Hudson Counties, NJ: Project Manager for the construction inspection, observation and closeout documents, including as-builts, of several water main replacement projects in North Bergen, Tenafly, Fort Lee, Ridgefield Park, Weehawken, Englewood, Teaneck, Union City. and Mahwah.
- Veolia DSIC; Bergen and Hudson Counties, NJ: Project Manager for the construction inspection, observation and closeout documents, including as-builts, of several water main replacement projects for the DSIC 2020 contracts, including projects in North Bergen and Leonia.
- Plainview Water District AOP Treatment at Plant No. 3; Plainview, NY: Project Manager for the engineering design, permitting, and construction administration for construction of a new treatment plant to remove 1,4-dioxane from drinking water.
- Plainview Water District AOP Treatment at Plant No. 7; Plainview, NY: Project Manager for the engineering design, permitting, and construction administration for construction of a new treatment plant to remove 1,4-dioxane from drinking water.
- Township of Hillsborough Municipal Utilities Authority Blackwell's Mills Wastewater Pump Station Replacement, Hillsborough, NJ: Project Manager for the design of the replacement of an existing wastewater pump station.
- North Jersey District Water Supply Commission Stone Hill Contracting Co., Inc. - Residual Treatment Facility Upgrades Design-Build; Wanaque, NJ; Project Manager for the design and permitting of upgrades the existing water treatment residuals processing at the North Jersey District Water Supply Commission's Wanaque Treatment Plant. Treatment improvements for this design-build project included replacement of transfer pumps, rehabilitation of gravity thickeners, polymer system, and two new dissolved air floatation systems.
- SUEZ New York/J. Fletcher Creamer PFAS Compliance for Willow Tree Well No. 56 and Eckerson Well No. 82; Rockland County, NY: Project Manager for the design, permitting and construction administration of new GAC filtration system to treatment well sites. This effort was completed as a design-build project.
- American Water Military Services Group/Keystone Clearwater Solutions Picatinny Arsenal Emergency PFAS Treatment Design-Build; Wharton, NJ: Project Manager for the design, permitting and construction administration for the design-build of emergency PFAS treatment at the Picatinny Arsenal.
- American Water Military Services Group/Keystone Clearwater Solutions Picatinny Arsenal Rehabilitation of Lift Station 165 Design-Build; Wharton, NJ: Project Manager for the design and construction administration for the design-build rehabilitation of a wastewater pump station. This effort was completed as a design-build project.
- American Water Military Services Group Base Wide Storage Tank Inspections; West Point, NY: Project Manager for the inspections of nine ground storage tanks at the U.S. Military Academy West Point.

Next ⟶

William F. Delnero
P.E.

Assistant Vice President,
Department Manager -
Water Resources

- American Water Military Services Group Rehabilitation of Lift Station 302B; Wharton, NJ: Project Manager for the design and construction administration for the rehabilitation of a wastewater pump station at the Picatinny Arsenal.

- NYCDEP Green Infrastructure for Flushing Creek; Queens, NY: Project Manager responsible for project controls that included reviewing and managing the project schedule, managing deliverable submission, reviewing the resources allocated to complete a deliverable and managing the project budget. The project involved identifying potential sites, investigating, evaluating, and determining preliminary sites for green infrastructure within the New York City Department of Environmental Protection (NYCDEP) Priority Combined Sewer Overflows Tributary Area. The design team was responsible for performing the delineation of the Tributary Drainage Areas, developing ArcGIS files and maps, assisting with field investigations, and preparing preliminary location maps. Responsibilities also included management of a team of four engineers, attending monthly program meetings, and preparing the monthly reports.

- NYCDEP Wastewater Resiliency Program; New York, NY: Project Controls Manager for a project to implement flood hardening strategies for the DEP's infrastructure, to protect against future extreme weather events. Responsibilities included preparation of the program, Project Management Plan, Quality Management Plan, and Environmental Health and Safety Plan, managing project budgets, and managing all program controls and communications associated with the program, and the overall master schedule and individual contract schedules.

- NYCDEP Site-wide Flood Risk Assessment, Newtown Creek Wastewater Treatment Plant; Brooklyn, NY; Civil Engineer: Civil Engineer for the site-wide flood risk assessment of the NYCDEP's 310 MGD Newtown Creek Wastewater Treatment Plant (WWTP). Performed a flood risk analysis for the Newtown Creek WWTP, based on the updated 100-year FEMA Advisory Based Flood Elevation (ABFE) plus 32 inches. The project involved analyzing each building's potential flooding risk, based on the new flood elevation, and recommending adaptation strategies to minimize the potential impact of another significant storm event to minimize the plant's flood risk.

- NYCDEP Newtown Creek Waterfront Nature Walkway Phase 3; Brooklyn, NY: The Waterfront Nature Walkway created public access to a new shoreline park along Newtown Creek and Whale Creek canal in Brooklyn, NY. This space provides an important area for relaxation and recreation for the people of Greenpoint. The intent was to revitalize a neglected and under utilized waterfront site. Project included sustainable design elements such as surface and subsurface drainage and infiltration systems to capture and harvest the rainwater within the nature walk and provision of photovoltaic system. Responsibilities included the civil design of the Phase 3 extension of the Newtown Creek, WWTP Nature Walkway; including the development of a surface and subsurface drainage system, the extension of underground utilities, and assistance with the preparation of final project documents.

Andrew M. Manfredi P.E.

Senior Associate, Discipline Engineer - Water Resources

Mr. Manfredi's responsibilities include preparing engineering reports, specifications, and design plans for the purpose of regulatory approval and bidding public works projects. His experience encompasses the following: optimal corrosion control evaluation, advanced oxidation process, granular activated carbon, and packed tower aeration treatment technologies. Currently, his relevant project experience includes consumer outreach, sampling, notification, and service line identification with the Village of Garden City. Mr. Manfredi has also performed multiple pilot studies on various AOP treatment technologies as well as start-up full-scale UV/H2O2 AOP systems to confirm performance. He has also presented on various AOP subject matters at New York State AWWA, New Jersey AWWA, and national AWWA conferences. Other project experience includes rehabilitation and construction of existing and new elevated water storage tanks. Mr. Manfredi also specializes in BIM software and applications including 3D laser scanning and modeling.

Education

B.S., Chemical Engineering;
Manhattan College

Licenses/ Certifications

Professional Engineer: NY

Project Management Training Program, H2M

Selected project experience

- Bethpage Water District Interim AOP Treatment at Plant No. 6; Bethpage, NY: In-house design of a 2.0 MGD ground water supply station utilizing a low pressure UV/H2O2 AOP system, development of engineering report, research of best design practices with the new technology, accurate scanning of existing conditions, three dimensional modeling of new mechanical equipment systems within the existing building footprint, commissioning, start up, water quality sampling/review of the new system, and regulatory approval by the New York State Department of Health.

- Various Water Districts Low Pressure UV/H202 AOP Pilot Studies: In-house design of (40) 20 GPM small scale pilot studies utilizing low pressure UV/H202 AOP treatment as required by the New York State Department of Health for all new AOP treatment systems. Pilot study included the review of background water quality, creation of a sampling protocol and testing matrix for submission to the State and local departments of health, in-field analytical testing, and analysis of laboratory and field testing results for a final report to submit to the regulatory agencies with the engineering report. Water suppliers that were tested as part of this pilot program included: South Huntington, Water Authority of Western Nassau County, Water Authority of Great Neck North, Franklin Square, Bethpage, Plainview, Hicksville, Inc. Village of Garden City, Town of Hempstead, Manhasset-Lakeville, Garden City Park, South Farmingdale, and Roslyn.

- Inc. Village of Garden City Optimal Corrosion Control Treatment Report: In-house engineering report that reviewed regulatory requirements and water quality data (specifically, alkalinity, pH, dissolved inorganic carbon, hardness, buffer intensity, dissolved oxygen, oxidation-reduction potential, chloride, and sulfate) for evaluation of alternative corrosion control methods to control the release of lead and copper into drinking water for submission to local regulatory agency. Other areas of the project include: mass-sampling program for lead in specific areas of the Village, distribution system water quality testing, public notification to affected residents, service line identification record review, and consumer outreach.

- Franklin Square Water District AOP/PTA Treatment at Theodora Street Plant: In-house design of permanent advanced oxidation process and packed tower aeration 4.0 MGD ground water supply station for the purpose of publicly bidding multiple Wick's Law compliant contracts. Work also included development of engineering report for review/approval by Nassau County Department of Health and 348 plan submission to NYSDOH and NCDH agencies for review/approval. Project included provisions to keep one well running to maintain water supply throughout the District and phased construction and start-up of individual systems to meet District's water pumping needs.

- Plainview Water District Medium Pressure UV/H202 AOP Pilot Study at Plant No. 3; Plainview, NY: In-house design of a 40 GPM pilot study utilizing medium-pressure UV/H2O2 and UV/CL2 AOP treatment. Pilot study included the review of background water quality, creation of a sampling protocol and testing matrix for evaluation of the treatment technology and feasibility for the Water District.

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Andrew M. Manfredi
P.E.

Senior Associate, Discipline
Engineer - Water Resources

- Bethpage Water District VOC Treatment Upgrades at Plant No. 6; Bethpage, NY: In-house design of a 4.0 MGD VOC treatment facility utilizing packed tower aeration (with vapor-phase carbon air discharge treatment system), a low-pressure UV/H2O2 AOP treatment system, and granular activated carbon for the treatment of 1,4-dioxane and other VOCs. Design included preparation of an engineering report, three-dimensional modeling of new building with requisite architectural, structural, treatment, mechanical, and electrical systems, model walk-throughs with design team and client for review prior to bidding and construction, submission for regulatory approval, project analysis and creation of design documents for the purpose of publicly bidding the project. This project is currently under construction.

- West Hempstead Water District Replacement of Birch Street Elevated Water Storage Tank; West Hempstead, NY: In-house design of a 1.0 MGD composite elevated storage tank for potable water. Design included preparation of an engineering report comparing traditional tank styles and life-cycle costs, creation of bidding design documents for public bidding, construction administration and inspection of the project during construction, start-up and commissioning of the new tank as well as regulatory approval.

Jordan T. Alexander E.I.T.

Staff Engineer - Wastewater Engineering

Mr. Alexander is a staff engineer with experience in clean water, wastewater, and stormwater projects. His experience includes design for gravity collection systems and low-pressure sewer collection systems, and construction administration and construction observation for clean water mains and water pumping stations.

Education

B.S., Environmental Engineering, Minors in Chemistry and Water Resources; Pennsylvania State University

Licenses/ Certifications

Engineer-in-Training: CT

OSHA 10-Hour Construction Safety & Health

Memberships

Water Environment Association

Connecticut Water Environment Association

Selected project experience

- Aquarion Water Company Peaceable Ridge Replacement Water Main; Ridgefield, CT: Acted field engineer during 12" water main and water service installation and existing 8" water main abandonment. Compiled data for as-built drawings
- Aquarion Water Company Eleven Levels Replacement Water Pumping Station Ridgefield, CT: Acted as field engineer during construction and startup of the pumping station and compiled data for as-built drawings.
- Aquarion Water Company Pastors Walk Replacement Water Pumping Station; Monroe, CT: Acted as field engineer during construction of pumping station.
- Aquarion Water Company Tunxis Hill Replacement Water Pumping Station; Fairfield, CT: Acted as field engineer during renovation of an existing home into a water pumping station and compiled data for as-built drawings.
- Aquarion Water Company Bargh Raw Water Pipeline: Acted as field engineer during pipeline installation.
- Connecticut Department of Energy and Environmental Protection (DEEP): Received data from a dam inspector and generated dam inspection reports.
- Suffolk County Department of Public Works: Assisted in production sheets and verified pipe sizing and flow parameters.
- Putnam County Danbury Diversion Project; Putnam County, NY: Responsible for designing alternative analysis for diversion of a collection system to an existing sewer treatment plant.
- Town of Mamaroneck; Mamaroneck, NY: Responsible for analysis watersheds in the project area and conducting stormwater analysis in HydroCAD.

Max B. Grabinski P.E.

Project Engineer - Water Resources

As a Project Engineer, Mr. Grabinski's responsibilities include preparing specifications and design plans for the purpose of regulatory agency review and bidding of public works water projects, and assisting with construction administration of water supply, treatment, distribution, and storage projects.

Selected project experience

- NYS Center for Clean Water Technology Piloting for 1,4-dioxane Removal at Plainview Water District Plant No. 7 and Greenlawn Water District Plant No. 12: Assisted in proposal writing for the New York State Center for Clean Water Technology grant to investigate advanced oxidation process (AOP) treatment systems for the removal of 1,4-dioxane. A grant was awarded to the team consisting of the Plainview and Greenlawn Water Districts. Coordinated piloting of two UV/AOP treatment system technologies at two separate water supply sites. Piloting including creating a pilot sampling plan, coordination with manufacturers of the technology for delivery of the pilot equipment, operation of the reactors, and taking samples and field measurements during testing. Prepared four individual pilot reports for each treatment system at each test site for use by the both water districts in planning for full scale treatment, as well as by the Center for Clean Water Technology for their 1,4-dixoane removal research.

- Water Authority of Western Nassau County Wellhead Treatment for Station No. 35; Floral Park, NY: The Water Authority of Western Nassau County's potable water supply Well No. 35A was impacted by the emerging contaminants 1,4-dioxane, PFOA and PFOS. Packed tower aeration was already in use at this well site for removal of volatile organic compound (VOC) contamination in the source water, and the Water Authority authorized the design of additional treatment to remove the emerging contaminants listed above. Prepared the detailed engineering design report for the new treatment system, which included UV/H2O2 AOP and granular activated carbon (GAC). Prepared design plans and specifications for the emergency installation of new treatment equipment, including the UV/H2O2 AOP reactor, associated hydrogen peroxide storage tank and equipment, and four 40,000-lb GAC vessels. Design also included site piping modifications and permanent building to enclose GAC vessels. Plans and specifications were submitted to the state and local health departments for approval.

- Water Authority of Western Nassau County Wellhead Treatment for Station 57; New Hyde Park, NY: Assisted with the preparation of an engineering report for the UV/AOP pilot system for removal of 1,4-Dioxane at Station 57. Assisted in running of pilot, including calibration tests and sampling, as well as preparation of the pilot report upon completion of testing for submission to the New York State Department of Health and Nassau County Department of Health. Subsequently assisted in the preparation of the detailed engineering report for full-scale implementation of new treatment equipment. Prepared design plans and specifications for permanent treatment at Station 57, including rehabilitation of existing wells, new full scale UV/AOP treatment system, including UV reactors and associated H2O2 storage and dosing equipment, and four 40,000-lb GAC vessels. Design also included a new 12-foot diameter air stripping tower to replace the existing tower, and concrete clearwell with new booster pumps to send water to system. Total dynamic head calculations were performed for both the well pumps and new booster pumps. Two new treatment buildings were designed to house the new treatment systems. Design approval was obtained from the state and local health departments. Provided construction administration services for construction of the new facilities.

- Water Authority of Western Nassau County Wellhead Treatment for Station No. 44; Elmont, NY: The Water Authority of Western Nassau County authorized the design and construction of emergency treatment for the removal of the emerging contaminants PFOA and PFOS from the four drinking water supply wells at their Station No. 44. Prepared emergency design plans and specifications for the installation of eight 40,000-lb granular activated carbon (GAC) vessels to remove the contamination from the wells. The new treatment equipment was designed to be incorporated into the existing treatment processes at the facility. Performed flow tests to determine the specific capacity of the existing wells and determine if they were sized adequately to handle the added head loss from the new treatment equipment. Received design approval from the state and local health departments, and provided construction administration duties to see construction through to completion. Performed water quality sampling and received completed works approval from the state and local health departments.

Education

M.S., Civil Engineering; Stony Brook University

B.S., Civil Engineering; University of Rhode Island

B.A., Spanish; University of Rhode Island

Licenses/ Certifications

Professional Engineer: NY, CT, RI

Memberships

American Water Works Association

Long Island Water Council

Tau Beta Pi

Chi Epsilon

Phi Beta Kappa

Presentations

Connecticut Section AWWA – Emergency PFAS Treatment and Infrastructure Upgrades at Station No. 44

New York Section AWWA – Advanced Oxidation Process: On-Site Pilot System for Removal of 1,4-Dioxane, 2019

Next ⟶

Max B. Grabinski
P.E.

Project Engineer - Water Resources

- Hicksville Water District Emerging Contaminant Removal at Plant No. 5; Hicksville, NY: The Hicksville Water District authorized the design for emergency water treatment to remove the emerging contaminants 1,4-dioxane, PFOA, and PFOS impacting the public water supply wells at their Plant No. 5. These wells, which already received treatment for VOCs via packed tower aeration, required additional treatment to remove the emerging contaminants noted above. Assisted in the preparation of the engineering report which included the design of the UV/H2O2 AOP and GAC treatment systems to be incorporated into the existing treatment processes of the plant. Prepared emergency plans and specifications to install the treatment equipment, including two AOP reactors and four 40,000-lb GAC vessels. Design also included upgrades to the existing clearwell transfer pumps and modifications to the site piping. Total dynamic head calculations were performed to determine the necessary size of the new transfer pumps. Design incorporated planning for a future building to be constructed around the new treatment equipment. Plans and specifications were submitted to the state and local health departments for approval.

- Incorporated Village of Garden City Advanced Oxidation Pilot Study at Clinton Road; Garden City, New York: The Incorporated Village of Garden City authorized the piloting of an ultraviolet-titanium dioxide (UV/TiO2) AOP treatment system at their Clinton Road drinking water supply site to investigate alternative 1,4-dioxane removal methods. Prepared a pilot protocol outlining the equipment to be used and the sampling matrix to be followed in the pilot program. Coordinated with the equipment manufacturer for delivery and operation of the pilot equipment, and performed sampling throughout the pilot testing. Prepared a full pilot report upon completion of sampling that analyzed the results of the pilot program, determined sizing and cost estimates for full scale implementation of this treatment technology, and ultimately made recommendations to the Village.

- New York State Office of Parks, Recreation and Historic Preservation Water Treatment Plant Upgrade at Captree State Park: The New York State Office of Parks, Recreation and Historic Preservation operates a water supply facility in Captree State Park which includes two groundwater wells, as well as sand and anthracite filtration vessels for iron removal. Assisted in the preparation of design plans and specifications for the construction of a new treatment building to replace the existing. Design included replacement of the existing iron treatment system with new greensand treatment vessels. Rehabilitation of the existing well pumps was included, as well as a new chemical treatment system to replace the existing, including new storage tanks and dosing pumps. To ensure sufficient pressure in the distribution system, a concrete clearwell and packaged hydropneumatic tank and booster pump system was also designed. Approval of the design for the treatment plant upgrade was obtained from the Suffolk County Department of Health Services.

- Town of Hempstead Jerusalem Avenue Distribution Improvements; Uniondale, NY: Replacement of a 10-inch water main along Jerusalem Avenue was required. Assisted in the development of plans and specifications for the replacement of the water main and installation of new appurtenances. Prepared documents for regulatory review and obtained freshwater wetlands crossing permit from NYS Department of Environmental Conservation.

- Hampton Bays Water District Upgrade of Peconic Road Emergency Interconnection; Hampton Bays, NY: The Hampton Bays Water District maintains an existing emergency interconnection with a neighboring water supplier at the intersection of Montauk Highway and Peconic Road in Hampton Bays, New York. The Water District wanted to upgrade this interconnection with a new hydraulic control valve and water meter vault. Performed topographical survey of the project location to determine optimal location for the new vault. Designed the new precast concrete vault to be installed, and new water main and valves to connect to the existing water main. Technical plans and specifications were prepared, and approval received from the Suffolk County Department of Health Services.

- Riverhead Water District Wellbridge Care Center; Calverton, NY: To service the new Wellbridge Care Center development, the installation of 7,500 linear feet of new 12-inch water main was required. Assisted in the development of plans and specifications for the installation of the new water main and appurtenances, including coordination with the developer. Prepared documents for regulatory review and performed construction administration duties.

- Manhasset-Lakeville Water District Campbell Station Upgrades; Manhasset, NY: Upgrades to Campbell Station were required to reactivate an existing ground storage tank due to the increased demand of a new development. Assisted in the development of plans and specifications, including installation of a new high zone transfer pump, new booster pumps, and site piping. Performed total dynamic head pump calculations and prepared documents for regulatory review.

- Hicksville Water District Replacement of Well Pumps and Boosters at Plant No. 5; Hicksville, NY: Upgrades to Plant No. 5 included replacement of two well pumps, replacement of booster pumps, and construction of a precast wellhouse. Assisted in the development of plans and specifications for this work and preparation of documents for regulatory review, and performed construction administration duties.

Lawrence F. Loesch P.E.

Project Engineer - Wastewater Engineering

Mr. Loesch is a project engineer with experience in wastewater and civil engineering. His expertise includes zoning due diligence, conceptual and site designs, utility routing design, sanitary system design and profiles, sanitary density and structure sizing calculations, grading and stormwater management calculations, cut/fill analysis, water service and backflow prevention design, design of construction details, and coordination with consultants of other disciplines. Mr. Loesch is proficient in AutoCAD, GIS, Revit, AGI32 Lighting Photometrics, AutoTurn, and ITE Trip Generation.

Education

B.S., Civil Engineering; Syracuse University

Licenses/ Certifications

Professional Engineer: NY

NYSDEC Erosion & Sediment Control Training

PSEG Substation Awareness

Awards

NYREJ Ones to Watch (2020)

Selected project experience

- Dutchess County Water and Wastewater Authority (DCWWA) Tertiary Filter and Disinfection Evaluation; Beekman, NY: Wastewater Engineer for the evaluation of the existing tertiary rapid sand filter and UV disinfection systems at the Dalton Farms Wastewater Treatment Plant (WWTP). Both systems were non-operational due to a series of equipment failures. The team provided an engineering design report with proposed alternatives; the DCWWA selected to replace the systems with ones that aligned with their long-term goals, including sustainability, efficiency, cost effectiveness, and regulatory compliance.

- Albany County Sheriff's Office 911 EOC Facility Sand Filter Design; Clarksville NY: Utilized New York State Department of Environmental Conservation (NYSDEC) 2014 standards to design the project flow for a proposed 911 call center and office buildings. Conducted field visits to investigate and analyze the existing sanitary infrastructure to determine the salvage ability of the current components. Prepared an engineering report for the proposed facility upgrades and the necessary system changes as per NYSDEC standards. Drafted construction plans for a new sanitary system, including two low-pressure force mains, three gravity outfalls, and two buried sand filter systems. The design of the sand filters included computer-aided drafting for pipe routing and profiles, hydraulic calculations for both pipes and filter media, and long-term organic loading of filter material. Also prepared wetland maps, soil surveys, and vicinity maps to assist the NYSDEC in the permit modification process.

- Prestige Properties and Development Co. DSW Plaza Existing Treatment Plant Evaluation; Lake Grove, NY: Completed an existing sewage treatment plant evaluation. Conducted a site visit to verify existing field conditions. Reviewed record document information provided by the owner to evaluate original design parameters. Confirmed existing capacity limitations within the sewage treatment plant and identified necessary improvements to expand the capacity to accommodate the proposed future flow increase. In addition, identified recommended improvements to optimize operations. All upgrades were value engineered to provide the low-cost alternative to provide the additional capacity. The evaluation of required and recommended improvements was based on the latest standards set forth by Suffolk County Department of Health Services (SCDHS), Suffolk County Department of Public Works (SCDPW), NYSDEC, and the Recommended Standards for Wastewater Facilities of the Great Lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers 2014 Edition (Ten State Standards).

- Steel Equities Medical Office Building Sanitary Flow Analysis; Lake Grove, NY: Prepared a sewage strength and flow analysis for the SCDHS using the standards outlined in General Guidance Memorandum #26. The analysis included collecting three years' worth of water bill data to present the average daily flow information for the existing treatment plant. In conjunction with their water consumption records, scientific evaluations of analysis of samples collected from their facilities to ensure nitrogen loading did not exceed the permit.

- Village of Patchogue Sewer Connection Map and Plans; Patchogue, NY: Prepared Map and Plan reports to allow in and out of District connections to the Brookhaven Sewer Improvement Area No. 1. These reports verified the design flow calculation for private developments looking to connect to the Town-provided sanitary infrastructure and ensured sanitary flow determinations met all local requirements and could be accommodated by the existing town infrastructure. Also included procedures in the reports for the property connection and the application, inspection, and hook-up fees associated with the project.

- Various Clients Industrial Sewer Connections; Suffolk County, NY: Prepared plans and engineering reports for industrial properties to discharge to municipal sewers. Existing process waste was stored in a tank on-site and hauled off to a scavenger plant at the client's cost. The design allowed the client to connect the facility's process water to the municipal sewer district via a gravity sewer connecting to an existing manhole in the roadway adjacent to the subject property.

Next ⟶

Lawrence F. Loesch P.E.

Project Engineer -
Wastewater Engineering

- Town of Huntington Sewer District Sewer Installation Inspections; Huntington, NY: Conducted sewer inspections on behalf of the Town to assure contractor was meeting local ordinances. Inspections included force main pressure testing, backfilling inspections, and sewer main taps via existing manholes and new doghouse manholes. Additionally, reviewed and analyzed sewer mains' cleaning and video inspection to prepare reports advising of recommended rehabilitation and maintenance.

- Various Clients Sanitary System Design; Various Locations, NY: Design in accordance with local sanitary codes and regulations; infiltration rate of soils (based on review of boring logs and geotechnical report); and prepare profiles of system to depict adequate pipe clearance in horizontal and vertical directions, sizing of grease trap, leaching structures, and other components of the system, anti-floatation (buoyancy) calculations in high groundwater areas

- Various Clients Stormwater Management; Various Locations, NY: Design of on-site detention or retention and connection to municipal systems. Projects include retention system design with hydraulic calculations for orifice design and controlled release structures; structure storage capacity calculations; leaching chamber system design; and time of concentration calculations, pipe sizing calculations.

- Various Clients Site Layout Design; Various Locations, NY: Prepare parking layout, drive aisles, site access, and truck routing based on local zoning codes, ADA, and NYS/NYC Building Codes. Additionally, grading design such as design of ponding areas and pond storage volume, preparation of roadway profiles and computations, and pedestrian walkways and ramps as per local and ADA standards.

- Various Clients Petroleum Storage and Facility Design; Various Locations, NY: Design of underground and aboveground storage tank design in compliance with NFPA, NYSDEC, EPA, Fire Code, Health Department, and local requirements. Design includes dispenser layout, routing and location of underground piping, underground sumps, underground tank anchoring, double containment, submersible and lift pumps, fire suppression as well as other details.

