



INVITATION FOR SEALED BID

TAC 138

Description: 3/4" – 2" Cold Water Meters

Department: Public Works Department

NIGP Commodity Code(s): 890-44-00-000-0

Total pages including this page is 20

Note: FAXING OF BID WILL NOT BE ACCEPTED

Important Instruction – Read Carefully:

If you have obtained these bid specifications from either of:

City of Tulsa's Fax-on-Demand (918-596-1171) or

City of Tulsa's Website : <http://www.cityoftulsapurchasing.org> you must notify the

buyer Patricia Cummings of your intent to bid by e-mail at

pcummings@ci.tulsa.ok.us in order to receive addenda. The buyer will always acknowledge your e-mail for your records. All addenda will be posted on fax-on-demand and the website.

TABLE OF CONTENTS

Pay special attention to those pages with a reference to the following notes:

Note #1: Signature of authorized agent required

Note #2: Signature of an authorized agent and notarized required

Table of Contents		2
Invitation for Sealed Bid	(Note #1)	3
General Terms and Conditions		4
Interest Affidavit	(Note #2)	5
Bidder Affidavit	(Note #2)	6
Contractor Information Sheet		7
Summary Price Sheet		8
Specifications		9-20

Your bid response should follow the same format listed above plus any additional format requested in the body of the bid invitation.

**INVITATION FOR SEALED BIDS
TO
City of Tulsa**

200 CIVIC CENTER, ROOM 109, TULSA, OKLAHOMA 74103

Bid number and date of bid opening must appear on the lower
left outside corner of bid envelopes and all related containers.

DATE OF OPENING: August 9, 2001

BID NUMBER: TAC 138

**BID MUST BE IN THE CITY CLERK'S OFFICE AT THE ABOVE ADDRESS BY 5:00 P.M. THE DAY PRECEDING THE
"DATE OF OPENING" SHOWN ABOVE.**

BIDS WILL BE OPENED AT 8:30 A.M. IN THE CITY COUNCIL ROOM ON THE DAY SPECIFIED UNDER "DATE OF OPENING."

PUBLISHED IN THE TULSA DAILY COMMERCE AND LEGAL NEWS: July 30, 31, August 1, 2, 3, 2001

Bid must be accompanied by bidder's bond, cashier's check or certified check in the amount of: None

PLEASE READ TERMS AND CONDITIONS ON THE NEXT PAGE BEFORE COMPLETING BID DOCUMENTS

THE FOLLOWING SECTION MUST BE COMPLETED BY BIDDER

Delivery will be made in not more than _____ days after receipt of order.

Payment terms _____ % _____ days.

City of Tulsa may increase quantity of order at the unit price bid for _____ days. (Bidder to Specify Days)
I have examined the terms and specifications and the instructions to bidders herein and agree, provided I am awarded a contract, to provide the above described items for the sum shown in accordance with the terms and specifications stated herein.
All deviations are in writing and attached hereto.

Enclosed is a [] BID BOND ; [] CASHIER'S CHECK; [] Certified Check in the amount of \$ None, which I agree the City of Tulsa may retain as liquidated damages in the event of my failure to comply with the terms of this bid.

MUST BE SIGNED BY AUTHORIZED AGENT TO BE VALID

FIRM NAME _____ by _____
SIGNATURE OF AUTHORIZED AGENT

STREET _____ TITLE _____

CITY STATE _____ ZIP CODE _____ PHONE NUMBER _____ DATE _____

GENERAL TERMS AND CONDITIONS OF SEALED BIDS

THESE ITEMS APPLY TO AND BECOME A PART OF THE BID.

NO EXCEPTIONS TO THESE TERMS & CONDITIONS WILL BE CONSIDERED.

