INVI
TATION TO BID
WATER TREATMENT CHEMICALS FOR 2017

BID NUMBER: 17-0007

| BID OPENING: TUESDAY, NOVEMBER 29, 2016 AT 2:00 PM |
|-----------------|-----------------|-----------------|
| The City of Duluth requests sealed bids for the following water treatment chemicals: |
| **17-0007** Nonionic Polymer (ClariFlo N-3300P or Equivalent) | **17-0008** Liquid Aluminum Sulfate | **17-0009** Wet Hydrofluorosilicic Acid |
| 3,000 Pounds | 125,400 Gallons | 100 Tons |
| **17-0010** Liquid Anhydrous Ammonia | **17-0011** Liquid Chlorine | **17-0012** Liquid Caustic Soda |
| 32,000 Pounds | 50 Tons | 70,000 Gallons |

Quantities are estimates. All chemicals must meet the attached specifications. Delivery charges must be included in the price, and the price must be held firm January 1, 2017 through December 31, 2017. Current SDS required for all items.

Deliver-to location for all orders is the Lakewood Water Treatment Plant located at 8130 Congdon Blvd, Duluth, MN 55804. Contact at the Plant is Mark Proulx, Utility Operations Supervisor, 952-240-2023.

All 2017 chemical purchases will be held pending City Council approval of the 2017 budget and a 30-day waiting period as required by ordinance. Purchase orders may not be issued until January 2017.

All bids must be complete, signed, and transmitted in a sealed envelope plainly marked with the bid number, subject matter, and opening date.

Bids may be mailed to the Purchasing Office, City Hall, 411 West 1st Street, Room 100, Duluth, MN 55802 or dropped off in person at the same address. Bids must be received in Purchasing before 2:00 PM local time on Tuesday, November 29, 2017.

The City Purchasing Agent or her designee will conduct a public bid opening in Room 100 immediately following receipt of the bids. A bid summary will be posted online at http://www.duluthmn.gov/purchasing/bids-request-for-proposals/ once all bids have been reviewed.

The City of Duluth reserves the right to split the award where there is a substantial savings to the City, to waive informalities and to reject any and all bids. Do not include sales tax in the unit price. Price may not be the only consideration for bid award. Bids must be firm for a minimum of 60 days.

CITY OF DULUTH

Amanda Ashbach
Purchasing Agent
WATER TREATMENT CHEMICALS FOR 2017
SPECIFICATIONS

17-0007  Nonionic Polymer (Clarifloc N-3300P or Equivalent)
- Product to be supplied in 55 pound, moisture-proof bags.
- Delivery and pallet charges must be included in the bid price.

17-0008  Liquid Aluminum Sulfate
- Liquid aluminum sulfate 50%, 17% Al, 179 Al 203 basis (19% aluminum oxide basis).
- Ingredients:
  - Aluminum sulfate Al2(SO4)3 48.5%
  - Water (H2O) 51.5%
- General Characteristics:
  * Chemical formula: Al2(SO4)3 in solution
  * Appearance: clear, slightly buff to amber liquid
  * Dry Weight: 1 liter weighs 1.32 kg and contains the equivalent of 0.65 kg dry aluminum sulfate (alum); 1 imperial gallon weighs 13.2 lbs and contains the equivalent of 6.5 lbs dry aluminum sulfate (alum)
- Chemical Analysis  % by weight
<table>
<thead>
<tr>
<th>Typical</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Aluminum – total available as Al2O3</td>
<td>8.3</td>
</tr>
<tr>
<td>* Iron - total as Fe2O3</td>
<td>0.0035</td>
</tr>
<tr>
<td>* Insoluble Solutions</td>
<td>0.002</td>
</tr>
<tr>
<td>* Basicity</td>
<td>0.20</td>
</tr>
</tbody>
</table>
- Must comply with the latest B403 American Water Works Association (AWWA) standard.
- To be delivered in tank trucks on an as-needed basis.
- Legal weight ticket must accompany each load to verify net weight of product.

17-0009  Wet Hydrofluorosilicic Acid 25%
- Delivered in 19 ton loads; pumped to a 6,000-gallon storage tank.
- Fluoride must comply with the latest B703 AWWA standard.
- Legal weight ticket must accompany each load to show net weight of product.