Drew A. Fedele E.I.T.

Staff Engineer - Wastewater Engineering

Mr. Fedele is a staff engineer with experience in engineering design and construction administration for sanitary wastewater projects. His experience includes gravity sewer collection systems, low pressure sewer collection systems, and pumping stations. Mr. Fedele is proficient in AutoCAD and Revit.

Education

B.S., Environmental and Sustainable Engineering Specialization); SUNY Albany

Licenses/ Certifications

Engineer-in-Training: NY

Memberships

New York Water Environment Association

Selected project experience

- Steel Equities Medical Suite Pump Station Design; Lake Grove, NY: Assisted in the design of a sanitary pump station and force main to connect a new medical suite in the former Sears department store to the existing Smith Haven Mall wastewater treatment plant.
- Dutchess County Water and Wastewater Authority (DCWWA) Tertiary Filter and Disinfection Evaluation; Beekman, NY: Assisted in the evaluation of the existing tertiary rapid sand filter and UV disinfection systems at the Dalton Farms Wastewater Treatment Plant. Both systems were non-operational due to a series of equipment failures. H2M prepared an engineering design report with proposed alternatives; the DCWWA selected to replace the systems with ones that aligned with their long-term goals, including sustainability, efficiency, cost effectiveness, and regulatory compliance.
- Rhinebeck Villas Wastewater Due Diligence and Permitting; Rhinebeck, NY: Assisted in the preliminary design for a wastewater collection, treatment system, and permitting for the Rhinebeck Villas, located in Dutchess County, NY.
- Liberty Park, LLC Proposed Soccer Stadium; Albany, NY: Due diligence services, including a preliminary utility engineering investigation and planning services, associated with the development of a site for a proposed new 8,000-seat soccer stadium within the City of Albany.

Roger C. Sokol Ph.D.

Practice Leader/Chief Water Resources Engineer

Dr. Sokol brings nearly 25 years of experience in addressing environmental public health issues utilizing the latest scientific research, evidence-based programs, and regulations to reduce environmental health risks. He has had more than 30 peer reviewed articles published in scientific journals, including Environmental Science and Technology, Environmental Toxicology and Chemistry, Chemosphere, Journal of Phycology, Aquatic Botany, and Plant Physiology. In addition to his experience at the New York State Department of Health, Dr. Sokol served as an assistant professor in the Department of Environmental Health Science at SUNY Albany for more than 15 years.

Education

Ph.D., Biology; SUNY Albany

B.S., Biology; SUNY Albany

Selected project experience

- New York State Department of Health; Albany, NY: As Deputy Director of the Center for Environmental Health, assisted in providing executive direction to 400 professional staff and the environmental health programs they implemented. Worked closely with regional offices, nine district offices, and the environmental health directors of 36 county health departments, and the New York City Department of Health and Mental Hygiene (NYCDOHMH), to provide oversight and direction on their delivery of environmental health services. Served as the Health Commissioner designee to the Board of Directors of the New York State Environmental Facilities Corporation (NYSEFC).

- New York State Department of Health; Albany, NY: As Director of the Division of Environmental Health Protection, oversaw the operation of three regulatory bureaus that implemented and enforced environmental health regulatory programs relating to drinking water quality, food safety in restaurants, beach and swimming pool safety, children's camps, radiation protection, lead poisoning prevention, migrant farm worker housing, indoor tanning, and exposure to tobacco smoke. Served as a Governor appointee on the New York State Drinking Water Quality Council (DWQC), providing recommendations for the development of regulations for emerging contaminants in drinking water.

- New York State Department of Health; Albany, NY: As Director of the Bureau of Water Supply Protection, served as the State drinking water administrator responsible for overseeing the implementation of the federal Public Water Supply Supervision (PWSS) program and Drinking Water State Revolving Fund (DWSRF). Developed and implemented first in the nation regulatory programs for Lead Testing in School Drinking Water and Protection Against Legionella. Served as a Board Member of the Association of State Drinking Water Administrators (ASDWA).

Paul J. Ponturo P.E.

Senior Water Resources Engineer

Education

M.S., Civil Engineering; Polytechnic University

B.S., Civil Engineering; Lehigh University

Licenses/ Certifications

Professional Engineer: NY

Memberships

American Water Works Association

Long Island Water Conference

New York State Society of Professional Engineers

Westchester Water Works Conference

Offices Held

American Water Works Association New York Section; Chair 2020

Awards

NYS AWWA John M. Diven, Jr. Award

NYS AWWA George Warren Fuller Award

Articles/Papers

NYSAWWA: Waterborne Disease and Legionella 1/20, Sanitary Surveys 3/19, Lead and Copper Rule After Flint, 3/17, UCMR3 Early Results 2/15, Customer Complaints 8/14, Distribution System Monitoring 7/13, Hexavalent Chromium What You Need to Know 9/12, Total Coliform Rule Revision 9/11,Monitoring Program Design Basics 8/11, SDWA and the Standard Setting Process 4/10, Utilizing Indicator Organisms 3/09.

As Senior Water Resources Engineer, Mr. Ponturo has been focusing on a number of regulatory and compliance issues relating to public water supplies, emerging contaminant review and monitoring program design. He is also currently involved in H2M's efforts in expanding education and outreach opportunities to water supply professional operational and planning staff.

Prior to H2M in 2008, Mr. Ponturo was the Chief of the Office of Water Resources, of the Suffolk County Department of Health Services' Division of Environmental Quality, where he served as a Public Health Engineer since 1972. The Office of Water Resources develops and enforces drinking water regulations controlling Suffolk's 400 community and non-community public water supplies, and monitor the drinking water supply as well as the quality and quantity of the groundwater resource, conducting surveys and investigations of the county's hydrogeology, participating in special studies, Suffolk's Comprehensive Water Resource Management Plan, and providing necessary technical assistance in activities to categorize the critical land use activities which effect the watershed areas of the county's public supply well sources in the completion of Source Water Assessment Program for Long Island. In addition to public and private wells sampled in the course of these activities, the Department's water resource monitoring is enhanced via an extensive network of monitoring wells and stream sampling points and test wells installed to track groundwater remediation and groundwater resource studies. As Chief, he supervised a staff of 34 engineers, hydrogeologists, sanitarians, well drillers and office support personnel. He provided training opportunities to public water supply professional staff on a wide variety of relevant issues including water supply regulations, facility requirements, water quality findings, emerging contaminants, safety, emergency planning and water resource planning.

Mr. Ponturo has been an instructor in a New York State-approved Grade IIB Water Treatment plant Operator Certification course, lecturing on the subjects of well construction, water supply disinfection, cross-connection control and regulatory requirements. He has also been a guest lecturer at Stony Brook University and Southampton College, providing students in environmental studies programs with presentations on diverse water supply and water resource topics.

For over 30 years, Mr. Ponturo has participated as a member and Vice-Chair of his Town Conservation Board in Huntington. Among other planning and site review efforts, the Board engaged in one of the first Household Hazardous Waste collection events, actively participating as a support volunteer. These initial demonstration efforts led to the Town establishment of a permanent STOP (Stop Throwing Out Pollutants) facility at the Town Recycling Center.

In 2020-2022, he served as Water Quality Technical Advisor to a team of diverse engineering, planning, and GIS consultants working with municipal and civic stakeholders in developing a series of next generation Drinking Water Source Protection Plans (DWSP2). Building on concepts for Source Water Assessment, as authorized under the Safe Drinking Water Act, the new DWSP2 "is a locally led, state-supported program that empowers municipalities to take action to improve and protect their public water sources and surrounding environment." Working with diverse stakeholders, the technical service providers helped several participating communities develop and implement their unique Drinking Water Source Protection Programs, with actionable steps to protect their drinking water sources now and into the future.

More recently, he authored the Long Island Commission for Aquifer Protection's (LICAP) Groundwater Resource Management Plan chapter on Existing Regulations and Management Regime and contributed to expanded LICAP Plan Task Reports on Private Wells, Wastewater Management and Regional Contamination Threats. This Plan built upon prior strategic water resource management planning initiatives in Suffolk County and his contributions to those efforts.

Next ⟶

Paul J. Ponturo
P.E.

Senior Water Resources Engineer

NSWCA: Emerging Contaminants, UCMR3 and UCMR4 6/19.

LIWC Symposium: 1,4-Dioxane- NYS, LI, Nationwide data Occurrences 3/17 Pharmaceuticals and Personal Care Products, Suffolk County Water Resources Management Plan Program, 6/18/08. Groundwater Rule and SWAP, LIWC Education Workshop, 3/20/08.

Water Quality & Food Processing, LI Food Technology, 6/07.

Regulatory Update, LIWC Education Workshop, 2007, 2004, 2003, 1999.

Water Distribution System O&M Workshop, NYSAWWA Training Course, 1/10/06.

Maintaining Water Quality in the Distribution System, NYSAWWA Training Course, 12/1/04.

UCMR Contaminant Occurrence, LIWC Education Workshop, 10/04.

Operator Certification Issues, LIWC Education Workshop, 11/03.

Emergency Plans and Vulnerability Assessments, NYS Rural Water Association, 10/30/03.

Emerging Water Supply Issues, NYS Water Authorities, Annual Conference, 8/6/03. Federal/State Drinking Water Protection Efforts, VEEP Training, 6/26/03.

Emerging Groundwater Contaminants, SUNY LI Groundwater Symposium, 6/6/03.

SWAP Program Status, Nassau/Suffolk Water Commissioners Association, 4/12/03.

Groundwater Quality, Southampton College Community Water Supply Forum, 3/26/03.

H 2 M

Articles/Papers

- Water Distribution System O&M Workshop, NYSAWWA Training Course, 1/10/06.
- Maintaining Water Quality in the Distribution System, NYSAWWA Training Course, 12/1/04.
- UCMR Contaminant Occurrence, LIWC Education Workshop, 10/04.
- Operator Certification Issues, LIWC Education Workshop, 11/03.
- Emergency Plans and Vulnerability Assessments, NYS Rural Water Association, 10/30/03.
- Emerging Water Supply Issues, NYS Water Authorities, Annual Conference, 8/6/03.
- Federal/State Drinking Water Protection Efforts, VEEP Training, 6/26/03.
- Emerging Groundwater Contaminants, SUNY LI Groundwater Symposium, 6/6/03.
- SWAP Program Status, Nassau/Suffolk Water Commissioners Association, 4/12/03.
- Groundwater Quality, Southampton College Community Water Supply Forum, 3/26/03.
- Groundwater Contamination Emerging Issues, Suffolk County Legislature Testimony, 8/14/02.
- Coliform Rule Issues, LIWC Education Workshop, 4/13/02.
- Private Well Surveys Near Landfills, Easthampton Town Board Presentation, 3/18/02
- Cross Connection Control Program and Backflow Investigations, SCDOH Staff Training Presentation, 3/16/07.
- Coliform Rule Monitoring & Sample Collection, LIWC Education Workshop, 12/06.
- Groundwater Quality, SUNY Stony Brook Environmental Issues Course (Guest lecturer), 12/6/01, 11/18/04, 12/7/06.
- Groundwater Rule, NYSAWWA Tifft Symposium, 11/15/06.
- Distribution System Monitoring, NYSAWWA Training, 10/06.
- Water Treatment Plant Operator Certification Program, New Regulations, LIWC, 2/13/01.
- MTBE and L.I. Drinking Water Supplies, Southampton College Supply Forum, 4/01.
- Perchlorate Occurrence in Suffolk County, NYSAWWA Tifft Symposium, 11/14/00.
- Groundwater Rule, NYSAWWA Fall Meeting, 10/12/00.
- Coliform and Groundwater Rule Issues, Nassau/Suffolk Water Commissioners Assoc., 12/15/97.
- Cross Connection Control Program and Principles, NYSAWWA Tifft Symposium, 10/29/97.
- Groundwater Problems and Supply, NYS Assoc. of Conservation Commissions, Annual Meeting, 4/97.

Christopher M. Kobos PMP, GISP

Associate, Director of GIS Services

Mr. Kobos is a GIS professional with more than 20 years of experience providing technical guidance and project management for municipal and private sector GIS technology projects. In his role, he offers technical direction to a group of GIS analysts and specialists and is responsible for the continuous development and maintenance of technical competencies with industry-standard GIS software, cloud platforms, and the software required for successful GIS solution delivery. Additionally, Mr. Kobos communicates directly with clients and coordinates with the H2M corporate division and market leaders with the goal of integrating GIS practices and techniques into the primary technical functions of the firm. His extensive experience serving private clients and all levels of municipal government, lends itself to a unique perspective on the client business needs and the most appropriate procedures for delivering high quality, effective consulting products and services. In his role, Mr. Kobos also manages the firm's corporate business partnership with global GIS market leader, Esri.

Education

B.A., Environmental Geography; Colgate University

Licenses/ Certifications

Project Management Professional

Certified Geographic Information System Professional, GIS Certification Institute

ArcGIS I Authorized Trainer

Memberships

Long Island GIS

Project Management Institute

GIS Certification Institute

Publications

"GIS May Be Key To The Future Of Emergency Response", Firehouse Magazine, 2021

"Communicate with the Public Using GIS", Talk of the Towns & Topics, March/April 2024

"Using GIS to Site Fire Stations and Improve Incident Response Times", Firehouse Magazine, 2025

Selected project experience

- Town of Hempstead Water Department Lead Service Line Inventory; Hempstead, NY: Managed the GIS data development team responsible for compiling, reviewing, and integrating external data and historic records for more than 130,000 residents into an interactive GIS database. This involved using manual and programmatic research methods to review 100,000 print tap card records and 150,000 digital records from more than 6,000 residential addresses. Partnered with Esri to deploy an Enterprise software solution on AWS to support this project, and to facilitate Town-wide GIS efforts in the future.

- Incorporated Village of Garden City Lead Service Line Inventory; Garden City, NY: Manages the GIS database development in support of the Village's inventory. Coordinates with Village staff to obtain, track, and manage thousands of Village records to be reviewed for water line material information. Leads a team of H2M staff who review and catalogue each unique record, storing critical information within a custom GIS environment, specifically designed to ensure complete transparency with the Village and the public. Manages the creation of GIS-based maps, dashboards, and mobile apps for Village use. The results of the Village-wide inventory will inform the Village's lead service line replacement program and capital budgeting.

- Incorporated Village of Sands Point Lead Service Line Inventory; Sands Point, NY: Leads efforts to map and identify any of the Village's water service lines that may contain lead materials. Using information provided by the Village, oversees creation of database to store information related to service pipe material, material status, and material source. This database is modeled after New York State Department of Health (NYSDOH) guidelines and USEPA regulations; and identified possible lead service lines.

- Riverhead Water District GIS Integration; Riverhead, NY: Project Manager for the District's GIS integration and mobile access project. H2M evaluated, digitized, and linked the District's existing Record Plans and as-builts to its revised GIS schematic. The GIS distribution system map and associated images were then migrated to the ArcGIS Online cloud to enable mobile access. ArcGIS Online has extended the reach of the District's GIS map to all personnel, both in the office and in the field. The ArcGIS Online map contains all desktop layers, including water mains, valves, fire hydrants, and plant sites. Nearly 1,000 scanned records were attached to the GIS data. The attached features allow District personnel to instantly access and view documents and plans in the field, even when disconnected from the District's network. Utilizing Esri's Collector app on mobile devices, District personnel can maintain hydrant flushing, hydrant maintenance, and valve maintenance logs in the field. District personnel can populate data and attach pictures in the field, available to office personnel upon synchronization.

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Christopher M. Kobos

PMP, GISP

Associate, Director of GIS Services

- Jefferson Township Global Navigation Satellite System (GNSS) Field Data Collection; Jefferson, NJ: Project Manager responsible for managing all aspects of the large-scale GNSS data collection project, including client coordination, resource allocation, budgeting, quality, and overall client satisfaction. When complete, the project will deliver nearly 5,000 GNSS field-collected surface structures related to the Township's sanitary, storm sewer, and water distribution systems.

- Incorporated Village of Garden City GIS Program Management; Garden City, NY: Serving as the Village's primary GIS consultant since 2003, continues to manage the development of the Village's GIS Server database, online, and mobile applications. Significant efforts over the years include the creation and management of thousands of Village assets in GIS, including streetlights, signs, and pavement. Manages the systems integration between GIS and the Village's Tyler Technologies permitting system, as well as the ongoing training and mentoring of Village staff. Multiple online and mobile applications have been deployed for Village staff, including a property lookup for Village accounts, tax lot and corresponding County tax parcels number, a GPS-enabled mobile water valve sheet lookup, and a tablet-based tree inventory application for recording and managing significant tree damage after storms. The development of the Village's GIS has improved communication between staff and enabled them to access critical information more efficiently while in the office and in the field.

- Nassau County Department of Public Works Sanitary Sewer Program Management; Nassau County, NY: H2M serves as the lead consultant on a capital program review project, evaluating reports and providing strategic recommendations to align with the County's goals. The focus is on maximizing available funding, incorporating technical innovations, and optimizing project scope to accelerate implementation and meet infrastructure needs. Developed a standardized workflow for creating GIS layers for Capital Maintenance Events (CMEs) and availability projects, incorporating engineer-reviewed features into dedicated GIS layers. Designed a ModelBuilder workflow to automate daily field calculations, with results visualized through maps, dashboards, and Excel-linked reports for enhanced decision-making and project tracking. These web maps and dashboards will be shared between internal H2M departments, with other consultants, and Nassau County.

- Town of North Hempstead GIS Support; North Hempstead, NY: Managing GIS integrations, data conversion and migration, and application development to support improved data tracking and storage for the Town of North Hempstead. Coordinating inter-departmental GIS efforts to improve existing online and mobile applications and create new ones for more efficient data tracking. Efforts include development of several online maps, including a pavement assessment data lookup, resident lookup for pool entry, Town Council District map, town parks with directions, and NYSDEC-mandated outfall inspection status.

- Incorporated Village of Sands Point GIS Program Management; Sands Point, NY: Project Manager for the creation of a comprehensive Village GIS database for water distribution systems, zoning, village club infrastructure, street signage, roadway ownership, and boat docks. Provides guidance and user training on ArcGIS, the Village's online mapping environment.

- Stormwater Consortium of Rockland County (SCRC) MS4 Mapping; Rockland County, NY: Project Manager for the Stormwater Consortium of Rockland County's Water Quality Improvement Project (WQIP) grant-funded MS4 mapping project. Responsible for coordinating with the client, Cornell Cooperative Extension, and the SCRC's 23 consortium member communities. Additionally, manages data assembly, conversion, and consolidation efforts, as well as overall project budget, resources allocation, and overall client satisfaction.

- Incorporated Village of Flower Hill GIS Program Development and Deployment; Manhasset, NY: Managed the development and deployment of the Village's ArcGIS Online account and the Village's underlying GIS database. Oversaw the creation, assembly, and GPS field data collection for Village assets including storm sewers, water distribution, street lighting, electric distribution, and street signs. Managed the creation of the Village's zoning map in a digital GIS format. Through the Village's ArcGIS Online account, the Village can access their data and maps via desktop and mobile apps, enabling all Village staff to access and make decisions based on the same, single set of data, regardless of their location.

- Town of Oyster Bay GIS Program; Oyster Bay, NY: Managed all aspects of the Town's GIS program, including coordination and lead of monthly GIS committee meetings, business needs assessment, budgeting, resource allocation, overall GIS program quality management, and client satisfaction.

- Town of North Hempstead MS4 Stormwater Mapping; North Hempstead, NY: Managed the New York State Department of Conservation (NYSDEC) WQIP grant-funded MS4 stormwater mapping program for the Town of North Hempstead and its 21 consortium villages. Responsibilities included overall project management, municipal outreach and coordination, GIS data analysis, gap analysis and reporting, and resource management for field data collection, and outfall reconnaissance inventory (ORI) activities.

Melisa Ennella GISP

Senior GIS Specialist

Ms. Ennella is a Geographic Information System (GIS) Specialist with experience in developing and maintaining GIS solutions to support water districts, wastewater facilities, and municipalities. Responsible for producing high-quality maps for asset visualization, developing custom applications for efficient data collection, and performing in-depth spatial and statistical analyses to support informed decision-making. Design ArcGIS Online dashboards that provide targeted data visualizations and streamline data management processes. Proficient in using industry-standard GIS software and tools to transform complex datasets into actionable insights. Provide guidance and oversight to junior GIS staff on a variety of projects, ensuring quality control, knowledge sharing, and timely project delivery. Skilled at collaborating with cross-functional teams to optimize workflows and deliver geospatial solutions that enhance operational efficiency and support data-driven planning.

Education

M.S., Environmental Science;
Long Island University at C.W. Post

B.S., Environmental Science; State University of New York at Binghamton

Licenses/ Certifications

Certified Geographic Information System Professional, GISCI

Memberships

LIGIS-Long Island Geographic Systems User Group

NYS GIS Association

GISMO- NYC Geospatial Information

Systems and Mapping Organization

Articles/Papers

Smart Planning Eases Implementation of Useful Computer Technology. Talk of the Towns, March/April 2010

Utilizing Geographic Information Systems to Analyze Suffolk County Groundwater Contamination. Long Island University C.W. Post Library, May 2005

Selected project experience

- Various Clients Lead Service Line Inventory; Various Locations: Responsible for all aspects of project execution, including oversight of staff and quality control processes. Support clients in mapping service line materials in compliance with USEPA Lead and Copper Rule revisions to the Lead Service Line Inventory. Responsibilities include designing material inventory schemas, conducting record reviews, digitizing and linking historical documents, and developing customized Survey123 inspection forms, including resident self-inspections. Deliverables include completed service line inventories for regulatory submission, ArcGIS Online dashboards, data analyses, and public-facing web maps designed to promote transparency and community engagement.

- Town of Hempstead Enterprise GIS; Hempstead, NY: Responsible for oversight of GIS development, data sharing workflows, and quality control, while providing technical guidance to supporting staff. Support clients in mapping service line materials in compliance with USEPA Lead and Copper Rule revisions to the Lead Service Line inventory. H2M compiled, reviewed, and integrated external data for more than 130,000 residents into an interactive GIS database. This involved using manual and programmatic research methods to review 100,000 print tap card records and 150,000 digital records from more than 6,000 residential addresses. H2M teamed with Esri to deploy an Enterprise software solution to support this project, and Town-wide GIS efforts in the future.

- Nassau County Department of Public Works; Nassau County, NY: Led the GIS development and data sharing components of the project. H2M Serve as the lead consultant on a capital program review project, evaluating reports and providing strategic recommendations to align with the County's goals. Focus on maximizing available funding, incorporating technical innovations, and optimizing project scope to accelerate implementation and meet infrastructure needs. We developed a standardized workflow for creating GIS layers for Capital Maintenance Events (CMEs) and availability projects, incorporating engineer-reviewed features into dedicated GIS layers. Designed a ModelBuilder workflow to automate daily field calculations, with results visualized through maps, dashboards, and Excel-linked reports for enhanced decision-making and project tracking. These web maps and dashboards will be shared between H2M departments, with other consultants and Nassau County.

- Passaic Valley Water Commission (PVWC); Clifton, NJ: Spearheaded data analysis and GIS development to support strategic planning. Consolidation of Priority Project Areas supported strategic planning efforts by providing a clearer overview of infrastructure needs. Within each area, calculated asset quantities and estimated costs for water main projects. Developed a ModelBuilder workflow to streamline future updates and ensure efficient integration of new data into the GIS. Performed spatial data analysis to identify the highest and lowest elevation points within each pressure zone using the water main layer. Analyzed the relationship between elevation, pressure zones, and historical water main breaks to support infrastructure assessment and strategic planning.

- West Hempstead, Hicksville, Greenlawn, Dix Hills, Plainview, South Farmingdale, Bethpage, Saint James, Roslyn, South Huntington and Manhasset-Lakeville Water Districts GIS Development; Various Locations, NY: Led the design, development, and maintenance of GIS solutions for water utility operations, overseeing the creation and management of critical infrastructure datasets such as water mains, valves, hydrants, plant sites, and well locations. Directed the integration of utility data with land base layers,

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Melisa Ennella
GISP

Senior GIS Specialist

including tax parcels, roads, and buildings, to facilitate spatial analysis and support operational planning. Managed district-level GIS functions, including infrastructure management, maintenance tracking (e.g., main breaks, leaks, complaints), and integration with accounting systems, ensuring enhanced efficiency and data-driven decision-making across the utility.

- Hicksville Water District; Hicksville, NY: Lead GIS specialist responsible for overseeing GIS development, while providing technical guidance to supporting staff. Developed dashboards to visualize pumpage and analytical data over time, consolidating datasets to help monitor trends in water usage and analyte concentrations. The dashboards support historical analysis and enhance data-driven decision-making.

- Hicksville Water District; Hicksville, NY: Led GIS development efforts for the project, including the digitization of Source Water Assessment Program (SWAP) areas for individual well locations. Mapped and analyzed potential contamination sites in the District to support the identification and assessment of possible contamination sources.

- Huntington and Oyster Bay Sewer District GIS Development; Huntington and Oyster Bay, NY: Oversaw all aspects of GIS development, ensuring the successful implementation of geospatial components. Designed, developed, and implemented GIS datasets for wastewater utility infrastructure, including sewer pipes, force mains, and manholes. Incorporated key asset attributes such as installation date, material, and pipe length to support efficient record-keeping, visualization, and infrastructure management.

- Hicksville Water District, South Farmingdale Water District, Greenlawn Water District, South Huntington Water District and Riverhead Sewer District Asset Management; Various Locations, NY: Oversaw all aspects of asset management, including planning, coordination, and execution. Developed an intranet-based asset management system for easy access to O&M manuals and other records. This is a user-friendly system providing for an expanse of data that can be accessed through the District's network.

- Massapequa and Hicksville Water District Plume Mapping; Massapequa and Hicksville, NY: Managed GIS strategy and execution, as well as development and preparation of groundwater contaminant plume maps using GIS.

- Various Municipal Separate Storm Sewer System (MS4) Clients; Various Locations: Responsible for the creation and management of GIS data and schema, ensuring accurate and efficient geospatial data structures. Facilitated the design and development of surveys and survey reports, used for submission and recordkeeping. H2M provided a range of MS4-related services to municipal clients in support of the NYSDEC and NJDEP MS4 regulations including infrastructure mapping, outfall reconnaissance inventory (ORI) and storm sewershed boundary delineation.

- Various Clients; Various Locations: Responsible for the design, development, and customization of Survey123 forms, ensuring tailored solutions for both public outreach and internal data collection needs. Developed customized Survey123 forms for both public-facing and internal data collection, tailored to client needs ranging from simplified public outreach surveys to complex, logic-driven questionnaires. Surveys are used for data analysis, GIS updates, and can be exported as formatted reports for official submission or documentation.