1. **BIDS MUST BE SUBMITTED ON THIS FORM ONLY INCLUDING A SIGNATURE OF AN AUTHORIZED AGENT.** Each bid shall be placed in a separate envelope. Be sure envelope is completely and properly identified and sealed, showing the bid number and date in the lower left hand corner. Bids must be time stamped in the office of the City Clerk by 5:00 P.M. on the day before date of opening.
2. No bidder may withdraw his proposal for a period of thirty (30) days after the date and hour set for the opening of bids.
3. All prices shall be quoted F.O.B. Tulsa, Oklahoma, and delivery to City of Tulsa location shall be without additional charge.
4. The bidder shall attach the manufacturer's name of the equipment or material to be furnished, type, model numbers, manufacturer's descriptive bulletins and specifications. All guarantees and warranties should be clearly stated. This data shall be in sufficient detail to describe accurately the equipment or material to be furnished. Manufacturer's specifications, in respect to the successful bidder, shall be considered as part of his contract with the City of Tulsa.
5. The bidder shall show in the proposal both the unit prices and total amount, where required, of each item listed. In the event of error or discrepancy in the mathematics, the unit prices shall prevail.
6. Any exceptions or deviations from written specifications shall be shown in writing and attached to the bid form.
7. Each bidder agrees to comply with the terms of Title 5, Chapter 1, of Tulsa, Oklahoma Charter and revised ordinances relating to equal employment opportunity.
8. **THE ENCLOSED FORMS REGARDING NON-COLLUSION AND FINANCIAL INTEREST MUST BE SIGNED, NOTARIZED, AND RETURNED WITH THE BID.**
9. The City of Tulsa reserves the right to reject any and all bids, to waive any technicalities in the bidding, and to award each item to different bidders or all items to a single bidder.
10. All bids must be accompanied by bidders bond, cash, certified or cashier's check in the amount shown on the face of the bid form. This amount shall be retained by the City of Tulsa as liquidated damages in the event the successful bidder (or bidders) fails to execute a contract, if required. The bidder agrees that said amount is presumed to be the damages sustained by the City due to the impracticability and extreme difficulty in fixing the actual damages. The office of the City Clerk will return the bid deposits to the unsuccessful bidders, after a contract has been awarded or all bids have been rejected.
11. In the event cash discounts are offered by the bidder, the discount date shall begin with the date of invoice, the date of receipt of all material covered by the purchase order, or the date of receipt by the City of Tulsa of the original copy of the purchase order with properly executed Affidavit of Claimant, whichever is the later date.
12. Direct purchase of certain items of equipment or material by the City of Tulsa are exempt from Federal Excise Tax and Oklahoma Sales Tax. In such cases the bidder shall quote prices which do not include Federal Excise Tax and Oklahoma Sales Tax. The City of Tulsa will furnish executed exemption certificates upon presentation by the bidder at the time of purchase.
13. Bid must show number of days required for delivery under normal conditions. Failure to state delivery time obligates bidder to complete delivery in fourteen (14) calendar days. Unrealistically short or long delivery promises may cause bid to be disregarded. Contractor must keep Purchasing Department advised at all times of status of order. Default in promised delivery or failure to meet specifications authorizes the Purchasing Agent to purchase supplies elsewhere and charge full increase of cost and handling to defaulting contractor. Consistent failure to meet delivery promises without valid reason may cause removal from bid list.
14. Bidder agrees to defend and save City of Tulsa from and against all demands, claims, suits, costs, expenses, damages and judgments based upon infringement of any patent relating to goods specified in this order or the ordinary use or operation of such goods by City or use or operation of such goods in accordance with bidders direction.
15. If the bid requires a written contract, the successful bidder shall execute a written contract with the City of Tulsa and return the required bonds and insurance certificates within ten (10) days after submission of contracts to said bidder by the City.

BIDDER AFFIDAVIT - TITLE 74 O.S. (1974 SUPP.) 85.22-85.25

STATE OF _____ COUNTY OF _____

_____, of lawful age, being first duly sworn on oath says
Authorized Agent

1. (s)he is the duly authorized agent of _____, the bidder submitting the competitive bid which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among bidders and between bidders and municipal officials or employees, as well as facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the bid to which this statement is attached.
2. (s)he is fully aware of the facts and circumstances surrounding the making of the bid to which this statement is attached and has been personally and directly involved in the proceedings leading to the submission of such bid; and
3. neither the bidder nor anyone subject to the bidder's direction or control has been a party;
 - a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding,
 - b. to any collusion with any municipal official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, nor
 - c. in any discussions between bidders and any municipal official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

SIGNATURE OF AUTHORIZED AGENT

Subscribed and sworn to before me this _____ day of _____, 20_____.

