



**Purchasing Division**  
100 City Hall, 411 W. 1st Street  
Duluth, MN 55802-1189  
TEL. 218-730-5340  
[purchasing@duluthmn.gov](mailto:purchasing@duluthmn.gov)

## INVITATION TO BID

### 20" ID (SERIES 2) PRE-INSULATED HOT WATER PIPE, VALVES & FITTINGS

**BID NUMBER: 17-0444**

**BID OPENING: THURSDAY, JULY 6, 2017 AT 2:00 PM**

**PROJECT DESCRIPTION:** Pre-insulated Series 2 pipe, valves and fittings for the Duluth Energy Systems (Steam) plant connection portion of the Superior Street reconstruction project. Please refer to the specifications and Exhibit A for more information.

The City anticipates issuing a purchase order no later than July 18th and requires that all items be received at the delivery point no later than August 31, 2017.

**QUESTIONS:** Please submit any questions regarding this project via e-mail to [purchasing@duluthmn.gov](mailto:purchasing@duluthmn.gov). Responses will be issued as an addendum to this solicitation.

## INSTRUCTIONS TO BIDDERS

By submitting a bid, Bidders are acknowledging that they have read the City of Duluth General Bid Specifications, which are included in this bid package.

Sealed bids must be received in Purchasing before 2:00 PM local time on the bid opening date specified above. The City Purchasing Agent or her designee will conduct a public bid opening in Room 100 immediately following receipt of the bids.

No alternatives to the specification will be considered unless specifically requested.

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.

#### **The following documents must be submitted with your bid:**

1. **Bid Bond** - A certified check or bank draft, payable to the order of the City of Duluth, negotiable U.S. Government Bonds (at par value), or a satisfactory bid bond executed by the bidder and acceptable surety, in an amount equal to five per cent (5%) of the total bid. Bids may be withdrawn without forfeiture of surety if the request is submitted by the Bidder and received at the Purchasing Office in writing or by e-mail prior to the scheduled bid opening.

2. **Acknowledgment of Addendum** – any changes to this solicitation will be announced via Addendum. Bidders must indicate that they have reviewed any addendum(s) by initialing and dating on the bid form where indicated. Failure to acknowledge addendum(s) may result in your bid being deemed non-responsive.

In addition, the successful bidder shall be required to execute the attached affidavit stating that he/she has not entered into a collusive agreement with any other person, firm, or corporation in regard to any bid submitted.

The City of Duluth is an Equal Opportunity Employer. Contractor shall comply with all applicable Equal Employment Opportunity laws and regulations.

CITY OF DULUTH

Amanda Ashbach  
Purchasing Agent



Purchasing Division  
100 City Hall, 411 W. 1st Street  
Duluth, MN 55802-1189  
TEL. 218-730-5340  
purchasing@duluthmn.gov

## GENERAL BID SPECIFICATIONS

1. General. This document covers bids requested by the City of Duluth ("City"), including those requested on behalf of its Agents and Authorities. Each authority may issue their own purchase order or contract and will be responsible for it. The City of Duluth Authorities are as follows:
  - a. Duluth Airport Authority
  - b. Spirit Mountain Recreational Area Authority
  - c. Duluth Entertainment and Convention Center
  - d. Duluth Transit Authority
  - e. Duluth Economic Development Authority
  - f. Duluth Housing and Redevelopment Authority
2. Investigation by Bidders. Bidders are responsible for thoroughly reading and understanding the information, instructions, and specifications contained in this Invitation for Bids, and for investigating the site conditions at the Project location(s), if applicable. At the time of the opening of bids, each bidder will be presumed to have read and to be thoroughly familiar with the plans, specifications and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument, or document shall in no way relieve the bidder from any obligation in respect to their bid.
3. Bidder Questions. Responses to general questions regarding the Invitation for Bids may be made at the discretion of the City. Every request for such interpretation should be in writing and delivered via e-mail or postal mail to the Purchasing Division before the deadline indicated on the Invitation for Bids, or if no deadline is specified, at least five (5) days prior to the scheduled bid opening. Responses will be issued in writing in the form of an Addenda or e-mail to prospective bidders.
4. Changes, Corrections & Withdrawal of Bids. Erasures or other changes to the bid must be initialed and dated, however no special conditions shall be made or included in the bid form by the bidder.