- Stormwater Consortium of Rockland County's WQIP Grant-Funded MS4 Mapping; Rockland County, NY: Oversaw GIS development and developed a cloud-based GIS solution to consolidate data for 23 consortium member communities. The mobile solution allows the members to collect and maintain MS4 data points and fill out ORI forms in the field that can later be printed and submitted. Continually added fields as additional requirements are required.

- Borough of Ringwood; Ringwood, NJ: Oversaw GIS development and consolidated GIS data into a centralized ArcGIS Online database to streamline access and improve data management. Continuously maintain and update stormwater infrastructure layers to ensure compliance with New Jersey Department of Environmental Protection (NJDEP) stormwater permitting requirements.

- Village of Patchogue; Patchogue, NY: Oversaw GIS development and consolidated and updated the Village's GIS data and deployed it to ArcGIS Online to improve accessibility and collaboration. Provided ongoing updates to sewer and stormwater datasets, and developed maps and surveys to support tracking and management of sewer infrastructure projects. Incorporated external data and internalized maps and dashboards for tree survey data throughout the Village.

- Boroughs of Sea Girt, Ringwood, and Spring Lake Heights; Various Locations, NJ: Directed GIS development, contributing to the creation of a centralized GIS database for the Borough's water infrastructure assets. Supported integration of asset maintenance data to ensure compliance with Water Quality Accountability Act (WQAA) standards.

- LICAP Groundwater Management Plan; Suffolk County, NY: Led GIS development and spatial analysis. Consolidated public and private well data sourced from municipal and private organizations across Suffolk County. Performed in-depth data analysis to develop an updated estimate of private well throughout the County. This information will be utilized to support infrastructure planning and cost assessments for extending public water service to underserved properties.

Elizabeth Calderon

Assistant Project Compliance Manager - Water Resources

Education

B.A., Marketing;
Dowling College

Memberships

Society for Design Administration

Ms. Calderon is a document control specialist with experience expediting permit filings and regulatory approvals, gathering property information/history, completing applications, coordinating with owners and municipalities, and maintaining project schedules. Her experience also includes maintaining, tracking, and coordinating project documents such as payment requisitions, submittals, change orders, and municipal submissions for projects in H2M's Water Department. Ms. Calderon is proficient in Microsoft Office and knowledgeable in E-Builder, Newforma, SpecLink, Adobe Acrobat and InDesign, Primavera, Procore, ADP EZLabor, and EVerify.

Selected project experience

- South Huntington Water District AOP Plants No. 10, No. 3, and No. 8 Grant Compliance and Project Coordination Support (New York State Environmental Facilities Corporation [NYSEFC] Water Infrastructure Improvement and Intermunicipal Water Infrastructure Grants); Huntington Station, NY: Supported the District in securing and managing NYS EFC WIIA Grant Funding for drinking water treatment system upgrades across multiple AOP plant sites. Led coordination efforts with NYS agencies to ensure full compliance with grant program requirements, including documentation, reporting, and regulatory submissions. Facilitated the preparation and review of contractor compliance documentation for NYS approval, including MWBE and SDVOB participation goals, subcontractor solicitations, waiver justifications for specialty equipment, and comparative quote analysis. Acted as a liaison between the District and prime contractors to ensure timely submission of critical documentation and adherence to grant timelines. Conducted monthly compliance reviews with contractors and quarterly coordination meetings with the District to monitor progress and resolve compliance issues. Provided ongoing support for grant disbursement processes, collaborating with engineers and project teams to compile and verify payment documentation. Managed project closeout procedures, including final compliance checks, documentation audits, and coordination with NYS for approval of completion records. Maintained detailed internal records, updated checklists, and ensured all documentation was properly archived for grant audit and record-keeping purposes.

- Plainview Water District AOP Plants No. 2, No. 4, and No. 7 NYSEFC WIIA Grant Compliance, Documentation Coordination, and Recordkeeping; Plainview, NY: Coordinated with prime contractors and the staff engineer to ensure timely submission of NYS EFC program-required documentation, maintaining strict adherence to grant deadlines. Supported the District in the preliminary review of contractor compliance documents, including MWBE and SDVOB solicitation records and waiver requests, ensuring alignment with NYSEFC WIIA grant requirements. Reviewed submitted documentation for completeness and accuracy, issued comments to contractors when compliance gaps were identified, and tracked resolution of outstanding issues. Facilitated communication between contractors and the District to streamline document flow and ensure readiness for NYS submission. Submitted finalized documentation to the District for compliance review and onward transmission to NYS for time-sensitive approval and grant processing. Maintained organized internal records of all submitted documentation to support historical tracking and to facilitate resubmission of documents when requested by NYS or required for audit purposes.

- Franklin Square Water District PFOS Treatment at Plant No. 1 Grant Compliance Coordination (New York State Department of Health [NYSDOH] Bipartisan Infrastructure Law [BIL] Emerging Contaminants Funding); Franklin Square, NY: Supported the District in managing BIL Emerging Contaminants grant funding through the NYSEFC. Ensured timely execution of the Project Finance Agreement (PFA) with NYSEFC by the required deadline of September 30, 2025. Coordinated with prime contractors and staff to ensure compliance with federal program requirements, including American Iron and Steel provisions; Build America/Buy America (BABA) domestic sourcing; and Federal Equivalency standards, such as DBE participation, MWBE/EEO goals, and federal signage installation. Reviewed contractor-submitted documentation for accuracy and completeness; provided feedback and coordinated revisions to meet NYS submission standards. Conducted monthly compliance check-ins with prime contractors to verify subcontractor payments and ensure ongoing solicitation efforts where applicable. Maintained detailed internal records of all submitted documentation to support historical tracking and facilitate resubmission or audit requests. Submitted required attachments and compliance documentation to NYSDOH within specified deadlines to ensure uninterrupted grant processing.

- Various Clients Permit Expediting; Various Locations, NY: Experience managing the permitting filing process, including performing research, completing applications, and expediting approvals. Strong

Elizabeth Calderon

Assistant Project Compliance Manager - Water Resources

familiarity with permit requirements of the New York City Department of Environmental Protection (NYCDEP), New York City Department of Buildings (NYCDOB), New York City Department of Transportation (NYCDOT), and New York State Department of Environmental Conservation (NYSDEC).

- Franklin Square Water District AOP PTA Treatment at Theodora Street Plant; Franklin Square, NY: The District received funds through the NYS Water Infrastructure Improvement Act to upgrade their water treatment system to effectively treat/remove 1,4 dioxane contamination. Responsible for direct coordination between the multiple contractors and the District's Minority Business Officer (MBO) to review all submitted NYSEFC-required documents, which pertain to MWBE and SDVOB contract goals. Review contractor monthly MWBE/SDVOB workforce utilization reports. Direct coordination with the MBO for executed payments for disbursement of grant funds, and assisting in compiling the required paperwork for submission.

- Water Authority of Western Nassau County Wellhead Treatment for Removal of Emerging Contaminants at Station No. 57; New Hyde Park, NY: Direct coordination with the project manager for permit application for oxidizer storage. Responsible for filing permit with Fire Marshal office, follow up for signed approved plans and permit for site. Direct coordination with Fire Marshal for oxidizer storage and site for inspection upon plan approval.

- West Hempstead Water District Birch Street Power Distribution System Resiliency; West Hempstead, NY: Research and compile information for required documents for the Hazard Mitigation Grant Program submission to the New York Division of Homeland Security and Emergency Services. Coordinate with client for application information, support documents, and final submission directly to New York State.

- City of Long Beach Water Department Water Conservation Yearly Update Form; Long Beach, NY: Prepare and submit the NYSDEC annual form based on previous year pumpage information. Coordinate with the client for supporting information to include water conservation efforts.

- Inc. Village of Garden City AOP Treatment at Plant No. 7; Garden City, NY: Provide grant funding application support to the Village to fund water quality infrastructure projects, including upgrades to treat emerging contaminants such as PFOA, PFOS, and 1,4 dioxane. Preparing formal grant application along with supporting required documents such as State Historic Preservation Office (SHPO) project review documents, Smart Growth Assessment Form, and draft Board resolutions. Coordinate with internal departments for engineering report and SEQRA environmental review.

- Dix Hills Water District AOP for 1,4 dioxane Removal at Plant No. 5; Dix Hills, NY: Provide regulatory approval support for the NYSDOH and Suffolk County Department of Health. Coordinate with project manager and staff engineers for required design documents and managed submittals to regulatory agencies to obtain approvals.

- Dormitory Authority of the State of New York (DASNY) CK Post Addiction Treatment Center Conversion; Brentwood, NY: Responsible for construction administration support, coordination with the prime contractor for project submittals and requests for information (RFIs). Coordinated with project manager for the review of submittals and RFIs and with the client for review of record documents. Utilized contractor management software, including Info Exchange Newforma, and ProCore.

TAB 5

Introduction

The Town of Ledyard is seeking a qualified consultant to develop and oversee a comprehensive Lead Copper Rule Revisions (LCRR) Compliance Program. This program will involve supporting the Town in completing all aspects of the final LCRR, the Lead and Copper Rule Improvements (LCRI), and last for at least five years. The Town intends to pursue funding for this program through the State of Connecticut Department of Public Health (CTDPH), primarily through the Bipartisan Infrastructure Law (BIL)'s Drinking Water State Revolving Fund (DWSRF), as well as other applicable funding sources.

H2M understands that the Town's drinking water system has been operated and maintained by Groton Utilities since 2010. Fully treated water is delivered through two interconnections and two separate distribution systems, one located on Route 12, supplying the Gales Ferry Avery Hill areas, and the other on Route 117, supplying the Ledyard Center and immediately surrounding areas. As of 2016, the combined systems have approximately 1,320 metered service connections with two storage tanks, partially dependent on two booster pump stations, located in both Groton and Ledyard to provide adequate supply and pressure. H2M understands that the Town has been in compliance with the CTDPH and Lead and Copper Rule, as demonstrated by the periodic water sampling and reporting in the Annual Water Quality Reports. Results for 2024 are as follows:

Water System	90th Percentile	90th Percentile
Gales Ferry	0.0019mg/L	0.0063mg/L
Ledyard Center	ND (<0.001mg/L)	0.02mg/L

These results were below the action levels of 0.015mg/L for Lead and 1.3mg/L for Copper, as set by the EPA and monitored by CTDPH. The Town has been utilizing best practices in corrosion control using sodium hydroxide and phosphate and advancing efforts in the identification of lead service lines within the Town's distribution system.

As part of the LCRR program, the Town met the requirement of developing and maintaining an LSLI, submitting it to CTDPH by October 16, 2024, and sending educational materials and notifications to affected customers by November 15, 2024. Another key element to the LCRR is to develop and execute an Lead Service Line Replacement Plan (LSLRP) for systems with both known and unknown LSLs. It is understood that the Town will continue to provide appropriate education and outreach to its customers and specific information to property owners and residents with lead service lines.

As part of the LSLRP, the Town has the capacity to perform the LSL replacements from the water mains to curb stops. We understand that the Town is seeking assistance in the management of a replacement program for private-side services, from curb stops to meters, which will include overseeing the full LSLRP (pre- and post-construction activities) at each affected property.

The Town is also requesting assistance in the review and analysis of its Lead Service Line Inventory (LSLI), development of a lead service line replacement strategy, management of the LSLRP, and development and maintenance of a Customer Engagement and Education Plan. The consultant is expected to develop a scope of work that aligns with DWSRF funding requirements and organize the performance of this work into the following tasks:

- Task 1: LSLI Services
- Task 2: LSLRP Preparation
- Task 3: LSLRP Management
- Task 4: Public Education and Outreach Plan
- Task 5: LCRR/LCRI Support Services

In reviewing the Groton Utilities Water Service Line Inventory, we note that a significant portion of the Town's approximate 1,320 service lines are galvanized and require replacement or are unknown and require further investigation. This project will address lines that fall into either category.

Task 1: LSLI Services

► Technological Capabilities

The first task will be to review and provide technical feedback on the Town's LSLI database to validate compliance with the requirements of LCRR and leverage it to further develop the LSLRP. H2M will confirm the inventory was developed in accordance with LCRR, which may involve evaluating how the service line materials were determined and all available material records, including the work order system, tie cards, assessor database, historical water distribution, maintenance, and replacement documents, and other relevant construction records. H2M will also review service material survey records that have been conducted by customers on the private side of the service line. We will use the data compiled from reviewing these records to further develop the LSLI, with the Town's approval.

H2M will document what updates and changes should be made to advance the accuracy of the inventory. We will also look to develop a process to integrate service material surveys performed by customers from the private side of the service lines, from curb stop to meter. H2M has worked with several clients to develop and incorporate digital asset management systems to better track and monitor their physical assets, which also integrates work orders and LSLIs. Our team proposes a phased approach to complete the inventory, prioritizing areas based on existing data quality, infrastructure age, and other relevant risk indicators. We

will also establish clear procedures for classifying unknown service lines through field investigation methods recognized by the EPA and CTDPH.

► Predictive Modeling (Optional)

Should the Town be interested in predictive modeling to update and complete its LSLI, H2M can offer this service. From our experience performing LSLI work for other clients, we have found that utilizing a third-party predictive modeling platform like leadCAST or an equivalent is only cost-effective for larger systems. Moreover, utilizing third-party platforms for the Town's predictive modeling for the distribution system will not be cost-effective. H2M recognizes that predictive modeling has many forms, ranging from full statistical machine learning applications to more targeted, rule-based analyses that leverage historical records and construction trends. Our team has successfully completed LSLI work across the tristate area using a structured, data-driven approach based on service records, housing stock age, field verification results, and system knowledge. In our experience, this method achieves the level of accuracy and detail required by the EPA and CTDPH without having to invest in costly third-party software. Should the Town wish to pursue a data-driven approach and a more advanced model, we can support the Town in doing so.

► Public Engagement (Optional)

H2M can assist the Town with continuing public outreach, education, and notifications, including written notices to customers, as required under the LCRR. We can assist in developing materials that solicit additional information on the material composition of lines on private property, leveraging the existing service material surveys information from Groton Utilities. H2M can develop procedures to respond to customers' inquiries, create a process to incorporate customer survey results into the LSLI, and assist in having additional materials posted to the Town's website.

We can deploy a digital form, a link to which can be easily emailed, texted, or posted on the Town's website or to Groton Utilities Water Service Line webpage. To enhance or extend beyond Groton Utilities service line survey, the Town can utilize a website URL or by scanning a QR code. Through either method, customers can identify and report on their own water service material, reducing the amount of field investigation required by the Town. H2M will reconfigure this form to align with the Town's specific criteria.

► Final LSLI

We will enhance the inventory so that it aligns with the EPA's Guidance for Developing and Maintaining a Service Line Inventory (August 2022) and LCRR with the CTDPH LSLI template. At minimum, the inventory will include:

- A street address for each connection.
- Information on whether a lead gooseneck, pigtail, or connector is present.
- Installation dates for service lines (if known).
- The size of the Town- and customer-side service lines, whether lead solder is present, and point-of-use or point-of-entry treatment has been used.

To finalize this inventory, H2M will have a QA Advisor, who is independent of this project, perform a thorough review of all the data and deliverables. Our QA Advisor will perform intermittent QA reviews throughout the phases under this task.

Task 2: LSLRP Program

H2M will prepare an LSLRP according to the program requirements established by the CTDPH. The program will include public outreach, education and engagement, funding strategy development, an approach for determining materials of unknown service lines, and a procurement plan (including the scope of work) to support requests for funding through the DWSRF. We will develop a comprehensive LSLRP for the Town that outlines a phased approach to the replacement of all lead service lines. The LSLRP will be sufficiently detailed for the Town to effectively implement, manage, communicate with the public about, obtain DWSRF funding, and execute. Should the Town like to extend the program to address pending LCRI requirements, H2M can expand the scope to incorporate affected schools and child care facilities. Key elements of this would include assisting the Town in developing a list of schools and licensed child care facilities served by the Town, expanding the outreach and education program to incorporate schools and child care facilities, and developing a strategy and SOPs for a sampling program for affected facilities.

► Customer Participation

H2M will develop a strategy for outreach, education, and engagement of homeowners and residents impacted by the LSLRP. This approach will be multi-pronged, including potential expansion of LSL content on the Ledyardct.org website discussing the LSLI, how affected owners can participate in the LSLRP, and remind homeowners to check the water service line map to verify the material and/or status of their water service lines and report unknown service lines.

We have developed a communications plan for affected homeowners that addresses the various phases of a LSLI and LSLR plan for other clients. This plan includes a standard operating procedure (SOP) for performing investigations and confirming service line composition on both the utility and private sides of service lines and the removal of galvanized or lead service lines. This SOP includes timely notifications

ahead of field work or site visits, reminders a few days prior, and a process for follow-up if field work is incomplete or stopped by a resident.

► Service Line Sampling Program

H2M will assist the Town in meeting service line sampling and reporting requirements for compliance with CTDPH and EPA regulations. We will advise the Town on developing an operating procedure for reviewing and tracking drinking water results to comply with the Safe Drinking Water Act (SDWA). We have developed and maintained lists of residents for all aspects of compliance sampling and testing, including the distribution of sampling kits, delivery of samples to certified laboratories, and support of ad-hoc sampling requests. For some of our clients, H2M has integrated sampling results into color-coded GIS maps. If desired, we can work with Groton Utilities' GIS team or the Town's for this integration.

H2M will develop a plan for the selection of NSF/ANSI Standard 53 certified pitcher filter, multi-channel communications for the public, distribution management, maintenance of the pitcher filters, and tracking and reporting for maintenance and tap sampling.

► Funding Assistance

H2M will assist the Town in identifying grant and other funding opportunities and complying with the requirements of the grants the Town has already been awarded. This assistance may include responding to status inquiries, helping to prepare the paperwork required for reimbursement requests, and similar work. We will also assist the Town in seeking clarification from or responding to inquiries from the EPA, CTDPH, or other regulatory bodies concerned with LCRR/LCRI matters. Please see the table in Tab 2 identifying the funding we have administered on our client's behalf for various water infrastructure projects.

► LSLRP Elements

» Replacement Strategy Framework

We will develop a phased approach to the replacement of lead service lines based on inventory analysis and other relevant quantifiers including, but not limited to, the age of the infrastructure, planned infrastructure upgrades/work, planned road paving projects, non-Town right-of-way (ROW) approvals and permits (e.g., with the CT Department of Transportation [CTDOT]), as well as disadvantaged consumers and populations most vulnerable to the effects of lead exposure. In addition, H2M can adjust the replacement rate and goal to accommodate and prioritize areas where exceedances have occurred. (Note: Trigger level was eliminated with the final LCRI Promulgation.) Based on the final LSLI and the LCRR regulatory requirements of CTDPH and EPA, the strategy will recommend and set a replacement goal within the time frame that the Town seeks to achieve, and at the very least before the regulatory deadline, November 1, 2027. H2M anticipates that the Town may want to condense both the plan development and LSL replacements well before the regulatory deadlines.

We will develop a public outreach strategy that includes informing the public prior to a full or partial LSLR well in advance of replacement activities per CTDPH and EPA requirements. The outreach time frame for those impacted by LSLR will be based on the service line replacement timeline. H2M will prepare and provide required customer notice documents and public education material for distribution and/or for publication on the Town's website. H2M can also provide support at a public informational meeting and/or with the Town Council. Educational materials will be prepared to communicate why the replacement is necessary, what to expect during the replacement phase, activities to be conducted, approximate time frames for the replacement, and care and precautions the Town and its vendors will take during and post-replacement.

» Service Line Material Determination

Our team proposes a multi-pronged approach to determining the composition of service lines made of an unknown materials. Prioritizing areas will be based on existing data quality, infrastructure age, disadvantaged communities, and other relevant risk indicators. We will also establish clear procedures for classifying unknown service lines through field investigation methods recognized by the EPA and CTDPH. Key elements to the service line material identification includes, but is not limited to:

- *Public Engagement and Self-Reporting*: We will leverage and enhance the existing water service material survey on Groton Utilities website. A multi-channel communications plan for outreach with educational materials, including notices to customers as required under the LCRR. Further, we will assist in developing materials that solicit additional information on the material composition of lines on private property. This will include conducting a customer feedback survey and developing procedures to respond to customers' inquiries. The materials can either be published and distributed and/or posted to the Town's website once they are finalized.
- *Field Investigation*: H2M will assist the Town in conducting interior inspections to verify the material of customer-owned service lines. This work will involve gaining access to residential properties and visually inspecting the exposed portion of the service line where it enters the home, typically adjacent to the water meter. Material identification will be based on visual characteristics, and when appropriate, simple physical tests, such as magnet or scratch testing. All observations will be documented electronically using a format and platform agreed upon by the Town. Each entry will include the service address, identified material, inspection method, and supporting photographic evidence to ensure consistency and traceability. The compiled data will be formatted for easy

integration into the Town's service line inventory, and if desired, Groton Utilities GIS website and/or the Town's GIS system for long-term maintenance and reporting.

While not included under our current proposal, H2M strongly recommends the Town consider incorporating field verification through potholing at the curb stop. In our experience, achieving a verifiable and comprehensive inventory requires confirmation of materials on both the public and private sides of the service line. This would involve excavating at the curb stop to expose the service line on either side, documenting observed materials, and restoring the excavation with approved backfill. If the Town elects to pursue this additional service, H2M is fully prepared to assist with planning, SOP development, and coordination of the necessary fieldwork and will submit an additional price proposal for approval.

Our scope of services also includes a plan to validate all non-lead service lines to achieve a 95% level of confidence. The plan will include the following field work to be performed by H2M, other contractors, or Town personnel:

- Develop SOPs for field investigation work to define the roles and responsibilities of all parties involved.
- Assist the Town's staff in performing door-to-door inspections of its customers' water meters (approximately 1,320 homes).

The database will be compatible with GIS software so the Town can maintain and edit the information within. Additionally, we suggest incorporating the electronic database into a cloud-based GIS system, such as Esri's ArcGIS Online (AGOL) software for the management and maintenance of the LSL data. AGOL offers the ability to create, manage, and share GIS data among users. We are experts at deploying ArcGIS Online and its associated web and mobile apps, as evidenced by Esri awarding us with their ArcGIS Online Specialty designation for demonstrating a high standard of service delivery. ArcGIS Online deployment will offer the Town intuitive, map-based (web and mobile) tools for building applications that can streamline operations, particularly record research. Simple maps provide the basic functionality of viewing, navigating, and printing GIS data for a given area. Web apps can easily be customized to respond to various queries, perform status reviews, and assist with reporting.

» **Data Management Plan**

We will develop a plan to manage and update data, including a process for incorporating lead service line replacements, any new verifications, continued improvement of modeling, and updating the LSLI. Further, we will:

- Create an electronic database to record all water service line replacement information. This database will be compatible with GIS software so the Town can revise and update it whenever necessary
- If the Town chooses to use a cloud-based GIS system, determine the approximate costs, prepare GIS mapping and links to information on surveyed service lines, and provide the Town with a mobile application for its personnel and/or a self-identification tool for its residents.

» **SOP Development**

H2M proposes to develop a series of SOPs for the Town's Water Department to thoroughly define the roles and responsibilities of all parties involved in the LSLRP. The SOPs will also incorporate definitions, illustrative figures, procedures for coordination, excavation (preparation, site assessment, documentation, and reporting), replacement, and explicit differences between utility- and customer-side replacement.

» **Scope of Work and Funding Strategy**

H2M will prepare a detailed scope of work, incorporating key elements such as a replacement framework, SOPs, notifications, LSLRP drawings and specifications, public outreach, education, and notification materials. H2M proposes to act as an agent and administrator on behalf of the Town for all applicable funding applications. H2M will prepare all forms, checklists, and technical documentation necessary to obtain DWSRF grants. The ability to accommodate customers that cannot pay for the private side of the LSLR is a critical element to the overall success of the LSLRP. H2M will assist the Town in developing legal documents for work being conducted on the private side. H2M will also work with the Town in brainstorming potential alternative sources for funding and ways to recover funds, e.g., increasing overall water rates, and surcharges to businesses.

► GIS Services (Optional)

Should the Town wish to build and manage their own LSLI on their website and integrate GIS data with their existing GIS platform (versus leveraging Groton Utilities existing database and website), H2M's GIS team can develop and deploy an LSLI repository. Our proposed team of water engineers, data analysts, GIS specialists, and regulatory compliance experts will support the Town's initiative to identify and catalog its water services, pursuant to EPA's recent LCRR. Our team's experience completing LSLI projects includes municipal water departments and special districts throughout the tristate area, thus positioning us to serve the Town effectively and efficiently. From this experience, the Town can benefit from our database development, records management, and data entry processes that we have refined while supporting prior LSL projects. Our previous LSL clients include:

► Project Approach

Water Supplier	Approximate Number of Services
Town of Winchester/City of Winsted	2,600
Village of Plandome Manor Water (NY)	2,000
Carle Place Water District (NY)	3,000
Village of Woodbury Water (NY)	3,000
Saint James Water District (NY)	3,400
Hampton Bays Water District (NY)	4,800
Roslyn Water District (NY)	5,875
Smithtown Water District (NY)	5,900
Village of Garden City Water (NY)	7,000
Village of Rockville Centre Water (NY)	7,000
West Hempstead Water District (NY)	7,965
Dix Hills Water District (NY)	8,400
Bethpage Water District (NY)	8,700
Plainview Water District (NY)	10,740
Greenlawn Water District (NY)	12,000
Town of Riverhead (NY)	12,000
South Farmingdale Water District (NY)	12,600
Massapequa Water District (NY)	13,500
Hicksville Water District (NY)	15,200
South Huntington Water District (NY)	17,560
Town of Hempstead (NY)	35,000

► Database Development

Our proposed effort can include the development and deployment of a comprehensive GIS database. Our database structure will accommodate the required attribute fields for recording both the utility and customer-side pipe materials, status, and source documentation. H2M's prior experience creating GIS databases to house LSLI data has resulted in a refined, comprehensive database structure. It reflects a hybrid solution combining the most logical and practical components from a variety of sources, including prior LSLI projects, the American Water Works Association – CT State Section (CTAWWA), CTDPH, Association of State and Drinking Water Administrators (ASDWA), available Esri templates, and local water suppliers. H2M has developed a database capable of accommodating the Town's LSLI data reporting needs. In addition to storing tabular data, our proposed database solution will enable the Town to attach source documents to specific customer locations within the database. Not only does this simplify the records management component of the project, but it also serves as a simple, effective means of recording the reasoning behind each water service line classification. Each scanned record image, or other source material, can be opened from the specific customer point it represents. To accommodate the documentation of source reference materials, pipe material, and inventory status, we have also integrated standardized drop-down lists. This facilitates a more efficient and consistent form of data entry and storage.

