

# BID SOLICITATION



City of Chattanooga  
101 East 11th Street, Suite G13  
Chattanooga TN 37402

**BID OPENING DATE AND TIME:**  
09/30/2008 2:00 PM  
**BID NUMBER: B0005490**

**SEALED BIDS**  
Mail or submit two (2) signed copies of bid form to this office in the enclosed envelope. Retain one copy for your file.

BUYER: Hipp, Geoffrey  
PHONE #: (423) 757 - 4758 ext.  
DELIVERY REQUIRED: 09/30/2008 2:00 PM

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City of Chattanooga  
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Chattanooga TN 37402

Item	Class-Item	Quantity	Unit	Unit Price	Total
	Requisition No.: R0113082 Ordering Dept.: Waste Resources Buyer: Geoffrey Hipp 423-757-4758 ***** ITEMS TO BE PURCHASED: After-Cooler Tube Bundle ***** ATTACHMENTS: - Specifications - Affirmative Action Plan - Standard Terms and Conditions: ( <a href="http://www.chattanooga.gov/Finance/66_StandardTermsandCondition">http://www.chattanooga.gov/Finance/66_StandardTermsandCondition</a> or call for copy) ***** * *** BIDS MUST BE RECEIVED NO LATER THAN *** ***** 2:00 PM ON SEPTEMBER 30, 2008 ***** * ***** * PLEASE SUBMIT BIDS IN DUPLICATE * ALL FREIGHT CHARGES ARE INCLUDED IN BID PRICES UNLESS OTHERWISE NOTED. ***** NOTE: All bids received are subject to the terms and conditions contained herein and as listed in the above referenced website. The undersigned Bidder acknowledges having received, reviewed, and agrees to be bound to these terms and conditions, unless specific written exceptions are otherwise stated.  Any manufacturer's names, trade names, brand names, or catalog numbers used in the specifications are for the purpose of describing and establishing general quality levels. Such references are not intended to be restrictive. Bids will be considered for any brand which meets or exceeds the quality of the specifications listed for any item.				

NOTE: ALL BIDS RECEIVED ARE SUBJECT TO THE TERMS AND CONDITIONS.

ALL BIDS MUST BE SIGNED: The undersigned offers the above quoted prices under the conditions contained herein.

The City is Exempt from all Federal and State Tax.  
Bids will be received at the above mentioned address.

COMPANY: \_\_\_\_\_

TERMS OF PAYMENT: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

NAME AND TITLE: \_\_\_\_\_

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	<p>The City of Chattanooga reserves the right to reject any and/or all bids, waive any informalities in the bids received, and to accept any bid which in its opinion may be for the best interest of the city.</p> <p>The City of Chattanooga will be non-discriminatory in the purchase of all goods and services on the basis of race, color, or national origin.</p> <p>PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION:</p> <p>Company Name _____</p> <p>Address _____</p> <p>Phone/Toll-Free No. _____</p> <p>Fax No. _____</p> <p>E-Mail Address _____</p> <p>Contact Person's Name _____</p> <p>Estimated Delivery _____</p> <p>Minority-Owned Business ___ Small Business ___ Veteran ___</p> <p>Minority Woman Owned Business ___ Disabled Veteran ___</p> <p>Women-Owned Business ___</p> <p>***** ALL ITEMS MUST BE QUOTED F.O.B. DESTINATION ****</p>				

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Item	Class-Item	Quantity	Unit	Unit Price	Total
1.0	<p>TUBE BUNDLE ASSEMBY REQUIRES THE FOLLOWING:</p> <p>One (1) tube bundle assembly - SAF-983-NS, S/N 17094;</p> <p>Aluminum Bronze Front Tube Sheet; Naval Brass Rear Tube Sheet; Tubes are made of: Admiralty Brass ---</p> <p>Gasket Set Consisting of: Two (2) Front Tube Sheet Gasket Two (2) Rear Tube Sheet Packing - Viton A</p> <p>890-49 Tube Bundle Assembly for After Cooler (per the attached specifications)</p>	1.00	EA	<b>TOTAL:</b>	

