



# TOWN OF MILLIS

Craig W. Schultze, *Chair*  
Ellen Rosenfeld, *Vice Chair*  
Erin T. Underhill, *Clerk*

## OFFICE OF THE SELECT BOARD

Veterans Memorial Building (VMB)  
900 Main Street • Millis, MA 02054  
Phone: 508-376-7041

Michael J. Guzinski  
Town Administrator  
[mguzinski@millisma.gov](mailto:mguzinski@millisma.gov)

Karen Bouret DeMarzo  
Assistant Town Administrator/  
Human Resources Manager  
[kbouret@millisma.gov](mailto:kbouret@millisma.gov)

### SELECT BOARD MEETING AGENDA WEDNESDAY, JULY 19, 2023; 1:00 PM VIA ZOOM

Zoom (Broadcast only)  
Meeting ID: 852 638 7223  
Passcode: SBMeeting

	Topic	Time	Speaker
I.	Call to Order	1:00 PM	Chair Schultze
II.	Open Session Items		
23-155	Award of FY24 Paving Contract		J. McKay
23-156	Acceptance of Additional Grant Funding – Clean Water Trust		J. McKay
23-157	Approval of DRAFT Minutes <ul style="list-style-type: none"><li>• 04/26/21</li><li>• 05/03/21</li><li>• 05/17/21</li><li>• 06/07/21</li><li>• 06/10/21</li><li>• 06/21/21</li><li>• 06/28/21</li><li>• 10/12/21</li></ul>		Chair Schultze
23-158	Set Select Board Fall Meeting Dates		Select Board
III.	Adjournment		

**Proposed Upcoming Meeting Schedule**

Date	Time	Location
<b>Thursday</b> , September 14, 2023	<b>7:00 pm</b>	Room 229 VMB
Monday, September 25, 2023	<b>7:00 pm</b>	Room 229 VMB
<b>Thursday</b> , October 12, 2023	<b>7:00 pm</b>	Room 229 VMB
Monday, October 23, 2023	<b>7:00 pm</b>	Room 229 VMB
Monday, November 6, 2023	<b>TBD</b>	MS/HS Library Fall Annual Town Meeting
Monday, November 20, 2023	<b>7:00 pm</b>	Room 229 VMB
Monday, December 4, 2023	<b>7:00 pm</b>	Room 229 VMB
Monday, December 18, 2023	<b>7:00 pm</b>	Room 229 VMB



## CHANGE ORDER NO: 1 – Lead Service Inventory & Replacement Plan

Issued Pursuant to  Client Master Service Agreement  
 Client Professional Services Agreement  
 Agreement

**Reference Number and Date of Execution:** Lead Service Inventory & Replacement Plan July 21, 2022

Effective Date of Change Order: 7/19/23 by and between Kleinfelder, Inc. (KLEINFELDER) and Town of Millis DPW (CLIENT).

CLIENT Office: (Location)

KLEINFELDER Project No: 20212063.002

Town of Millis DPW  
900 Main Street  
Millis MA 02054

Amendment Type:  Time Extension  
 Price Modification  
 Other No-Cost Modification  
 Scope of Work Modification

CLIENT Reference No: May TM 2021 Art.15

KLEINFELDER Office: Boston

KLEINFELDER Contact: Kirsten Ryan

### 1. MODIFICATION TO SCOPE:

As described in Attachment A, this Change Order (Amendment) 1 is presented to conduct one additional round (5-day mobilization) of vacuum excavation test pits, in order to verify service line material at approximately 30 addresses. This work is critical to providing enough data to develop a predictive model to predict the likelihood of the presence of lead service lines and to then target further inspection and to comply with regulatory requirement to develop an inventory. This Amendment has been validated by MassDEP staff as worthy of funding with additional grant funds. The Clean Water Trust will vote to approve the additional funds in early August. The MassDEP needs an approval from the Town in order to revise the Grant Project Approval Certificate (PAC) and present it to the Trust. We propose that the Town vote to approve this Change Order, with authorization to proceed contingent upon the Trust voting to approve the revised PAC.

Full Scope and revised schedule in Attachment A – Amendment 1, May 2023

**2. NEW TOTAL AUTHORIZED FEES:** Original fee: \$139,000. Change Order fee: \$60,782  
Amended Total: \$199,782

### 3. SPECIAL PROVISIONS IF ANY:

**ALL OTHER CONTRACT PROVISIONS REMAIN UNCHANGED**



By: \_\_\_\_\_

Name: Michael J. Guzinski

Title: Town Administrator

Address: 900 Main Street Mills MA

KLEINFELDER, INC.:

*Kirsten N. Ryan*

By: \_\_\_\_\_

Name: Kirsten Ryan

Title: Sr. Project Manager

Address: 1 Beacon Street Suite 8100 Boston 02108

## **SCOPE OF SERVICES FOR AMENDMENT 1**

### **DWSRF Planning Project: Lead Service Line Inventory and Replacement Plan Development – Phase 1, Town of Millis**

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#### **Project Contact:**

Jim McKay, Millis Director of Public Works, [jmckay@millisma.gov](mailto:jmckay@millisma.gov)

