



**GENERAL CONDITIONS**

**AND**

**SPECIFICATIONS**

**FOR**

**ANNUAL CONTRACT FOR WATER METERS**

**BID # 19-046**

**CLOSING DATE:**

**WEDNESDAY, SEPTEMBER 4, 2019**

**11:30 AM (CST)**

---

## TABLE OF CONTENTS

Table of Contents .....	2
Notice to Bidders .....	3
<b>Part I General Conditions .....</b>	<b>4</b>
<b>Part II Instructions to Bidders .....</b>	<b>14</b>
Business Purpose and Special Conditions .....	15
<b>Part III All Necessary Forms for Completions .....</b>	<b>17</b>
Proposal of Bidders .....	18
Attachment A – Conflict of Interest Questionnaire .....	21
Attachment B - Certificate of Interested Parties .....	24
Attachment C - Pricing Sheet Place Holder Page .....	26
Attachment D – Vendor Contact Information .....	27
Attachment E – Agreement and Acknowledgement of Special Conditions .....	28
Attachment F – Specifications and Compliance .....	29

---

**NOTICE TO BIDDERS**

Seal Bids will be received by the City of Carrollton at the office of Patricia Helms, Purchasing Manager, Carrollton City Hall Building, 1945 E. Jackson Road, Carrollton, Texas 75006-1790 until the hour of **11:00 AM (CST) on the 4<sup>th</sup> day of September, 2019**; at which time proposals duly delivered and submitted will be considered for supplying the following:

**RFP FOR WATER METERS****RFP # 19-046**

**Any bid received after stated closing time will be returned unopened. If bids are sent by mail to the Purchasing Manager, the proposer shall be responsible for actual delivery of the proposal to the Purchasing Manager before the advertised date and hour for opening of proposals. If mail is delayed by the postal service, courier service, an internet service provider or in the internal mail system of the City of Carrollton beyond the date and hour set for the bid opening, bids thus delayed will not be considered and will be returned unopened. **The City Hall Building business hours are: Monday- Thursday, 7:30 AM to 5:30PM, and Friday, 7:30 AM to 11:30 PM.****

Information concerning the proposal specifications may be obtained by emailing [joel.armstrong@cityofcarrollton.com](mailto:joel.armstrong@cityofcarrollton.com). **BIDS WILL NOT BE ACCEPTED AT THIS EMAIL ADDRESS.**

**Information on the bid/proposal process/procedures** may be obtained from Patricia Helms, Purchasing Manager at (972) 466-3115 or [purchasing@cityofcarrollton.com](mailto:purchasing@cityofcarrollton.com).

Until the final award by the city of Carrollton, said City reserves the right to reject any and/or all bids, to waive technicalities, to re-advertise, to proceed otherwise when the best interests of said City will be realized hereby. Bids will be submitted sealed and plainly marked with the date and time of opening.

The City of Carrollton Municipal Building is wheelchair accessible. For accommodations needed for bid openings, please contact the Purchasing Office 72 hours in advance at (972) 466-3133.

CITY OF CARROLLTON, TEXAS



Patricia Helms, Purchasing Manager

**Publication Dates: Sunday, August 18, 2019 & Sunday, August 25, 2019**

**Closing Date: Wednesday, September 4, 2019 11:30 AM (CST)**

---

# **PART I GENERAL CONDITIONS**

---

## GENERAL CONDITIONS

### 1.1 ADDENDA

It is the responsibility of the Vendor to check for addenda. Addenda will be posted to the City's website: [www.cityofcarrollton.com/purchasing](http://www.cityofcarrollton.com/purchasing)

### 1.2 ASSIGNMENT OF BID/CONTRACT

The successful bidder may not assign their rights and duties under an award without the written consent of the City Manager or Assistant City Manager authorized to bind City on. Such consent shall not relieve the assignor of liability in event of default by their assignee.

### 1.3 BID CONSIDERATION / TABULATION

After bids are opened and publicly read, bids will be tabulated for comparison based on the brands, prices and quantities (lowest responsible Vendor) or by the best value method shown in the Bid. Until final award of the Contract, the city reserves the right to reject any or all request for proposals, to waive technicalities, to re-advertise for new request for proposals, or to take other action deemed in the best interests of the City.