Characteristics

Site Address	Text
Account ID	Text
PARID	Text
Residence Year Built	Text
Lead Connector Present (Y/N)	Text
Lead Connector Type	Text
Date Connector Observed	Date
Date-Connector Replaced	Date
Utility Side Status	Text
Utility Side Material	Text
Utility Material Source	Text
Utility Install Date	Date
Utility Side Material Previously Lead	Text
Date-Utility Material Replaced	Date
Utility Material Notes	Text
Customer Side Status	Text
Customer Side Material	Text
Customer Material Source	Text
Customer Install Date	Date
Date-Customer Material Replaced	Date
Customer Material Notes	Text
Galvanized Requiring Replacement	Text
Notes	Text
Completion Status	Text
Utility Material - Finalized	Text
Customer Material - Finalized	Text
Lead Analytical Results	Text
Decade	Text
Date of Construction Pre-1945	Text
GlobalID	Global ID
CreationDate	Date
Creator	Text
EditDate	Date
Editor	Text

Status

- Confirmed Copper
- Confirmed Galvanized
- Confirmed Lead
- Potentially Galvanized
- Presumed Lead
- Presumed Non-Lead
- Unknown

Material

- Brass
- Cast Iron
- Copper
- Galvanized
- Iron
- K Copper
- Lead
- Plastic
- Unknown

Source

- Customer, Self-Reported
- Date of Construction Records
- District Knowledge
- Lab Analysis
- Meter Replacement Records
- Other
- Plumbing Records
- Record Maps
- Service Replacement Records
- Tap Card Records
- Utility Field Confirmation
- Work Order Records

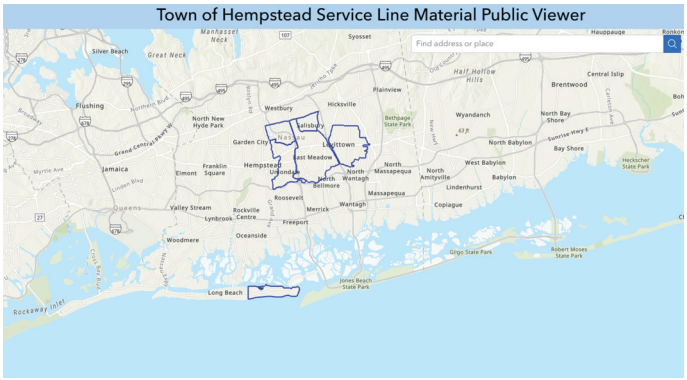
► Software Solution

We propose to deploy and configure a new ArcGIS Online account for the Town to meet data storage, editing, mapping, and data distribution requirements. Integral to AGOL is the ability to create, manage, and share GIS data among users. Our GIS design will accommodate the Town's request for a web-based environment, accessible to Town staff and the public alike. We will work with the Town to configure user credentials and access privileges to accommodate the Town's requirement for office and mobile access with apps like Esri's Field Maps and Survey123, both of which are included with an ArcGIS Online subscription.

In addition to being active business partners with Esri, we are proud to have been recognized by Esri for our experience deploying ArcGIS Online and its associated web and mobile apps. As a distinction for meeting their high standard of delivery, Esri awarded H2M with their ArcGIS Online Specialty designation.

» **Web Maps and Apps**

ArcGIS Online also provides intuitive, map-based tools for building applications that can streamline your operations, particularly your records and field observations. As part of our design, we will outline the most logical maps and web apps that will benefit the Town and its customers. Simple maps provide the basic functions for viewing, navigating, and printing the GIS data of a given area. Web apps can be customized to meet your query, status review, and reporting needs. Also, we will configure selected maps to be public facing, enabling anyone with the website URL to access and view the data that you choose. Additionally, these web maps can be linked directly to the Town's existing website. See the below photo showing the map we have customized and configured for the Town of Hempstead.



» **Public Self-Reporting**

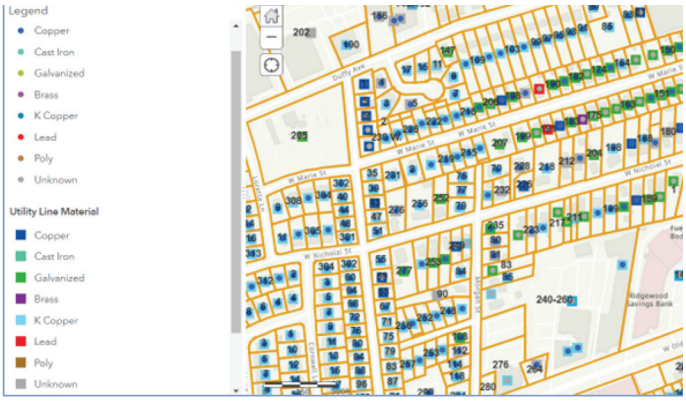
For clients who choose to engage their customers for information, we have deployed a digital form, a link to which can be easily emailed, texted, or posted on the Town's website. Using a website URL or by scanning a QR code, customers can identify and report on their own water service material, reducing the amount of field investigation required by the Town. H2M will reconfigure this form to align with the Town's specific criteria and deploy it to obtain public input. Scan the QR code below to view a sample of the self-reporting form we have deployed for our clients.

► Mobile Access

ArcGIS Online subscriptions provide access to several mobile apps that facilitate simple data distribution, remote collection, and editing. We propose to create and deploy an ArcGIS Online mobile map for use on Esri's Field Maps app. Because the app is a component of ArcGIS Online, the data within the app is connected directly to the cloud-based account, thereby enabling all users to access the same core data, eliminating any local copies or data silos. In addition to enabling mobile editing of the Town's LSLI data, the Field Maps app includes the ability to take and attach photos to GIS data records. Using the camera on a phone or tablet, customers, Town staff, and consultants can enter service information and then upload a photo with the click of a button. Users can upload multiple photos per data record requirements.

» **Operations Dashboard**

One of the most powerful tools offered by Esri is the Operations Dashboard. Providing a snapshot view of critical data, key metrics, and live data status are just a few of the functions this tool offers. H2M often creates customized operations dashboards for our GIS clients, because they present important data and statistics to a user, such as an office supervisor, without the need for any mapping or AGOL training. As part of our deployment, we will design and deploy the dashboard components and reporting capabilities that will simplify the Town's LSLI data management and reporting.



► Training and Ongoing Support

H2M will provide Town users and an administrator with up to four hours of onsite training. The training will cover general administration of the LSLI data layers, our delivered maps, and procedures for maintaining the information with both desktop and mobile app tools. We will provide a short training document that details the procedures for the management and revision of the final data deliverable. In addition to the onsite training, H2M will provide the Town with ongoing hourly support to maintain the database until at least December 31, 2026.

► H2M's Capacity to Provide Services

Typically, H2M is actively working on over 1,000 projects at any point throughout the fiscal year. These projects span our multi-disciplined capabilities and are carefully managed by our 580+ team members from any of our office locations. Considering this workload, is it essential that we verify our ability to meet a client's needs on a potential project before we devote the resources to its pursuit. Doing so involves thoroughly reviewing the services required, our monthly

project detail and staff utilization reports, and financial management and resource planning software. For this project with the Town, we have analyzed this information and can confirm our ability to fulfill your needs as outlined in the solicitation documents, as well as continue to meet the needs of our other clients on concurrent, active projects.

► Bid Support

Upon completion of detailed design and permitting, and upon receipt of approval by CTDPH of the LSLRP, H2M will assist the Town in preparing construction contract documents in accordance with CT bidding regulations for LSLR. H2M can assist the Town in advertising bids for general contracting. We can act as agent and document manager on behalf of the Town during the bidding process.

H2M will advertise bids on behalf of the Town in accordance with CTDPH Authorization to Advertise requirements and will manage bidders' access to bid documents. H2M will log and respond to the bid phase requests for information (RFIs) and, if necessary, issue contract addenda. H2M will attend the bid opening (to be held in-person at Town Hall) and review the top three bids. H2M will compile a bid tally and recommend the lowest qualified bidder to the Town. This information will first be communicated to the Town's assigned CTDPH project manager and reviewed. Upon confirmation from the CTDPH, H2M will deliver a final recommendation of award to the Town Administrator and Attorney before its reviewed by Town officials and considered for authorization. We plan to advertise the general contracting work as a single contract, and we limit our scope to the management of one bidding process.

Task 3: LSLRP Program Management

► Construction Administration

H2M proposes to act as agent, document and information manager, and progress administrator throughout the construction process. We will provide document and information management services for all the Town's service line assets identified and/or replaced. All LSLI and LSLRP data will be stored, managed, and updated in a Microsoft Excel spreadsheet. H2M will perform the following:

- *Meetings*: Administer, document attendance, and develop minutes for meetings.
- *Shop drawing submission*: Log, review, and respond to all submissions received.
- *RFIs*: Log, review, and respond to questions received from bidders.
- *Monthly payment requisitions*: Log, review, and recommend actions based on the contractor(s) performance.
- *Monthly document exchange*: This will occur with the CTDOH project manager administering the SRF grant funds.
- *Change order requests*: Log, review, and recommend actions for any unexpected circumstances or changes in plans or specifications.
- *Punchlist*: Compose and coordinate closeout of punch lists at construction nears completion.

► Pitcher Filter Distribution/Maintenance Management

Critical to the success of this program is a thorough plan for the pitcher filter distribution and maintenance program and associated tap sampling. Along with this, we will provide literature to customers explaining the necessity of pitcher filters. Our plan will include, but not limited to:

- Selection criteria for the most effective pitcher filters that are certified to NSF/ANSI Standard 53 for assurance of reliable performance.
- A multi-channel outreach plan for informing affected/eligible customers about the program, criticality of proper usage and maintenance of the pitcher filter and process for requesting/obtaining a pitcher filter.
- Packaging and distribution plan for pitcher filters which, based on H2M's experience, there are reputable third-party partners we have utilized that provide a turn-key solution. Assemble and ship kits directly to customers and the degree of effort in determining logistics, and provide the Town with a limited supply for ad-hoc requests.
- Tracking and reporting plan to capture pitcher filter distribution and effectiveness as well as replacements (entire system, filters).
- Standard procedures for initial set up, flushing, use, cleaning, filter replacement, as well as instructions for tap sampling.

► Tap Sampling Pre- and Post-LSLRP

H2M can take over management of the existing tap sampling program that the Town has been managing. We recommend that we review the current sampling program and provide recommendations for enhancements, as needed. Key elements to the tap sampling program include:

- *Town Resident Sampling Requests*: This aspect of the program allows residents of the Town to request a lead sample for their residence, either through email or through QR code scanning. Requests will go to an H2M email box and we will log sample requests and confirm eligibility requirements (Town resident, not repeat sample request, resident is not an apartment complex, and is served by the Town's water distribution system). Sampling bottle bundles prepared with instructions and chain of custody forms to deliver to residences on a periodic schedule (bi-weekly or weekly). Coordination of delivery of sampling and testing to a certified drinking water analytical laboratory. H2M will analyze and review

sampling results and prepare results notifications to residents, while keeping the Town informed of results. We will also address questions that residents might have regarding lead issues and sampling questions.

- *LCR Compliance Lead Sampling and Report*: The Town is required by CTDPH to sample annually (based on water quality results that were below lead and copper action levels for two-consecutive six-month monitoring periods). The Town's current sampling pool consists of 80 Tier 1 residences, once per year for lead action level compliance. H2M can assist the Town with meeting CTDPH testing and reporting requirements by:
  - » Reestablishing and maintaining the Tier 1 list of residents for compliance sampling in 2027. The list is required to be submitted to the CTDPH prior to compliance sampling for each round.
  - » Contacting residents on the list for compliance sampling. The minimum requirement is 60 residents.
  - » Preparing sampling bottle bundles with instructions and chain of custody forms to deliver to eligible residences; mapping the most efficient routes for delivery and pick-ups.
  - » Preparing LCR report for submission to the CTDPH due 10-days after the compliance monitoring period ends.
  - » Delivering samples to laboratory; analyzing and reviewing sampling results.
  - » Coordinating public notification and outreach to be approved by the CTDPH. Response to CTDPH report letters.

H2M will establish a procedure for tracking and reporting on residence LSLR, including the development of a post-replacement tap sampling test for lead, within three to six months of the replacement. We will provide an SOP for the Town to incorporate notification and scheduling of the post-replacement tap sampling as well as best practices for the resources performing the service line replacement, bringing the new service line online and mitigating risk for future lead exposure, especially in consideration of the lowered action level of 10ppb. SOP for water sampling will provide guidance on collecting samples, including details on collection of the first liter and the fifth-liter sample, after a six-hour minimum stagnation period. Should the replacement program extend into 2028, H2M can assist the Town with the development of a formal site sample plan that must be submitted to CTDPH for review and approval.

Affected customer outreach, education and communications will be a critical element to the replacement and sampling program and incorporated in Task 4 Public Education and Outreach Plan. The plan will include specific instructions for affected consumers and customers to take specific actions after a partial or full-service line replacement (following the disturbance of a lead, copper, or unknown service line).

Task 4: Public Outreach and Education Plan

H2M's team will support the Town's public outreach efforts with data-driven statistics, communication assistance, and recommendations in the form of educational materials on the Town's website, public meetings, and brochures. The objective results of our LSLI will inform and guide our public outreach activities. The cornerstone to our communications plan is leveraging either the Town's existing GIS online environment or Groton Utilities, depending on the Town's preference. Our inventory procedures, progress, and results will be available on-demand and will promote transparency with the public. We propose to deploy a public-facing, project status dashboard that will convey critical metrics and maps of our LSLI and sampling progress.

Fully configurable, this dashboard will reflect the information determined as most relevant to the public and required under current regulations. H2M will provide the Town with relevant GIS data points representing potential lead service laterals. This information can be used to identify the residents most likely to have lead services, and with whom the Town should prioritize communication. H2M will work with the Town to develop appropriate materials for distribution to the public throughout the project. This effort will also include the development of a procedure for identifying specific residents based on inventory results. GIS data identifying potentially affected residents can be cross-referenced with others Town databases to obtain current mailing addresses and phone numbers if the Town chooses to use these methods to communicate with the public.

H2M will develop a system to notify residents with possible or confirmed LSLs. As Task 2 is underway, the notification system will incorporate the updated inventory information to make new notifications and updates, as appropriate. Once the LSL is replaced, H2M will develop an SOP for providing pitcher filters/cartridges to each customer affected by the LSLR, as well as assisting the Town in procuring filters . The Town will need to provide pitcher filters/cartridges to each customer for six months after replacement of a lead service line within 24 hours of a full or partial LSL replacement. H2M will also revise the core GIS database to track the delivery of the pitchers and filters. H2M has a knowledgeable and capable marketing staff that will assist the Town in the creation and development of outreach, educational and promotional materials through the entire process of the LCRR, including the inventory, sampling and replacement phases.

Task 5: LCRR/LCRI Support Services

H2M will provide the Town with implementation support throughout the duration of the project, which includes monitoring LCRR/LCRI regulation changes or updates at both the federal and state levels. We will inform and advise the Town on any potential impacts to the existing LSLRP, recommend changes to maintain compliance

with the regulations, and elaborate on how regulatory changes may affect the services we will provide. Potential activities that may need to be modified due to future regulatory changes or implementation guidance include:

- Alterations to lead and copper tap sampling procedure, sampling plan, and site selection pool, incorporating the site selection tiering criteria (Tiers I through V) when the LCRI takes effect.
- Evaluation of corrosion control treatment approaches and recommendation for adjustments.
- Advancement of the Water Quality Parameter Monitoring Program and associated Annual Water Quality Reporting
- School sampling and public education.
- There is currently a Tier 1 Public Notification requirement for a lead Action Level Exceedance (ALE); this can be of concern when this ALE drops from 15 to 10 ppb in 2028.
- Beginning 2028, the 30-day requirement to provide results to customers will decrease to a three days.

► Deliverables

1. Review current communication materials on lead and copper and compliance with LCRR. Make recommendations for any updates or enhancements to materials.
2. Public education and outreach program including data packets to meet LCR requirements, with keen focus on individuals with identified lead service lines or service lines of unknown materials. Educational and communication materials will be multi-channel and format, including digital and website content, door hangers, fact sheets, mailers, etc.
3. Plan for notifications for customers impacted by the replacement program, with advanced notice, with two to three touchpoints as well as communications post-replacement, including details on the pitcher filter program.
4. A social media strategy to drive awareness and provide education for customers, including development of content throughout the lifecycle of the LSLRP Program.
5. SOP for providing required notifications.
6. Optional: Develop content and hold program for training schools and daycare centers on sample collection.
7. SOP for providing filters to affected residents.
8. Solicitations and bid evaluation for filter and pitcher purchases.
9. Program for notification of lead service lateral homeowners.
10. Public education and outreach assistance program.

► Notes and Assumptions

1. H2M's responsibility is providing SOPs and protocols and does not include the implementation of these protocols.
2. If the contract, scope of services and fees are not finalized before October 31, 2025, it is assumed the Town will perform the annual notifications, due by December 31, 2025, for affected customers.
3. All software, hardware, and Esri subscriptions fees are the responsibility of the Town.

TAB 6

H2M architects + engineers

538 Broad Hollow Road, 4th Floor East
Melville, NY 11747

tel 631.756.8000
fax 631.694.4122

A NOTICE AND INVITATION TO ALL EMPLOYEES AND APPLICANTS

RICHARD W. HUMANN, P.E., PRESIDENT/CEO

AFFIRMATIVE ACTION AND EQUAL EMPLOYMENT OPPORTUNITY POLICY STATEMENT

H2M has been and will continue to be an equal opportunity employer. To assure full implementation of this equal employment policy, we will take steps to assure that:

a. Persons are recruited, hired, assigned and promoted without regard to race, national origin, religion, age, color, sex, sexual orientation, gender identity, disability, or protected veteran status, or any other characteristic protected by local, state, or federal laws, rules, or regulations.

b. All other personnel actions, such as compensation, benefits, transfers, layoffs and recall from layoffs, access to training, education, tuition assistance and social recreation programs are administered without regard to race, national origin, religion, age, color, sex, sexual orientation, gender identity, disability, or protected veteran status, or any other characteristic protected by local, state, or federal laws, rules, or regulations.

c. Employees and applicants shall not be subjected to harassment, intimidation, threats, coercion or discrimination because they have: (1) filed a complaint; (2) assisted or participated in an investigation, compliance review, hearing or any other activity related to the administration of any federal, state or local law requiring equal employment opportunity; (3) opposed any act or practice made unlawful by any federal, state or local law requiring equal opportunity or (4) exercised any other right protected by federal, state or local law requiring equal opportunity.

I have appointed Elizabeth C. Uzzo to take on the responsibilities of EEO Coordinator. The EEO Coordinator will be responsible for the day to day implementation and monitoring of the Company's Affirmative Action Plan. As part of that responsibility, the EEO Coordinator will periodically analyze the Company's personnel actions and their effects to ensure compliance with our equal employment policy and administer the audit and reporting system.

If you, as one of our employees or as an applicant for employment, have any questions about this policy or would like to view portions of the Affirmative Action Plan, please contact Elizabeth C. Uzzo during regular business hours. This is also a reminder that employees may update their disability status at any time by contacting Elizabeth C. Uzzo.

I have reviewed and fully endorse our Affirmative Action and Equal Employment Opportunity program. In closing, I ask the continued assistance and support of all of the Company's personnel to attain our objective of equal employment opportunity for all.

Sincerely,

Richard W. Humann, P.E.
President/CEO

H 2 M architects + engineers

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*ENTERPRISE CAPABILITIES

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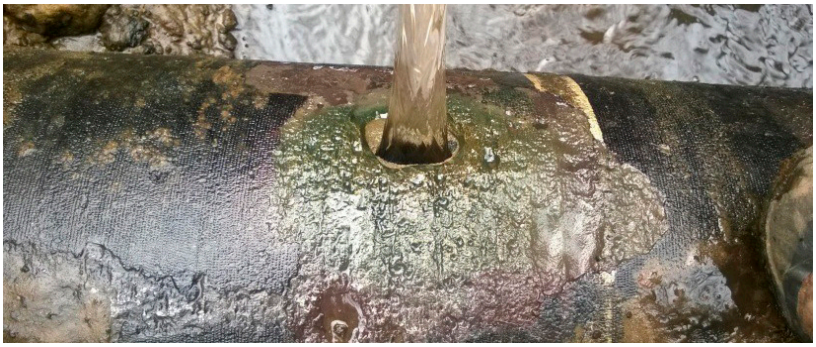
Town of Ledyard
CONNECTICUT

QUALIFICATIONS
October 2025

Lead and Copper Rules Revisions Compliance

RFQ 2026-02



Weston & Sampson℠
westonandsampson.com
712 Brook Street, Suite 103, Rocky Hill, CT 06067

CONTENTS

October 2, 2025

712 Brook Street, Suite 103, Rocky Hill, CT 06067
Tel: 860.513.1473

Mayor's Office
741 Colonel Ledyard Highway
Ledyard, CT 06339

Re: Request for Qualifications for Lead and Copper Rule Revisions Compliance

Dear Selection Committee:

Weston & Sampson is pleased to submit this statement of qualifications to develop and oversee a comprehensive Lead and Copper Rules Revisions (LCRR) Compliance Program. Given our team's local knowledge, decades of demonstrated experience, and full-service capabilities, we are confident that we can provide prompt and cost-efficient services to meet your needs. Highlights of our qualifications include the following:

- Extensive water engineering experience and lead and copper rule expertise: Weston & Sampson has decades of experience providing engineering services to public water systems for project development and planning through design, construction, and long-term operation and maintenance. Since the Lead and Copper Rule was established in 1991, and through its many updates, we have worked with our clients to design programs to help protect public health. We assist clients in navigating these challenges from their very first sampling plans to their lead service line inventories to comply with the most recent revisions to the rule. We are experts in this regulation, the challenges it creates, and solutions it demands. We are currently working with dozens of communities to develop their comprehensive water service line inventory, subsequent replacement plans, and general compliance with the revised and improved rules.

- Local presence & responsiveness: The multidisciplinary nature of our firm allows us to address all important project issues using in-house staff who are familiar with the unique aspects of this project. We have the required experience to assist you with your project needs. Weston & Sampson has built a reputation of completing projects in adherence to schedule and budget, as seen by successfully submitting over 30 water service line inventories for public water suppliers in multiple states by the regulatory deadline. Our project management team will remain committed to this project, ensuring consistent leadership throughout design and construction of the project. We always have sufficient personnel on staff to ensure adequate staffing during your project to provide prompt delivery of service. As the project progresses, we will continuously monitor our staff's performance to verify our compliance with schedule and cost constraints.

- Familiarity & experience with the Town of Ledyard: Weston & Sampson has developed a long-term relationship with Ledyard, going back more than 20 years when we provided engineering design and construction services for roadway improvements in 1998. Throughout the years, we continued to demonstrate to the town our success in implementing engineering projects including those for Military Highway roadway improvements, Lakeside Condominiums wastewater pumping station design and construction, and a sewer feasibility study. Most recently, Weston & Sampson has been working with the town on the LOTCIP-funded Ledyard High School multi-use pathway and sidewalk extension and the Ledyard Center sewer feasibility study.

Weston & Sampson is dedicated to working closely with you to provide practical, cost-effective solutions. We welcome the opportunity to meet with you to further discuss your needs for this project. If you have any questions regarding our submittal, please contact me directly at 978-548-6240 or McCarthyM@wseinc.com or our client contact Matthew Jermine, PE, at 860-616-6607 or Jermine.Matthew@wseinc.com.

Sincerely,
WESTON & SAMPSON ENGINEERS, INC.

Margaret McCarthy, PE | Drinking Water Infrastructure Practice Leader / Vice President

COMPANY INFORMATION

Established in 1899, Weston & Sampson has been providing our municipal clients with cost-effective, innovative solutions to their environmental and infrastructure challenges for well over a century. We offer capabilities ranging from project development, assessment, and planning through permitting, design, construction, and long-term operations and maintenance.

We are a full-service multi-disciplinary consulting firm with more than 1,000 professionals, including planners, landscape architects, engineers, scientists, and construction inspectors. Our areas of expertise include climate resilience/sustainability; stormwater design/drainage; architecture; water/wastewater utility design/treatment; hydraulic modeling; multi-use trail/pathway planning, community planning, landscape architecture; civil engineering; environmental science/permitting; bridge/roadway design; electrical / mechanical / structural / geotechnical / traffic engineering; solid waste services; and construction administration.

FIRM HISTORY / INFORMATION

Robert Spurr Weston began his consulting practice in 1899. In 1916, he was joined by George Sampson, which formed the Weston & Sampson partnership. Incorporated in Massachusetts in 1976, Weston & Sampson Engineers, Inc. (Weston & Sampson) is a privately held, employee-owned company that offers capabilities ranging from project development, assessment, and planning through permitting, design, construction, and long-term operation and maintenance.

Weston & Sampson's Connecticut branch was first established in 1998. We also currently maintain offices throughout the Northeast and along the East Coast, as depicted on the map below. In 2023, Weston & Sampson transitioned to a 100% employee-owned firm through our employee stock ownership plan.

Headquarters
Weston & Sampson
55 Walkers Brook Drive, Suite 100
Reading, MA 01867

Primary Office
Weston & Sampson
712 Brook Street, Suite 103
Rocky Hill, CT 06067

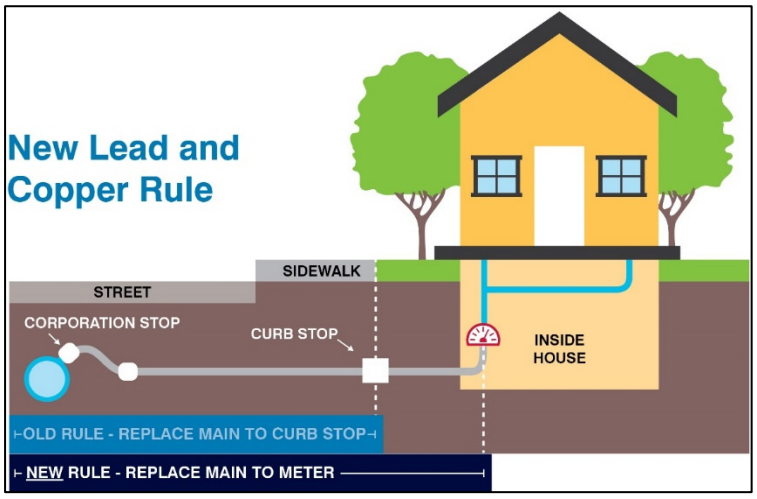
Number of Years in Business

Weston & Sampson has been in business since 1899; we have been in business for 126 years.