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**SPECIFICATIONS FOR  
TUBE BUNDLE ASSEMBLY FOR AFTER-COOLER  
MOCCASIN BEND WASTEWATER TREATMENT PLANT  
CHATTANOOGA TENNESSEE  
May 2008**

**GENERAL INFORMATION**

This specification is for the purchase of one (1) tube bundle assembly to fit in the existing shell of an after-cooler made by R. P. Adams Company Inc. of Buffalo, N. Y. The Moccasin Bend Wastewater Treatment Plant uses this after-cooler at the Oxygen Generation system to cool air going into the cryogenic oxygen plant to produce liquid and gaseous oxygen that is used in the Unox System - a high rate activated sludge process. Attached is a reference sheet related to the after-cooler. This specification describes the assembly needed.

**TUBE BUNDLE ASSEMBLY**

Required:    One (1) tube bundle assembly – SAF-983-NS, S/N 17094  
                  Aluminum Bronze Front Tube Sheet  
                  Naval Brass Rear Tube Sheet  
                  Tubes are made of: Admiralty Brass  
                  Gasket Set consisting of:  
                  Two (2) Front Tube Sheet Gasket  
                  Two (2) Rear Tube Sheet Packing – Viton A

CUSTOMER JOY MANUFACTURING CO.

DATE 6/24/80

ADDRESS BUFFALO, N.Y.

CUST. INQ. NO. B-006609

PLANT LOCATION

PROPOSAL NO. BF6792

REF. NO. A-6553 A

SERVICE OF UNIT AFTERCOOLER

ITEM NO. 1

SIZE 5A 983 NS TYPE PIPELINE-RENOV. BUNDLE POSITION HORIZONTAL

SURFACE PER UNIT 983 SQ FT SHELLS PER UNIT 1 SURFACE PER SHELL 983 SQ FT

NO OF UNITS SHELL ARRANGEMENT ENGRS. J.W.P.

PERFORMANCE OF ONE UNIT

FLUID CIRCULATED			
TOTAL FLUID ENTERING #/HR.	182 gpm	14260 CFM	*
VAPOR #/HR.		700	**
LIQUID #/HR.	91,000		
STEAM #/HR.			
NON-CONDENSABLES #/HR.		58322	
FLUID VAPORIZED OR CONDENSED #/HR.		338	
STEAM CONDENSED #/HR.			
GRAVITY LIQUID DENSITY #/CF		0.694	*
VISCOSITY-LIQUID			
MOLECULAR WEIGHT-VAPORS			
SP. HEAT-BTU/#°F			
LATENT HEAT-BTU/#			
TEMPERATURE IN °F	86	200	
TEMPERATURE OUT °F	106	96	
OPERATING PRESSURE PSIA		9.1	
NUMBER OF PASSES	ONE	ONE	
VELOCITY FT./SEC.	1.3		
PRESSURE DROP P.S.I.	8 ALLOWED	2 CALC.	ALLOWED 0.95 **
FOULING RESISTANCE	.001	.001	
HEAT EXCHANGED-B.T.U./HR.	1,825,000	M.T.D. (CORRECTED) L.T.D.	33.3 °F
TRANSFER RATE-SERVICE	85.3	CLEAN	74.4
		OVERALL FOULING FACTOR	.0045