### 1.4 BID SUBMISSION

- Bids may be submitted in person, or by mail.
- Submit bids via mail to PO Box 110535, Carrollton, TX 75011-0535.
- To submit a bids via mail, all documents must be returned and an original signature provided on the proposal to bidders sheet.
- Bid's will not be accepted in either format without a signature.
- The City is not responsible for mail service. See page 2, paragraph 2 of the Notice to Bidders.
- Bids must be marked on the outside of the packaging, "**BID# 19-046 WATER METERS**". Vendors do not need to come to the opening, but are welcome, if so desired. At the opening, the name of responding Vendor will be identified. No other information will be provided. The responding Vendors will be listed on the Bid website with 24 hours.
- **Please note electronic copies of Attachment C – Pricing Sheet must be submitted using FLASH DRIVE and must be in EXCEL FORMAT ONLY.**
- As an alternative to the digital signature, the request for proposals' **Proposal of Bidders may be faxed to 972-389-9557. This form is the only page that will be accepted via fax.**
- Firms interested in this project shall submit **two (2) copies** of the proposal and required documents listed throughout the bid no later than **WEDNESDAY, SEPTEMBER 4, 2019 @ 11:30 AM** to the address and contact person listed on page #3.

## 1.5 BRAND NAMES

If items for which bids have been called for have been identified by a “brand name or equal” description, such identification is intended to be descriptive, but not restrictive, and is to indicate the quality and characteristics of products that will be satisfactory. Bids offering “equal” products will be considered for award if such products are clearly identified in the request for proposals and are determined by the Purchasing Manager and requesting Department to be equal in all material respects to the brand name products referenced. **Unless the proposer clearly indicates in their request for proposal that they are offering an “equal product”, their request for proposal shall be considered as offering a brand name product referenced in the Proposal Schedule.**

## 1.6 CANCELLATION OF REQUEST FOR PROPOSALS

Bids may be cancelled with **60** days written notice with good cause as determined by the City.

## 1.7 CHANGES OR ALTERATIONS

No part of this bid may be changed/alterd in any way. Vendors must submit written requests to change any specifications/conditions no later than the deadline for questions. ***Changes made without submission of a written request to this bid will result in disqualification.***

## 1.8 COMPLETING INFORMATION

Bidders must fill in all information asked for in the blanks provided under each item. Failure to comply may result in rejection of the bid at the City’s option.

---

**1.9 CONTRACT CLAUSE**

All bidders understand and agree that the vendor's bid response will become a legally binding contract upon acceptance in writing by the City. This contract may be superseded only if replaced with a more extensive contract that is agreed to by both parties.

**1.10 DEFAULT**

In case of default of the successful proposer, the City of Carrollton may procure the articles from other sources and hold the proposer responsible for any excess cost occasioned thereby.

**1.11 DELIVERY**

The City reserves the right to demand bond or penalty to guarantee delivery by the date indicated. If order is given and the Bidder fails to furnish the materials by the guaranteed date, the City reserves the right to cancel the order without liability on its part. All prices are to be F.O.B. Carrollton, Texas all freight prepaid.

**1.12 DELIVERY DATE**

Delivery date is an important factor to the City and may be required to be a part of each bid. The City of Carrollton considers delivery time to be that period elapsing from the time the individual order is placed until that order or work thereunder is received by the City at the specified delivery location. The delivery date indicates a guaranteed delivery at Carrollton, Texas. Failure of the proposer to meet guaranteed delivery dates or service performance could affect future City orders.

Whenever the Contractor encounters any difficulty which is delaying or threatens to delay timely performance (including actual or potential labor disputes), the Contractor shall immediately give notice thereof in writing to the Purchasing Manager, stating all relevant information with respect thereto. Such notice shall not in any way constitute a basis for an extension of the delivery or performance schedule or be construed as a waiver by the City of any rights or remedies to which it is entitled by law or pursuant to provisions herein. Failure to give such notice, however, may be grounds for denial of any request for an extension of the delivery or performance schedule because of such delivery.