Number of Employees

Nationally – 1063
Assigned to this project – 14, dependent on final scope of work

Areas of Expertise



LSL INVENTORY, SAMPLING, AND REPLACEMENT PLANS

Weston & Sampson has experience with lead service line (LSL) inventory creation, sampling plan review and site selection, and creating service line replacement plans. More detail about specific LSL projects can be found in **Section 3**.

1. LSL Inventory – Weston & Sampson assisted the following state agencies with LSL inventory projects – MassDEP and VT DEC. In Massachusetts, Weston & Sampson assisted the following communities with the creation of preliminary LSL inventories: Lowell; Norton; Revere; Winchester; Blackstone; Fitchburg; Dedham-Westwood Water District; Everett; and Brookline. In New Hampshire, Weston & Sampson assisted the Towns of Exeter and Seabrook in the initial approach to creating their LSL inventories. Weston & Sampson continues to help multiple communities with further refinement of the LSL inventory, including the Town of Watervliet, New York.

2. Lead & Copper Rule (LCR) Sampling – Weston & Sampson has provided past assistance to the Town of Salem, New Hampshire, the Hampstead Area Water Company, New Hampshire, and the City of Peabody, Massachusetts, with development/updating of lead and copper sampling plans to accommodate the updated changes brought upon by the new LCRR.

3. LSL Replacement Plan – Weston & Sampson has experience in assisting PWS in New Hampshire and Massachusetts with replacement of existing lead service lines. This experience includes projects of all sizes, including coordination and replacement of single services to the identification and replacement management for hundreds of services.

WATER ENGINEERING EXPERTISE

With more than a century's worth of experience, Weston & Sampson is a provider of premiere water engineering to many communities in Connecticut and throughout the region. We have extensive experience with service inventory development, sampling plan review and site selection, and creating LSL replacement plans. We have worked with communities to prioritize replacing LSLs during capital improvements and water main replacements for decades.

Additionally, we provide comprehensive services for water infrastructure projects, including design, bidding, and construction administration services throughout the project timeline. Our expertise includes designing water system improvements, from water main and water service replacements to pump station and water treatment facility construction; drafting detailed requests for proposals and invitation to bid documents; assisting in the bidding and procurement process; and providing construction administration and oversite services.

CONSTRUCTION ADMINISTRATION AND UTILITY INSPECTION EXPERIENCE

Weston & Sampson is routinely engaged by our clients to oversee the construction and provide resident representative services on our projects. These services include monitoring construction fees, materials installed and payment requests, and schedules, as well as review of shop and production drawings, evaluation of mock-ups and construction materials, and responding to Requests for Information (RFIs) and proposed change orders from the contractor. We are accustomed to evaluating change order requests and providing recommendations to support or deny proposed cost changes.

Weston & Sampson also provides construction inspection services on municipal improvement projects, as well as CTDOT projects. Recently, our inspectors have completed multiple pavement preservation projects for the CTDOT along Interstate 95, Route 2, Route 82, and Route 11. We have fully qualified construction inspectors that are NICET and NETTCP certified and hold the required certifications for concrete and bituminous materials inspections. Our construction representative staff provide all required daily logs and construction documentation, including testing materials, review of contractor pay requests, development of punch lists, and project closeout.

Weston & Sampson regularly provides resident engineering services for water main construction and water service line replacements and also conducts hundreds of utility inspections within residential and commercial properties each year, including coordinating, entering, inspecting, and data collection on premise plumbing, house inspections for building connections to drains and sewers, backflow testing operations, and water meter replacements.

WATER SYSTEM OPERATIONS

Weston & Sampson Services (WSS) has worked with communities in New England, managing cross-connection and backflow prevention programs since 1992. WSS has also helped communities in evaluating and replacing their water meters. In addition to municipal programs, we provide services for private industrial facilities, research and development facilities, commercial properties, multi-family residential properties, academic institutions (including private and public school districts), colleges and universities, and property management companies. WSS' experience in these programs will aid in conducting visual inspections of service lines.

ASSET INVENTORY, SAMPLING & REPLACEMENT

Establishing an inventory of assets for any utility, community, or organization is the primary activity for any asset management plan. Weston & Sampson has been helping clients develop and maintain their asset management plans as a fundamental aspect of client engagements. Our strong GIS background assists this effort because GIS is a foundational technology on which to build sound asset management strategies, including LSL inventories.

Online Mobile Applications

Weston & Sampson's very own field data collection platform, iDataCollect, streamlines the field data collection process by replacing paper forms and associated workflows. Operations data collected with iDataCollect may be integrated with GIS, providing decision-makers near real-time access to the data they need in a common interface. Sample applications include internal building inspections, meter inspections, water and wastewater treatment plant operations, cross connection control, pump station inspections, and fire hydrant inspections. In addition, Weston & Sampson has created forms and collected water infrastructure data using the latest software release of ArcGIS Survey123.

Weston & Sampson is an ESRI business partner, which enables us to better support our clients and to maximize their use of GIS software and options using our knowledge and expertise of the technology.

Database Development & Administration

Weston & Sampson has a talented group of engineers, GIS analysts, and IT professionals who work together to make sure project data is collected, stored, used, and delivered in the most efficient manner. We have developed database tools to manage all phases of an infrastructure evaluation program, including mapping, capital planning, operation and maintenance, and asset rehabilitation and replacement.

PUBLIC OUTREACH

Weston & Sampson brings decades of experience in public sector-focused community engagement, working with communities to report findings, gauge opinion, and build consensus. We prioritize clear communication, supported by a dedicated team of marketing, communications, and graphics professionals. Our presentations include legible plans, photorealistic renderings, 3D models, estimates, and other key materials to ensure that complex technical and regulatory information is understandable for all audiences.

Our commitment to meaningful engagement drives us to use a range of formats and tools designed to educate, enroll, and entertain. We value public presentations that foster an affinity for both the

presenters and the project, promoting collective buy-in and facilitating project progress. Additionally, we employ multi-pronged, multimedia strategies that incorporate various platforms to reach diverse community members, including public officials, boards, committees, and residents.

In Person

- Site walks and hands-on charrettes
- Multi-day workshops
- Consensus-building strategy sessions
- Community meeting presentations

In Print

- Data visualization and storytelling
- Surveys (online, mailed, on-site)

Online

- Project websites and social media
- Virtual engagement platforms
- Automated response systems (real-time feedback)
- Video and local access television

For example, we produced this YouTube video, starring our Project Manager Stephanie Collins, on How to Identify a Lead Service for the Dedham-Westwood Water District: https://youtu.be/s84k056nC4I?si=1e1Euh6yEzCpXtai

To strengthen community ties and support long-term resilience, we prioritize empowering stakeholders, residents, and community organizations early in the process with:

- **Intentional event composition:** Ensuring representation reflects community demographics, neighborhoods, and knowledge
- **Overcoming barriers to participation:** Working respectfully with city/town representatives to address resource limitations and other constraints
- **Community-context understanding:** Using interactive techniques to gather stories, ideas, and feedback from a wide range of stakeholders
- **Building on local knowledge:** Avoiding "planning fatigue" by leveraging existing efforts and local expertise, and encouraging ongoing community involvement

We strive to keep communities at the center of project planning, establishing an ongoing public dialogue to understand their needs and preferences. Our planners and landscape architects develop concept plans tailored to community priorities, typically accompanied by budgets, phasing, funding, and implementation strategies. This comprehensive approach also integrates social equity, climate resilience, and low-impact development (LID) principles, transforming these goals into actionable project elements.

EXPERIENCE DWSRF/CWF PROGRAM AND CTDEEP FUNDING

Weston & Sampson has extensive experience working with drinking water projects funded through DWSRF and CTDPH. We have completed dozens of DWSRF applications on behalf of public water utilities and towns across the state. Our relationships with CTDPH staff help streamline the procedural work and move quickly from design through bidding, into construction, and finally to startup and commissioning. By communicating frequently and being familiar with the recordkeeping and reporting processes required by the CT DPH, we are able to deliver projects on time and on budget.

In addition to the recent project in Norwich, we assisted Mohegan Tribal Utility Authority in quickly providing designs and cost estimates for work on the Crow Hill Tank to potentially apply for funds for tribal groups to upgrade water and wastewater infrastructure that was appropriated as part of the COVID stimulus in 2020. Our project managers and engineers have also overseen work with Southington Water Department (SWD) on two major DWSRF projects for new well sources.

Our staff has worked with many communities in several capacities to maximize the money available for each project under various programs, including the State Revolving Loan Fund (SRF). We are accustomed to specialized reporting requirements as well as the limitations of funding inherent with state and federally funded projects, and we apply our experience in this area to ensure a smooth design and construction process on our clients' projects.

EXPERIENCE

Recently, Weston & Sampson has assisted dozens of water systems throughout New England with their service line inventories and lead service line replacement plans. We have provided the following examples of previous, related work in lead service line inventory, replacement, asset management, and large projects with state entities to showcase how, by working with Weston & Sampson, the Town of Ledyard will realize similar project success.

At the end of this section is a matrix of recent projects Weston & Sampson has worked on, and we have highlighted specific projects in the table below.

Project Title / Location / Contact	Project Description
Water Service Line Inventory Dedham-Westwood Water District, MA Blake Lukis Executive Director 781-461-2776 blukis@dwwd.org	Weston & Sampson was contracted by the Dedham-Westwood Water District (District) to develop a comprehensive service line inventory for its large community water system, funded through the MassDEP Lead Service Line (LSL) Grant Program. The inventory identified both known and unknown service line materials on the system-owned and customer-owned sides, supporting state and national efforts to eliminate lead service lines. Key project components included: • **Service Line Inventory Development**: Created an inventory aligned with MassDEP requirements, documenting material types, identification sources, and unknown lines. Developed LSL replacement plans and updated sampling plans per new LCRR tier designations. • **Data Collection & Validation**: Collaborated with water system personnel to gather institutional knowledge and review system documentation. Built an interactive ArcGIS map and applied predictive modeling to fill data gaps. • **Visual Inspection & Public Outreach**: Collected customer-side data through surveys, self-reporting, and visual inspections. Produced an instructional video to help residents identify their water service lines. Used online forms and coordinated outreach efforts, including letters and surveys. Published a public-facing GIS map on the District's website to help residents identify their service line materials. • **Award-Winning Public Engagement:** The District won the 2025 NEWWA Distinguished Drinking Water Public Involvement Award; its public outreach campaign reduced 11,000 public side unknown water service line materials to under 700.
Water Service Inventory Support to #10 City of Medford, MA Owen Wartella City Engineer 781-745-5642 owartella@medford-ma.gov	Weston & Sampson contracted with the City of Medford to create the city's water service line inventory for their large community water system. The project received funding through the MassDEP Lead Service Grant Program. The purpose of the inventory is to identify all known and unknown service line material on both the system-owned side and the customer-owned side. After the inventory was submitted to MassDEP, Weston & Sampson began work with the city to set up and implement a statistical analysis platform to predict locations of lead service lines. Weston & Sampson's scope also included the design, bidding, construction administration, and resident representative services of a test pitting and LSL replacement project. Data obtained during this construction project will be inputted into the statistical model to better inform future testing pitting and LSL replacement projects.

Project Title / Location / Contact	Project Description
Small Water Systems Lead Service Line Inventory Vermont Department of Environmental Conservation, VT Bruce King, PE Infrastructure Sustainability Section Supervisor 802-22-4840 bruce.king@vermont.gov	The Vermont Department of Environmental Conservation (VTDEC) recently contracted Weston & Sampson to create the lead service line inventories for 35 small water systems across the state of Vermont. Weston & Sampson created an address list of all properties connected to each water system and then conducted thorough review of state and water system records. Weston & Sampson performed customer outreach through mailers, surveys, and field work with certain water systems. Inventories for all 35 systems were successfully submitted to VTDEC for review as part of the Lead and Copper Rule Revisions (LCRR) compliance date in October 2024. Subsequent work included working with water systems to continue filling in unknown information obtained after the initial submission to VTDEC.
Water Service Line Inventory Manchester Water Works City of Manchester, NH Mark Bourque Deputy Director – Water Distribution Manchester Water Works 603-792-2806 mbourque@manchesternh.gov	Weston & Sampson contracted with Manchester Water Works to assist with the development of a comprehensive service line inventory for its large community water system, funded through the New Hampshire Department of Environmental Services (NHDES) Large System LSL Grant Program. Key project components included: • **Service Line Inventory Development**: Created an inventory aligned with NHDES requirements, documenting material types, identification sources, and unknown lines for approximately 35,000 service lines. Developed LSL replacement plan and assisted with updating the sampling plans per new LCRR tier designations. • **Data Collection & Validation**: Collaborated with water system personnel to gather institutional knowledge and review system documentation such as tie-cards, water main construction plans, assessor data, meter replacement reports, customer self-reporting, and other sources of data. • **Self-Reporting Program**: Assisted with customer self-reporting program to identify private-side services. The program utilized a QR program, mailings to targeted areas, bill-stuffers, social media announcements, and other methods of exposure to increase participation. The program has successfully identified over 9,000 private-side services thus far. • **Future Funding:** Assisted with securing additional $300,000 in additional funding through the NH State-Revolving-Loan Fund (SRF) program for MWW to continue investigation of unknowns through various methods.

Water Service Line Inventory and Replacement

Town / City / PWS Name	Inventory Creation / Updates / On-Call Support	GIS Mapping	WSL Repl Plan	Public Education & Outreach	Crowd Sourcing / Building Inspections	Water Quality Sampling / Testing	WSL Repl / Test Pitting Construction	SRF Loan and/or Grant Funding	Statistical / Predictive Modeling	Total # Service Connections
Abington/Rockland Joint Water Works, MA	■									11,607
AD Makepeace, MA	■									753
Belmont, MA	■	■	■					■		7,700
Blackstone, MA	■	■	■		■	■	■	■		2,800
Brookline, MA	■	■	■					■		10,800
Chatham, MA	■	■	■					■		6,680
Dedham-Westwood Water District, MA	■	■	■	■	■		■	■		14,300
Exeter, NH	■	■		■				■		4,000
Fitchburg, MA	■	■	■					■		11,250
Hampstead Area WC (HAWC), NH	■	■		■				■		3,700
Hudson, NH	■	■		■				■		6,722
Keene, NH	■	■	■	■		■		■		6,150
Lincoln, NH	■	■		■			■	■		1,800
Lowell, MA	■	■	■	■	■		■	■		26,000
MADEP SMALL COM & NTNC SYSTEMS	■	■	■							<200
Manchester Water Works, NH	■	■	■	■	■			■		160,000
Medford, MA	■	■	■				■		■	15,000
North Andover, MA	■									7,689
Northborough, MA	■	■						■		4,250
Norton, MA	■									5,842
Peabody, MA	■	■	■	■				■		13,800
Quincy, MA		■	■				■			23,500
Reading, MA	■	■	■				■			7,763
Rutland, MA	■									1,722
Salem, NH	■	■		■				■		7,427
Seabrook, NH	■	■		■			■	■		4,000
VTDEC Small Water Systems	■		■	■	■			■		2,695
Watertown, MA	■	■	■							10,000
Wellesley, MA	■	■	■					■		8,182
Winchester, MA	■	■	■					■		7,142
Woburn, MA	■	■	■					■		10,000

Bold Text - State-wide Assistance type project

REFERENCES

To assist in your evaluation of Weston & Sampson, we offer contact information for some of our current and long-standing clients for whom we have provided similar services. These references can attest to our long-standing relationships, work history, and responsiveness. We recognize the importance of providing responsive service and commit our resources to ensure that your questions are responded to quickly, and that the deadlines for your assignments are met. Furthermore, we are confident that our references will indicate that we have been responsive and have met or exceeded their expectations.

We invite you to contact these individuals to discuss our firm's overall capabilities and past performance. These contacts can attest to Weston & Sampson's track record, qualified, and responsive technical professionals, and commitment to quality. We have provided specific information regarding the relevant projects performed for these clients below for projects not also listed in **Section 3, *Experience***.

Dedham-Westwood Water District, MA
Blake Lukis
Executive Director
781-461-2776
blukis@dwwd.org
Project: Project description can be found in Section 3.

City of Medford, MA
Owen Wartella
City Engineer
781-745-5642
owartella@medford-ma.gov
Project: Project description can be found in Section 3.

First Taxing District Water Department, Norwalk, CT
Eleanor Militana
General Manager
203-247-2225
emilitana@firstdistrictwater.org
Project: Design and construction engineering services for upgrades to the chemical feed system at the John E. Riordan Water Treatment Plant

Vermont Department of Environmental Conservation, VT
Bruce King
Infrastructure Sustainability Section Supervisor
802-622-4840
Bruce.king@vermont.gov
Project: Project description can be found in Section 3.

City of Lowell, MA
Timothy Brinkman
Superintendent of Water
978-674-4240
TBrinkman@lowellma.gov
Project: Prepared the city's water service line inventory in compliance with LCRR/LCRI, utilizing MassDEP WSL inventory grant program and city capital funds. Worked with the city to create a three-year LCRR/LCRI compliance program, which includes additional inventory refinement, creation of standard operating procedures for tracking WSL materials encountered in the field, design, bid, and construction administration of a LSL replacement plan, updates to sampling plan, and public engagement campaign.

PROJECT TEAM / ORGANIZATION

Working with a team that is collaborative, responsive, and experienced is the key to success for any project and assignment. As such, we offer the Town of Ledyard our project team of skilled engineers and scientists who provide high-quality services, demonstrated over the course of numerous projects for municipal clients throughout Connecticut and the region.

Below, we have included our organizational chart that outlines the roles and responsibilities of our team members. **We have also included resumes for key individuals** at the end of this section and biographies for key staff can be found on the next page. In addition to our proposed team, Weston & Sampson has more than 1,000 qualified engineering, design, and environmental/permitting professionals that we can draw upon to support work for your project.

PRINCIPAL-IN-CHARGE

Margaret McCarthy, PE, has more than 20 years of experience in the evaluation, planning, and design of numerous water system improvement projects and will provide additional review and oversight assistance. Margaret has served as principal-in-charge for LSL inventory and replacement projects in Brookline, Dedham-Westwood Water District, Lowell, Wellesley, Massachusetts, and others. Margaret has extensive experience with water asset/data management including overseeing the implementation of state-of-the-art meter reading systems to help utilities reduce water losses and promote conservation.

PROJECT MANAGER

Stephanie Collins will serve as project manager, as well as a lead & copper rule subject matter expert. is a senior project engineer in Weston & Sampson's water program, providing both engineering design and construction services, as well as on-site construction administration and resident inspection services. Stephanie managed our LSLRP LSL inventory work for MassDEP and helped develop the LS inventories for Dedham-Westwood Water District and Lowell, Massachusetts. She is a senior project engineer in Weston & Sampson's water program, providing both engineering design and construction services, as well as on-site construction administration and resident inspection services. She has experience in design, bidding, construction administration and resident inspection services for several water, sewer and drainage utility projects.

CLIENT CONTACT

Matthew Jermine, PE, will serve as Weston & Sampson's client contact. He is a team leader in Weston & Sampson's Wastewater department and has over 20 years of experience. He employs many different investigative strategies to thoroughly organize available project information and uncover feasible alternatives to challenging problems. Matthew has a broad understanding of wastewater management techniques with his extensive experience as a systems' planner, evaluator, and designer.

TECHNICAL REVIEW

Michael Warner, PE, our lead & copper rule subject matter expert, has nearly 20 years of experience working in the water discipline at Weston & Sampson. Mike is currently leading or recently led multiple lead service line inventory projects, including Reading, Dedham-Westwood Water District, Peabody, and Chatham, Massachusetts. Mike also has extensive experience in water design, construction, and asset management.

Greg Brovelli is a master plumber and Senior Water Technical Specialist with more than 12 years of expertise in mass meter replacement projects and deployment of automated meter reading and automated meter infrastructure solutions. He has developed and led training programs for water meter sizing, accuracy testing, installation, and repair and has directly overseen the installation of more than 150,000 water meters and AMR/AMI radio installations. Greg has recently expanded that knowledge to aid several clients with their water service line inventories. He has worked with clients directly on project approach development, funding source applications, inventory completion, review of asset data within GIS, and overall project management.

CONSTRUCTION MANAGER

Kevin Fahey, NICET IV, is a **Chief Certified Construction Inspector** and has more than 30 years' experience as both an inspector and construction coordinator serving private and municipal clients, as well as CTDOT. He has extensive experience in infrastructure and construction, including highway and bridge reconstruction, safety enhancements, emergency and routine building renovations, office building demolition, and the construction and oversight of a solar-powered home. He holds NICET Level IV certification in highway construction and NICET Level I certification in bridge safety. He is also a certified Traffic Control Supervisor through the American Traffic Safety Services Association.

STEPHANIE COLLINS

BACKGROUND

2024-Present
Senior Project Engineer
Weston & Sampson

2021-2024
Project Engineer
Weston & Sampson

2019-2021
Engineer III
Weston & Sampson

2018-2019
Engineer I
Weston & Sampson

2017-2018
Staff Engineer
Tighe & Bond

2015-2017
Engineering Intern
City of Woburn, MA

2015
Field Intern
Town of Lexington, MA

EDUCATION

2019
Master of Engineering
Civil Engineering
University of Massachusetts, Lowell

2016
Bachelor of Science
Civil Engineering
University of Massachusetts, Lowell

PRESENTATIONS

2017
Corey, John and Collins, Stephanie, "Woburn Engineering Department's Efforts to Meet MS4 Permit Requirements," New England Water Environment Association, 2017 Annual Conference & Exhibit, Boston, MA, January 24, 2017

2016
Corey, John and Collins, Stephanie. "Meet Your MS4 Requirements Using College Interns and the

Stephanie is a senior project engineer in Weston & Sampson's water program, providing both engineering design and construction services, as well as on-site construction administration and resident inspection services. She has experience in design, bidding, construction administration and resident inspection services for several water, sewer and drainage utility projects. Her project work includes evaluation and design of utility replacement and rehabilitation projects, roadway infrastructure improvements and water meter installation and/or replacement programs.

SPECIFIC PROJECT EXPERIENCE

Lead Service Line Inventory Development, Dedham-Westwood Water District (DWWD), Massachusetts. Engineer for development of an EPA Lead and Copper Rule Revisions (LCRR) compliant Lead Service Line Inventory. Assisted in both public and private side materials research and review, developed data base and created public education and outreach tools and materials.

Brookfield Road and Beacon Street Infrastructure, Dedham-Westwood Water District (DWWD), Massachusetts. Designer for water main replacement project of 3,100 feet of 8-inch water main. Project involved coordination around buried gas transmission pipeline and multiple culvert crossings. Produced plans and specifications and developed probable construction cost.

MassDEP Small System Technical Assistance Program. Project manager overseeing the development of a Service Line Inventory (SLI) and Lead Service Line Replacement Plan (LSLRP) for more than 20 Small Community Public Water Suppliers (PWS). Project scope includes monthly reporting to MassDEP and development of a draft Service Line Inventory and Lead Service Line Replacement Plan that complies with EPA's Lead and Copper Rule Revision requirements for each PWS in the program.

Essex Street & Highland Street Infrastructure, Chelsea, Massachusetts. Engineer for design and resident engineer for comprehensive infrastructure improvements in 4,500 feet of Essex Street and Highland Street. These streets required careful considerations in design, tactical administration in construction, and coordination with the contractor to work around buried water and gas transmission pipelines that occupy the street, in addition to dense local utility infrastructure. The project scope included construction of new water, sewer and drain main, cured-in-place pipe lining, full depth roadway reconstruction and cement concrete sidewalk replacement in Essex and Highland Street.

Broadway Water & Sewer Improvements, Chelsea, Massachusetts. Resident engineer for construction services for this project in Broadway. Project work included water and sewer main replacement, construction zone safety and traffic management, and hazardous materials management. Work also included coordination with contractor to ensure current water and sewer main work would not interfere with an upcoming drainage and roadway reconstruction project to commence the following construction season.

KEVIN FAHEY, NICET IV

BACKGROUND

2020-Present
Chief Certified Construction Inspector
Weston & Sampson

2018-2020
Senior Chief Certified Construction Inspector
Weston & Sampson

2007-2018
Chief Certified Construction Inspector
Weston & Sampson

2007
Inspector
GM2 Associates, Inc.

2005-2007
Self-employed
Licensed Contractor

2003-2005
Inspector
HNTB Corporation

1999-2003
Superintendent
Aspinet Construction

1996-1997
Foreman
Coastal Designs

1993-1998
Journeyman/Foreman
Paul Meyer Painting & Restoration

EDUCATION

1993
Bachelor of Arts, English
Franklin Pierce University

PROFESSIONAL CERTIFICATIONS & COMPETENCIES

NICET Level IV

Certified Engineering Inspector
Highway Construction

NICET Level I Certified
Certified Inspector
Bridge Safety

NETTCP Certified
Hot Mix Asphalt, Soils and

Kevin has more than 30 years of experience in the construction industry and serves as resident representative. His background includes reconstruction and safety improvements to highways and bridges, construction and supervision of a solar home, emergency and routine building renovations, and office building demolition. In addition, Kevin holds NICET Level IV certification as an engineering technician in highway construction, NICET Level I certification as an engineering technician in bridge safety, and NETCCP certification for hot mix asphalt, soils and aggregate, and concrete inspection. Kevin is also a certified Traffic Control Supervisor through the American Traffic Safety Services Association.

SPECIFIC PROJECT EXPERIENCE

Pavement Preservation on CT Route 11 (State Project 028-201), Colchester and Salem, Connecticut. Chief Inspector for the milling and resurfacing of 15 miles of highway for the CTDOT including bridge repairs and new catch basin tops.

State Project No. 63-618 - Traffic Control Signal and Intersection Improvements, Hartford, Connecticut. Sr. Chief Inspector / Construction Coordinator for inspection of construction for improvements to nine intersections in various locations within the city. Responsible for daily inspections of construction activities, compliance with material testing, processing change orders and other administrative documents. Kevin has presided over monthly progress meetings and engaged the contractor in periodic negotiation meetings, while providing coordination with the city engineering department, construction coordinator and the CTDOT District office personnel. Kevin also supervises subordinate project inspection staff and ensures staff has access to any required resources to perform their duties.

State Project No. 63-714 – Weston St., Jennings Rd. and Boce Barlow Way Traffic Control Signals and Intersection Improvements, Hartford, Connecticut. Construction Coordinator for inspection of construction for Traffic signal and Intersection Improvements. Responsible for supervising the project Chief Inspector with daily inspections of construction activities, compliance with material testing, processing change orders and other administrative documents. Kevin assisted the Chief Inspector with contract interpretations and resolution of RFI's and clarifications. Kevin provided coordination with the city engineering department, project manager and the CTDOT District office personnel. Kevin also ensures staff has access to any required resources to perform their duties.

