

**Memorandum
Public Works Department**



To: City Manager
Subject: Ice Pigging Potable Water Mains
Date: October 5, 2015
Number: 2015-183

Attached is a proposal from Utility Service Company, Inc. for their Ice Pigging service for five locations throughout Rock Island. These locations have been identified as a result of repetitive water quality complaints and include:

- 65th Ave West from Big Island Parkway west to the dead end
- 20th St Ct from 34th Ave south to the dead end
- 27th Ave from 45th St east to the dead end
- 37th Ave from 44th St east to the dead end
- 27th Ave from 30th St west to the dead end

This project includes the set-up, delivery, and removal of ice slurry utilized for cleaning and scouring each main independently. Ice Pigging is utilized to clean sediments, loose deposits and bio-films from water mains without excavation or shut down of the water main. Utility Service Company, Inc. was selected based on their proprietary system and ability to perform the work without interruption of water service to the affected homes.

Utility Service Company, Inc. proposes to provide these services at a rate of \$3,000.00 per load. It is estimated that seven loads will be required to complete the five water mains identified for a total of \$21,000.00.

Recommendation

The Public Works Department recommends that the City Council approve the Ice Pigging Potable Water Mains proposal from Utility Service Company, Inc. in the amount of \$21,000.00 and authorize the City Manager to execute the contract documents.

Vendor: Utility Service Company, Inc.
Proposed Amount: \$21,000.00
Fund: 501 Water Operation & Maintenance
Department: 619 Utilities Maintenance
Cost Center: 356 Water Distribution Maintenance
Object Code: 53806 Infrastructure Maintenance

Requisition: R005707

Submitted by: Randall D. Tweet, Public Works Director
Larry P. Cook, Utilities Superintendent

Approved by: Thomas Thomas, City Manager



Proposal From
UTILITY SERVICE COMPANY, INC.

1230 Peachtree St NE, Suite 1100 - Promenade · Atlanta, GA 30309
 Toll-free: 855-526-4413 | Fax: 478-987-2991
 utilityservice.com

Date: 15 September 2015

Submitted by: **Bill Murfree**

Local Phone: **815-761-6190**

SFID: **41016**

CN:

SO:

Proposal Submitted To: City of Rock Island			Phone Number: 309-732-2301		Fax Number:	
Street Address: 1309 Mill Street			Description of Work to be Performed: Ice Pigging Potable Water Mains			
City: Rock Island		State: IL	Zip Code: 61201	County/Parish: Rock Island		
Accounts Payable Contact Name: Mr. Larry Cook		Email: Cook.larry@rigov.org		Job Site Address: 65th, 20th, 27th & 37th Water Lines		
Job Contact (Inspection Reports): Mr. Larry Cook		Email: Cook.larry@rigov.org		Length (FT): 3,200	Size (Inches): 6 & 8	Material: DI & CICL

Utility Service Co., Inc. agrees to provide all labor, equipment, and materials needed to complete the following:

- USCI shall produce approximately 600 gallons of ice slurry for delivery and removal from the water mains each day of work to clean sediments, loose deposits, and biofilms from the water mains covered under this proposal. The water mains to be cleaned and procedures are listed in Addendum A.
- Based upon the information provided by the Owner to USCI, USCI estimates this project will take **5 full loads** to complete one pass of each main.
- The cost for additional loads is \$3,000 per load.

Please sign and date this proposal and fax one copy to our office.

Twenty One Thousand and No/100..... Dollars \$21,000.00

Payment to be made as follows:

Payment in Full Completion of Work – plus all applicable taxes

Remittance Address: Utility Service Co., Inc., P O Box 674233, Dallas, TX 75267-4233

All material is guaranteed to be as specified. All work to be completed in a substantial workmanlike manner according to specifications submitted, per standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance.

Authorized
USG Signature _____

Note: This proposal may be withdrawn by us if not accepted within Sixty (60) days.