CONSTRUCTION - EACH SHELL

DESIGN PRESSURE P.S.I.	150	150
TEST PRESSURE P.S.I.	225	225
DESIGN TEMPERATURE °F	200	350
TUBES NO.		
O.D.		
BWG		
LENGTH		
PITCH	13/16	Δ B
SHELL O.D.	22" ID	
WALL	.375 STEEL	<input checked="" type="checkbox"/> OTHER
INLET COMPANION FLG	CAST IRON	<input checked="" type="checkbox"/> STEEL <input type="checkbox"/> OTHER
PACKING GLAND	CAST IRON	<input checked="" type="checkbox"/> CAST STEEL <input type="checkbox"/> STEEL <input type="checkbox"/> OTHER
INLET REDUCER SIZE		<input checked="" type="checkbox"/> CAST IRON <input type="checkbox"/> CAST STEEL <input type="checkbox"/> STEEL <input type="checkbox"/> OTHER
TUBE SHEET STATIONARY	F.N.A. BRASS	<input type="checkbox"/> ADMIRALTY <input type="checkbox"/> AL. BRONZE <input checked="" type="checkbox"/> STEEL <input type="checkbox"/> OTHER
TUBE SHEET FLOATING	F.N.A. BRASS	<input checked="" type="checkbox"/> MUNTZ <input type="checkbox"/> ADMIRALTY <input type="checkbox"/> AL. BRONZE <input type="checkbox"/> STEEL <input type="checkbox"/> OTHER
BAFFLES	BRASS	<input type="checkbox"/> STEEL <input type="checkbox"/> NON-METALLIC <input checked="" type="checkbox"/> OTHER
		NO. 12 % CUT 25%
SHELL GASKETS	ASBESTOS	<input checked="" type="checkbox"/> RUBBER <input type="checkbox"/> PACKING GLAND - ASBESTOS <input type="checkbox"/> RUBBER <input checked="" type="checkbox"/>
AIR OR GAS INLET	NPT 3" 22" 50 FLG	<input checked="" type="checkbox"/> AIR OR GAS OUTLET NPT 1/4" RF FLG
COOLING WATER INLET	NPT 4" RF FLG	<input checked="" type="checkbox"/> COOLING WATER OUTLET NPT 4" RF FLG
CORROSION ALLOWANCE	SHELL SIDE	TUBE SIDE

CODE REQUIREMENTS ASME - SECTION VIII - DIVISION I

WEIGHTS - EACH SHELL AND BUNDLE 4650# BUNDLE ONLY 3700# FULL OF WATER 6550#

REMARKS: - \* T.C.F.M. @ 14.4 PSIA 95°F & 50% R.H.

\* \* AIR TO AFTERCOOLER SAT. @ 56 PSIA & 100°F

... SIDE OF ... INCLUDES DROP THRU 1 1/4" CV'S PER ...

## Affirmative Action Plan

The City of Chattanooga is an equal opportunity employer and during the performance of this Contract, the Contractor agrees to abide by the equal opportunity goals of the City of Chattanooga as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or handicap.
3. The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. In all construction contracts or subcontracts in excess of \$10,000 to be performed for the City of Chattanooga, any contractor and/or subcontractor is further required to file in duplicate within ten (10) days of being notified that it is the lowest responsible bidder, an affirmative action plan with the EEO Director of the City of Chattanooga. This plan shall state the Contractor's goals for minority and women utilization as a percentage of the work force on this project.
5. This Plan or any attachments thereto shall further provide a list of all employees annotated by job function, race, and sex who are expected to be utilized on this project. This plan or attachment thereto shall further describe the methods by which the Contractor or Subcontractor will utilize to make good faith efforts at providing employment opportunities for minorities and women.

During the term of this contract, the Contractor upon request of the City, will make available for inspection by the City of Chattanooga copies of all payroll records, personnel documents and similar records or documents that may be used to verify the Contractor's compliance with these Equal Opportunity provisions.

6. The Contractor will include the portion of the sentence immediately preceding paragraph 1 and the provisions of paragraph 1 through 6 in every subcontract so that such provisions will be requested of each subcontractor. The Contractor agrees to notify the City of Chattanooga of any subcontractor who refuses or fails to comply with these equal opportunity provisions. Any failure or refusal to comply with these provisions by the contractor and/or subcontractor shall be a breach of this contract.

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(Signature of Contractor)

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(Title and Name of Company)

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(Date)