

**North Reading Water Department
235 North Street
North Reading, MA 01864**

Request for Quotations: Respond by July 6, 2016 at 10:00 a.m.

1.01 General

- A. The North Reading Water Department is requesting quotations from qualified parties to perform work relating to the cleaning and redevelopment of five municipal drinking water wells. The wells are known as Lakeside Boulevard Well No. 3, Lakeside Boulevard Well No. 4, the Route 125 Well, Railroad Bed Satellite Well No. 1 and Railroad Bed Satellite Well No. 2.
- B. The Contractor is responsible for making himself thoroughly aware of all site conditions relating to this work. Contractors wishing to visit the wells should contact Mark Clark of the North Reading Water Department at 235 North Street, North Reading, MA 01864, phone (978) 664-6046.
- C. Under this quotation, the Contractor shall furnish all equipment, labor and supplies needed to perform the cleaning and redevelopment of the wells as described in this quotation. The Contractor shall certify that they are paying the prevailing wages to employees as required by Massachusetts labor laws.
- D. All chemicals to be used in this work shall conform to drinking water standards, where applicable, and shall be approved by the North Reading Water Department prior to use. The Contractor shall be responsible for adequately neutralizing chemicals before discharge to the environment, and shall be responsible for ensuring that water is adequately contained to prevent erosion or siltation upon discharge.
- E. The performance of the work described under this quotation is essential to the operation of North Reading's water supply system. Failure to undertake and perform any work awarded through this quotation to minimize the time the wells are out of service shall be considered just cause to terminate the services of the Contractor.
- F. The North Reading Water Department reserves the right to reject any or all "Request for Quotations" and to waive any informality in the Request.

1.02 Well Data

Lakeside Boulevard Well No. 3:

Location: Lakeside Boulevard Wellfield, 66 Lakeside Boulevard, North Reading, MA
Construction Date: 1979
Diameter: 18 inches
Depth: 38 feet
Casing Depth: 28 feet
Screen Depth: 10 feet

Lakeside Boulevard Well No. 4:

Location: Lakeside Boulevard Wellfield, 66 Lakeside Boulevard, North Reading, MA
Construction Date: 1984
Diameter: 12 inches
Depth: 59 feet
Casing Depth: 44 feet
Screen Depth: 15 feet

Route 125 Well:

Location: Off Route 125, North Reading, MA

Construction Date: 1970

Diameter: 12 inches

Depth: 35 feet

Casing Depth: 26 feet

Screen Depth: 9 feet

Railroad Bed Satellite Well No. 1

Location: Off Route 62, North Reading, MA

Construction Date: 1987

Diameter: 12 inches

Depth: 43 feet

Casing Depth: 31 feet

Screen Depth: 12 feet

Railroad Bed Satellite Well No. 2

Location: Off Route 62, North Reading, MA

Construction Date: 1987

Diameter: 12 inches

Depth: 47 feet

Casing Depth: 32 feet

Screen Depth: 15 feet

2.00 Well Cleaning and Redevelopment

The sequence of work shall include a pre-redevelopment performance test on the well and pump, the removal of the pump, motor, shaft and discharge column, video inspection of the well, well redevelopment as described below, disinfection, reinstallation of the pump, and a post-development performance test.

2.01 Pre Development Performance Test

- A. Prior to removing the pumping equipment, the Contractor shall run a one-hour test on the well and pump at several pumping rates in order to determine the well capacity prior to redevelopment.
- B. The Contractor shall furnish all equipment required to perform the test and shall record the following information during the performance test:
 - a. Static water level
 - b. For a minimum of three flow rates:
 - i. the flow rate in gallons per minute,
 - ii. the water level and draw down in the well,
 - iii. the pumping pressure in feet of head, and
 - iv. the time pumped at each flow rate.
 - c. The well recovery over a one hour period.

2.02 Pump Removal and Maintenance

- A. Upon completion of the performance test, the Contractor shall remove the pump, motor, shaft and discharge column from the well. These components shall be transported to the Contractor's shop for steam/high pressure water cleaning and inspection. Sand blasting or other abrasive cleaning measures are not permitted.

- B. The Contractor shall contact the North Reading Water Department for authorization to perform any repairs needed to the pump and motor or to purchase any materials relating to these repairs. Note that any cost associated with these repairs will be separate and in addition to the price quoted and an estimated cost for these repairs should not be carried in this quotation.
- C. Prior to installation, the pump and column should be painted with a coating as approved by the pump manufacturer and as approved by the North Reading Water Department.

2.03 Well Cleaning and Redevelopment

- A. The Contractor shall initially perform a slow surge of the well and screen, followed by discharge to waste, to loosen and remove encrustation and deposits prior to chemical addition.
- B. The Contractor shall then add sufficient chlorine to develop a 200 ppm chlorine solution within the well screen area, followed by a dry surge period of 4 hours. This volume shall then be neutralized and pumped to waste.
- C. The Contractor shall then introduce a volume of inhibited muriatic acid (35% HCl), followed by a dry surge period of two hours, following which the acid shall be neutralized and pumped to waste. During the discharge, the well discharge rate and drawdown shall be measured and the specific capacity of the well shall be rated.
- D. The Contractor shall continue to alternately dry surge and pump the well to remove sand and fines and to further increase the specific capacity of the well. The specific capacity of the well shall be measured at least every eight hours during this process. Specific capacity and well conditions shall be communicated to the North Reading Water Department following each measurement. Surging and pumping shall continue until, in the opinion of the North Reading Water Department, the capacity of the well has been maximized.

2.04 Post Development Performance Test

Upon completion of the redevelopment of the well, the Contractor shall perform a performance test utilizing the surge pump, and recording the same information as described above under the Pre Development Performance Test.

2.05 Disinfection

Prior to well pump installation, the Contractor shall disinfect the well to provide an average dose of 50 mg/L of chlorine within the well volume.

2.06 Pump Installation and Test

The Contractor shall reinstall the well pump, motor, shaft and discharge column, including making electrical connections. The Contractor shall coordinate with the North Reading Water Department to conduct a test of the pump, which shall consist of measuring shutoff head and verifying rotation on the pump.

3.00 Final Report

The Contractor shall furnish the North Reading Water Department with a report detailing the work performed that, at a minimum, includes the following information:

- A. The information required under the Pre Development Performance Test
 - B. The volumes of chemicals added
 - C. All specific capacity measurements made during the cleaning and redevelopment
 - D. The information required under the Post Development Performance Test
- No payment shall be made to the Contractor until this report is accepted by the North Reading Water Department.

4.00 Contact and Response Information

- A. All questions and inquiries relative to this Request should be directed to Mark Clark, Water Superintendent, North Reading Water Department, 235 North Street, North Reading, MA 01864, telephone (978) 664-6046.
- B. **All submittals must be received by the North Reading Water Department by July 6, 2016 at no later than 10:00 a.m.**