State Project 111-124, Air Line North State Park Trail Pedestrian Trail Crossings, Pomfret, Connecticut. Served as Chief Inspector and Resident Engineer for the construction of two new pre-fabricated steel pedestrian bridges and three pre-cast concrete arch pedestrian tunnels at 5 separate sites between the Towns of Pomfret and Putnam, CT along the existing trail. The project was administered in cooperation with the Towns, CTDEEP and CTDOT as well as coordination with the utility companies Eversource and Frontier. The work inspected included ground reinforcement of the soil foundations, installation of GRS-IBS Abutments and Wingwalls, reinforced structural concrete, erection of the superstructures, assembly of the three concrete arches, pervious structural backfill installation, roadway reconstruction and safety improvements at each site.

Aggregate, and Concrete Inspector

NETTCP Certified Concrete Technician

NETTCP Certified Quality Assurance Technician

ACI-Certified Concrete Field Testing Technician

ATSSA Traffic Control Supervisor and Traffic Control Technician

Certified for Safety and Gauge Operation for Nuclear/ Moisture Density Equipment

Inland Wetland Commissioner's Training Program (2005)

OSHA 4 Hour Lead Awareness Training

OSHA 10 Hour Safety Certification

OSHA 40 Hour HAZWOPR Certification

SiteManager DWR/Diary/Estimates/CO's/ Reporting

Qualified Compliance Inspector of Stormwater - CT

State Project No. 155-168; Park Road and State Route 501 Capacity, Safety and Operational Improvements; West Hartford, Connecticut. Chief inspector for this project involving the relocation of the I-84 Exit 43 off-ramp, so that it is adjacent to the existing on-ramp, and provided for safety, capacity and operational improvements. This project also includes three new traffic signals, intersection improvements, ADA accessible sidewalk ramps with pedestrian push buttons, highway illumination, the development of the new Town Gateway area and the reforestation of the old off ramp. In addition to thousands of feet of subsurface drainage, electrical and fiber-optic network cable, the entire site is being restored with over 1,000 plantings and acres of turf establishment.

State Project 94-239; Montauk Avenue Roadway Reconstruction, New London, Connecticut. Chief inspector and office engineer for the reconstruction of Montauk Avenue, Phase I. Work involved the full-depth reconstruction of 1,800 feet of Montauk Avenue from Bank Street to Lawrence and Memorial Hospital, including intersection improvements at multiple cross streets. Additionally, the project included utility relocations, new ADA ramps, sidewalk, curbing, striping, signage, dedicated bike lane, and drainage modifications.

State Project 82-296; Westlake Drive Bridge Improvements, Middletown, Connecticut. Chief inspector and office engineer on a bridge replacement for Westlake Drive over Miner Brook. Work included the removal of triple corrugated metal pipes, and replacement with twin pre-cast concrete box culverts. Additional work included relocation a 12-inch water main over the new structure, and new sidewalk, guiderail, fencing, curbing, signage, and striping.

Replacement of the New City Road Bridge over New City Brook, State Project 134-139, Stafford, Connecticut. Chief inspector for the installation of a 110-foot section of 16.8-foot x 8.3-foot curved aluminum box culvert, including cast-in-place reinforced concrete inlet and outlet headwalls and 465 feet of road reconstruction. Provided daily inspection of all construction activities and maintained all construction records in accordance with the policies and procedures of the CTDOT Construction Manual. Kept records using the SiteManager Software system. Coordinated field activities with CTDOT staff from the District 2 office in Norwich.

Reconstruction of Avery Street, State Project 132-131, South Windsor, Connecticut. Chief inspector and office engineer for the reconstruction of 2,300 feet of Avery Street, as well as the realignment of the Avery/Beelzebub/Woodland intersection, to improve vertical and geometric sightlines. Work also included the complete replacement of the twin corrugated metal pipe culvert for Avery Brook with 65-inch and 73-inch arch reinforced concrete pipe culverts and headwalls, as well as new ADA ramps, sidewalk, curbing, striping, signage, and drainage installation.

Kelly Road Reconstruction, State Project 132-127, South Windsor, Connecticut. Chief inspector for the full-depth pavement reconstruction, drainage installations, sidewalk and driveway apron replacement and maintenance and protection of traffic tasks. Provided daily inspection of construction, prepared daily inspection reports and quantity calculations, prepared MAT100 material testing requests and construction orders, and maintained project records using the Manual 4 Book system.

MICHAEL WARNER, PE

BACKGROUND

2024-Present
Senior Team Leader | Associate
Weston & Sampson

2020-2024
Team Leader
Weston & Sampson

2018-2020
Senior Project Manager
Weston & Sampson

2015-2018
Project Manager
Weston & Sampson

2010-2015
Project Engineer
Weston & Sampson

2005-2010
Engineer
Weston & Sampson

2003-2004
Engineering Assistant
Town of Milton

EDUCATION

2004
Bachelor of Science
Civil Engineering
University of New Hampshire

PROFESSIONAL CERTIFICATIONS

Professional Engineer:
Massachusetts No. 48469
Rhode Island No.12376

PROFESSIONAL SOCIETIES

American Water Works Association

New England Water Works Association

HONORS

Tau Beta Pi Engineering Honor Society

PRESENTATIONS & PUBLICATIONS

Annie Wheeler, Michael Warner, and Cindy Lusk, "Hopkinton, MA, Potable Water Storage Tank

Mike is a senior team leader in Weston & Sampson's Water division, experienced in the evaluation, design, and construction of water systems. He has designed numerous water main installation/replacement projects and is an expert in related areas, such as hydraulic analysis, permitting, construction administration, geographic information systems, and capital improvement and bidding assistance.

SPECIFIC PROJECT EXPERIENCE

Water System Evaluations and Capital Improvements, Dedham-Westwood Water District, Massachusetts. Project manager for water system evaluations and capital improvements plan for the Dedham-Westwood Water District. Study included demand projections, hydraulic analysis, evaluation of existing facilities, identification of potential future water supplies, and hydrant flow testing for hydraulic model calibration. Study also included a complete collection and assembly of information on the distribution system, including pipe size, age, and material. Deliverables included recommended future improvements based on collected data testing and analysis, and development of a 20-year phased construction program.

Water System Capital Improvement Plan Update, Brookline, Massachusetts. Distribution engineer for an update to the town's water system capital improvement plan. Project scope of work included a GIS update, evaluation of potential water infrastructure failures and options for improvement, update of the Uni-directional Flushing (UDF) program, and development of a five-year CIP with cost estimates.

Hydraulic Analysis and Water System Master Plan, Chatham, Massachusetts. Distribution engineer for a water system evaluation to develop a hydraulic model of the distribution system from the town's water system GIS and to use the model to identify transmission and distribution system capital requirements. Study also included water supply and water quality impacts.

Water System Evaluation and Capital Improvement Plan, Milton, Massachusetts. Engineer for water system evaluation and capital improvement plan for the community of Milton. Studies included demand projections, hydraulic analysis, evaluation of existing facilities, identification of potential future water supplies, and C-value and hydrant flow testing for hydraulic model calibration.

Water Distribution GIS Development and Update, Milton, Massachusetts. Engineer for the development and update of water distribution GIS for the Town of Milton. Provided technical review of GIS data and provided the engineering link between GIS technicians and water modeling engineers.

Water Distribution GIS Development and Update, Belmont, Massachusetts. Engineer for the development and annual update of water distribution GIS for the community of Belmont. Work includes coordinating annual updates to water GIS based on distribution system improvements and linking of updated water service cards and water record drawings.

Project,", Journal of The New England Water Works Association, March 2020

PRESENTATIONS & PUBLICATIONS, CONT.

"Utilizing a Water GIS to Help Manage a Water Distribution System" presented at NEWWA Spring Conference, Worcester, Massachusetts, April 2015

On-Call Emergency Response for Horizontal Utilities, Plymouth, Massachusetts. Team/technical lead, providing management services for the preparation of specifications and construction details for use in contract documents for on-call emergency repairs of water, sewer, and drain utilities.

Annual Water Main Replacement Projects, Belmont, Massachusetts. Design engineer for annual water main replacement projects, which entailed replacement of more than 13 miles of 8- and 12-inch water main. Used pipe bursting instead of traditional open cut trenching installation, and worked within Belmont Center and other highly traveled business districts. Prepared applications to access land adjacent to and/or owned by the MBTA as well as applications for funding under the MWRA Local Pipeline Assistance Program and the Local Water System Assistance Program. Also prepared MWRA 8(m) Water Works Permit applications.

Water Main Replacement Projects, Dedham-Westwood Water District, Dedham, Massachusetts. Design engineer for several water main replacement projects for the Dedham-Westwood Water District, including replacement of over 28,000 linear feet of 8-, 12-, and 16-inch water main. Work involved preparation of design plans; specifications; MassDOT, DCR, and MWRA 8(m) permit applications; preparation and presentation of NOIs to local conservation commissions; and fire hydrant flow testing. For one project, prepared design for the installation of approximately 2,000 linear feet of water main, which connected to a new premanufactured booster pump station, to create a new high service distribution system.

Water Main Construction, and Installation, Dedham-Westwood Water District. Resident engineer for portions of the construction of approximately 7,500 linear feet of 12-inch and 16-inch water main as a part of the Westwood Station development project. Performed work for the District, the eventual owner of the water mains installed. Construction work included the installation of water main for up to four different water main service systems at one time.

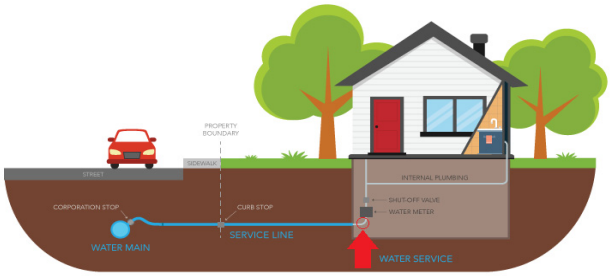
Annual Water Main Replacements, Quincy, Massachusetts. Design engineer for annual water main replacement projects for the city, including replacement of over 21,000 linear feet of 8-, 12, and 16-inch water main. Work involved preparation of MassDOT and DCR permits, preparation and presentation of NOIs to local conservation commissions, fire hydrant flow testing, preparation of MWRA LPAP applications, preparation of contract drawings and specifications, and preparation of MWRA 8(m) water works permit applications.

Water Main and Roadway Improvements, Needham, Massachusetts. Engineer for design of approximately 2,400 linear feet of 8- and 12-inch water main replacements and roadway improvements in Needham.

Water Meter and Advanced Metering Infrastructure Implementation Program, Lexington, Massachusetts. Project manager/team leader for the implementation and installation of over 9,500 water meters and endpoints, over 5,000 endpoint retrofits, and meter reading and billing software coordination for the Department of Public Works. Prepared bid documents for installation services to be completed over an 18-month period. Developed procedures and processes for meter and module installations and retrofits and troubleshooted performance and installation issues.

PROJECT APPROACH

Project Statement & Narrative



The Town of Ledyard (Town) is seeking qualifications from experienced firms to develop and oversee a comprehensive Lead and Copper Rule Revisions (LCRR) / Lead and Copper Rule Improvements (LCRI) compliance program. The program seeks to continue identifying unknown service line materials, validate compliance with LCRR requirements, develop a LSL replacement strategy and management program, prepare and maintain a public education and outreach plan, and provide additional LCRR/LCRI support services.

As water engineers and municipal consultants, we have a proven track record of delivering effective drinking water distribution system solutions for our clients. Organized into three divisions (engineering, operator, and construction services), Weston & Sampson is uniquely structured to execute this project.

We have assisted communities in Massachusetts, New Hampshire, Vermont, and New York with development of their service line inventories and replacement plans. With years of experience, a deep understanding of water distribution assets, and proven record with LSLR requirements, we are well-equipped to deliver complete and compliant service line inventories.

The following is our approach to delivering the scope of work outlined in the RFQ. This approach is based upon our experience with other LCRR/LCRI projects and the Town and includes issues to consider when developing a plan to inventory, investigate, and replace lead services, including public education and outreach planning, and LCRR/LCRI support services.

Scope of Services

TASK 1 – WATER SERVICE LINE INVENTORY

Weston & Samson will review existing data provided by the Town, including the previously developed inventory, tie cards, assessors' database, and water department records. During this process, we will provide comments on the validity of the data and the water service line (WSL) record system, as well as provide recommendations to augment the data and/or identify areas that are deficient. Overlaying the WSL inventory data on top of the distribution system network using geographic information system (GIS) software exposes gaps in data locations and research can then be targeted to find ancillary supporting materials. Additional resources may come from building permits, record drawings from capital improvements, meter replacement programs, existing GIS layers, and other such resources. This helps to establish a basis for the inventory from which continued investigation may proceed.

Weston & Sampson will provide guidance and technical support and perform the needed work to update the Town's WSL inventory in accordance with resources and methods identified in the LCRR and the EPA "Guidance for Developing and Maintaining a Service Line Inventory", August 2022 and Connecticut State Department of Public Health's (CTDPH) LCRR material Inventory template.

We have found compilation and presentation of the assembled data using GIS to be beneficial to utilities. GIS industry leader Esri has developed a standard suite of tools that includes a host of out-of-the-box solutions designed to make data collection, manipulation, editing and reporting simple and integrated into an organization's existing workflows. Esri's solution based in ArcGIS online makes it instantly scalable across an organization's operations to include mobile field work, office staff, and showcase materials for public consumption. This solution includes multiple web-based maps for the rendering of service information internally and externally to the public. The RFQ notes Groton Utilities operates and maintains the Town's water system. Reviewing the links to Groton's Utilities LSL

Inventory Project and LSL Inventory Data on the Town's Water Pollution Control Authority's webpage, it appears Groton Utilities is already utilizing the Esri platform. Therefore, we will work with the Town and Groton Utilities to further update and develop the service line inventory and increase the capabilities of the software to better serve the Town and Groton Utilities.

For other WSL projects, we've found that additional information (like installation year) can assist with determining the material (for example, if a service is installed after the lead ban, established in 1986, we can assume the service material on either side is not lead). It would be useful to record this information, as available, to help with secondary validation efforts later in the project.

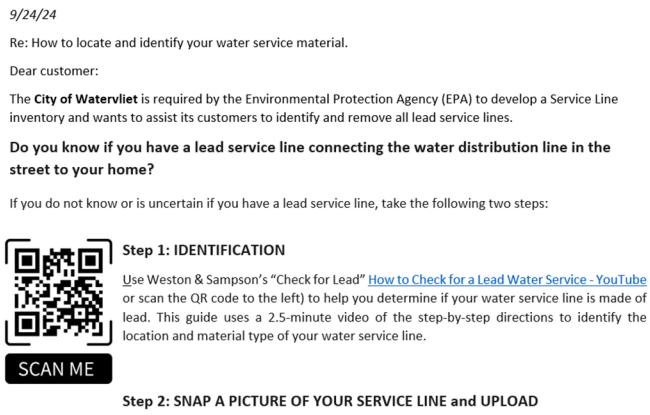
Additionally, reviewing the Town's historical water regulations and other records to determine when, and if, standardized on a non-lead pipe material for water services will enable us to more efficiently develop the WSL inventory in similar fashion as utilizing the lead ban date above.

Next steps to confirmation would take a "least invasive first" approach, such as customer self-assessment and reporting to ask homeowners to participate in the identification process and self-report their WSL material. Public engagement is a key strategy in developing a meaningful inventory. Raising awareness of lead in the community and the benefits of reporting help drive development of the inventory organically.

One cost-effective means of engaging the water customer for a self-assessment of their water service information is to develop and administer a QR coded-flyer/bill stuffer for the individual customer to scan, follow the instructions at the associated website, and upload a photo and/or any other pertinent information regarding their water service.

We have developed a customer canvassing plan within the Esri environment to track the data obtained from the outreach effort. This system is utilized to review the self-report data and will generate outreach letters, additional data requests, customer address reports, and updated service line inventories.

While Groton Utilities has sent mailings asking customers to self-report, a concerted effort utilizing multiple mailers with varying language and enforcement action, including fines and/or water shut offs, has been effective in ensuring customer response.



9/24/24

Re: How to locate and identify your water service material.

Dear customer:

The **City of Watervliet** is required by the Environmental Protection Agency (EPA) to develop a Service Line inventory and wants to assist its customers to identify and remove all lead service lines.

Do you know if you have a lead service line connecting the water distribution line in the street to your home?

If you do not know or is uncertain if you have a lead service line, take the following two steps:

SCAN ME

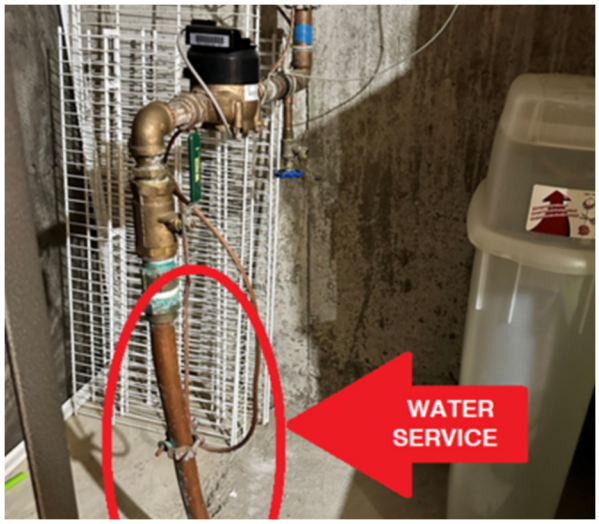
Step 1: IDENTIFICATION

Use Weston & Sampson's "Check for Lead" How to Check for a Lead Water Service - YouTube or scan the QR code to the left) to help you determine if your water service line is made of lead. This guide uses a 2.5-minute video of the step-by-step directions to identify the location and material type of your water service line.

Step 2: SNAP A PICTURE OF YOUR SERVICE LINE and UPLOAD

If service line materials are not identified during the outreach process, the Town should utilize existing operation and maintenance activities (main break and service break repairs, meter change outs and shut offs, etc.) as opportunities for identifying and/or confirming service materials. Additionally, we can coordinate with the Town to perform site investigations, identifying an inspector or sampling technician for each property to develop an appointment for each property.

As additional information is obtained throughout the process, from visual inspection and to outreach results, we will update the service line inventory, revising the information contained within the Town's GIS for eventual export into the CTDPH LCRR material Inventory template.



TASK 2 – LSL REPLACEMENT PLAN

As the inventory is being refined and updated, we will coordinate with the Town to determine an action plan and development of a LSL Replacement Program. Although many action plans will have similar components, there is no "one size fits all" procedure. Weston & Sampson will discuss the different approaches the Town may take and the many items that require careful consideration and coordination prior to implementation of an LSL Replacement Program.

The standalone LSL Replacement program does not mean the work cannot be done concurrently with other capital projects. By evaluating how the LSL Replacement program can be coordinated with other capital improvements projects, cost savings and efficiency can be realized. Weston & Sampson will meet with town staff to understand upcoming capital improvements projects and where LSL replacement can be incorporated. For example, the system can include an item in water main replacement projects, where, if a lead service is encountered, it is to be replaced in its entirety, using trenchless technologies, if feasible.

Piggybacking service replacements with other proximal utility work can be an effective strategy. Other methods include incorporating into all utility contracts, so that if a lead service line is found or damaged, then the Town must be notified, and the line be replaced. Weston & Sampson will work with the Town to determine the best approach for replacement, including different techniques available and pros and cons of water department staff performing a replacement versus private contractors. While town staff can replace the public portion of the water service, available data has shown the full lead service should be removed at the same time to avoid disturbance of particulate lead in the existing water service.

Weston & Sampson has found that coordination of the work itself, although important, tends to be the easiest component of the LSL Replacement Program. These programs become wholly unique to the individual water systems based on local ordinances, available funding, and determination of ownership and legal responsibilities for replacement. Weston & Sampson will first evaluate the completed WSL Inventory and establish baselines for planning:

- How many known LSLs exist?
- Do any unknown or potentially unlocated material conditions remain?
- What is the average cost of an LSL replacement? What is the total cost to replace all known or suspected LSLs?
- Where are these LSLs located and who is being served? Disadvantaged water users? Sensitive water users (e.g. schools, daycares, infants, etc.)

Once the above is understood, Weston & Sampson will work with the Town to determine replacement prioritization by ranking locations on sensitivity of population served (e.g., elementary school), cost effectiveness of replacement (e.g., those locations that coincide with planned capital projects) or a combination of the aforementioned. Further considerations include permitting requirements (e.g., utility assets of other ownership, local Conservation Commission, etc.) and environmental considerations.

Additional factors to understand, consider and address when developing an LSL Replacement Program are:

- Review of applicable local ordinances and bylaws
  - Develop an understanding regarding private side ownership and responsibility for replacement.
  - Examine the ability to adjust local ordinances or bylaws to create new regulations to meet the LCRR requirements. For example, adjust plumbing permits to require the service line material be identified

and line replaced if found to be lead, or if homes are sold, the service line material must be determined and replaced, if lead, prior to the sale of home.

- Budget and funding evaluation
  - Examine available funding sources, including capital budgets, grants, and loans.
  - Determine how the Town wants to tackle the cost of private side replacement, whether the utility pays for the replacement, homeowner pays, the Town pays a set portion or provides a loan to the homeowner, or funding is sought through other means like SRF or other funding.
  - Review utilization of CTDPH DWSRF to augment the Town's ability to review and replace LSLs.
  - Review the ability to self-fund this effort or a need to adjust water rates to cover proposed work.
- Creation of initiatives to replace LSLs to assist customers and encourage LSL replacement
  - Can Ledyard offer a rebate program if the property owner replaces the LSL? Will the Town offer a program where it will pay for both private and public replacement for a certain timeframe and after said timeframe, the property owner must replace the private portion at their own cost?
- Replacement policies and procedures
  - Develop standards for LSL replacement to meet LCRR requirements and Town needs (e.g., line must be replaced in its entirety (no partial replacements), sampling before and/or after LSL replacement, supply point of use filters, etc.)
- Record keeping and documentation of efforts
  - Evaluate different methodologies for documenting replacement progress to determine the best fit for the Town and their available technologies. For example, the Town may prefer to store all information in GIS or in form-based web applications like iDataCollect, where information can be logged along with photos and then exported in a report format. Options will be discussed to determine which will fit the Town's needs.

These programs affect a vast number of people and require careful coordination and consideration of these sensitive issues, so care must be taken when developing these plans. Weston & Samson will prepare a LSL replacement plan that meets the needs of Ledyard, CTDPH requirements, and provides the greatest benefit for the customer base, ensuring participation from homeowners for achieving full LSL replacement. The plan will include public education documents, outreach and response. This will include a replacement prioritization strategy, and a comprehensive goal for the rate of replacements.

Additionally, this work can also include excavation at the curb stop, water sampling, and visual inspection within the residence (especially if the customer self-assessment is incomplete or inconclusive). Weston & Sampson will work with town personnel to determine the best approach for identifying the unknown service materials. The approach will be based on funding available for test pit and inspection work, the ability to examine the service lines during other planned work (meter reading exercises, planned capital projects), the desired involvement level of other municipal departments, and so forth. As with all components of these programs, the approaches are unique to every water system and must be examined to create the most efficient programs.

Sequential sampling of service line and premise plumbing could be utilized to determine service line material but should only be completed for properties where this is no other way to identify the unknown system owned portion of the service line. Prior to performing any sampling, we will review acceptable practices and procedures with CTDPH.

If sequential sampling is a possibility or determined to be necessary and Weston & Sampson's scope of work includes in-home visual inspections, we will observe premise plumbing and track service line information using a survey form that includes documentation of the presence of a water meter, presence of an incoming valve, approximate length and location of the service line as it enters the property, and a photograph of the identified materials. We will measure premise plumbing dimensions and calculate volume for building specific sequential sampling (if necessary). Based on this inspection, we will develop a customized sequential sampling package tailored to the unique plumbing layout and service line characteristics.

Once determined, materials and instructions will be provided to the customer to perform the sequential sampling developed for the building. This process will include collecting water samples at various points after allowing for a set stagnation period. Our team will then collect the samples taken by the customer, transport them to a certified lab, and analyze the results to determine if lead is present in the water, which could be an indication that a LSL is present.

In our experience, sequential sampling requires a minimum quantity of verified lead pipe to be present in the distribution system to correlate sampling results. Alternative identification methods such as predictive and statistical modeling would provide better insight as to the location of lead or galvanized requiring replacement (GRR) services without having to perform 100 percent field verification. An 80/20 statistical model based on each water system's individual data would identify the highest likelihood for lead containing services that could be targeted for field verification.

Weston & Sampson can assist the Town with the development of a predictive model for the LSL placement process using best management practices approved by CTDPH and document the methodology and outcomes from the modeled results. Modeled results will be utilized in related tasks to aid in the success of future tasks.

Where identification of public service material must be performed (without the need for test pitting or excavation), an alternative method to sampling is technology that scans the inside of the pipe using a probe inserted from the home toward the water main up to 80 feet from the point of insertion.

As part of the proposed scope of services, we can identify contracts and/or vendors that will enable the Town to supply filters and pitchers to customers impacted by a LSL and/or affected by the LSL Replacement Program. Weston & Sampson can assist the Town in preparing procurement documents and/or selecting the appropriate pitcher/filter provider.

Additionally, Weston & Sampson can assist with legal agreements for private-side work, developing and maintaining LSLR plans, drawings, and specifications, the preparation of construction contract documents which include flushing plans, and assistance with bid phase services.

TASK 3 – LSL REPLACEMENT PROGRAM MANAGEMENT

As part of the construction phase support, Weston & Sampson will monitor construction for compliance with the contract documents, arrange and conduct meetings between the Town, Construction Contractor, and other engaged parties, review shop drawings, pay requisitions, and other Construction Contractor submittals, and administering the project in accordance with funding program requirements.

Construction and project correspondence will be reviewed to assess contract compliance, and the team will oversee final project closeout activities including punch list preparation, substantial completion certification, and assembly of warranties and guarantees. Public outreach and education will be coordinated in areas impacted by LSL replacements and tap sampling will be conducted before and after replacements to ensure water quality and regulatory compliance. Weston & Sampson will assist the Town with pitcher filter distribution utilizing the selected pitcher filter vendor(s).