Bidders may make requests to withdraw/replace their bids by notifying the Purchasing Division in writing prior to the bid opening date and time.
5. Unit Pricing. If the total bid price is based on unit pricing, the City will verify the extended bid price for each item (obtained by multiplying the unit bid price by the bid item quantity). If any item is incorrectly calculated, the City will use the unit bid price to recalculate the extended item price and the total bid price.
6. Sales Tax. Do not include sales tax in the unit price. A sales tax exemption certificate will be provided upon request.
7. Bid Submission. 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 by Purchasing before 2:00 PM local time on the date specified. Bids will not be accepted via e-mail unless specifically stated in the Invitation for Bids.
8. Non-Collusion Clause. By submitting a bid, the bidder, their agent and/or employee(s) hereby affirm that the attached bid or bids have been arrived at by the bidder independently and have been submitted without collusion with, and without agreement, understanding or planned common course of action with any other vendor of materials, supplies, equipment or services described in the Invitation for Bids, designed to limit independent bidding or competition
9. Award. Award, if made, will be to the responsible bidder submitting the lowest bid which complies with the conditions of the Invitation for Bids and specifications. A bid summary will be posted on the City website immediately following the bid opening. Awards for construction services and parts /supplies over \$100,000 must be approved by City Council.
10. Bidder Qualifications. Per Sec 41.23(e) of Duluth City Code, price may not be the only consideration for award. The City will make such investigations as deemed necessary to determine the ability, capacity and skill of the bidder to perform the work and perform it in the time specified without delay or interference, the character, integrity, reputation, judgment, experience and efficiency of the bidder, the quality of the bidder's performance of previous contracts or services, and the sufficiency of the financial resources, equipment available and ability of the bidder to perform the contract. Bidders shall furnish to the City all such information and data for this purpose, when requested.
11. Bid Opening. The City Purchasing Agent or her designee will conduct a public bid opening in Room 100 immediately following receipt of the bids. Results will be posted online at <http://www.duluthmn.gov/purchasing/bids-request-for-proposals/> once all bids have been reviewed.
12. Rejection of Bids. The City of Duluth reserves the right to reject any and all bids and to waive any informalities or irregularities in bids received whenever such rejection or waiver is in its best interests.

The City reserves the right to reject any bid if the evidence obtained by the City through such investigation fails to satisfy the City that the bidder is properly qualified to carry out the obligations of the contract and to complete the work as required by the plans and specifications.
13. Liquidated Damages for Failure to Enter into Contract. The successful bidder, upon their failure or refusal to accept a purchase order or execute and deliver the contract, proof of insurance and bonds required within 10 days after receipt of a notice of the acceptance of their bid, shall forfeit to the City, as liquidated damages for such failure or refusal, the security deposited with their bid (if required).
14. Equal Employment Opportunity. Contractor will be required to comply with all applicable Equal Employment Opportunity (EEO) laws and regulations. Affirmative action must be taken to insure that the employees and applicants for employment are not discriminated against because of their race, color, creed, sex or national origin. The City of Duluth is an equal opportunity employer.
15. Quantities. The City reserves the right to increase or decrease the quantities of items within reason, unless otherwise noted.
16. Prevailing Wages. Per Sec 2-26 of Duluth City Code, payment of not less than the prevailing wage and salary rates specified in the contract documents and the conditions of employment with respect to certain categories and classifications of employees is required for all "Public Works" type projects estimated to exceed \$2,000. This does not apply to off-site production and manufacturing of parts and supplies.
17. Validity of Bids. All bids must remain firm for 60 days from the date of bid opening, unless another period is noted in bid documents or if an extension is agreed upon, in writing prior to the end of the 60-day period.
18. Insurance. All vendors doing work on City property, except vendors making routine deliveries, shall submit an insurance certificate verifying insurance coverage as per current city requirements.