Acceptance of Proposal - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Fiscal Yr Beginning Month _____

Signature _____

Date of Acceptance

Printed Name



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City of Rock Island / 65th, 20th, 27th & 37th Water Lines

1. Owner agrees to provide the following:
 - a. All potable water necessary to create the ice slurry,
 - b. Secure location to store the ice making equipment,
 - c. Network Operators to isolate and re-open valves and hydrants during the project,
 - d. MOT (Maintenance of Traffic) procedures in accordance with the requirements written in The Manual of Uniform Traffic Devices.
 - e. A tanker truck to haul the wastes where a sanitary sewer is not in close proximity. Note: **The discharge should not be to ground unless specific State approval is acquired.**
 - f. Notification to the Owner's customers describing the operations and water shutoff during the process,
 - g. Network Operators to close the service lines when required by the Owner.
 - h. Exercise all relevant valves and hydrants and test for operational working order.
 - i. A complete isolation of the main.
2. USCI shall provide a report summarizing the daily cleaning events, water quality pre and post cleaning, and a quantitative amount of sediments removed only on those lines where a connection can be made to the discharge point.
3. USCI shall endeavor to manage the ice concentration to maximize cleaning efficiency and minimize the removal of tuberculation that could cause future water quality complaints.
4. Owner agrees that there is considerable expense to produce 600 gallons of ice slurry and that the ice slurry cannot be held for more than 12 hours before it becomes unusable. If on a scheduled work day, the Owner cannot isolate the water main or does not have the needed personnel, USCI shall charge the Owner the Full Daily Rate of \$3,000 per day.
5. USCI shall not charge the Owner the above-mentioned Daily Rate, if USCI cannot perform the complete day's work due to those factors under USCI's control, i.e. the ice is not in suitable condition, USCI cannot provide the necessary labor, equipment failure, etc.
6. Due to the potential condition or deterioration of assets that may or may not have been maintained, Owner shall indemnify USCI, and all officers and agents of USCI, against all damages, costs or expenses that may result from damage to property or personal injury caused by reason of the Owner's failure to maintain its assets or deterioration of Owner's assets in relation to any work in connection with this Agreement. Such indemnity includes, but is not limited to, damage to property or personal injury occasioned by any negligence, act or omission to act by USCI or any of its servants, agents, employees, or any subcontractor retained by USCI to perform any of the work contemplated by or under this agreement.
7. Once delivered to the job site, ownership of the ice slurry is transferred to the Owner. All ice delivered to and removed from the water main, along with the wastes generated from the resulting process shall be the sole property of the Owner. Owner shall dictate the specific disposal procedures to be employed during the process.



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Responsibility		Ice Making Procedure
Owner	1.	The ice delivery unit and ice making unit shall be staged in a suitable level area, preferably a fenced area at a water treatment plant or other facility. The facility needs access to potable water, preferably a hydrant but also a water spigot will work.
USCI	2.	The hoses and fittings connecting the ice maker and delivery unit shall be disinfected and connected. This connection makes a closed loop system between the ice maker and delivery unit. The only place for contaminants to enter the system are through the tank hatch which shall be closed except for visual inspection by the operator.
USCI	3.	Approximately 600 gallons of potable water shall be added to the delivery tank, along with approximately 250lbs of NSF-60 Certified Sodium Chloride.
USCI	4.	If requested by the Owner, the Chlorine residual in the brine solution may be increased to 10ppm. The chlorine residual shall be tested, and then the appropriate amount of NSF-60 Certified Sodium hypochlorite shall be added to the brine solution. The solution shall be retested to confirm the chlorine residual.
USCI	5.	The PLC controlling the ice making process shall be started and allowed to run overnight. USCI shall monitor the procedure overnight via periodic visits or remote monitoring.
USCI	6.	After completion of the ice making process, the delivery pump shall be started and a small amount of ice shall be tested to determine the ice fraction. If the ice fraction is below the project's requirement, the ice making process shall continue.
USCI	7.	If the ice fraction is in accordance with the project's requirement, then the ice maker shall be shut off and disconnected. The ice contained in the delivery unit shall be delivered to the job site.