Signature of Notary Public

MY COMMISSION EXPIRES

The Bidder Affidavit must be completed, signed by an authorized agent, and notarized.

CONTRACTOR/BIDDER INFORMATION SHEET

To be completed by all Bidders
For Contracts with the City of Tulsa
(Please print or type)

Project No. or Description _____

Full Name of Bidder _____

Legal Identity
(Corporation, Partnership,
Individual, etc.) _____

Address _____

Telephone No. _____

FAX No. _____

Taxpayer Identification Number _____

Contact Person _____

Phone No. _____

Fax No. _____

E-mail address _____

Webpage Address _____

Price Sheet Summary

Vendor
 Name: _____ Signature: _____ Date: _____

TAC #138

	<u>UNIT COST</u>
1. 5/8" X 3/4" Cold Water Meter MODEL _____ Estimated annual usage 10,000 Trade-in Allowance _____	\$ _____
2. 3/4" Cold Water Meter MODEL _____ Estimated annual usage 800 Trade-in Allowance _____	\$ _____
3. 1" Cold Water Meter MODEL _____ Estimated annual usage 700 Trade-in Allowance _____	\$ _____
4. 1-1/2" Cold Water Meter MODEL _____ Estimated annual usage 60 Trade-in Allowance _____	\$ _____
5. 2" Compound Meter MODEL _____ Estimated annual usage 60 Trade-in Allowance _____	\$ _____

**TAC 138
COLD WATER DISPLACEMENT METERS
AND
2" COMPOUND WATER METERS
PUBLIC WORKS DEPARTMENT**

INTENT:

It is the intent of this bid to secure, on a competitive basis, a source of supply for furnishing **Cold Water Meters** to the City of Tulsa's Public Works Department.

CONTRACT:

The term of the contract shall be for a period of one (1) year beginning from the date it is executed by the Mayor. The contract shall be renewable, with the consent of both parties, for two (2) successive one (1) year periods.

The successful bidder will be required to enter into a contract with the City within ten (10) days after receipt of contract forms.

BIDDER'S AFFIDAVIT:

Each bidder shall accompany their bid with a fully executed and notarized copy of the attached **Non-Collusion Affidavit** and the **Interest Affidavit**. Failure to do so may be cause for rejection of the bid.

ADDENDA AND INTERPRETATIONS:

If it becomes necessary to revise any part of this bid, a written addendum will be provided to all the bidders. The City of Tulsa is not bound by any oral representations, clarifications, or changes made in the written specifications by the City of Tulsa employees, unless such clarification or change is provided to bidders in written addendum form from the Purchasing division.

GENERAL:

The quantity of meters the City has to trade in may be more or less than the quantity of new meters ordered. The time of shipment of meters for trade-in may not be coincidental with receipt of new meters ordered. Any amount of funds due the City of Tulsa from trade-in meters must be paid by check to the City of Tulsa. It is unlawful for a vendor to retain a credit to be applied toward future purchases in accordance with Oklahoma Statute 620.S.335 (1949).

Prices indicated on the pricing page are to be quoted FOB Tulsa. No additional freight charges are to be added to invoices.

RIGHT TO AUDIT:

Bidder fully understands that it is a condition of this bid to allow the City to audit for goods, services, materials and/or supplies provided to the City of Tulsa. Bidder agrees to provide timely access to its books and records on Bidder's premises upon reasonable request by City staff. Bidder further agrees that it shall provide City personnel reasonable access and such clerical assistance as City staff may require for examination and audit of those portions of Bidder's books and records relating to the goods, services, materials and/or supplies furnished to the City during the term of any contract between Bidder and City.

AMERICANS WITH DISABILITIES ACT:

Bidder shall take the necessary actions to ensure its facilities and employment practices are in compliance with the applicable requirements of the Americans with Disabilities Act. Any costs of such compliance will be the sole responsibility of Bidder.