**BID FORM**  
**BID # 17-0444**  
**20" ID (SERIES 2) PRE-INSULATED HOT WATER PIPE, VALVES & FITTINGS**

ITEM	PRICE
Total from EXHIBIT A - Schedule of Prices (must be returned with Bid)	\$

\_\_\_\_\_  
TOTAL PRICE IN WRITING

**ACKNOWLEDGMENT OF ADDENDA**

<u>ADDENDUM #</u>	<u>INITIAL/DATE</u>
<u>ADDENDUM #</u>	<u>INITIAL/DATE</u>

Signature \_\_\_\_\_ Date \_\_\_\_\_

Name/Title \_\_\_\_\_

Company Name \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Tel. \_\_\_\_\_ E-Mail \_\_\_\_\_

If your organization is certified as a Disadvantaged Business Enterprise, please check here: ☐

# EXHIBIT A - SCHEDULE OF PRICES



6/20/2017

## HWP PIPE MATERIAL PROCUREMENT BID FORM

LINE	DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITY	PROCUREMENT COST	
				UNIT COST \$	TOTAL COST \$
	Michigan Street HW Extension -Duluth Energy Systems Hot Water Construction				
	PIPE				
1	1.25" ID PRE-INSULATED STEEL HOT WATER PIPE (SERIES 2)	LIN FT	80		
2	2" ID PRE-INSULATED STEEL HOT WATER PIPE (SERIES 2)	LIN FT	40		
3	20" ID PRE-INSULATED STEEL HOT WATER PIPE (SERIES 2)	LIN FT	1520		
	FITTINGS				
4	1.25" ID PRE-INSULATED 90 DEGREE BENDS (SERIES 2)	EACH	4		
5	2" ID PRE-INSULATED 90 DEGREE BENDS (SERIES 2)	EACH	8		
6	20" ID PRE-INSULATED 90 DEGREE BENDS (SERIES 2)	EACH	28		
7	20" ID PRE-INSULATED 75 DEGREE BENDS (SERIES 2)	EACH	2		
8	20" ID X 1.25" ID PRE-INSULATED PERPENDICULAR TEES (SERIES 2)	EACH	2		
9	20" ID X 2" ID PRE-INSULATED PERPENDICULAR TEES (SERIES 2)	EACH	6		
	VALVES				
10	2" ID PRE-INSULATED VALVES (SERIES 2)	EACH	6		
11	20" ID PRE-INSULATED BALL VALVES (SERIES 2)	EACH	2		
	JOINT KITS				
12	1.25" SHRINK SLEEVE JOINT	EACH	6		
13	2" SHRINK SLEEVE JOINT	EACH	6		
14	20" SHRINK SLEEVE JOINT	EACH	128		
15	2" SPLIT SLEEVE JOINT	EACH	24		
16	20" SPLIT SLEEVE JOINT	EACH	20		
17	2" END CAP	EACH	6		
18	20" END CAP	EACH	4		
19	SHIPPING, CUSTOMS, AND DELIVERY	CONTAINER			
	MATERIAL PROCUREMENT TOTAL BID				

**SECTION 33 61 10**  
**PRE-INSULATED STEEL HOT WATER PIPE**

**PART 1**      **GENERAL**

**1.1 SECTION INCLUDES**

A. Pipe and pipe fittings for:

1. Pre-Insulated Steel District Heating Hot Water Pipe

**1.2 REFERENCES**

Other than by reference, listed references, standards and specifications are not contained in this Specification. Unless otherwise noted, the most current version of the standard or reference is applicable. Obtain, become familiar with and, where indicated or inferred, conform to the listed references and standards. References and standards are considered minimum requirements unless indicated otherwise. Any references to methods of measurement or payment in references and standards are not applicable. Tolerances in references and standards are applicable only if not indicated otherwise in this Specification. In event of conflict between the references or standards and this Specification, this Specification applies.

A. European Committee for Standardization (CEN):

1. EN 253: District Heating Pipes – Pipe assembly of steel service pipe, polyurethane thermal insulation, and outer casing of polyethylene
2. EN 448: District Heating Pipes – Fittings assemblies of steel service pipes, polyurethane thermal insulation, and outer casing of polyethylene
3. EN 489: District Heating Pipes – Joint assembly for steel services pipes, polyurethane thermal insulation, and outer casing of polyethylene
4. EN 10217-2: Welded Steel Tubes for Pressure Purposes – Electric welded non-alloy and alloy steel tubes with specified elevated temperature properties

**1.3 DESCRIPTION**

A. Direct buried Hot Water distribution system shall consist of pre-insulated steel piping and pre-insulated steel fittings.