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Responsibility		On-Site Delivery Actions
Owner	1.	Owner shall setup and maintain traffic control procedures in conjunction with the setup procedures listed in Steps 2-3.
USCI	2.	<p>The ice pigging delivery unit shall be parked near the entrance hydrant.</p> <ul style="list-style-type: none"> • Hoses shall be setup from the delivery unit to the hydrant. • The hydrant shall be flushed to clean out the barrel, then shut off • The hydrant fittings shall be disinfected with 250ppm Cl solution • The hoses shall be connected to the hydrant
USCI	3.	<p>Where possible, the extraction point instrumentation unit shall be setup near the extraction hydrant.</p> <ul style="list-style-type: none"> • Hoses shall be setup from the instrumentation unit to the hydrant. • Hoses shall run from the instrumentation unit to the sanitary sewer. • De-chlorination equipment shall be setup where required. • The hydrant shall be flushed to clean out the barrel, then shut off • The hydrant fittings shall be disinfected with 250ppm Cl solution. • The instrumentation unit connected to the hydrant, and the hydrant turned on. • Water quality readings shall be taken. • The unit shall be allowed to flow water.
Owner	4.	The final valves shall be closed to isolate the water main.
USCI	5.	The isolation of the main shall be verified by the instrumentation unit. The extraction hydrant valve shall be closed after main isolation is verified and before the pressure goes below 20psi in the main.
USCI	6.	<p>The entrance hydrant shall be opened and the ice slurry pumped into the water hydrant.</p> <ul style="list-style-type: none"> • Prior to pumping the percent solids of the ice slurry shall be documented. <p>The extraction hydrant valve shall be operated to allow for the displacement of water by the introduction of the ice and maintain the pressure above 20psi in the main.</p>
USCI	7.	Once the proper amount of ice slurry has been delivered, the entrance hydrant and extraction hydrant valve shall be closed and the pressure is maintained above 20psi in the main.



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Owner	8.	IMMEDIATELY, the upstream main line valve shall be opened to supply the needed pressure to push the ice pig through the main.
USCI	9.	Once full system pressure, as observed prior to system shutdown, is monitored at the instrumentation unit, the operator shall open the extraction hydrant valve to control the flow of water and monitor the progress of the ice pig.
USCI	10.	Once the pig is monitored to arrive, the flow of water shall be diverted from the de-chlorination equipment to flow to the sanitary sewer specified by the Owner.
USCI	11.	The water quality shall be monitored and flow shall continue until the water quality returns to the initial water quality readings. <ul style="list-style-type: none">• Final chlorine shall be documented.
USCI	12.	The entrance hydrant shall be flushed to remove any ice that remains between the water main and hydrant.
USCI	13.	The entrance and exit locations shall be cleaned up with all materials and equipment removed from the site.
Owner	14.	The downstream main valve shall be opened and returned to full service. The Owner may elect to issue a precautionary boil advisory, and a water quality test taken to confirm there is no bacteriological contamination.



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Schedule of Work

Date	Run Name	Insertion Point	Discharge Point	Disposal Method	Length (FT)	Pipe Dia.(in)	Pipe Material	Ice Quantity (Gals)	Delivery Rig
Day 1	65th Ave-A	A	B	Tanker	2000	6	CICL	600	BDR
Day 2	20th St Ct	C	D	Tanker	450	6	CICL	150	BDR
	27th Ave. E.	E	F	Tanker	350	8	CICL	200	BDR
	37th Ave	G	H	Tanker	400	8	DI	250	BDR
Day 3	27th Ave W.-A	I	J	Tanker	1300	6	CICL	600	BDR
Day 4	27th Ave W.-B	I	J	Tanker	1300	6	CICL	600	BDR
Day 5	65th Ave-B	A	B	Tanker	2000	6	CICL	600	BDR

Note: Please refer to attached map for insertion and discharge references.



Legend

- WaterControlValve
- <all other values>
- Water Main Dia (Inches)**
 - 4
 - 6
 - 8
 - 10
 - 12
 - 16
 - 20
 - 24
 - 30
 - 36
- WHydrant
- Fiber Optic HandHole
- Fiber Optic Conduit
- DDischargePoint
- DManhole
- DCatchBasin
- DGravityMain
- SManhole
- SGravityMain
- ri_parcels
- ri_10'contours
- RockIsI2014_20to1_rev.sid**
- RGB**
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3



Contractor Shall Note That All Underground Utility Schematics Are Approximate.
Actual Locations In the Field May Vary From What Is Shown Here For Just City Utilities.
Gas, Electric, Phone, and Cable Companies May Have Additional Utilities Not Shown Here.