AWARD OF BID:

The bid shall be awarded to the firm whose proposal is responsive to the bid and is most advantageous to the City, considering the factors identified in the bid and Section 406E of Title 6, The Purchasing Ordinance set forth below:

406E. AWARD OF CONTRACT

1. Authority of the Mayor. The Mayor shall have the authority to award contracts within the purview of this chapter.
2. Lowest Secure Bidder. Contracts shall be awarded to the lowest secure bidder meeting specifications . In determining "lowest secure bidder", in addition to price, the following factors shall be considered:
 - a. The ability, capacity and skill of the bidder to perform the contract or provide the service required;
 - b. whether the bidder can perform the contract or provide the service promptly of within the time specified, without delay or interference;
 - c. the character, integrity, reputation, judgment, experience and efficiency of the bidder;

- d. the quality of performance of previous contracts or services;
- e. the previous and existing compliance by the bidder with laws and ordinances relating to the contract or service;
- f. the sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service;
- g. the quality, available and adaptability of the supplies or contractual services to the particular use required;
- h. the ability of the bidder to provide future maintenance and service for the use of the subject of the contract; and
- i. the number and scope of conditions attached to the bid.
- j. the number and scope of conditions attached to the bid.
- k. if a point system has been utilized in the bid specifications, the number of points earned by the bidder.

MATERIAL SPECIFICATIONS

DISPLACEMENT WATER METERS 5/8" x 3/4", 3/4", AND 1"

DISPLACEMENT WATER METERS:

GENERAL

Displacement water meters shall conform to current standard specifications C700, latest revision, of the American Water Works Association for "Cold Water Meters – Displacement Type."

All meters and components shall be manufactured in the territorial boundaries of the United States.

The overall length of the meters shall be:

<u>METER SIZE</u>	<u>LENGTH</u>
5/8" x 3/4"	7 1/2"
3/4"	7 1/2"
1"	10 3/4"

In the interest of standardization, only the following meters will be considered:

5/8" x 3/4"	-	Badger Recordall 25 Neptune Trident 10 Sensus S R or S R II Hersey 400 Series
3/4"	-	Badger Recordall 40 Neptune Trident 10 Sensus S R Hersey 400 Series
1"	-	Badger Recordall 70 Neptune Trident 10 Sensus S R Hersey 400 Series

The meter size and nominal capacity ratings shall conform to Table 1 of the AWWA Standards.

All meters must be guaranteed to operate under a working pressure of 150 psi without leakage or damage to any part.

CASE

The main case of the meter shall be cast water-works bronze, with a cast iron bottom to allow breakage in the event of freezing so as not to distort the main housing. The "frost proof" cast iron bottom shall be attached to the bronze housing by four stainless steel bolts or cast bronze bolts and the internal water separated from the cast iron bottom by means of suitable polymer or rubber liner.

The serial number of the meter shall be imprinted permanently on the raised portion of the main case over the outlet spud.

Castings shall not be repaired in any manner.

MEASURING CHAMBER

The measuring chamber shall be cast bronze or suitable synthetic polymer and be guaranteed to measure accurately for 15 years at least to standards as set by AWWA for repaired meters. Nutating disc or oscillating piston type will be acceptable. Disc or piston shall be made of the highest grade vulcanized hard rubber or synthetic polymer and fitted accurately into the measuring chamber. Discs shall be equipped with a thrust bearing. The disc shall be flat and one-piece construction. The number of disc nutations shall comply with the AWWA C-700 latest edition.

Measuring chambers shall be field repairable/replaceable with recalibration with change gears.

REGISTER

Registers will be magnetically driven straight reading in the U.S. Gallons and hermetically sealed with heat treated glass.

All gearing shall be enclosed in the sealed register unit. All 5/8" x 3/4" size meters furnished under this and future contracts shall have identical change gears. The same holds true for 3/4" meters and 1" meters.

The sealed register unit shall be warranted for 25 years to be free from defects and fogging.