**1.4 SUBMITTALS**

A. Submit under provisions of Section 01 33 00.

B. Shop Drawings: The Contractor shall submit to the Owner the Shop Drawings of the following components:

1. Pre-Insulated Steel Pipe and Fittings

C. Product Data: The Contractor shall submit to the Owner the following documentation prior to submittal of the Bid:

1. Include data on pipe materials, pipe fittings, and accessories. Provide manufacturers catalogue information.
2. Pre-insulated Steel Pipe
  - Verification of current EN 253 certification for pipe manufacturer
  - Manufacturer quality test report samples from 2016/2017 displaying conformance to current EN 253 for:
    - Polyethylene Casing
    - Polyurethane Foam Insulation

- Pipe Assembly
  - Radial Creep Behavior Of Polyurethane Foam Insulation
  - Thermal Conductivity of Pre-Insulated Pipes
  - Verification of Calculated Continuous Operating Temperature (CCOT) of Pre-Insulated Pipes
  - Verification tests or certification letter indicating that fittings meet EN 448 Standards
  - Verification tests or certification letter indicating that insulation for joints and HDPE joint coverings have been tested to perform under laboratory conditions, according to EN 489 and EN 253 Standards
  - Verification tests or certification letter indicating that leak detection/surveillance wiring meets EN 14419 and EN 253 Standards
- D. Manufacturer's Installation Instructions: Indicate trenching methods, jointing procedures, and backfill recommendations.

## **1.5 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum ten years documented experience.

## **PART 2      PRODUCTS**

### **2.1 BURIED HOT WATER PIPING**

#### **A. Pre-Insulated Steel District Heating Pipe**

1. Steel Carrier Pipe and Fittings – Pipe material P235GH according to EN 10217-2 meeting or exceeding the following material properties:
  - a. Density: 490 lbs/ft<sup>3</sup> (7850 kg/m<sup>3</sup>)
  - b. Tensile Strength: 50,750 psi (350 N/mm<sup>2</sup>)
  - c. Yield Stress: 34,080 psi (235 N/mm<sup>2</sup>)
  - d. Young's Modulus: 3.05x10<sup>7</sup> psi (2.1x10<sup>5</sup> N/mm<sup>2</sup>)
2. HDPE Jacket – High-density polyethylene material according to EN 253 meeting or exceeding the following material properties:
  - a. Density: 58 lbs/ft<sup>3</sup> (940 kg/m<sup>3</sup>)
  - b. Tensile Strength: 2750 psi (19 N/mm<sup>2</sup>)
  - c. Coefficient of Expansion: 1.11x10<sup>-4</sup>/°F (2x10<sup>-4</sup>/K)
  - d. Thermal Conductivity: 0.004 BTU/(min·ft·°F) (0.43 W/mK)
  - e. Melt Flow Rate: 0.01 – 0.03 oz/10 min. (0.3 – 0.8 g/10 min)
  - f. HDPE Jacket shall be corona-treated during production to ensure optimum adhesion between HDPE jacket and insulation
  - g. HDPE jacket shall be considered Carbon Black and able to withstand permanent installation in direct sunlight.
3. Insulation – Homogenous hard polyurethane foam (PUR) made from polyol and isocyanate in according to EN 253, meeting or exceeding the following material properties:
  - a. Average Cell Size: max 0.02 in (0.5 mm)
  - b. Density: 3.75 lbs/ft<sup>3</sup> (60 kg/m<sup>3</sup>)
  - c. % Closed Cells: > 88%
  - d. Water Absorption if Boiled: < 10% (Vol.)
  - e. Compressive Strength at 10% Deformation: 43.5 psi (0.3 N/mm<sup>2</sup>)

