

# CITY OF LYNWOOD

Request for Proposals (RFP) for

## **Large Water Meter Testing and Calibration Services**

Date: November 16, 2011

Department: Public Works

Project Name: Large Water Meter Testing and Calibration Services

Proposal Due Date: December 15, 2011 Time: 5:00 P.m.

Proposals must be submitted to the:

City of Lynwood  
City Clerk's Office  
11330 Bullis Road  
Lynwood, CA 90262

### Proposal Information – Format:

Proposals will be received by the City of Lynwood, hereinafter called the "City," at the office of the City Clerk, 11330 Bullis Road, Lynwood, CA 90262, until Thursday, December 15, 2011.

Each Proposal must be submitted in a sealed envelope, addressed to the City at the above referenced address. Each sealed envelope containing a Proposal must be plainly marked on the outside as "Large Water Meter Testing and Calibration Services"

Proposer's name, address and his/her license number, if applicable. If forwarded by mail, the sealed envelope containing the Proposal must be enclosed in another envelope addressed to the City of Lynwood, c/o City Clerk, 11330 Bullis Road, Lynwood, CA 90262.

**Salary tabulation sheets containing actual cost and overhead costs are to be submitted in a separate sealed envelope clearly marked "Cost Proposal" at the time of submission of the proposal.**

Copies of the Request for Proposals may be obtained in the Department of Public Works of the City of Lynwood, 11330 Bullis Road, Lynwood, CA 90262. **Questions regarding the Request For Proposals should be directed to Mr. Jose Molina at (310) 603-0220, Ext. 800.**

The Proposal shall include, as a minimum:

- A. A statement that this RFP shall be incorporated in its entirety as part of the Consultant's quote.
- B. A statement that this RFP and the Consultant's proposal will jointly become the Scope for Professional Consultant Services for this project. A purchase order will be issued upon acceptance of the quote.
- C. A statement that the services to be provided, and fees therein, will be in accordance with the City's RFP except as otherwise specified in the Consultant's quote under the heading "Exceptions to the City's Request for Proposals."
- D. A single and separate section with the heading "Exceptions to the City's Request for Proposals" containing a complete and detailed description of all of the exceptions to the provisions and conditions of this RFP upon which the Consultant's proposal is contingent and which shall take precedent over this RFP.
- E. A statement of Qualifications applicable to this project including the names, qualifications and proposed duties for the Consultant's staff to be assigned to this project; a listing of recent similar projects completed including the names, titles, addresses, and telephone numbers of the appropriate persons which the City can contact.
- F. A statement that all charges for services will be a **"Not-To-Exceed"** fee, as submitted with and made part of said Consultant's quote.
- G. A copy of the Consultant's hourly rate schedule and a written statement that said hourly rate schedule is part of the Consultant's quote for use in invoicing for progress payments and for extra work incurred that is not part of this RFP.
- H. A written statement by the Consultant that all federal laws and regulations shall be adhered to notwithstanding any state or local laws and regulations. In case of conflict between federal, state, or local laws or regulations, the strictest shall be adhered to.
- I. A written statement by the Consultant shall allow all authorized federal, state, county, and the City of Lynwood officials access to place of work, books, documents, papers, fiscal, payroll materials, and other relevant contract records pertinent to this project. All relevant records shall be retained for at least three years.

- J. A written statement by the Consultant shall allow all authorized federal, state, county, and the City of Lynwood officials access to place of work, books, documents, papers, fiscal, payroll materials, and other relevant contract records pertinent to this project. All relevant records shall be retained for at least three years.
- K. A written statement that the Consultant will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.
- L. A written statement that the Consultant shall comply with the California Labor Code. Pursuant to said regulations entitled: Federal Labor Standards provisions; Federal Prevailing Wage Decision; and State of California Prevailing Wage Rates, respectively.
- M. The Consultant must complete the application process for a City of Lynwood Business License/Temporary Sales Permit. The annual cost for a business license is \$ 90.00, which must be paid at time of awarding contract.
- N. A description of Consultant's approach to the work and a complete analysis of staff hours required of each individual to be assigned to the project. The estimated hours shall identify each task to be done.
- O. A proposed schedule of work. The proposed work schedule shall show a total time of no more than Sixty (60) days from the City's "Notice to Proceed" to completion of all work including plans, specifications and estimate, ready for bidding. Any exception to this schedule must be submitted with a written explanation detailing any request for time extension. **NOTE: It is anticipated that the City's "Notice to Proceed" will be issued on or about January 16, 2012.**