The registration indicated on the meter dial shall not be less than 98.5% nor more than 101.5% while being tested within normal test flow limits as specified in Table 1 of the AWWA Standards. Meters shall register not less than 95% and not more than 101% at the minimum test rate flow as specified in Table 1 of the AWWA Standards.

The serial number of the meter shall be imprinted permanently on the cover.

Meter shall be furnished with a device (furnished and installed) to discourage unauthorized tampering of the register, by one of the following methods:

Stainless steel or copper seal wires with lead seals.

Tamper proof metallic non-shear type lock screws.

Register seal pin.

SCREEN

A rigid screen on non-corrosive material shall be installed inside the meter case. The screen shall fit snugly, shall be easily removable, and shall have an effective straining area at least double that of the main case inlet.

LOCAL REMOTE READOUT

Each meter shall be capable of accepting a remote readout instrument that can be operable with no outside electrical power.

WARRANTY AND CERTIFICATES OF TESTING

The Company guarantees that all meters will perform to AWWA new meter accuracy standards for a period of one (1) year from date of installation and to meet AWWA repaired meter standards for 15 years, meter register shall be guaranteed for 25 years to perform accurately and free from fogging. The manufacturer shall replace at his own expense all meters rejected for failure to comply with this standard. Each meter shall be furnished with certificates of testing indicating conformance with AWWA meter accuracy for new meters.

EXCHANGE PROGRAM AND TRADE-IN METER TESTING

Each bidder will indicate the unit price for the new meters including an allowance per unit for an equal number of meters from the City of Tulsa for a trade-in. Where $\frac{3}{4}$ " meters are purchased, trade-in meters will be $\frac{5}{8}$ " x $\frac{3}{4}$ " meters. Successful bidders shall furnish shipping crates and shall pick up trade-in meters.

Each bidder shall furnish a bid for testing up to 25% of the trade-in meters.

REPAIR PARTS

Each bidder shall furnish a complete repair parts list and price list for each type meter including prices for future register exchange and chamber exchange for each size meter. Price shall be net prices of parts F.O.B. destination for the duration of the contract.

METER LITERATURE AND HEAD LOSS DELIVER CURVES

Each bidder shall include with his proposal, two complete copies of descriptive material and loss of head and delivery curves for each item for which a bid is placed. No bids shall be considered unless the above information is furnished with bids.

SHIPPING

Meter should be F.O.B. destination.

Meters shall be boxed and palletized for shipping.

CONFLICTS

Where conflicts arise, AWWA Standards shall prevail.

MATERIAL SPECIFICATIONS

DISPLACEMENT WATER METERS 1-1/2”””

DISPLACEMENT WATER METERS:

Displacement water meters shall conform to current standard specifications C700, latest revision, of the American Water Works Association for “Cold Water Meters – Displacement Type.”

All meters and components shall be manufactured in the territorial boundaries of the United States.

The overall length of the meters shall be 13”.

In the interest of standardization, only the following meters will be considered:

Badger	Model 120
Neptune	Trident 8 or 10
Sensus	S R
Hersey	400 Series

The meter size and nominal capacity ratings shall conform to Table 1 of the AWWA Standard.

All meters must be guaranteed to operate under a working pressure of 150 psi without leakage or damage to any part.

CASE

The main case of the meter shall be cast water-works bronze, with a cast iron bottom to allow breakage in the event of freezing so as not to distort the main housing. The “frost proof” cast iron bottom shall be attached to the bronze housing by four (300 Series) stainless steel bolts or cast bronze bolts and the internal water separated from the cast iron bottom by means of suitable polymer or rubber liner.

The serial number of the meter shall be imprinted permanently on the raised portion of the main case over the outlet spud or on the raised portion of the main case over the outlet flange.

Castings shall not be repaired in any manner.

MEASURING CHAMBER

The measuring chamber shall be cast bronze or suitable synthetic polymer and be guaranteed to measure accurately for 15 years at least to standards as set by AWWA for repaired meters. Nutating disc or oscillating piston type will be acceptable. Disc or piston shall be made of the highest grade vulcanized hard rubber or synthetic polymer and fitted accurately into the measuring chamber. Discs shall be equipped with a thrust bearing. The disc shall be flat and one-piece construction. The number of disc nutations shall comply with the AWWA C-700 latest edition.

