

HANDOUT B 4



February 18, 2016

Mr. Charles Quigley, PE
Director of Engineering
Somerville Department of Public Works
1 Franey Road
Somerville, MA 02145

RE: FY 17 Water Main Projects:
Powder House Boulevard and Properzi Way
Proposal for Design through Bidding Services
Kleinfelder Project No.: MW160576.001P

Dear Mr. Quigley:

We are pleased to submit this Letter of Understanding (LOU) in connection with our On-Call Engineering Services Contract between the City of Somerville and Kleinfelder (Contract No. 140159, Renewal Year #3). This LOU, when executed, will serve as a contract between Kleinfelder Northeast, Inc., a corporation duly organized and existing under the laws of the Commonwealth of Massachusetts (hereinafter called Kleinfelder) and the City of Somerville (Client) for Kleinfelder to complete the work outlined in the Scope of Services presented herein.

Background

The Scope of Services presented in this proposal was provided by the Client in a meeting with Kleinfelder on January 29, 2016 based on recommendations of Kleinfelder's 2012 *Water Distribution System and Capital Improvement Plan* and the Client's FY 17 roadway paving plan. The proposed project consists of the following:

1. Powder House Boulevard, North Street to Mason Street, 3,000 feet. Clean and Line 12" diameter water main.
2. Properzi Way.
 - a. Beacon Street to railroad tracks, 900 feet. Remove and replace 8" diameter water main.
 - b. Somerville Avenue to Tyler Street, 500 feet. Remove 6" diameter water main and replace with 8" diameter water main.

The Hanson Street water main was replaced with a new 8" diameter main in 2001 and therefore, is not included in this scope.

The schedule goals for this project are to complete the Powder House Boulevard water main improvements in the 2016 construction season to allow paving in 2017, and to complete the Properzi Way - Beacon Street to railroad tracks improvements in 2016 to coincide with the Beacon Street surface work. Kleinfelder will design and develop this project for the Client to bid as two separate contracts to expedite the construction schedule in order to achieve these goals. In

addition, design through bidding will be performed at an accelerated schedule. Refer to the Schedule section of this proposal for our assumptions and proposed schedule.

Scope of Services

Kleinfelder shall furnish the following engineering services in connection with design through bidding services for the FY 17 Water Main Projects:

Task 1.0 – Project Management and Meetings

1. Project Management and Administration
 - a. Develop a project workplan with a schedule, staffing plan, and quality control plan. Hold a project team kickoff meeting.
 - b. Prepare monthly invoices, develop budget and schedule updates, monitoring staffing and subconsultant activities, and provide project coordination.
 - c. Provide quality reviews in accordance with the workplan and Kleinfelder policies. Provide independent constructability review by senior construction staff. Incorporate review comments into design documents.
 - d. Provide project details, schedule, and estimated costs for the Client to complete the MWRA Local Water System Assistance Program Financial Assistance Application.
2. Progress Meetings
 - a. Coordinate and direct 4 progress meetings with the Client during the design phase of the project. The intent is to hold regular project meetings through the accelerated design process to keep the Client informed of progress and decision making, which will allow for an accelerated review by the Client prior to bidding. The meetings will coincide with project kickoff and progress through the 50-percent, 75-percent, and 100-percent design stage. Kleinfelder will prepare an agenda and meeting summaries for each of the meetings.

Task 2.0 – Survey

Through a subcontracted and qualified Survey firm, perform field survey to obtain sufficient field data and details for approximately 4,300 linear feet of water main alignment. The survey tasks consists of the following:

1. Coordinate the project area and scope of work with a surveyor.
2. Obtain and incorporate available utility records from the Client and private utility owners, including Somerville water main record drawing information.
3. Obtain and incorporate available water service records from the Client.
4. Field verify location of roadways, drives, above ground structures, buildings, fences, utility boxes and poles, gates, waterways, boring locations, and other physical features, within the survey limits that are pertinent to the proposed work.

5. Field verify location of utilities within the project limits, such as hydrants, storm drainage and sewer manholes, including elevation of rims and inverts, and other buried utilities such as gas, electric, cable TV, and telephone.
6. Develop topographic mapping.
7. Develop survey mapping in an AutoCAD version suitable for use in design development and conduct a field check of the mapping.

Task 3.0 – Subsurface Explorations

For the work in Powder House Boulevard, subsurface explorations are needed at representative access pit locations. For work in Properzi Way, subsurface explorations are needed in representative areas of trenching for water main replacement. Subsurface information is needed for construction considerations including groundwater level and for the contractor's design of a temporary support of excavation system. For this task Kleinfelder will engage a qualified drilling subcontractor for 3 shifts of drilling. This task consists of the following:

1. Prepare a site specific Health and Safety Plan, which designates personal protective equipment (PPE) and safe work practices to be used during field exploration activities.
2. Prior to drilling, prepare a plan showing the proposed location of the borings. Kleinfelder will provide the plan to the Client for approval prior to commencing the work. Kleinfelder will coordinate the drilling activity with the field work associated with Task 4.
3. Mark the boring locations in the field. The drilling subcontractor will contact the utility clearance agency (Dig Safe Systems, Inc.) and the Client's Department of Public Works to assist in locating underground utilities at the site. Kleinfelder will not assume responsibility for damage to underground features.
4. Kleinfelder's drilling subcontractor will advance up to 5 soil borings on Powder House Boulevard, and up to 3 soil boring on Properzi Way along the existing water main alignments. The borings will be advanced to a depth of approximately 12-15 feet. These depths are needed to understand trench subgrade materials and for potential support of excavation methods for the access pits. Actual field conditions may vary and adjustment of the boring lengths may be necessary.
5. Observe the drilling of borings and collect soil samples to characterize the on-site soils in support of the geotechnical and environmental analyses (Task 4.0) and design recommendations.
6. Retain a local laboratory and coordinate the submission of soil samples for testing. The actual type and number of laboratory tests will depend on the type of materials encountered and the anticipated foundation types. We have included 1 particle size testing or Atterberg limits test per boring in our fee estimate.
7. Prepare a geotechnical engineering summary for the design team that includes the following:
 - a. Description of the field exploration performed, and subsurface soil, rock and groundwater conditions encountered;
 - b. Site map, boring location plan, and typed boring logs;
 - c. Results of laboratory testing;
 - d. Recommendations for earthwork and site preparation, including subgrade preparation, treatment of geotechnically unsuitable soils, site grading, compaction

recommendations, and re-use of on-site soils for backfill.

Task 4.0 – Oil and Hazardous Materials Investigation

An oil and hazardous materials (OHM) investigation is necessary for this project. The Properzi Way portion of the project is located in an area historically occupied by wetlands associated with the Millers River, and filled in the 1800s. Soil at properties along Properzi way is documented to contain elevated concentrations of metals, including characteristically hazardous concentrations of lead. Elevated concentrations of polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs) have also been detected. While there is no documentation of contamination in the Powder House Boulevard right-of-way, metals and PAHs may be present in fill soil or undocumented releases may have occurred. Groundwater analysis is not proposed as any necessary dewatering is expected to be accommodated through infiltration on-site.

This task consists of the following:

1. Review MassDEP files for Sites in the vicinity of the project site to assess OHM conditions that may affect the project area.
2. Obtain soil samples during the geotechnical subsurface explorations (Task 3.0). Screen the collected samples for volatile organic compounds using a photoionization detector (PID). Submit up to 5 selected soil samples for laboratory analysis for soil disposal parameters. Three samples will be collected from Properzi Way and one composite sample will be collected from the borings in Powder House Boulevard. Additional samples will be preserved from the Powder House Boulevard locations and will be analyzed only if contamination is encountered.
3. Coordinate laboratory analysis of samples, summarize the results and compare the results to regulatory standards to evaluate soil management requirements.
4. Summarize OHM findings and anticipated soil management requirements for the design team.

Task 5.0 - Design

1. Prepare two sets of drawings, specifications, and opinions of probable construction cost (OPCC) for bidding the project detailed in the Background section of this Proposal as two separate contracts. Develop the Plans, Specifications and OPCC through the 50-percent, 75-percent, and 100% Bid Documents milestones.
2. In general, the design drawings will include the following design elements (estimated):
 - a. Cover Sheet
 - b. Drawing List and Key Plan
 - c. General Notes, Legend, and Construction Baseline Plan
 - d. Geotechnical and Environmental Existing Conditions and Monitoring Plans
 - e. Water Main Plans
 - f. Water Main Details
 - g. Traffic Management Signage Legend and Standard Details
 - h. Traffic Management – Work Zones

3. Utility Relocation/Coordination includes only relocations required to facilitate the work and does not include the design of new/replacement municipal utilities in impacted streets.
4. Incorporate the geotechnical and OHM findings (Tasks 3.0 and 4.0) into the design documents with proper requirements for excavation and backfill procedures, soil and waste management, and ground and utility monitoring.
5. The surface restoration design consists of permanent trench restoration, curb restoration, and sidewalk restoration to meet pre-construction conditions. The surface restoration design further includes the replacement of all impacted pedestrian ramps to meet ADA/AAB standards. The design does not include the redesign/regrading of sidewalks and roadways in the project area. It is assumed that all disturbed surfaces will be restored to pre-construction conditions as required by the Client in advance of the Client's resurfacing contracts to follow the water main projects.
6. Prepare Specifications per standard CSI 16 Division 4 part specifications to include technical and administrative requirements of the work. A bid proposal will be developed with items of construction and estimated quantities. The Client will prepare the contract documents to allow receipt of bids in accordance with Massachusetts General Law Chapter 30, Paragraph 39M.
7. Prepare an opinion of probable construction cost (OPCC) for the project using the unit quantities developed for the general bid as a basis of the estimate. Unit prices used in the development of the estimate will be based on historical bid prices for similar projects, pricing obtained from various materials suppliers and other available sources (for example RS Means). Kleinfelder has no control over actual construction costs and will prepare the opinion of probable construction cost based on current industry standards and latest available cost data for similar construction.
8. Prepare the Milestone deliverables for review by the Client and present the designs at the progress meetings included in Task 1.0. Kleinfelder will submit 1 hard copy set of the deliverables at key milestones for Client review and incorporate Client comments.