## **Water System History**

The City of Lynwood was founded in the early 1800's by Don Antonio Lugo. The Lugo Family later deeded the land which was eventually developed and opened as a suburban home site in 1913. To sustain the development of the land, the City's water system began to take shape. The City was later incorporated in 1921, and the City began to drill wells for groundwater production. Well No. 5, drilled in 1932, has remained in operation to this day. As the City continued to grow as a residential and industrial community, the City realized the need to supplement its water sources and began to receive imported water in 1940. The City is located in the Central Basin Municipal Water District (CBMWD) which is a member agency of the Metropolitan Water District (MWD). MWD was originally founded in 1928 to build the Colorado River Aqueduct to supplement the water supplies of the original founding members. In 1972, MWD augmented its supplies to include deliveries from the State Water Project via the

California Aqueduct. Today the City continues to receive imported water on an as-needed basis.

### **City Water Service Area**

The City of Lynwood is approximately 4.7 square miles in size and its water system serves about 90 percent of the land within City limits. The Park Water Company provides water service to the remaining 10% in the southeast section of the City. Land use within the service area is principally composed of single family residences, business and some institutional and industrial areas. Since the area is in a built-out condition, additional growth result from re-development of existing lots.

### **Water System**

The City's Public Works Department manages the City's infrastructure and natural resources, including the City's Public Water Utility. The Public Water Utility consists of efforts from various Public Works sections: Water Utility Division, CIP Division, and Engineering Division. The Water Utility Division is responsible for providing high quality drinking water through the operation and maintenance of water production, distribution treatment, and storage facilities.

### **Water Supply & Operations**

The City of Lynwood has five active groundwater wells (Well Nos. 5, 8, 9, 11, and 19) located throughout the City for groundwater production. The wells range in capacity from 550 to 2,000 gallons per minute (gpm) with a total pumping capacity of 5,650 gpm. The City is also scheduled to complete equipping of its Well No. 22 (capacity of 2,500 gpm) later this year.

The City also receives imported water from its connection to CBMWD with a 12 CFS connection capacity of 5,376 gpm. Although the City previously used its imported connection to supplement its groundwater supply, the City has recently decided to use imported water only on an as-needed basis. Over the past five years, groundwater has accounted for the majority of the City water supply, providing about 90% fo the City's total water supply.

### **Distribution System**

The City distributes its water to approximately 9,000 service customers through a 90 mile network of distribution mains with pipelines sizes ranging from 2-inches to 16-inches. The water system consists of one (1) pressure zone that provides sufficient water pressure to customers. The City also maintains a booster pump station consisting of 3 pumps that can deliver up to 3,600 gpm.

**A project information meeting will be held on** December 8, 2011 at 10:00 A.m. at the Department of Public Works, 11750 South Alameda, Lynwood, CA 90262.

# Scope of Work

## Large Water Meter Testing and Calibration Services

### 1.0 **General**

The City of Lynwood is seeking qualified Professional Services firm for a large water meter testing and calibration service program. First to evaluate and improve the operability of valves and hydrants in the water distribution system through hands-on field activities, second, to document, integrate and analyze location, operational and physical information of valves and hydrants in the water distribution system through professional services activities and finally, to define and refine the scope and value of an ongoing system wide program through consulting activities. Further, all data will be delivered to the City GIS group in a format compatible with the City existing data schema.