### 1.13 INDEMNIFICATION

**IN CASE ANY ACTION IS BROUGHT AGAINST THE CITY, OR ANY OFFICER OR AGENT OF THE CITY, FOR THE FAILURE, OMISSION, OR NEGLECT OF THE VENDOR TO PERFORM ANY OF THE COVENANTS, ACTS, MATTERS, OR THINGS BY THIS CONTRACT UNDERTAKEN; OR FOR INJURY OR DAMAGE CAUSED BY THE ALLEGED NEGLIGENCE OF THE VENDOR OR HIS SUBCONTRACTORS, OR HIS OR THEIR AGENTS, OR IN CONNECTION WITH ANY CLAIM BASED ON LAWFUL DEMANDS OF SUBCONTRACTORS, WORKMEN, MATERIALMEN, OR SUPPLIERS, THE VENDOR SHALL INDEMNIFY AND SAVE HARMLESS THE CITY AND ITS OFFICERS AND AGENTS, FROM ALL LOSSES, DAMAGES, COSTS, EXPENSES, JUDGMENTS, OR DECREES ARISING OUT OF SUCH ACTION, INCLUDING ATTORNEY FEES.**

### 1.14 INSURANCE

Deductibles, of any type, are the responsibility of the vendor/contractor.

A. Before commencing work, Bidder shall, at its own expense, procure, pay for and maintain during the term of this Agreement the following insurance written by companies approved by the state of Texas with an A.M. Best rating of at least A and acceptable to the City. Bidder shall furnish to the City of Carrollton Purchasing Department certificates of insurance executed by the insurer or its authorized agent stating coverages, limits, expiration dates and compliance with all applicable required provisions. Certificates shall reference the project/contract number. Subscriber has the right to a copy of the full policy. The City of Carrollton shall be listed as an additional insured under all liability policies except for professional & automobile liability policies.

1. Commercial General Liability insurance, including, but not limited to Premises/Operations, Personal & Advertising Injury, Products/Completed Operations, Continuing Operations, Independent Contractors and Contractual Liability, with minimum combined single limits of \$1,000,000 per-occurrence, \$1,000,000 Products/Completed Operations Aggregate and \$2,000,000 general aggregate. Coverage must be written on an occurrence form. The General Aggregate shall apply on a per project basis.
2. Workers' Compensation insurance with statutory limits; and Employers' Liability coverage with minimum limits for bodily injury: a) by accident, \$100,000 each accident,

---

b) by disease, \$100,000 per employee with a per policy aggregate of \$500,000.

3. Business Automobile Liability insurance covering owned, hired and non-owned vehicles, with a minimum combined bodily injury and property damage limit of \$1,000,000 per occurrence.
4. Professional Liability (Errors and Omissions Liability) and Cyber Risk Insurance (including professional oversight liability), covering acts, errors, and omissions arising out of Bidder's operations or services with minimum limits of \$1,000,000 per occurrence, \$2,000,000 annual aggregate.

**NOTE:** If the insurance is written on a claims-made form, coverage shall be continuous (by renewal or extended reporting period) for not less than *thirty-six (36) months* following completion of the contract and acceptance by the City of Carrollton.

- B. With reference to the foregoing required insurance, Bidder shall endorse applicable insurance policies as follows:
1. A waiver of subrogation endorsement shall be added to Bidder's workers' compensation policies to eliminate the potential that the workers' compensation insurer will subrogate against the City, its officials, employees, and officers shall be contained in the Workers' Compensation insurance policy.
  2. The City of Carrollton, its officials, employees and officers shall be named as additional insureds on the Commercial General Liability policy, by using endorsement CG2026 or broader.
  3. All insurance policies shall be endorsed to the effect that City of Carrollton will receive at least thirty (30) days' notice prior to cancellation, non-renewal, termination, or material change of the policies.

- 
- C. All insurance shall be purchased from an insurance company that meets a financial rating of at least A or better as assigned by A.M. Best Company.