- f. Axial Shear Strength: 17.4 psi (0.12 N/mm<sup>2</sup>)
  - g. Tangential Shear Strength: 29.0 psi (0.20 N/mm<sup>2</sup>)
  - h. Thermal Conductivity at 122°F (50°C): 2.65x10<sup>-4</sup> BTU/(min·ft ·°F) (0.0275 W/mK)
  - i. Max. Continuous Operating Temperature: 284°F (140°C) for 30 years
4. Alarm Wires – Pre-insulated steel district heating pipes shall be constructed with two copper wires embedded within the insulation for leak detection meeting the following material properties
    - a. Wires: Two (2) 1.5 mm<sup>2</sup> non-insulated copper wires (one tinned)
    - b. Distance to Steel Pipe: min. 0.55 in (15 mm)
    - c. Position from Top of Pipe: 1 – 7.5 in (3 – 20 cm) from 12 o'clock position (one on each side of the pipe)
  5. Fittings – All fittings (elbows, bends, tees, etc.) shall be pre-insulated with the same means, methods, and materials as the pre-insulated steel pipe and shall comply with EN 448.
  6. Joint Kits – Joint kits shall comply with EN 489 and shall be power transmitting.
  7. Approved Manufacturers
    - a. Logstor
    - b. Isoplus
    - c. Brugg/German Pipe
    - d. PowerPipe
    - e. Or approved by Owner and Engineer

## 2.2 WARRANTY

- A. The Contractor shall warranty all materials from defects in the Goods due to the manufacture, shipping, or delivery of the Goods for a minimum of **five years** after the accepted delivery to the Owner.
- B. All direct, indirect, and consequential costs of correcting, removing, and replacing defective Goods during the warranty period, including, but not limited to, equipment, labor, materials, and damage to surrounding areas, will be charged against the contractor.

## PART 3        EXECUTION

### 3.1 SHIPPING, CUSTOMS, AND DELIVERY

- A. The place where Goods are to be delivered is defined as the point of delivery. The Vendor shall deliver Goods to Duluth, Minnesota VIA the port terminal for pick up the containers by the Owner. The Owner will take the containers to the storage area, remove Goods, and return the shipping containers to the port terminal. Goods shipped via truck shall dropped off at 1220 Railroad street, Duluth MN 55802.
- B. All goods shall be delivered f.o.b. to point of delivery specified in the Procurement Agreement. Contractor shall select the means and methods of transportation. All transportation charges, including but not limited to switching, trucking, tariffs or duties, lighterage, and special handling shall be included as a line item in the Bid. The Vendor shall retain ownership of Goods until delivered to the point of delivery.

- C. Vendor shall give Owner and Engineer at least fifteen days' prior written notice of the date when the Goods will be ready for shipment and the manner of shipment. Such notice will include instructions concerning any special equipment or services required at the point of delivery to unload and care for the Goods. Vendor also shall require the carrier to give Owner not less than 24 hours' notice by telephone of the anticipated hour of delivery.
- D. Owner shall provide the carrier reasonable access within the site to the point of delivery.
- E. Vendor shall deliver the Goods to the point of delivery within the time period specified in the Procurement Documents.
  - 1. Owner will not be obligated to accept delivery of goods not made within the established delivery time period unless other approved arrangements have been made. Additional costs arising from delivery prior to or after the delivery period shall be the responsibility of Contractor.
  - 2. Owner may direct Contractor to ship to another point of delivery or to accelerate or postpone the delivery period. Owner shall be responsible for additional expenses incurred by Contractor as a result of such direction, including but not limited to charges for storage, reconditioning, handling, overtime and insurance.
- F. The Owner shall remove materials from the shipping vehicle.

### **3.2 STORAGE AND HANDLING**

- A. Provide temporary end caps and closures on piping and fittings.
- B. Protect piping systems from entry of foreign materials by temporary covers.

**END OF SECTION**



## **AFFIDAVIT AND INFORMATION REQUIRED OF BIDDERS**

Affidavit of Non-Collusion:

I hereby swear (or affirm) under penalty of perjury:

- 1) That I am the bidder (if the bidder is an individual), a partner in the bidder (if the bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the bidder is a corporation);
- 2) That the attached bid or bids have been arrived at by the bidder independently and have been submitted without collusion with and without agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid, designed to limit independent bidding or competition;
- 3) That the contents of the bid or bids have not been communicated by the bidder or its employees or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bid or bids and will not be communicated to any such person prior to the official opening of the bid or bids;
- 4) That a family relationship between a City of Duluth employee and bidder/proposer are in non-collusion; and
- 5) That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Signed: \_\_\_\_\_

Firm Name: \_\_\_\_\_

Subscribed and sworn to me before this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

NOTARY PUBLIC \_\_\_\_\_

My commission expires: \_\_\_\_\_

Bidder's Federal Identification Number \_\_\_\_\_