### 2.0 **Specific Functions of the Service Provider**

The service provider will furnish all labor, material, transportation, tools, and equipment necessary to test and repair large meters selected by the City of Lynwood. The service provider shall also be required to provide such skilled and trained personnel and equipment necessary to complete the work herein specified. **There will be a minimum of Two (2) Persons per team working on the meter testing program at all times.**

- Work in an orderly and safe manner to insure protection of the local residents, Utility employees, and the Field Staff so that no avoidable accidents occur.
- All Field Staff will have readily observable photo identification badges worn while in the field.
- Assess all meters listed in the test group. This assessment will include making observations of water usage on site as well as observed meter readings to determine if the meter is the correct type and size for the particular application.
- Determine if meter can be tested in place, if not, make recommendations to Utility to correct setting so meter can be tested in place. This would include sketches, drawings, etc, of site and turned into the utility so improvements can be made.
- A meter log shall be maintained indicating all meters to be assessed in the current test group. This log will be reviewed when the Project Team is verifying the meter data supplied by the Utility and corrections will be made to provide updated records to the Utility. This log will be used as part of the periodic meter reports turned into the Utility.
- Each water meter location (those in vaults/pits) will have a GPS coordinates taken. This will be explained in detail in the "GPS" section.
- Each water meter location will have photographs taken of the setting. This will be explained in detail in the "Photograph" section.
- Schedule the meter test with the water customer during normal working hours.

Exceptions to testing times will be made on a case-by-case basis, depending on severity of loss of water service due to the testing procedure. After hours or weekend testing may be required for severe scheduling conflicts.

- Meters will be tested across a range of flows in order to determine patterns of mechanical wear at various flow rates. These flow rates used will be a combination of AWWA recommended flow rates (per M-6 manual of the AWWA) and meter manufacturer flow rates.
- Meters will be tested and repaired to bring them within accepted accuracy limits.
- Certain meters may require removal from the setting to be tested “off site” due to current plumbing configurations. Efforts will be made to keep the service disruption to a minimum.
- If a loss of water service for a short period of time cannot be tolerated by the water customer, recommendations will be made to the Utility to correct the meter setting to include a by-pass around the meter so service disruption will not occur during testing.
- The equipment used will be that which was described in the “Equipment to be Used” section.
- The Project Team will document all meter testing results and repairs. Meters that require extensive repairs (not worth time and material) or if the meter is obsolete, will be brought to the attention of the City of Lynwood so a potential meter change out can be analyzed by the Utility. The cost basis for making a recommendation for a meter change out will be determined at the kick off meeting and agreed upon between the City of Lynwood and the Utility.
- All repairs will be attempted to be performed the same day of testing. After repair, the meter shall be tested to conform to test specifications outlined elsewhere in this Specification.
- The Project Team will report daily to the assigned Water/Utilities Project Manager and go over the progress of the previous day, as well as cover what meters will be tested the current day.
- It may be necessary to conduct parts of the meter-testing program during “off hours” such as at night. This may be required in buildings that have a high daily usage but is closed at night. The Project Team will give 24-hour notice of intent to test meters that may require after hours or nighttime work. This is so the Water Utility can plan for the area to be accessed, give notification to the Police department, as well as other Public Works Divisions as to the activity that will take place.
- Repair parts used will be NSF 61 certified. (All new meter parts available now currently meet this standard).
- Care will be exercised in where water will be discharged during testing. Water flowing from the discharge of the test meter will not be allowed to cause interference with private property, pedestrian or roadway traffic, and will have minimum environmental impact.
- Meters located in confined spaces shall be tested using accepted confined space entry procedures.
- Any valves that fail or break during operation to isolate the water meter for testing will be repaired or replaced at the expense of the owner. M.E. Simpson Company

cannot be held responsible for possible valve failures due to preexisting conditions during the testing procedure.

### **3.0 Quality Control for Meter Testing and Repair**

The level of quality control for large meter testing is a matter of taking in all the above considerations and applying those considerations to each individual large meter setting as it is being evaluated. As stated earlier, AWWA meter testing specifications have been stated for testing under “controlled” conditions in a meter testing shop. In the field, inlet valves and outlet valves leak through sometimes making meter testing challenging if not sometimes impossible. It is the level of experience of the meter testing technician to be able to differentiate and make the call as to when conditions are such where accurate meter tests can be conducted to allow for a reliable test. When a strict methodology and field procedure is followed, the field conditions can be controlled and mitigated to produce test results that are reliable and accurate.