**Other Insurance Provisions**

1. The City is to be named as an additional insured on the Commercial General Liability Insurance policy. These insurance policies shall contain the appropriate additional insured endorsement signed by a person authorized by the insurer to bid coverage on its behalf.
2. Insurance is to be placed with insurers with a Best rating of no less than A. The company must also be duly authorized to transact business in the State of Texas.
3. Workers' Compensation and Employers' Liability Coverage: Statutory. The insurer shall agree to waive all rights of subrogation against the City, its officials, employees and volunteers for losses arising from the activities under this contract.
4. Certificates of Insurance and Endorsements effecting coverage required by this clause shall be forwarded to the Purchasing Manager upon award of the contract(s).
5. Insurance Certificate must be submitted and issued with the City listed as the certificate holder.

---

## 1.15 MISCELLANEOUS

Except as to any supplies or components which the specifications provide need not be new, all supplies and components to be provided under this contract shall be new (not used or reconditioned, and not of such age or so deteriorated as to impair their usefulness or safety), of current production and of the most suitable grade for the purpose intended. If at any time during the performance of this contract the Contractor believes that the furnishing of supplies or components which are not new is necessary or desirable, they shall notify the Purchasing Manager immediately, in writing, including the reasons therefore and proposing any consideration which will flow to the City if authorization to use supplies or components is granted.

The City of Carrollton supports a recycling program. Recycled materials are acceptable and will be considered for award. The City desires to use recycled products when a comparable material/product is available. If your company distributes products made of recycled materials, please submit an alternate bid for the items requested. All recycled products should meet the minimum standards established in the bid specifications provided. State any exceptions: costs, warranties and percentage of recycle materials used in the manufacture of the material/product. The City will determine the acceptability of the materials/product bid as an alternate.

The City will consider special vendor pricing on discounts in exchange for City's willingness to participate in new product testing or promotion including ability of vendor to bring other potential customers to city job sites to demonstrate product. The amount of product discount in exchange for these services should be clearly stated in the bid. Any promotional strategies should be discussed with the Purchasing Manager and approved by the appropriate City Official(s) before submission of the bid.

Successful proposer(s) agrees to extend prices to all entities that have entered into or will enter into joint purchasing inter-local cooperation agreements with the City of Carrollton. As such, the City of Carrollton has executed or may enter into an inter-local agreement with certain other governmental entities authorizing participation in a cooperative purchasing program. The successful vendor may be asked to provide product/services, based upon the bid price, to any other participant in the forum.

The City operates on a fiscal year that ends on September 30<sup>th</sup>. State law mandates that a municipality may not commit funds beyond a fiscal year; this request for proposal is subject to cancellation if funds for this commodity are not approved in the next fiscal year.

---

## 1.16 PAYMENT TERMS & CONDITIONS

All proposals shall specify terms and conditions of payment, which will be considered as part of, but not control, the award of bid. City review, inspection, and processing procedures ordinarily require thirty (30) days after receipt of invoice, materials or service. Bids that call for payment before 30 days from receipt of invoice, or cash discounts given on such payment, will be considered only if in the opinion of the Purchasing Manager the review, inspection and processing procedures can be completed as to the specific purchases within the specified time.

It is the intention of the City of Carrollton to make payment on completed orders within thirty (30) days of receiving invoicing unless unusual circumstances arise. Invoices shall be fully documented as to labor, materials and equipment provided. Orders will be placed by the Purchasing Department and must be given a Purchase Order Number to be valid. No payments shall be made on invoices not listing a Purchase Order Number. No partial payment will be made.

Payment will not be made by the City until the vendor has been given a Purchase Order Number, has furnished proper invoice, materials, or services, and otherwise complied with City Purchasing procedures, unless this provision is waived by the City.

## 1.17 PROVISIONAL CLAUSES

The City of Carrollton will not enter into any contract where the cost is provisional upon such clauses generally known as “escalator” or “cost-plus” clauses.

## 1.18 REJECTION OF BIDS

The City reserves the right to reject any or all bids or to waive technicalities at its option when in the best interests of said City.

Bids will be considered irregular if they show any omissions, alteration of form, additions, or conditions not called for, unauthorized alternate request for proposals or irregularities of any kind. However, the City reserves the right to waive any irregularities and to make the award in the best interests of the City.