#### **Consultant Contact:**

Kirsten Ryan, Project Manager, Kleinfelder, [krvan@kleinfelder.com](mailto:krvan@kleinfelder.com)

### **A. Project Background**

The oldest portions of the Town of Millis (the Town) water system date to around the early 1900s. It is suspected that lead water service lines are still present in Millis. The Town has documented a partial inventory of Town-owned portion of service lines, and customer-side documentation is largely incomplete. The Town applied for the Drinking Water State Revolving Fund Lead Service Line Inventories and Replacement Plans Financial Assistance Program in July 2022. The Town was provided a notice to proceed on August 12, 2022, and provided with an DWSRF application number 7802. The Town along with its consultant (Kleinfelder) has initiated with the inventory program and performed the initial round of field investigations. The following sections provide an overall summary of the status of the program and the rationale for requesting this amendment.

### **B. Program Status**

The following sections provide a status of each Task. You can find the original description of each task in the original DWSRF application in Attachment A.

#### **1. Data and Records Preliminary Screening**

Kleinfelder was able to complete this task and collect various sources of information from the Town. Kleinfelder reviewed existing information for the Town, which includes data within Kleinfelder's data repository and data provided by the Town. Kleinfelder also interviewed the Town on August 18<sup>th</sup> with both James McKay (Director of Public Works) and Ron McKenney (Water and Sewer Superintendent) to discuss available sources of information and memorialize any institutional knowledge on service line material within the Town. The information reviewed for inventory purposes included:

- Assessor Database – Kleinfelder reviewed the assessor's database for the Town, which was able to provide construction dates for all parcels.
- Building Construction/Historic Ordinances – The Planning Board's 1974 Land Subdivision Rules and Regulations was reviewed, however the regulations provided didn't include information on service line regulations.
- Tie Cards – The Town's tie cards are hand written and scanned as PDFs. They offered some insight on service line material, predominantly on the utility-service side. Only a minimal amount of tie cards provided any material service line information (approximately 100 tie cards or 4%).

- Previous Water Main Jobs/Construction records – Kleinfelder reviewed applicable as-built information and discussed various horizontal projects with the Town in which lead service replacement occurred.
- Water System Records (GIS Database) – The GIS database provided by the Town did not include any service line laterals, and therefore no information could be pulled from this source to help with the service inventory.
- As-Built Records – The as-built records collected for this effort includes field book ties, water distribution system maps, and construction drawings. Although most of this data did not provide service line material, the field book ties provided some information on the service line material on the utility-side for several properties.
- Meter Replacement Program – Records of service line material data were not recorded during the meter replacement program, therefore no information could be pulled from this source to help with the service line inventory.
- Leak Detection Program – During the Town interview, Kleinfelder retrieved paper records of the Town’s Leak Detection program. Kleinfelder was able to utilize the Town’s Leak Detection program (recorded annually) to reduce the uncertainty around the material of service lines, which had previously been assumed to be lead. The leak detection program records any service line replaced, on both utility and customer side. Kleinfelder was provided reports from 2008 to 2018, which allowed us to further refine LSL inventory. Kleinfelder examined all leak detection reports but only 14 leak detection reports provided any information indicating service lines were replaced.
- LCRR Sampling Sites – The Town was able to confirm that all LCR compliance sampling sites customer service lines were in fact copper, which assisted in building the inventory.

Kleinfelder provided the Town with a memo summarizing the data collected in Task 1. The records review for this project was extensive, since the information provided was substantial, however, to properly build an inventory, all this data had to be thoroughly reviewed. After reviewing the above information, Kleinfelder was able to update the service line information for 450 properties (mostly on the public side). At this juncture of the program, no further records review or data screening is required.

## 2. Inventory Development & GIS Map

After Task 1 Data Screening, Kleinfelder started preparing an inventory and a data submittal to Blue Conduit, the data analytics subconsultant. Per the original scope of services provided, Blue Conduit is to use the existing data set and utilize a machine learning algorithm. The machine learning algorithm will build a model with areas of probable lead and identify locations requiring service line replacement. The following items have been completed under Task 2:

- Launched the MassDEP self-reporting app tool to the public with Millis’s assistance (see Task 4)
- Prepared an intermediate lead line inventory dataset for the Blue Conduit submission along with other pertinent record information (GIS, water service tie cards, leak detection reports, etc.)
- Blue Conduit provided an initial set of properties requiring inspections necessary for training the model to make predictions for the probability of lead. The original inspection list requested that Kleinfelder inspect 153 properties on both the utility and customer side.
- Based on the budget assumed for the original scope and fee, we were only able to perform 30 utility-side inspections.