### **4.0 Water Utility Observations**

Service provider shall welcome having staff of the Utility observe field procedures while the Meter Testing Program is in progress. They will be happy to explain and demonstrate the equipment and techniques that are employed by the service provider for testing large meters. This may be useful for the staff of the Utility in understanding the parameters of large meter testing to reduce revenue losses for commercial/industrial accounts. Additionally, it will allow another level of quality control so the Utility can directly observe what it has invested in.

### **5.0 GPS Location Services**

- **The Project Team will collect GPS Coordinates** of all meters assessed using the above “Scope of Work”
- The Project Team will work with the Utility to develop a “data dictionary” which will define the information to be collected for each attribute. The Data dictionary shall have the following but not limited to:
  - Date and time the information was gathered.
  - The unique identifying number for each attribute consistent and compatible with system presently employed by the Utility.
  - Location for each attribute referenced by Northing and Easting coordinates generated from the GPS location in the Utility’s local State Plane Coordinate system.
  - Type of Attribute.
  - Offset information if the attribute needs to have the location determined by an offset coordinate due to blocked signals from the GPS satellites.
  - Any other data required to be collected as part of the attribute data set as defined by the Data Dictionary. This Data Dictionary will be assembled by the Project Team and the Utility.
- **The accuracy of each GPS location** will be sub-meter.

- **The location of “offset” GPS locations** shall be accomplished by use of a Laser Rangefinder with an accuracy of 1/10th of a foot with an automatic Electronic Compass coupled to the GPS data collector. This is so that a bearing and distance from the offset location to the target GPS location can be recorded as part of the attribute data. This will allow coordinates to be generated in high tree canopy and urban canyons where normal coverage would not be possible.
- **GPS locations will need to have readings** from at least four satellites in position and a reading from a local GPS beacon, or five satellites for the position to be considered accurate as a differentially corrected GPS location.
- **“PDOP” readings need to be less than 5.** “PDOP” readings greater than 5 will not be considered as accurate locations.
- **A minimum of 30** readings for each position shall be taken.
- **Position of the GPS satellites shall be given primary consideration.** The position of the satellites shall be recorded as part of the data. If the satellites are low on the horizon, it is expected that the project team will wait until the position is better before attempting to gather the GPS position. Data collected with the satellites low on the horizon and/or poorly distributed shall not be considered valid.
- **The information collected** will be compiled into the **Pathfinder Office** or **TerraSync™** software database with the ability to export the information into a format acceptable to the Utility such as Microsoft Access, Microsoft Excel, .DXF file, or .SHP file for use in the Utility’s GIS system or CAD mapping program.
- **All locations will be differentially corrected** for accuracy. A stationary beacon or mobile beacon can be set up to allow differential correction. All data will be “Post—Processed”, so that a comparison can be made to a Local stationary GPS receiver. The locations of the stationary GPS stations can be obtained from the Internet. The particular stationary GPS receiver shall be listed in the final report as the station used for differential correction. This will allow for a greater accuracy of the GPS locations.

## **6.0 Documentation of GPS Meter Locations**

The service provider will provide a location report for each meter located, a CD or thumb/flash drive in a format agreed upon between the Utility and the service provider.

- The GPS location data collected will be exported into a database for Utility use
- The GPS data collected shall include but is not limited to the following information:
  - a. Identifying number consistent and compatible with system presently employed by the Utility.
  - b. Location referenced by coordinates using the California State Plane Coordinate System.
  - c. Location by street and cross-street names.
  - d. Type of structure.
  - e. Date and time data was collected.

## **7.0 Photographs of Water Meter Settings**



The service provider's project team will, take detailed photographs of each water meter setting, making sure to include inlet and outlet valves; bypass valves (if they have them); and the water meter itself. These photos will be delivered on CD or thumb/flash drive in a format agreed upon between the Utility and the service provider. The photos will be identified by the account number for each water meter.