Measuring chambers shall be field repairable/replaceable without recalibration with change gears.

REGISTER

Registers will be magnetically driven straight reading in U.S. Gallons and hermetically sealed with heat treated glass.

All gearing shall be enclosed in the sealed register unit. All 1 ½" meters furnished under this and future contracts shall have identical change gears.

The sealed register unit shall be warranted for 25 years to be free from defects and fogging.

The registration indicated on the meter dial shall not be less than 98.5% nor more than 101.5% while being tested within normal test flow limits as specified in Table 1 of the AWWA Standards. Meters shall register not less than 95% and not more than 101% at the minimum test rate flow as specified in Table 1 of the AWWA Standards.

Register cover shall be cast water-works bronze with the name of the manufacturer cast on the lids in raised letters. The serial number of the meter shall be imprinted permanently on the cover.

Copper or stainless steel seal wires with lead seals shall be furnished and installed by manufacturer (supplier) to seal the register.

SCREEN

A rigid screen of non corrosive material shall be installed inside the meter case. The screen shall fit snugly, shall be easily removable, and shall have an effective straining area at least double that of the main case inlet.

LOCAL REMOTE READOUT

Each meter shall be capable of accepting a remote readout instrument that can be operable with no outside electrical power.

WARRANTY AND CERTIFICATES OF TESTING

The company guarantees that all meters will perform to AWWA new meter accuracy standards for a period of one (1) year from date of installation and to meet AWWA repaired meter standards for 10 years, meter register shall be guaranteed for 25 years to perform accurately and free from fogging. The manufacturer shall replace at his own expense all meters rejected for failure to comply with this standard. Each meter shall be furnished with certificates of testing indicating conformance with AWWA meter accuracy for new meters.

FLANGED CONNECTIONS

The connections shall be bronze, flanged, oval type, faced and drilled, conforming to Class 125, A.N.S.I. B16.24.

EXCHANGE PROGRAM

Each bidder will indicate the unit price for the new meters including an allowance per unit for an equal number of meters from the City of Tulsa for a trade-in. Successful bidders shall furnish shipping crates and shall pick up trade-in meters.

Each bidder shall furnish a bid for testing up to 25% of the trade-in meters.

REPAIR PARTS

Successful bidders shall furnish a complete repair parts list and price list for each type meter including prices for future register exchange and chamber exchange. Price shall be net prices of parts F.O.B. destination for the duration for the contract.

METER LITERATURE AND HEAD LOSS DELIVERY CURVES

Each bidder shall include with his proposal, two complete copies of descriptive material, loss of head and delivery curves for each item for which a bid is placed. No bids shall be considered unless the above information is furnished with bids.

COMPANION FLANGES – OPTIONAL

Where specified the meters shall be furnished with water-works bronze companion flanges, gaskets, bolts and nuts.

CONFLICTS

Where conflicts arise, AWWA Standards shall prevail.

MATERIAL SPECIFICATIONS FOR COMPOUND TYPE WATER METERS – 2”, 3”, 4”, 6”

COMPOUND WATER METERS

GENERAL

Where 2” through 6” compound water meters are specified or required, they shall conform the AWWA, C702, “Cold Water Meters – Compound Type, “Latest Edition. Meters shall be designed to operate at a minimum working pressure of 150 psig without leakage from damage to any part.

The compound meter shall contain two measuring chambers, one for low flow and one for high flow, with flow through the chambers controlled by a swing or lifting action valve.

SIZE, CAPACITY AND DIMENSIONS

The compound meter size and pressure shall conform to Table 1 of the AWWA Standard. The overall dimensions from flange to flange of the meter shall not exceed those shown in Table 2 of the AWWA Standard.

CASE

All meters shall have an outer case with a separate, removable measuring chamber. Castings shall not be repaired in any manner. The case shall be bronze.

The size, model and flow direction shall be cast on the outer case.

All interior parts shall be removable for repair without disturbing the pipeline connections.

The serial number of the meter shall be imprinted permanently on the top of the outlet flange.