150 75 0 150 Feet



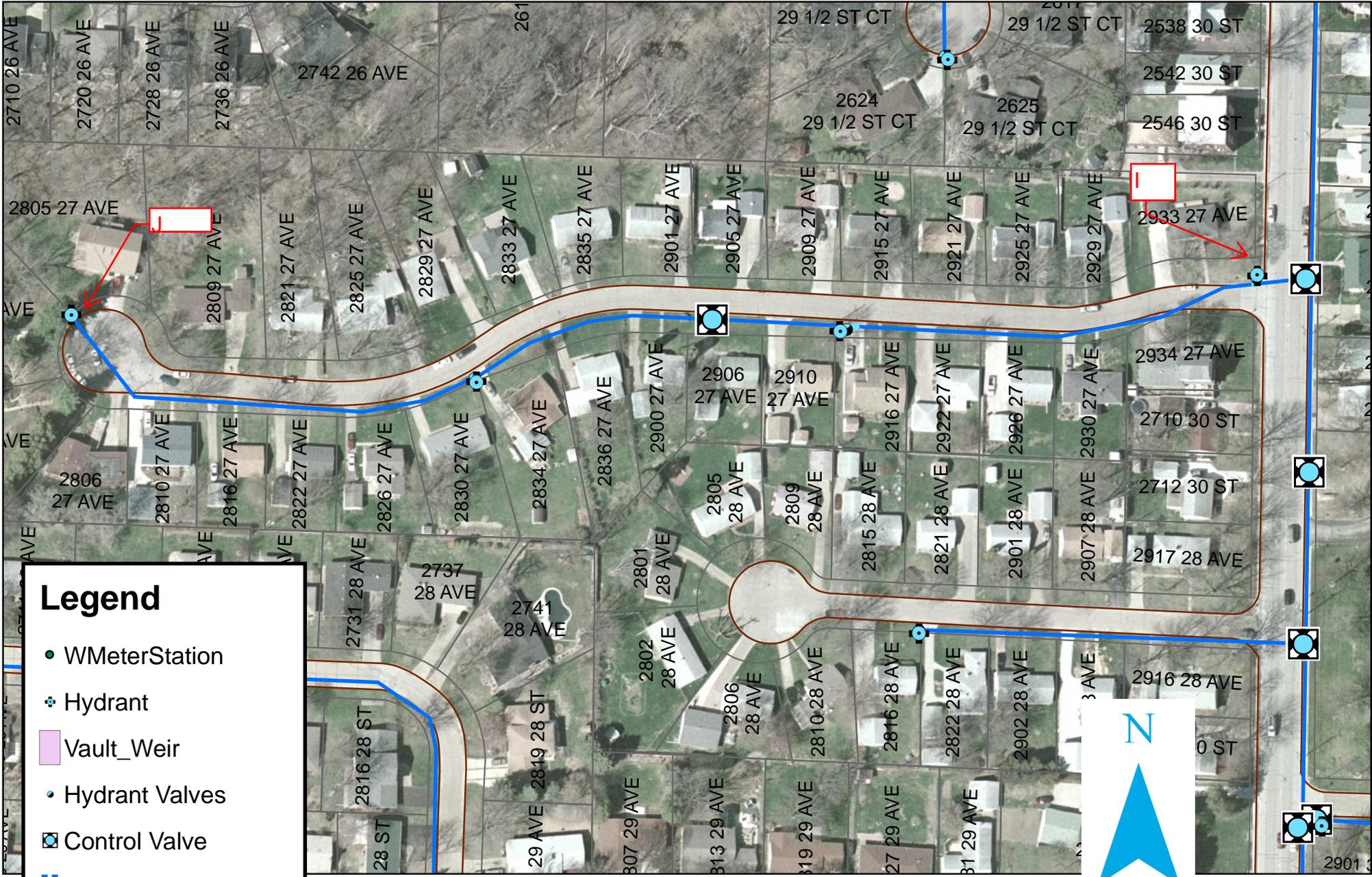
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- Legend**
- Water Control Valve
 - <all other values>
 - Water Main Dia (Inches)**
 - 4
 - 6
 - 8
 - 10
 - 12
 - 16
 - 20
 - 24
 - 30
 - 36
 - W Hydrant
 - Fiber Optic Hand Hole
 - Fiber Optic Conduit
 - D Discharge Point
 - D Manhole
 - D Catch Basin
 - D Gravity Main
 - S Manhole
 - S Gravity Main
 - ri_parcels
 - ri_10' contours
 - RocksIs2014_20to1_rev.sid**
 - RGB**
 - Red: Band_1
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Legend

- WMeterStation
- ⊕ Hydrant
- Vault_Weir
- Hydrant Valves
- ⊠ Control Valve
- WSurgeReliefTank
- Hydrant Lateral Draft
- Water Mains Draft
- ⊞ Municipal Boundary