- Kleinfelder’s experience has shown that per-service cost to verify both portions service line ranges from \$1,000 to \$2,000 (coordinate, perform onsite inspection using 1-point vacuum excavation and basement visual inspection, compile documentation).
- Kleinfelder coordinated with a subsurface utility engineering subconsultant (Feldman GEO) to help perform utility side inspections. Customer side inspections would also be completed during the potholing work.
- Kleinfelder also performed the following tasks to assist with the field investigation program.
  - Procured digsafe tickets and performed digsafe mark outs on select properties (around 30).
  - Prepared and submitted street opening permits for the Town.
  - Prepared an initial schedule of inspections.
  - Coordinated with various parties including.
    - Property Owners
    - Police Details
    - CDW (DBE firm)
    - Feldman
- Kleinfelder performed field investigations from April 10<sup>th</sup> through April 14<sup>th</sup>, and was able to verify 23 utility-side data points and 78 customer-side data points.
- Kleinfelder evaluated and QC’d the data from the MassDEP self-reporting application, which included 36 utility side investigations.
- Kleinfelder collaborated with the Town to provide inspection information back to the customers that were visited.
- Kleinfelder incorporated recently replaced service line information, which was completed by the Town into the dataset.
- Kleinfelder provided to Blue Conduit an updated dataset, from the three sources identified above (field investigations, self-verification reporting, recent replacements). The dataset included approximately 146 utility side and 312 customer side data points.

The above discussion provides a good window to the status of the program, however Kleinfelder still needs to perform further investigations before the Inventory can be “completed” and the LSLRP developed. There will still be SLs of Unknown material due to the high number of Unknowns and cost/time constraints.

### **3. Lead Service Line Replacement Plan Development and Sampling Plan Update**

This task has not yet started.

### **4. Public Outreach Planning**

The public outreach effort for this program was kicked off in January 2023 for the Town. The following items were completed:

- Provided a public outreach framework that describes the tasks and efforts required by Kleinfelder and the Town. The framework also provided an approximate timeframe to complete each task.

- Prepared an FAQ sheet on the lead line inventory program: Lead Service Line Inventory and Replacement Plan Project | Millis MA this document provided a QR code for residents to utilize the MassDEP LSLI App.
- Drafted and mailed out inspection flyers for basement inspections at select properties.
- Coordinated with residents on the inspections and performed live updates to the schedule, as necessary.
- Prepared and mailed inspection results to select property owners.

## 5. Project Management and SRF Administration Support

Kleinfelder has provided project management support from August 2022 through April 2023, which includes the following to date:

- Up to 9 invoices for general project support, deliverables, data evaluation, field program implementation and the initial furnishing of the lead line inventory database.
- One SRF reimbursement application
- Several coordination meetings with various subconsultants (see below):
  - CDW – Approximately 2 meetings to discuss project schedule and kickoff inspection work
  - Feldman GEO – Approximately 4 meetings to discuss project scope and finalize administrative tasks.
  - Blue Conduit – Approximately 8 meetings, to discuss data needs, data QC, inspection results and data model.

The level of coordination required with the various subconsultants was greater than anticipated. The machine learning model process is new to us; however coordination and attentiveness were necessary to ensure proper execution of the various tasks associated with this program.

## C. Amendment Rationale and Cost

To date, we have reduced the number of Unknowns from ~2,450 to ~2,300 (utility side) and ~2,850 to ~2,540 (customer side). We have so far identified 1 lead services and potentially 6 galvanized requiring replacement.

However, due to 1) the lack of existing documentation and the large number of unknowns, and 2) the number of on-site verifications required to train the machine learning model, we are requesting an amendment. At this stage, even with the data provided, the data scientists are concerned that the model would not be able to provide predictive results with a statistically acceptable confidence score. We have determined (with input from Blue Conduit) that a secondary round of inspections would be required to train the machine learning model to make meaningful predictions to guide the rest of the program.





The original budget was developed without yet knowing the large number of unknowns. In addition, the nuances of the predictive data model approach was not fully understood at the time, due to the nascent methodology, and therefore the level of effort required between, the field program, Blue Conduit and the Town of Millis was underestimated. We emphasize, however, the value of predictive modeling. It is simply not economically nor logistically feasible to visually verify all the unknowns before October 2024, and so a reasonable model is the only way to prioritize a plan to continue to inspect and to remove LSLs and GRRs. To refine the data model, more inspection data is required. We propose to conduct an additional round of field inspections of similar scope to that performed in April.

Kleinfelder is therefore requesting an amendment to Task 2 of the DWSRF 7802 application in the amount of \$60,7082.00.

TASK	HOURS	LABOR BUDGET	EXPENSES & SUBS	TOTAL
2 - Additional Field Inspections & Data Analysis	247	\$ 36,504	\$ 24,278	\$ 60,782
Original Project Budget				\$139,000
TOTALs Amended Budget Requested				\$199,782

**D. Project Schedule**

The Project is expected to be substantially completed by Fall 2023.