## **8.0 Final Reports, Documentations and Communications**

- Project Team will meet daily with assigned Utility personnel to go over areas of survey for prior workday and plan current day and area to survey.
- The field technicians will be readily available by cellular phone as well as Nextel Direct Connect Radio. This will facilitate communications between the Utility and the field technicians. **A 24-hour toll free 800 number** will also be made available for direct contact for emergencies.
- **Document all meter testing**, date of testing, and all data required by the utility to analyze the meter inaccuracies. These will be reported daily to appointed Utility Personnel.
- **The Project Manager will meet** with the Utility as needed for a progress report if so requested.
- **Maintain a progression list** of the project indicating meters tested and to be tested, contact names, phone numbers, etc.
- **Prepare meter reports** at the completion of the project which will include all meter testing reports, listing of new parts installed, and possible mechanical deficiencies that need the attention of the Utility. Recommendations for system maintenance will be a part of this report based on field observations made during the testing program. **This final report shall be made available for submission to the Utility within twenty (20) working days of the completion of the fieldwork.**

## **9.0 Assumptions and Services Provided by Water Utility**

- The *Utility* will furnish all maps, atlases, (two copies) and meter records necessary to properly conduct the testing program.
- The Utility will provide customer records such as consumption history, phone numbers for appointments, or any additional information that would make the testing of a meter at a location easier to perform. This information shall be regarded as CONFIDENTIAL by service provider, and will not be shared with anyone outside of the Utility without consent~ of the Utility.
- The *Utility* will assist as necessary to get customer cooperation for the testing program. The service provider shall assist in composing a letter that the Utility can submit to water customers informing them on the procedures and benefits of the testing program.

- The *Utility* will also make available, on a reasonable but periodic basis, certain personnel with a working knowledge of the water system who may be helpful in attempting to locate particularly hard-to-find meters and for general information about the water system. This person will not need to assist the Project Team on a full time basis, but only on an “as needed” basis.
- The Utility will assist, if needed, to help gain entry into sites that may be difficult to get into due to security issues or other concerns.

### **Meters to be Tested**

Approximately (xxx) meters will be tested for the Utility. Requests to test other meters not listed will be agreed upon by the service provider and the Utility prior to any further testing.

Size	Qty. of	Qty. of	Qty.	Total Quantity
3"				
4"				
6"				

**Total Meters:**\_\_\_\_\_

### **Equipment to be Used**

The following equipment will be used for meter testing work during the project. All material listed will be on the job site at all times.

1. Sensus test meters with electronic registers, certified accurate by volumetric testing.
2. All tools needed to perform testing “on site” (hand tools, pipe wrenches, etc.)
3. Proper lengths of 2-1/2’ fire hose for conducting the testing “on site”
4. Confined Space Entry tripod, winch, fall protection and Gas detector
5. Meter Test Bench at M.E. Simpson Co. shop for volumetric testing of Meters (as needed per bid requirements for small displacement meters)
6. For the GPS Locations: A Trimble GPS GeoExplorer Ge0XH (sub-meter accuracy) hand held receiver, and related equipment
7. Digital Camera

## 10.0 **Safety**

- The project Manager and the Field Manager will be trained in accordance with OSHA Standard 1910 (General Industry) and be in possession of an **OSHA 30 Hour Card**.
- Any meters located in a “confined space” such as a pit and vault installations that require entry will be treated in accordance with the safety rules regarding Confined Space Entry, designated by the Utility, the Department of Labor and OSHA.
- All personnel are trained and certified in Confined Space Entry & Self-Rescue
- We will follow all safety rules regarding First Responder First Aid & CPR, designated by the Utility, The Department of Labor and OSHA.
- All personnel are trained and certified in First Responder First Ai & CPR.
- We will follow all traffic safety rules, designated by the Utility, The Department of Labor, OSHA, and the California Department of Transportation.
- All personnel are trained and certified by the AMERICAN TRAFFIC SAFETY SERVICES ASOCIATION (ATSSA) in Traffic Control and Safety.