FLANGED CONNECTIONS

The 3” through 6” compound meters shall be bronze flanged, round type, faced and drilled, conforming to Class 125, ANSI B16.24.

All 2” compound meters shall be bronze flanged, oval type, faced and drilled conforming to Class 125, A.N.S.I. B16.24.

REGISTER

Registers shall be magnetically driven, hermetically sealed and straight reading in U.S. gallons with heat-treated glass. The register(s) furnished shall be the same register(s) that was on the meter when it was tested for accuracy.

Register capacity and indication shall meet the requirements of Table 5 of the AWWA Standard. A large center sweep test hand register shall be provided.

The accuracy of the meter shall not be less than 97% nor more than 103% of the water actually passed through the meter at any rate of flow specified in Table 1 of the AWWA Standard. The test waster shall be at a temperature less than 80 degrees F. the accuracy art changeover flow, due to operation of the automatic valve mechanism, shall not be less than 90% and not more than 103%, and shall meet the requirements of Table 3 of the AWWA Standard.

Register cover shall be made of bronze with the name of the manufacturer cost on the lid in raised letters. The serial number shall be imprinted permanently on the cover.

Copper stainless steel seal wires with lead seal shall be furnished and installed by manufacturer (supplier) to seal the register.

MEASURING CHAMBER, TURBINE BEARINGS

The measuring chamber shall be bronze or synthetic polymer, and shall be easily removable from the main case.

The turbine bearings or brushings shall be made of vulcanized, hard rubber or synthetic polymer material, and shall be replaceable.

MAGNETIC OR DIRECT COUPLINGS

Magnetic or direct drive register couplings with stuffing boxes may be used when the intermediate gear trains are located in the water compartment. Only magnetic register couplings shall be used when the intermediate gear trains are located in the register compartments.

STRAINER

The strainer shall be flanged, and shall have an effective straining area at least double the meter case inlet area. The body shall be ductile or cast iron or bronze, and the strainer screen shall be bronze or stainless steel. The strainer shall be designed for a minimum working pressure of 150 psig.

The total laying length of the meter and strainer shall be as follows:

Meter Size, Inches	Meter and Strainer Max, Laying Length, Inches
2	24
3	24
4	24
5	33
6	33

LOCAL REMOTE READOUT

2" meters shall be capable of accepting a readout instrument that can be operable with no outside electrical power.

3" and larger meters shall be furnished with remove readout instruments that can be operable with no outside power.

AFFIDAVIT OF COMPLIANCE

An Affidavit of Compliance and Certificate of Testing shall be furnished to the City of Tulsa with each meter to insure that the meter conforms to these specifications.

MANUFACTURERS

Only the following manufacturers of compound water meters will be permitted: Sensus, Badger, Neptune, Hersey.

COMPANION FLANGES – OPTIONAL

Where specified, the meter shall be furnished with water-works bronze companion flanges, gaskets, bolts, and nuts.

REPAIR PARTS

Successful bidders shall furnish a complete repair parts list and price list for each type meter including prices for future register exchange and chamber exchange. Price shall be net prices of parts F.O.B. destination for the duration of the contract.

WARRANTY

The company guarantees that all meters will perform to AWWA new meter accuracy standards for a period of one (1) year from date of installation. The manufacturer shall replace at his own expense all meters rejected for failure to comply with this standard. Each meter shall be furnished with certificate of testing indicating conformance with AWWA meter accuracy for new meters.

EXCHANGE PROGRAM

Each bidder shall indicate the unit price for the new meters. Bids for 2" meters will reflect an allowance per unit for an equal number of 2" displacement meter from the city of traepin. Successful bidder shall furnish shipping crates and shall pick up trade-in meters.

Each bidder shall furnish a bid for testing up to 25% of the trade-in meters.

METER LITERATURE AND HEAD LOSS DELIVER CURVES

Each bidder shall include with his proposal, two complete copies of descriptive material, loss of head and delivery curves for each item for which a bid is places. No bids shall be considered unless the above information is furnished with bids.

CONFLICTS

Where conflicts arise, AWWA Standards shall prevail.