TASK 4 – PUBLIC EDUCATION AND OUTREACH PLAN

Weston & Sampson will assist with the development of and implementation of a public outreach program in accordance with the EPA's LCRR requirements. Preparation of public education and outreach plans will include:

- Developing materials that clearly and concisely detail the dangers of lead, how to identify LSL and actions residents can take to play their part in "getting the lead out." Materials should be drafted for use in various means of outreach including, but not limited to, posts for the Town's website, social media, paper mailers, and presentations at local events and meetings.
- Develop communication policies and procedures to timely inform customers of upcoming work and program progress.
- Create targeted materials for distribution to schools and childcare facilities that discuss sample results and provide information on the

hazards of lead and what the schools can do to help educate their students and families.
- Develop Right of Entry forms for homeowners to sign acknowledging they understand their rights and have given approval for work to occur on private property.
- Determine response approach to inquiries requesting work be performed immediately.

These materials will be tailored to the specific needs of the water system as necessary. Outreach materials will be submitted to the Town for review and final approval before distribution to the public.

Under the LCRI, when the Lead Action Level (LAL) of 10 ppb is exceeded, the PWS must conduct a 24-hour Tier I Public Notification. In addition to specific public education and outreach, multiple exceedances in a 5-year period require additional risk mitigation measures. Under this task, Weston & Sampson could prepare a Tier I Action Level Exceedance Plan, which could include items such as:

- Communication Flowchart/matrix that documents each person(s) responsible for informing the different parties of the exceedance (e.g. DEP, EPA, Mayor's office, DPW Director)
- Plan of action for optimizing or re-optimizing OCCT
- Filter plan in case of two LAL exceedances in a 5-year period
- Public Education and Activity Plan and corresponding Draft Public education materials

TASK 5 – LCRR/LCRI SUPPORT SERVICES

Under the LCRI, Lead and Copper Sample tiers have been adjusted, and Public Water Suppliers must utilize the new tiers and baseline inventory findings to prepare a new Lead and Copper Sample Plan. The LCRI details when lower tiers may be sampled and when sites are no longer viable for sampling.

For this project, we will utilize the EPA-tiered approach, which recommends the following course of action for determining sampling locations:

- Tier 1: Single-family homes with lead pipes or copper pipes with lead solder installed after 1982
- Tier 2: Multifamily homes with lead pipes or copper pipes with lead solder installed after 1982
- Tier 3: Single-family homes with a galvanized line currently or formerly preceded by a lead line, or currently preceded by a lead gooseneck
- Representative Site: Plumbing materials used at the site that are commonly found at other sites served by the water system

The tiered approach prioritizes certain locations as preferred sampling sites. As each individual tier is exhausted, lower tier designations can be considered for use as sampling locations.

Additionally, targeted sampling sites will be determined through a coordinated effort with Town personnel and will consider; accessibility, property owner participation, existence POU/POE treatment system, water age of sampling location, and location of the service within the existing water system. All proposed locations will be submitted to CTDPH for review and approval prior to implementation.

Additionally, the LCRI requires first and fifth liter sampling at sites served by LSL. As a result of these regulations, changes will likely be needed to be implemented to the Town's LCR Sample Plan. In our experience, it can be difficult to obtain volunteers for LCR Sample programs. To proactively prepare a new LCR Sample Plan, Weston & Sampson will utilize the inventory to perform outreach to potential sample sites to recruit sample program volunteers. Weston & Sampson will also coordinate sampling at sites served by LSL that are current or new volunteers in order to understand how the first and fifth liter sample results may affect the Town's 90th percentile calculations and determine the probability of LAL exceedances.

The LCRI has made updates to LCR sampling directives and the Town's current sample instructions and outreach materials will likely need to be updated to reflect these changes. Weston & Sampson will make the necessary updates to the Town's current outreach material to make sure it aligns with the new regulation requirements.

Weston & Sampson℠

STATEMENT OF AA/EEO POLICY

Weston & Sampson is committed to a policy of equal employment opportunity for all its employees and applicants. Weston & Sampson's growth and success depend largely on utilizing to the fullest extent possible all available human resources. We actively seek and employ qualified persons in all job classifications and administer all personnel actions without regard to race, color, religion, sex (including pregnancy, sexual orientation and gender identity), age, national origin, physical or mental disability, genetic information, status as a protected veteran, or any other protected status under applicable federal, state or local law.

Weston & Sampson will continue to further its policy of equal employment opportunity by recruiting, hiring, compensating, training, and promoting persons in all job classifications without regard to race, color, religion, sex (including pregnancy, sexual orientation and gender identity), age, national origin, physical or mental disability, genetic information, status as a protected veteran, or any other protected status under applicable federal, state or local law. Promotion decisions will continue to be reviewed in an effort to ensure that only valid criteria are used when evaluating employees for promotional opportunities.

Furthermore, systematic review of personnel actions will attempt to ensure that all terms and conditions of employment, such as compensation, benefits, transfers, layoffs, return from layoffs, and any Company-sponsored training, education, social, or recreational programs, are administered without regard to any protected status under applicable federal, state or local laws. Weston & Sampson has established reporting and monitoring systems in an effort to ensure adherence to this policy of nondiscrimination. Every employee and member of management is expected to support and promote our EEO and AA policy within his/her area of assigned responsibility.

As part of Weston & Sampson's overall EEO policy, the harassment of others because of their protected class status is not tolerated. An atmosphere of tension created by disparaging remarks or animosity, unwelcome sexual advances, requests for sexual favors, inappropriate touching or other conduct of a sexual nature does not belong in our workplace. When any such verbal or physical conduct or overtures unreasonably interfere with any individual's work performance or create an intimidating, hostile, or offensive work environment, the offended individual is required to notify the AA/EEO Officer so that we may have an opportunity to investigate and resolve the problem. All inquiries will be investigated and dealt with expeditiously and handled with the highest degree of confidentiality possible except, for example, where disclosure is required by law, regulation, or legal process, or is necessary to allow investigation of the complaint. Employees are expected to cooperate in such investigations. Failure to cooperate or providing false, deliberately deceptive, or intentionally misleading information may result in disciplinary action, up to and including termination from employment.

The Company's EEO policies prohibit employees and applicants from being subjected to harassment, intimidation, threats, coercion, discrimination, or retaliation because they have engaged in, or may engage in: (1) Filing a complaint; (2) Testifying, assisting, or participating in an investigation, compliance review, hearing, or any other activity related to applicable equal employment opportunity law; (3) Opposing any act or practice made unlawful by applicable equal employment opportunity law; or (4) Exercising their rights under applicable equal employment opportunity law.

To assure compliance with the plan, Colleen Manning, AA/EEO Officer, has been designated to administer and monitor the program and make reports to the Company's senior managers. She may be contacted at (978) 532-1900. The non-confidential portions of the program are available for inspection upon request during normal business hours.

This policy has my personal support.

Francis M. Ricciardi, PE, LSP
(Weston & Sampson Engineers, Inc.)
(Weston & Sampson CMR, Inc.)
(Weston & Sampson Services, Inc.)
Date: January 1, 2025

Criteria

Project Team

Firm Experience

Project Approach

Standard

Do the personnel have firsthand experience in this type of work? Does the Project Management team have direct experience working with the CT Department of Public Health on LSLR programs? Is the Subject Matter Expert knowledgeable in LCRI and LCRR requirements?

Does the firm have the appropriate support capabilities to meet the demands of the program? Has the firm done previous programs of this type of scope? Demonstrated experience prioritizing LSL replacements in CT with direct experience with LCRR model approval from CT DPH. Has the firm previously worked with CT funding agencies? How much money have they gotten for CT communities on LSL programs? Demonstrated experience for work on private property- creative approaches to gain access and limit Town liabilities. Demonstrated experience with public outreach and consensus building for LSL replacement programs in CT.

Does the project approach show an understanding of the program objectives and the results desired from the program? Does the project approach show creative solutions to meeting project objectives?

Weighting Factor	H2M	Weston & Sampson	Arcadia	Commissioners Rating	Totals	
					H2M	W &S
4	0	0	0		0	0
3	0	0	0		0	0
3	0	0	0		0	0
				totals	0	0

Commissioners notes

Arcvadia

0	Although all can do the job Arcadia is focused on innovative solutions that reduce impact and cost
0	Although allhave shown that they have the talent and resources, Arcadia introduced those talents that have already demonstarted proficiency in lead surveys. Because it is a smaller company the band width might not be as large as the other firms
0	Recent work in New London demonstates proficiency in the work to be done
0	

Criteria

Project Team

Firm Experience

Project Approach

Standard

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Does the project approach show an understanding of the program objectives and the results desired from the program? Does the project approach show creative solutions to meeting project objectives?

Weighting Factor	H2M	Weston & Sampson	Arcadia	Commissioners Rating	Totals	
					H2M	W &S
4	7	8	10		28	56
3	9	8	7		27	24
3	8	8	9		24	24
				totals	79	104

Commissioners notes

Arcvadia

80	Although all can do the job Arcadia is focused on innovative solutions that reduce impact and cost
21	Although allhave shown that they have the talent and resources, Arcadia introduced those talents that have already demonstarted proficiency in lead surveys. Because it is a smaller company the band width might not be as large as the other firms
27	Recent work in New London demonstates proficiency in the work to be done
128	

LSLI / LSLR Meeting with Ledyard 10/22/2025 – 9:05AM

Attendees:
Ed Lynch
Mo Duarte
Steve Dietrich
Kelsey Odell
Kate Blacker
Joe Allyn
Mike Weber

AGENDA

- Ledyard's Status & Plans moving forward

- Letters that need to be sent out
  - Customer Material (billing associated)
  - Communication with Sampling Sites, as well as Schools & Daycares (Tier 1 Sample Sites) (billing associated) (Ballpark of 120 locations)
    - Roughly 40 Ledyard Approved Sites, 20 Gales Ferry, that need inspections + Need to add schools and daycares
    - Looking for: Need to fill out required columns (AE-AP) on CT DPH Spreadsheet, need to inspect for any whole house filters
      - This bit is REQUIRED for our lab/testing needs.
  - Price of Inspections are beyond the typical Lab fees
    - CET's costs are not currently recaptured.

Columns Include:

BUILDING TYPE	# OF SERVICE CONNECTIONS SERVED BY SERVICE LINE?	POINT-OF-ENTRY OR POINT-OF-USE TREATMENT PRESENT?	BUILDING PLUMBING MATERIAL 1	BUILDING PLUMBING MATERIAL 2	BUILDING PLUMBING MATERIAL INSTALLED DATE	BUILDING PLUMBING VERIFICATION DATE	BUILDING PLUMBING VERIFICATION SOURCE	CURRENT LCR SAMPLING SITE?	LCRR SAMPLE SITE	LCRR SAMPLE SITE TIER LEVEL	LCRR SAMPLING POINT ID

DISCUSSION

Ledyard Timeline:
- Meeting next week (week of 10/27/25) to approve Engineering Firm for Ledyard's system inventory / planning
  - From here Sate will need to approve & work on Grant funding
- Timeline not conducive to Lab needs at GU – GU will perform inspections for the above-described work
- Advised on Predictive modeling – and how it was not a good option for GU specifically – this may also be true for Ledyard
- Explained that 538 Potholes can realistically take 10-12 months (assumed 179 workdays, with 3 excavations a day)
- Additionally, if 3 points of verification are required, 538 basement inspections could be required
- Explained 2027 Deadline for complete inventory

- Explained what happens if 2027 Deadline is not met (required to complete unknown, suspected Lead & GRR, potholes over 6–7-year period from 2027-2033/20234 with additional sampling requirements a high possibility. Advised to check with Arcadis on these implications.
- There is a possibility that another 10% of your KNOWN materials will be required for potholing post 2027 deadline ~300 Additional potholes.

ACTION: KRO send LCRR timeline requirements graphic
ACTION: Send estimate for above-described work / inspections
ACTION: Get pricing from Tina on Mailers cost for Ledyard

Other Topics:

- NOV – Steve Dietch updates Ed on NOV that he is still waiting on
- 8 Smith Pond – Kate & Mo cover leak that is post-curb box but pre-meter -> advice /decision on how to move forward. Length of an estimated ~ 100ft, losing roughly 7,000-gallons a day
    - Ed would like an estimate for fixing the leak, Mo advises we will also have to hire a plumber for the internal piece
    - Would like to fix it & put a Meter box in

ACTION: Need Estimate for fixing 8 Smith Pond

File #: 25-2682 **Agenda Date:** 10/28/2025 **Agenda #:** 3.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Holmberg Pump Repair and Preventive Maintenance.
The approval of the repair to the Holmberg tank emergency fire pump and 5-year maintenance agreement.

Background:

From September 23, 2025:
The approval of the repair to the Holmberg tank emergency fire pump and 5-year maintenance agreement.
Chairman Lynch told Mr. Duarte that the WPCA needs a single invoice for the repair of the pump. Ms. Wadecki said the issue is that the invoice needs to be billed to the WPCA not Groton Utilities. Ms. Jones added that another solution would be for GU to pay the invoice, then bill the WPCA.
Mr. Duarte said after the WPCA approved the preventative maintenance contract he called Cummins and scheduled the first maintenance. He added that the WPCA should see the first installment invoice come through soon.
Chairman Lynch said Ian Stammel, Assistant Finance Director sent him an email prior to the meeting with a new invoice that will need addressing. The invoice was not put on the agenda because Mr. Stammel contacted GU to ask for the invoice to be separated into single invoices and for the work order numbers to be corrected. At the time of this meeting, the correction has not been completed yet.

Department Comment/Recommendation:
(type text here)

Planned Equipment Maintenance Proposal to THE CITY OF GROTON

To the attention of: THE CITY OF GROTON

Cummins provides best in class products and related services worldwide with the highest quality in the industry. We service more than Cummins engines and generators, and we're pleased to offer you the following planned equipment maintenance proposal.

Cummins Available Planned Maintenance Services:

Cummins offers the following services - based on your selected packages these may or may not be included:

System Inspections: Batteries, controls, fuel systems, cooling systems, intake and exhaust systems, controls and accessories, aftertreatment basic run testing included in all Inspection Services.
Oil & Coolant Analysis: Sampling, included in all Inspection + Services, provides an overall snapshot of the equipment condition.
Planned Maintenance: Clean filters and oil changes included in Full Service keeps your product ready to run.
Load Bank Testing: Prevents wet stacking in diesel engines. In all units load bank testing applies controlled load to the equipment to test for proper operation providing peace of mind.
Transfer Switch & Switchgear: Cummins takes care of your whole system.
Cummins Branded Parts: Maintenance always includes Cummins Genuine Parts where applicable.
Warranty: Best-in-Industry warranty is always included, with a variety of extended warranty options available on Cummins equipment.
Digital Monitoring: Cummins Acumen is a best in class remote monitoring solution for your products to ensure availability and minimize unexpected costs.
Additional Available Services: Winterization, oil extension programs, training and more can all be customized to your needs.

For additional information regarding Cummins available products and services, please contact your Sales Representative.

Pricing for Services:

This 5 year proposal has been customized for your equipment and operations as described here:

Customer Information:		Contact Information:	
THE CITY OF GROTON		Name:	Paul Hyatt
295 MERIDIAN ST, GROTON, Connecticut, 06340-4012		Phone Number:	860-625-1563
Account Number:	206033	Cell:	
		Email:	hyattp@grotonutilities.com

The package Supported Bundle includes the below services for this equipment:

Site Information:		**Equipment Information:**	
		Manufacturer:	Cummins Model
12 Orchards Lane Groton, Connecticut 06335 United States		**Model:**	Cummins Model
Access:	Standard	**Engine Serial Number:**	73634194
Access Notes:		**Genset Serial Number:**	B140633149
Service Branch:		**ATS Serial Number:**	
Cummins Sales & Service - Rocky Hill CT		**Quantity:**	1
914 CROMWELL AVE ROCKY HILL, Connecticut 06067-3004 United States		**Install Date:**	
		Warranty Expiration Date:	

Year 1	**Service Type**	**Frequency**	**Quantity**	**Unit Price**	**Extended Price**
	Inspection		1	446.04	446.04
	Full Service		1	996.16	996.16
	Custom Travel	Custom	1	0.00	0.00
				Year 1 Total:	1,442.20
Year 2	**Service Type**	**Frequency**	**Quantity**	**Unit Price**	**Extended Price**
	Inspection		1	446.04	446.04
	Full Service		1	996.16	996.16
	Custom Travel	Custom	1	0.00	0.00
				Year 2 Total:	1,442.20
Year 3	**Service Type**	**Frequency**	**Quantity**	**Unit Price**	**Extended Price**
	Inspection		1	446.04	446.04
	Full Service		1	996.16	996.16
	Custom Travel	Custom	1	0.00	0.00
				Year 3 Total:	1,442.20
Year 4	**Service Type**	**Frequency**	**Quantity**	**Unit Price**	**Extended Price**
	Inspection		1	446.04	446.04
	Full Service		1	996.16	996.16
	Custom Travel	Custom	1	0.00	0.00
				Year 4 Total:	1,442.20
Year 5	**Service Type**	**Frequency**	**Quantity**	**Unit Price**	**Extended Price**

	Inspection		1	446.04	446.04
	Full Service		1	996.16	996.16
	Custom Travel	Custom	1	0.00	0.00
				Year 5 Total:	1,442.20

Price of Services per Unit: USD 7,211.00
Total Price of Services: USD 7,211.00

Year 1 Total:	USD 1,442.20
Year 2 Total:	USD 1,442.20
Year 3 Total:	USD 1,442.20
Year 4 Total:	USD 1,442.20
Year 5 Total:	USD 1,442.20
Total Agreement - PreTax:	USD 7,211.00

Notes:
Anything not specifically addressed above is not included.

Customer Responsibilities:

The Customer is responsible for operating the maintained equipment and shall perform all checks as described in the Operation and Maintenance Manual.

Proposal Considerations:

1. All work is planned from Monday to Friday on normal Business working hours – 8:00am to 5:00pm. Additional and off-hours work and billable amounts not listed in the above scope of work shall be based on current calendar year rates.
2. All pricing above is stated excluding any and all taxes.
3. This quotation is open for acceptance for 60 days after which both price and service delivery period will be subject to confirmation prior to acceptance of proposal.
4. The pricing in this quotation will remain the same over the duration of the term.
5. This proposal is offered in U.S. Dollar.
6. Payment terms for this quote are Pay as you go.

This maintenance proposal is expressly conditioned upon acceptance of the https://www.cummins.com/regional-terms-and-conditions/powercare of Cummins' Maintenance Agreement.

I appreciate your interest in working with Cummins and I thank you for your business. If you need any further assistance or clarification, please do not hesitate to contact me.

To accept this quotation as provided, please return a signed copy of this form or contact me for an electronically signable version.

Sincerely,

Jay Evans
Senior PEM Sales Executive - PG
lb044@cummins.com
www.cummins.com

Please return signed agreement to: lb044@cummins.com

Seller hereby agrees to sell to Buyer, and Buyer hereby agrees to buy from Seller. The foregoing product/ services upon the terms and condition set forth in the "Planned Equipment Maintenance Agreement Terms and Conditions" attached here to which are hereby incorporated here in reference.

Customer Approval (Quote ID Q-394922)	**Approval Cummins Sales & Service - Rocky Hill CT**
Name: _____	Name: _____
Title: _____	Title: _____
Signature: _____	Signature: _____
Date:_____	Date:_____

Generator
Planned Equipment Maintenance

INSPECTION

INTERVALS AVAILABLE: WEEKLY, MONTHLY, QUARTERLY, SEMI-ANNUALLY OR ANNUALLY

BATTERIES AND BATTERY CHARGER
- Visually inspect battery terminal connections
- Verify electrolyte level, vent caps of all cells in the starting battery system
- Visually inspect wiring, connections and insulation
- Record battery charging functions
- Record battery information
- Record battery condition test

FUEL SYSTEM
- Visually inspect ignition system (Natural Gas and Propane Only)
- Record primary tank fuel level
- Inspect engine fuel system for leaks
- Visually inspect all engine fuel hoses, clamps, pipes, components and fittings
- Visually inspect rupture/ containment basin
- Inspect day tank and controls (if applicable)
- Optional - fuel sample for laboratory analysis*

COOLING SYSTEM
- Record coolant level
- Visually inspect for coolant leaks
- Visually inspect drive belts condition
- Verify for proper coolant heater operation
- Record jacket water temperature
- Visually inspect fan, water pump, drives and pulleys
- Visually inspect all coolant hoses, clamps and connections
- Visually inspect radiator condition
- Visually inspect louver for damage
- Visually inspect fan hub and drive pulley for mechanical damage
- Record freeze point of antifreeze protection
- Record DCA level prior to changing coolant filter
- Optional - Coolant sample for laboratory analysis*

LUBRICATION SYSTEM
- Visually inspect engine oil leaks
- Visually inspect engine oil lines and connections
- Record oil level
- Optional - Oil sample for laboratory analysis*

GENSET CONTROLS AND ACCESSORIES
- Visually inspect all engine mounted wiring, senders and devices
- Visually inspect all control mounted components and wiring
- Verify all connecting plugs are tightened and in a good condition
- Visually inspect all accessory components and wiring
- Visually inspect and test lighting indicators

INTAKE AND EXHAUST SYSTEMS
- Visually inspect air filter and housing
- Visually inspect all engine piping and connections
- Record air cleaner restriction
- Visually inspect engine exhaust system for leaks
- Visually inspect rain cap
- Optional – Air filter replacement*
- Optional - Clean crankcase breather or replace filters*

GENERAL CONDITIONS
- Visually inspect governor linkage and oil level
- Visually inspect guards
- Visually inspect enclosure
- Visually inspect engine and generator mounts
- Verify emergency stop operation

TRANSFER SWITCH
- Visually inspect controls and time delay settings
- Verify function of exercise clock and record settings from controller
- Verify remote start control operation
- Record utility / source one voltage

AFTERTREATMENT (Upon request)
- Verify DEF level
- Record DPF restriction
- Visually inspect aftertreatment and controls

SWITCHGEAR (Upon Request)
- Inspection and Full Service quote available upon request.

FULL SERVICE

INCLUDES INSPECTION

OPERATIONAL & FUNCTIONAL REVIEW OF GENERATOR CRITICAL COMPONENTS
- Inspect engine cooling fan & fan drives for excessive wear or shaft wobble
- Check all pulleys, belt tensioners, slack adjusters & idler pulleys for travel, wear & overall condition
- Inspect / lubricate drive bearings, gear or belt drives, and other shaft connecting hardware

LUBRICATION OIL & FILTRATION SERVICE
- Change engine oil
- Change oil, fuel and water filters
- Post lube services operations of genset (unloaded) at rated temperature

* Additional Charge

Any additional repairs, parts, or service which are required will be brought to the attention of the owner. Repairs will only be made after proper authorization from the owner is given to Cummins. Any additional repairs, maintenance or service performed by Cummins or a Planned Equipment Maintenance Agreement holder will be at current Cummins labor rates.

Arc flash boundary and available incident energy shall be identified and marked on equipment being serviced or maintained.

INVOICE

Northeast Pumps
30 Gando Dr
New Haven, CT 06513

sales@nepv.com
+1 (860) 739-2200
northeastpumps.com

Groton City CT (Utilities)

Bill to
Groton City - Utilities
295 Meridian Street
Groton, CT 06340

Invoice details
Invoice no.: 2831L
Terms: Net 30
Invoice date: 08/11/2025
Due date: 09/10/2025

Purchase Order #: annual services PO

#	Product or service	Description	Qty	Rate	Amount
1.	**New Motor Sales**	Holmberg PS: New close coupled pump motor. 50hp 1800rpm frame 324JM WEG s/n 11122286981 Delivered to site.	1	$5,947.00	$5,947.00
2.	**Field service**	Holmberg PS: NEP field service to remove and install Goulds model 3656 for motor eval. Motor tested fine, cleaned pump, and installed new seal.	1	$3,520.00	$3,520.00

Total **$9,467.00**

Ways to pay

View and pay

TOWN OF LEDYARD

741 Colonel Ledyard
Highway
Ledyard, CT 06339-1511

File #: 25-2683 **Agenda Date:** 10/28/2025 **Agenda #:** 4.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Ordinance Update Proposal amend section 3 of ordinance ORD200-001 rev1 - discussion. What is the maximum emergency number for exclusion of ordinance?

Background:
From September 23, 2025:
Chairman Lynch said he spoke with Mayor Allyn III about the WPCA emergency repairs bid waiver issue. Chairman Lynch said that GU goes through their own purchasing process in vetting best cost/qualification and in an emergency, and it would seem unproductive for the Town to repeat this process. Ms. Wadecki added that GU should be on the approved list of contractors not requiring a bid waiver and that the WPCA should not have to go out to bid for anything that GU is doing for the WPCA as GU is a single provider. Chairman Lynch said that the WPCA is at a disadvantage because they do not have a Liaison present at their meetings as they did when Bill Saums was on the Town Council.
ACTION ITEM:
Chairman Lynch will make a request to have Groton Utilities added to the Town's approved contractor list not requiring bid waivers.

Proposed changes:
Section 3 Competitive Bidding Process:
"The following cost ranges determine the action needed in regard to competitive bidding for proposed expenditures on construction projects, equipment, supplies, and professional services, with the exception of legal services and WPCA emergency repairs conducted by the WPCA operating subcontractor."

Section 5 Purchase Orders and Payments- "All purchases, except those made through the Direct Pay method, must have an open and approved purchase order in place prior to purchases being made or services being rendered. For all emergency WPCA purchases, a standing purchase should be opened to handle such emergencies."

Department Comment/Recommendation:
(type text here)

AN ORDINANCE FOR PURCHASING

Be it ordained by the Town Council of the Town of Ledyard:

Section 1: Authority

Pursuant to Chapter VI, Section 5C of the Charter of the Town of Ledyard, as amended, there is hereby established a Purchasing Ordinance of and for the Town of Ledyard.

Section 2: Purpose

The Town of Ledyard, as a local government entity, needs to ensure that the expenditure of public funds occurs in a manner that balances the desire for lowest cost to the Town with an expectation of quality products and services. The purpose of this ordinance is to provide guidance to be followed for procurement of goods and services to achieve the most effective and efficient procurement and disposition of the Town's assets.

All purchases by any official, department, authority, agency, board, commission, or committee of the Town of Ledyard, except those purchases whose approval is derived from the Board of Education, shall adhere to the procedures herein, to ensure that appropriate procurement and accounting procedures are followed in the expenditure of Town funds.

Section 3: Competitive Bidding Process

The following cost ranges determine the action needed in regard to competitive bidding for proposed expenditures on construction projects, equipment, supplies, and professional services, with the exception of legal services. The dollar amounts refer to a total amount, per vendor, per fiscal year:

Less than $4,999	No bids required; no quotes required; assumes buyers will seek lowest available cost.
$5,000 - $14,999	Three (3) quotes required or a bid waiver from Town Council. Written record of quotes or Town Council bid waiver action to be attached to electronic purchase order.
$15,000 +	At least three (3) proposals required through an open and advertised competitive bid process for construction projects, equipment, supplies, and professional services other than legal services.