Deliverable: 75% Design Drawings and OPCC; 100% Design Drawings, Specifications, and OPCC that incorporate the results of Tasks 2.0 through 5.0 of this Scope.

Task 6.0 – Bidding Phase Services

1. Coordinate with the Client's Purchasing Department to review and finalize the Client's contract documents for two contracts.
2. Provide one electronic copy of final bid documents for two contracts (drawings and specifications) and assist the Client in obtaining bids for construction in connection with the projects. The Client will be responsible for mailing and tracking distribution of bid documents to prospective bidders.
3. The Client will develop the Advertisement for Bids and will pay advertising fees directly.
4. Address bidder questions during the bidding period for two contracts. Prepare up to two (2) addenda for each contract prior to the bid opening date for issuance by the Client.
5. Consult with and advise Client as to the acceptability of the prime contractor, subcontractors and other persons and organizations proposed by the contractor for those portions of the work as to which such acceptability is required by the bidding documents.
6. Review the bids received for the two contracts and provide review results to the Client.

Assumptions

1. It is assumed a Notice of Intent will not be required for this project, as it involves maintenance and replacement of existing water mains within a street.
2. It is assumed an MWRA 8(m) permit will not be required for this project, as there are no nearby MWRA water and sewer facilities.
3. The Client will provide Kleinfelder with all available record drawings of existing utilities within the project area.
4. The Client will provide Kleinfelder with all available GIS mapping of the project area.
5. The Client will provide personnel during the field investigation portion of the work to assist with accessing structures if needed.
6. Police details required during survey and field activities will be paid directly by the Client.

Assumptions related to the Subsurface Explorations:

7. Our fee estimate includes prevailing wage rates for the drilling work based on our interpretation of the Massachusetts prevailing wage law.
8. Restoration of areas disturbed as a result of our fieldwork is not included in our Scope, beyond backfilling and patching.
9. Our field personnel and subcontractors can perform the work safely in OSHA Level D protection.
10. Disposal of soil cuttings is not anticipated and included in this Scope.
11. Analysis of liquefaction potential, settlement due to seismic shaking; slope stability, dewatering and flooding are not included.

Schedule

Kleinfelder shall provide the above Scope of Services under the following proposed schedule. As detailed in the Background section of this proposal, we propose that the project be constructed under two separate contracts and designed using an accelerated schedule to achieve the Client's schedule goals. The following table summarizes the proposed accelerated schedule:

Task	Description	Start Date	End Date
2-4	Begin survey and field activities (4 weeks)	March 1	March 29
5	Design (5 weeks)	March 29	May 3
6	Advertise for Bids (4 weeks)	May 4	June 1
	Evaluate Bids and Award (1 week)	June 6	June 13
	Issue Notice to Proceed (4 weeks after award)	July 11	
Potential Construction Schedule			
	Submittals Process, Materials, Mobilization (4 weeks)	July 11	August 8
	Construction (Approximately 3 months)	August 8	November 18

Kleinfelder agrees to commence work immediately upon receipt of an executed copy of this proposal. Kleinfelder shall use its best efforts to perform the proposed services under the above accelerated schedule barring delays outside of its control.

Proposed Budget

We propose to conduct the Powder House Boulevard and Properzi Way Water Main Projects design through bidding services for a not to exceed fee of \$137,090.00 as summarized in the following table:

Task	Labor	Expenses	Subconsultants
Task 1.0 – Project Management and Meetings	\$13,710	\$100	
Task 2.0 – Survey	\$3,380		\$42,750
Task 3.0 – Subsurface Explorations	\$10,620	\$790	\$8,500
Task 4.0 – Oil and Hazardous Materials Investigation	\$3,370	\$3,500	
Task 5.0 – Design	\$40,180	\$380	
Task 6.0 – Bidding Phase Services	\$9,810		
Total	\$81,070	\$4,770	\$51,250

The Expenses category consists of the following:

1. Mileage
2. Reprographics
3. Lab analyses for geotechnical and environmental soil conditions (\$4,140)
4. Field equipment for sampling

The Subconsultants category consists of the following:

1. Surveyor
2. Drilling contractor

All direct costs are billed to the Client at cost per the terms of our on-call contract.

Police details will be needed for the survey and drilling activities. We estimate a total of 32-40 hours of police details needed for this project, with an approximate cost to DPW of \$1,300 to \$1,800.

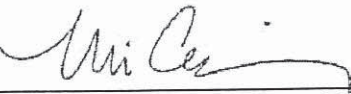
Please contact me at (617) 498-4773 if you have any questions or comments regarding this proposal. We appreciate the opportunity to be of continued service to you.

Mr. Charles Quigley
City of Somerville
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If this LOU meets your approval, please sign, date and return one original to our office, attention Michael Cunningham.

Very truly yours,

KLEINFELDER NORTHEAST, INC.

By: 

Michael R. Cunningham, PE, Project Manager

February 18, 2016
Date

CITY OF SOMERVILLE

By: _____

Date

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