17-0010  Liquid Anhydrous Ammonia (for water disinfection)
- Ammonia: Min 99.98% by weight
  - Moisture: Max 0.02% by weight
  - Oil: Max 2 parts per million
  - Non-Condensable Gases: Less than 0.1% by weight
- Delivered in tank truck loads of approximately 4,000 pounds as needed and pumped into a 1,000-gallon storage tank at the Lakewood WTP.
- Must comply with latest B305 AWWA standard.
- Legal weight ticket must accompany each load to show net weight of product.
17-0011   Liquid Chlorine
- Chlorine: Min 99.7% by volume
- Moisture: Max 0.0100% by weight
- Nonvolatile Matter (@45 deg C) Max 0.0030% by weight
- Must comply with the latest B301 AWWA standard
- To be delivered as-needed in 1 TON containers

17-0012   Liquid Caustic Soda 50%
- Delivered into two (2) 6,000-gallon storage tanks.
- Must comply with the latest B501 AWWA standard.
- Liquid temperature must be a minimum of 100°F.
- Legal weight ticket must accompany each load to show net weight of product.
BID FORM
BID # 17-0007
WATER TREATMENT CHEMICALS FOR 2017

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>ITEM</th>
<th>QTY</th>
<th>UOM</th>
<th>UNIT PRICE</th>
<th>EXTENDED PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-0007</td>
<td>Nonionic Polymer (Clarifloc N-3300P or equivalent)</td>
<td>3,000</td>
<td>LBS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-0008</td>
<td>Liquid Aluminum Sulfate</td>
<td>125,400</td>
<td>GAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-0009</td>
<td>Wet Hydrofluorosilicic Acid</td>
<td>100</td>
<td>TON</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-0010</td>
<td>Liquid Anhydrous Ammonia</td>
<td>32,000</td>
<td>LBS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-0011</td>
<td>Liquid Chlorine</td>
<td>50</td>
<td>TON</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-0012</td>
<td>Liquid Caustic Soda</td>
<td>70,000</td>
<td>GAL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IF YOU DO NOT WISH TO SUBMIT A BID FOR AN ITEM – PLEASE WRITE “NO BID” ON THAT LINE

ACKNOWLEDGMENT OF ADDENDA

<table>
<thead>
<tr>
<th>ADDENDUM #</th>
<th>INITIAL/DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADDENDUM #</th>
<th>INITIAL/DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signature _______________________________________________________  Date  ___________________

Name/Title ______________________________________________________________________________

Company Name ___________________________________________________________________________

Address _________________________________________________________________________________

City, State, Zip __________________________________________________________________________

Tel. ____________________________________  E-Mail  _________________________________________
Please provide additional information as requested:

17-0007 Nonionic Polymer (Clarifloc N-3300P or equivalent)
Provide a primary point of contact for product, delivery, or other questions:

NAME PHONE EMAIL ADDRESS

17-0008 Liquid Aluminum Sulfate
Price per US gallon $ __________ Weight/Gallon: ___________/lb
Price per ton $ __________ Dry Weight/Gallon: ___________/lb
Manufacturer: ____________ Typical shipment weight: ____________

Provide a primary point of contact for product, delivery, or other questions:

NAME PHONE EMAIL ADDRESS

17-0009 Wet Hydrofluorosilicic Acid
Provide a primary point of contact for product, delivery, or other questions:

NAME PHONE EMAIL ADDRESS

17-0010 Liquid Anhydrous Ammonia
Please list any fuel surcharges applicable per load $__________ or _________ %
Please list any Hazmat fee applicable per load $__________

Provide a primary point of contact for product, delivery, or other questions:

NAME PHONE EMAIL ADDRESS

17-0011 Liquid Chlorine
Please list any fuel surcharges applicable per load $__________ or _________ %
Please list any Hazmat fee applicable per load $__________

Provide a primary point of contact for product, delivery, or other questions:

NAME PHONE EMAIL ADDRESS

17-0012 Liquid Caustic Soda
Weight/Gallon: ___________/lb Dry Weight/Gallon: ___________/lb
Manufacturer: ____________ Normal Truckload Quantity: ____________

Provide a primary point of contact for product, delivery, or other questions:

NAME PHONE EMAIL ADDRESS