Bid awards shall be determined by assessing the best interest of the Town in terms of the scope of work, qualified bidders' overall approach to the project or service, past performance, and cost. The bid shall be awarded to the lowest qualified bidder if it is in the best interest of the Town.

If fewer than three bids are received, a bid waiver approved by the Town Council shall be requested prior to award of the bid.

The Town may use other entities' bid awards that were arrived at through a competitive bid process in lieu of the Town's own competitive bidding process. The Town Council shall, by resolution each year, determine the list of entities whose bid awards are eligible for use by the Town of Ledyard.

Section 4: Grant Funding Application Process

All applications for new grant funding shall be considered and approved by the Town Council prior to applying with the grantor. The grant seeker will create a legislative file and attach a completed Grant Request Form and other pertinent information about the grant, the grantor, and project for which the grant funds will be used.

When using State and Federal grants, the Town shall conform to all State and Federal grant procurement and project requirements including, but not limited to, the Federal requirements as stated in 2 CFR 200.318 through 200.325. The grant seeker shall attest to having read and understood these requirements by signing to that effect on the Grant Request Form. The requestor shall include the federal requirements language in the competitive bidding documents.

Grant-funded project and financial files shall be retained until such time as grantor agency audits of the grant-funded project are completed, or per State retention guidelines, whichever is longer.

Section 5: Purchase Orders and Payments

All purchases, except those made through the Direct Pay method, must have an open and approved purchase order in place prior to purchases being made or services being rendered.

The Director of Finance shall be responsible for all purchase orders issued by the Town of Ledyard, and shall insure that each purchase and payment meet the following conditions:

A. Purchase order requisitions shall be complete, accurate, and properly approved by a department head and the Director of Finance.

B. The item to be purchased shall be assigned to an appropriate general ledger account number by the originator of the purchase order request. The account line shall contain sufficient funding to cover the proposed expenditure.

C. If the purchase order is for items that have gone through the competitive bid process, the RFP number shall be included on the purchase order request. If fewer than three bids were received, the Town Council action to approve a bid waiver shall be attached to the purchase order.

D. If the purchase order is for items that require obtaining quotes, copies of the quotes, or town council action of a bid waiver for fewer than three quotes, shall be attached to the purchase order request.

E. Payments are made in conformance with this ordinance and with Town, State, and Federal laws.

F. All payments made by bank check shall be signed by the Director of Finance and co-signed by the Treasurer.

Section 6: Direct Pay Purchases and Payments

Certain payments such as fire volunteer incentive pays, poll worker stipends, and taxpayer refunds for duplicate payments may be paid without the requirement of a purchase order.

The Director of Finance shall be responsible for all payments made through the Direct Pay method, and shall ensure that each purchase made by Direct Pay meets the following conditions:

A. The use of direct pay requisition shall be prepared and signed by the requestor.

B. Direct pay requisitions for groups of people shall list the vendor(s), general ledger account numbers to charge, and payment amounts, and must be complete, accurate, and properly approved by the originator and the Director of Finance.

C. Direct pay requisitions for items or services shall be accompanied by an itemized bill showing the items or services purchased, and approval by the originator indicating receipt of same.

D. The general ledger account number to which the payment is to be charged shall contain sufficient funds to cover the expenditure.

E. Payments shall be made in conformance to this ordinance and to Town, State, and Federal laws.

F. All payments made by bank check shall be signed by the Director of Finance and co-signed by the Treasurer.

Section 7. Penalties for Violation

In accordance with Chapter VII, Section 11H of the Town Charter, as revised, every purchase order or payment made in violation of the provisions of this Ordinance shall be deemed illegal and every official authorizing or making such payment or taking part therein and every person receiving such payment or any part thereof shall be jointly and severally liable to the Town of Ledyard for the full amount so paid or received.

If any officer or employee of the Town shall knowingly incur any obligation or shall authorize or make any expenditure in violation of the provisions of this Ordinance or take any part therein, such action shall be cause for his/her removal.

Section. 8. Severability

If any section, or part of a section, of this Ordinance shall be held by a court of competent jurisdiction be invalid, such holding shall not be deemed to invalidate the remaining provisions hereof.

Section 9. Effective Date

In accordance with the Town Charter this ordinance shall become effective on the twenty-first (21st) day after such publication following its final passage.

Amended and Adopted by the Ledyard Town Council on: January 26, 2022

Kevin J. Dombrowski, Chairman

Approved / Disapproved on: 1/27/2022

Fred B. Allyn, III, Mayor

Published on: February 2, 2022

Effective Date: February 23, 2022

Patricia A. Riley, Town Clerk

****

Revision: Ordinance #50 "*An Ordinance for Purchasing*" adopted May 8, 1974 and amended on August 27, 1975; April 24, 1991; January 26, 2005; May 9, 2007; and Ordinance #50-1 "*An Ordinance Amending An Ordinance for Purchasing*" adopted September 26, 2012; Ordinance #133 "*An Ordinance Amending an Ordinance for Purchasing*" Adopted March 12, 2014; Ordinance #133 *An Ordinance Amending an Ordinance for Purchasing*" was amended, renumbered to Ordinance #200-001 and Adopted on September 25, 2019.

History:

2022: Per the Town's Auditor's Ordinance #200-001 has been updated to include the federal guidelines that are required to be followed when spending federal grant money. On July 22, 2020

the federal grant guidelines were incorporated into the "*Town of Ledyard General Government Grant Application Policy and Process*".

2022: In addition, the Ordinance was totally rewritten to make the language more concise. The purchasing thresholds have not changed.

2019: The Twenty-fourth Town Council (2017- 2019) Ordinance Update Initiative: Renumbered Ordinance #133 "*An Ordinance Amending an Ordinance for Purchasing*" to Ordinance #200-001.

File #: 25-2710 **Agenda Date:** 10/28/2025 **Agenda #:** 5.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Rate Increases - discussion.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

TOWN OF LEDYARD

741 Colonel Ledyard
Highway
Ledyard, CT 06339-1511

File #: 25-2705 **Agenda Date:** 10/28/2025 **Agenda #:** 6.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
CUSI Purchase Order Approval.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

CONTINENTAL UTILITY SOLUTIONS, INC.

INVOICE

DATE: **10**/01/2025
INVOICE NO: **INVC-13024**
DUE DATE: 10/16/2025

BILL TO:

Ledyard Water Control Authority
295 Meridian St

Groton, CT 06340

PLEASE REMIT TO:

CONTINENTAL UTILITY SOLUTIONS, INC
P.O. Box 1515
Jonesboro, AR 72403

PHONE: 800-240-1420

ACCOUNT NO.	SERVICE DATE	PAYMENT TERMS	SALES REPRESENTATIVE
C10553	UB4 Implementation	15 Days	

DESCRIPTION	QTY	UNIT PRICE	AMOUNT IN USD
UB4 Software as a Service - $1065 Monthly; 5 yr term	1	$0.00	$0.00
UB4 Service Location Licenses for 2000	2000	$0.00	$0.00
UB4 User License for 12	12	$0.00	$0.00
UB4 ACH Bank Draft (First Layout Included)	1	$0.00	$0.00
UB4 Lockbox Layout (First Included)	1	$0.00	$0.00
UB4 Electronic Payment Module	1	$0.00	$0.00
UB4 Web API - Customer Web Portal	1	$0.00	$0.00
UB4 Inbound/Outbound IVR Interface	1	$0.00	$0.00
UB4 Text Messaging Module	1	$0.00	$0.00
UB4 Advanced Metering Interface - Neptune	1	$0.00	$0.00
Advanced Data Conversion Package for up to 2000 Locations	2000	$1.50	$3,000.00
CUSI Certified Implementation	1	$6,000.00	$6,000.00
Days of CUSI Certified Training (Travel expenses for on-site work will be billed separately)	3	$2,000.00	$6,000.00
CUSI IVR SOLUTION - 1 Call per Second	1	$0.00	$0.00
CUSI SMS Messaging Service	1	$0.00	$0.00
Contracted Hosting Services UB4 - $600 Monthly; 5 yr Term	1	$0.00	$0.00
		Subtotal	**$15,000.00**
		Sales Tax	**$0.00**
		Total	**$15,000.00**
		Total Paid	**$0.00**
		Total Due	**$15,000.00**

Thank you for choosing CUSI as your software provider!

File #: 25-2707 **Agenda Date:** 10/28/2025 **Agenda #:** 7.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Hydraulic Model Purchase Order Approval.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

PURCHASE ORDER CURRENT LIST

```
Purchase Order       Type: Normal      Fiscal Yr/Per 2026/04     PO# 20262231
   Batch             1                 PO Date       10/20/2025
   Requisition       0000000
   Department Code   0505              WATER
   Allocation Code   00000000
   Buyer ID          6695ista          Ian Stammel
   Needed By Date
   General Commodity
   Vendor            901937            GROTON UTILITIES
                                       295 MERIDIAN ST
                                       GROTON, CT 06340
   Ship To Address   WATER             WATER DEPARTMENT
                                       TOWN OF LEDYARD
                                       741 COLONEL LEDYARD HIGHWAY
                                       LEDYARD, CT 06339
   Ship To Reference
   Shipping Method
   Bill To Address   WATER             WATER DEPARTMENT
                                       TOWN OF LEDYARD
                                       741 COLONEL LEDYARD HIGHWAY
                                       LEDYARD, CT 06339
   PO Description    Hydraulic Model
   Special Handling  None       Status Posted            Distribution 1

   Total PO Amount       $12,250.00
     Liquidated              $ 0.00
   Open Encumbrance      $12,250.00


Line Item Details
   Line 001   Commodity
       Req          Qty           1.00 UOM  EACH       Unit Price     12,250.00000
       %Disc   0.00 Credit        0.00 Freight         0.00 Sales Tax         0.00
       ------------------------------------------------------------------------
                                  Line Item Total     $12,250.00
       Qty Received        0.00    Liquidated            $ 0.00
       Qty Canceled        0.00    Canceled              $ 0.00
                             Line Item Open Encumbrance $12,250.00
       ------------------------------------------------------------------------
       Description
              Hydraulic Model
       ------------------------------------------------------------------
       Department  0505   1099 Box    Capital AssetN Needed By
       Quote      Bid
       Work Order:      Task:
       ------------------------------------------------------------------
       Allocation Details
           Org       Obj     Proj  Description              Encumbered Amt Bud
           ------------------------------------------------------------------
           51510101  58915         UNDESIGNATED               $12,250.00   U
                                          Liquidated              $ 0.00
                                          Canceled                $ 0.00
                                 Allocated Open Encumbrance     $12,250.00
```

File #: 25-2675 **Agenda Date:** 10/28/2025 **Agenda #:** 8.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Any Other Old Business to Come Before the Commission.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

File #: 25-2630 **Agenda Date:** 10/28/2025 **Agenda #:** 1.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Motion to APPROVE the WPCA 2026 Calendar Year Meeting Schedule as written.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

TOWN OF LEDYARD
CONNECTICUT

741 Colonel Ledyard Highway
Ledyard, Connecticut 06339-1551
(860) 464-3220
FAX (860) 464-1126
mayor.clerk@ledyardct.org

TO: Chairperson WPCA

FROM: Christina Hostetler, Town Hall Assistant
DATE October 28, 2025
SUBJECT: 2026 Calendar Meeting Dates

RE: General State Statutes of Connecticut Section-1-225

In accordance with the above Statute; it is time to file your meeting dates for the coming year.

You may want to note if your meeting falls on a Monday please check the calendar for the legal holidays, in which case you might want to cancel or change the meeting date. Also, the schedule must be a thirteen (13) month calendar; inclusive of January 2027.

Please review the attached schedule for your committee/commission meeting dates for accuracy and changes. Please initial your schedule and return it to me by November 26, 2025, so that I may be able to file your schedule with the Town Clerk in a timely fashion to comply with the January 31st deadline.

2026 CALENDAR MEETING SCHEDULE

Water Pollution Control Authority (Meet Monthly 4th Tuesday; 6:30 p.m. Town Hall Annex Council Chambers)

January 27 February 24 March 24 April 28 May 26
June 23 July 28 August 25 September 22 October 27 November 24 December 15* January 26, 2027

NOTE: ^ denotes meeting cancelled due to a holiday
*** denotes meeting scheduled to another day due to holiday**

Thank you,
Christina Hostetler

File #: 25-2709 **Agenda Date:** 10/28/2025 **Agenda #:** 2.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
WPCA Town Council Presentation.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

TOWN OF LEDYARD
CONNECTICUT
TOWN COUNCIL

Chairman Gary St. Vil

741 Colonel Ledyard Highway
Ledyard, CT 06339-1551
(860) 464-3203
council@ledyardct.org

October 9, 2025

Mayor Fred Allyn, III
Town of Ledyard
741 Colonel Ledyard Highway
Ledyard, Connecticut 06339

Dear Mayor Allyn:

At its Regular Meeting held on October 8, 2025 the Town Council took the following actions:

- Approved the following Amendments to the proposed *"An Ordinance Establishing a Town of Ledyard Code of Ethics and Ethics Commission"* dated September 10, 2025 as follows:

  - ✓ ***Section 4, paragraph 3b,*** remove the phrase "~~spouse or minor child~~" and replace it with "***or immediate family of***".

  - ✓ ***Section 4, paragraph*** 8, Town Employee definition will be modified to add the phrase, ***"including outsourced administrative or executive professionals, including but not limited to consultants and the Town Attorney"***

  - ✓ ***Section 5, paragraph 3,*** add the phrase, "***unless the contract or purchase order is awarded through the traditional bid or quote process and conflict is disclosed.***"

  - ✓ ***Section 5, paragraph 4,*** add the following sentence, "***This provision does not apply to Town employees or Board of Education employees providing recreational services including but not limited to classes, coaching, camp counseling through Ledyard Parks and Recreation or Ledyard Board of Education".***

  - ✓ ***Section 7, paragraph 1b6***, add the phrase "***unless disclosed to the Ethics Commission.***"

- Adopted a proposed *"An Ordinance Establishing a Town of Ledyard Code of Ethics and Ethics Commission"* dated October 8, 2025.

- Endorsed the Community Relations Committee for Diversity, Equity & Inclusion's message to be distributed in the form of a Digital and possibly a Printed Flyer "*We Encourage all Ledyard Residents to Listen, Collaborate, and Find Common Ground. Progress comes from Teamwork*"

- Granted a bid waiver to P & H Construction & Septic Services LLC, of Uncasville, Connecticut, in the amount of $29,700 due to receiving fewer than the required three bids in response to Bid #072-PI-35 (Septic System 70 Christy Hill Road) in accordance with Ordinance #200-001 (rev 1) "*An Ordinance for Purchasing*".

- Reappointed the following members the Inland Wetland & Water Courses Commission for a two (2) year term ending October 31, 2027:

  ✓ Mr. Michael Marelli (D) 4 Lee Brook Drive 193 Iron Street, Ledyard
  ✓ Mr. Justin DeBrodt (U) 5 Erins Way, Ledyard

- Reappointed the following members to the Library Commission for a two (2) year term ending November 7, 2027:

  ✓ Mr. John Bolduc (U) 14 Monticello Drive, Gales Ferry
  ✓ Ms. Ellin M. Grenger (D) 15 Bittersweet Drive, Gales Ferry
  ✓ Ms. Cynthina Wright (D) 6 Larule Leaf Drive, Gales Ferry
  ✓ Ms. Elizabeth Rumery (D) 2 Bluff Road, Gales Ferry

- Appointed Mr. James Thompson (D) 6 Pennywise Lane, Ledyard, to the Inland Wetland & Water Courses Commission to complete a two (2) year term ending October 31, 2026 filling a vacancy left by Ms. Lynmarie Thopmpson.

- Approved the following two tax refunds in the combined total amount of $6,393.90 each exceeding $2,400.00 in accordance with tax collector departmental procedures:

  ✓ Lereta Tax Service for Kin Chan & Cuihua Zheng $3,291.61
  ✓ Eric Carlson $3,102.29

The Town Council did not act on the following:

- Discussion and possible action on the
  MOTION to set a Public Hearing (Hybrid Format - Video Conference and In-Person) Public Hearing date to be held on October 22, 2025 at 5:00 p.m. to be held in Council Chambers, Town Hall Annex, 741 Colonel Ledyard Highway, Ledyard, Connecticut, to receive comments and recommendations regarding a *proposed An Ordinance Establishing a Town of Ledyard Code Of Ethics And Ethics Commission"* .

Please feel free to contact Chairman St. Vil should you have any questions regarding this meeting.

Respectfully submitted,

Roxanne M. Maher

Roxanne M. Maher
Administrative Assistant
to the Ledyard Town Council

cc: Director of Finance-
Treasurer
Department Heads
Land Use Director Elizabeth Burdick
Water Pollution Control Authority

TOWN OF LEDYARD
CONNECTICUT
TOWN COUNCIL

Chairman S. Naomi Rodriguez

741 Colonel Ledyard Highway
Ledyard, CT 06339
(860) 464-3023
council@ledyardct.org

MEMORANDUM

DATE: October 24, 2024

To:

All Town Councilors
Mayor Fred Allyn, III
Board of Education
Finance Department
(Tax Assessor & Tax Collector)
Administrator of Emergency Services
Animal Control Officer
Building Department
Economic Development
Emergency Dispatch Center
Fire Marshall
Gales Ferry Fire Department
Land Use Department (Inland Wetland
Watercourses and Planning & Zoning)
Ledyard Fire Department
Library
Parks, Recreation & Senior Citizens Department
Police Department
Public Works Department
Registrar of Voters
Social Services Department
Town Clerk
Water Pollution Control Authority
MIS Department

FROM: April Brunelle, Chairman
Community Relations Committee for Diversity, Equity & Inclusion

Re: Transparency and Governance Training

As we continuously work to provide transparency to our residents regarding our town's operations and the mechanics of how local government works, the Community Relations Committee for Diversity, Equity & Inclusion is launching an initiative to engage both our town staff and residents to provide information regarding roles, access to the town's webpage, navigating the meeting portal, and public participation in the decisions that affect our town.

This initiative will be designed for our professional town staff to highlight the work they and their volunteer committees do for our community; which includes their governing documents such as Connecticut General State Statute, Freedom of Information Act (FOIA); our Home Rule Town Charter, Ordinances, Resolutions, and the Town's Policies/Procedures.

The Community Relations Committee for Diversity, Equity & Inclusion requests that each Department prepare a presentation that will help residents understand the function of their Department and how they can access the resources you and your staff provide to our community. You are also encouraged to provide a Frequently Asked Questions & Answer component as a quick reference guide.

Your presentation can be a PowerPoint and/or Video. Also, you are welcome to attend a Community Relations Committee for Diversity, Equity & Inclusion meeting to give your presentation in-person; or you can submit your presentation electronically. We ask that presentations be submitted no later than June 30, 2025.

The Committee's goal is to prevent misinformation, eliminate confusion, and bring the community and our leaders together, as well as inspire potential future leaders, by providing useful information regarding the nuts and bolts of our town's processes and procedures.

The Community Relations Committee for Diversity, Equity & Inclusion will also be working with our MIS Department to provide a central depository of the presentations on the town's website for residents to access at their convenience; and as a resource they can refer back to.

Should you have any questions, or would like to schedule an in-person presentation, please contact the Town Council Office at telephone (860) 464-3202 or email: council@ledyardct.org.

We look forward to seeing your creative and informative presentations!

Thank you for your cooperation.

LEDYARD WPCA

Water Pollution Control Authority

AGENDA

- Mission Statement
- Commissioners
- Responsibilities
- Partnerships
- Challenges
- Summary

MISSION STATEMENT

The WPCA provides water and sewer services to the town of Ledyard. These services include providing the best quality water at the lowest rate possible. To maintain proper pressure and volume for fire suppression. In addition to water, the WPCA provides sewer services that processes and discharges waste in accordance with all local, state and federal regulations while striving to go below these regulated limits.

COMMISSIONERS

5 voting and 2 alternates

Voting – Ed Lynch (Chair)

- Sharon Wadecki (Vice Chair)

- Terry Jones

- Stan Uber

- Monir Tewfik

Alternates – Tony Capon

- Jim Ball

- Jeremy Norris

Responsibilities

FINANCIALS

1. CREATE AND MAINTAIN WATER AND SEWER BUDGET
2. MANAGE CAPITAL EXPENDITURES
3. MANAGE PROJECTS – BOTH CAPITAL IMPROVEMENTS AND NECESSARY MAINTENANCE
4. GIVE GUIDANCE TO THE TOWN COUNCIL ON THE WATER BUDGE, STATE GRANTS
5. LOOK FOR OPPORTUNITIES TO REDUCE COST

OPERATIONS

1. PROVIDE GUIDANCE TO OUR SUBCONTRACTOR FOR REPAIRS, OPERATIONAL OPTIONS, AND QUALITY OF WATER
2. DEVELOP LONG TERM PLANS FOR IMPROVED OPERATIONS THAT REDUCE COST AND INCREASE QUALITY
3. RESPOND TO EMERGENCY REPAIR TO DETERMINE THE BEST COST EFFECTIVE OPTIONS
4. INTERFACE WITH STATE AND LOCAL AGENCIES DEALING WITH DRINKING WATER QUALITY AND PERMITTED WASTE DISCHARGE PARAMETERS

PARTNERSHIPS

- Groton Utilities
  - Operations – purchased bulk water, maintain operations, respond to issues (leaks), conduct sampling, executing DPH requirements (flushing), manning capital projects (tank painting, hydrant repair, flushing, meter reads and meter maintenance
  - Service – billing, notifications, payment issues, computer program operation and maintenance (CUSI)
- Waste Treatment Facility – work with Steve Banks to coordinate projects, future projects, fund operations, and respond to emergency needs
- Finance – to coordinate financial work for purchasing, budgeting and capital projects.
- Mayor and Town Council – Communicate by high lighting opportunities, challenges and operational concerns ion running a town owned utility

CHALLENGES

- Bulk water costs – 11 % increase in 2026 with subsequent 5% increases every year till 2028
- Lead Survey mandated by the state DPH which will cost between $350,000 to $450,000. Presently there are 539 service lines that have complete unknown material of construction that requires “pot hole” survey at a rate of 2 to 3 per day rate
- Crumbling infrastructure (Thompson road) ~ $138,000 to repair
- Highlands sewer mains re-lining to reduce ground water incursion

OPPORTUNITES

- Habitat for Humanity community to supply water/sewer
- Ledyard center development – possibility of 350 units
- 15 Stoddard Road development (105 units with 12 commercial units

SUMMARY

The town presently supplies high quality water to over 1400 resident and services over 400 residents with wastewater treatment and disposal. After the completion of the sewer main from Ledyard Center, there is the opportunity to supply water and sewer that could help both budgets.

THANK YOU

QUESTIONS?

File #: 25-2712 **Agenda Date:** 10/28/2025 **Agenda #:** 3.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Discussion and possible approval of extending the "east-west" spur to the eventual Tri-Town Trail (TTT) along Stoddards Wharf Road to the Gales Ferry Schools complex/Route 12 over an existing Groton Utilities easement for water pipes.

Background:
Liz Burdick. Planning Director asked for this discussion to be placed on the agenda. See attachments.

Department Comment/Recommendation:
(type text here)

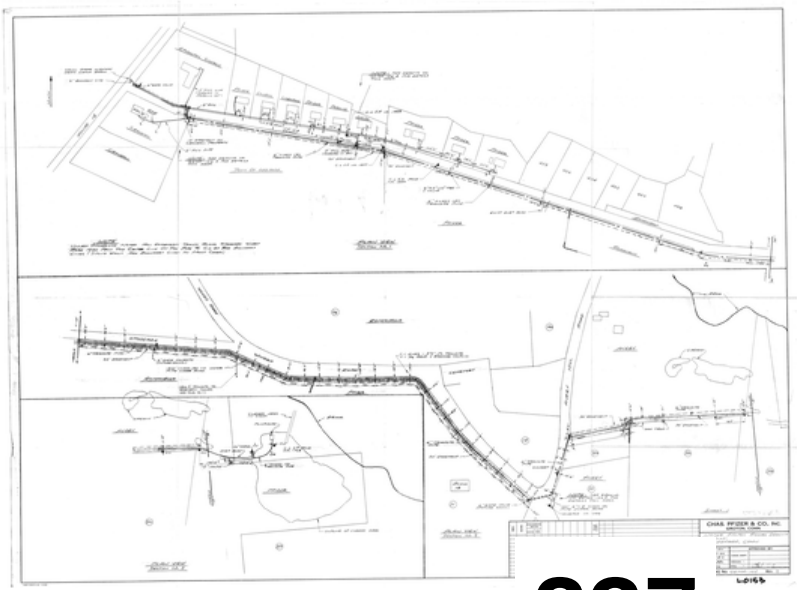
From: DENNIS MAIN <dennis.main@snet.net>
Sent: Wednesday, October 22, 2025 3:59 PM
To: Elizabeth Burdick <planner@ledyardct.org>
Subject: WPCA agenda item

Hi, Liz,

We are looking to get on the agenda of the WPCA for discussion (and, hopefully, approval if WPCA can do that) of extending the "east-west" spur to the eventual Tri-Town Trail (TTT) along Stoddards wharf Road to the Gales Ferry Schools complex/Route 12. GU representatives have wholeheartedly endorsed this as well in a prior meeting. Here are the easement maps. Avalonia would obviously connect into this across the front of 173-175 Stoddards Wharf properties, and DDJJM, LLC would provide an easement across the "house lot", providing connectivity all the way to the Pfizer property at 154 Stoddards Wharf Road (and likely to be owned by Avalonia by the time of next week's WPCA meeting. There will be a trailhead built at the "Pfizer" piece for connectivity of the spur and the TTT. G

Given the construction of the waterline course and by observation it appears this would require minimal downfall/regrowth retrofit to enable a walking/running trail or even use for mountain bikes.

Dennis 860-823-MAIN



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741 Colonel Ledyard
Highway
Ledyard, CT 06339-1511

TOWN OF LEDYARD

File #: 25-2713 **Agenda Date:** 10/28/2025 **Agenda #:** 4.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
7000 gallon/day leak at Gales Ferry residence at curve stop before the meter.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)

File #: 25-2677 **Agenda Date:** 10/28/2025 **Agenda #:** 5.

AGENDA REQUEST
GENERAL DISCUSSION ITEM

Subject:
Any Other New Business to Come Before the Commission.

Background:
(type text here)

Department Comment/Recommendation:
(type text here)