The City reserves the right to reject any or all bid, and all bids submitted are subject to this reservation. Bids may be rejected, among other reasons, for any of the following specific reasons:

- Bids received after the time limit for receiving request for proposals as stated in the advertisement.
- Bid containing any irregularities.
- Unbalanced value of any items.

---

Bidders may be disqualified and their bid not considered, among other reasons, for any of the following specific reasons:

- Reason for believing collusion exists among the Bidders.
- Reasonable grounds for believing that any Bidder is interested in more than one Proposal for the work contemplated.
- The Bidder being interested in any litigation against the City.
- The Bidder being in arrears on any existing contract or having defaulted on a previous contract.
- Lack of competency as revealed by a financial statement, experience and equipment, questionnaires, etc.
- Uncompleted work, which in the judgment of the City will prevent or hinder the prompt completion of additional work if awarded.

### **1.19 REQUEST FOR NON-CONSIDERATION**

Bid deposited with the City cannot be withdrawn prior to the time set for opening bid. Request for non-consideration of bids must be made in writing to the Purchasing Manager and received by the City prior to the time set for opening bid. After other bids are opened and publicly read, the bid for which non-consideration is properly requested may be returned unopened. The bid may not be withdrawn after the bids have been opened, and the Bidder, in submitting the same, warrants and guarantees that this has been carefully reviewed and checked, that it is in all things true and accurate and free of mistakes, and that such bid will not and cannot be withdrawn because of any mistake committed by the Bidder.

### **1.20 SALES TAX**

The total for each bid submitted must include any applicable taxes. Although the City is exempt from most City, State, or Federal taxes, this is not true in all cases. It is suggested that taxes, if any, be separately identified, itemized, and stated on each request for proposal. The City cannot determine for the proposer whether or not the bid is taxable to the City. The proposer through the proposer's attorney or tax consultant must make such determination. Bills submitted for taxes after the bid(s) are awarded will not be honored.

# **PART II**

# **INSTRUCTION TO BIDDERS**

---

## WATER METERS

The materials to be purchased from this price agreement will take care of all residential and commercial water meter requirements and be used to repair existing commercial water meters utilized in the water system.

### NOTICE TO ALL VENDORS

The city of Carrollton places excellence in customer service as its top priority. The city's mission, motto, code of ideals, and core values all emphasize this fact. We expect our relationships with vendors to reflect these same values.

### SPECIAL CONDITIONS

1. Length of this price agreement shall be for one (1) full year with the option to renew for two additional one year, provided both parties are in agreement.
2. Quantities as shown on the Proposal Sheet are estimates. City of Carrollton reserves the right to increase or decrease these quantities during this agreement upon usage.
3. The City of Carrollton reserves the right to cancel this agreement upon thirty (30) days written notice with good cause. The city of Carrollton reserves the right to make a bid award to either one vendor whose bid is the best value for the city, or to multiple vendors. If the award is made to multiple vendors, it will be either as one vendor being the primary vendor and the other vendor the secondary vendor, or both vendors awarded jointly.
4. Purchase Orders will be issued on an as need basis.
5. The City of Carrollton reserves the right to require samples on any item prior to bid award.
6. **The Texas Commission on Environmental Quality (TCEQ)** is responsible for rules concerning cross connection (any connection by means of which contamination of any kind can be caused to enter the potable water supply system) control. Requirements for meter installation may change periodically to conform to state law, enforced through the **TCEQ**.
7. Bid will be awarded by line to the vendor(s) with the "best value" bid for items 1-12.
8. Vendor is responsible for shipping product(s) within 30 (thirty)-business days of placement of the order by the City. All orders should be received within 10 (ten)-calendar days after shipment unless mutually agreed upon between vendor and City. The local contact person(s), either sales representative or office staff, must communicate with the City promptly if any delays in shipment of order occur. Vendor's repeated failure to meet agreed upon delivery schedule and/or acceptable communication may subject vendor to removal from the city's bid list for that product. If that occurs, the city will suspend purchases with that vendor, give the appropriate thirty (30) days written notice, and begin purchases from the next lowest responsive bidder.

9. Vendor Representative to the City of Carrollton: \_\_\_\_\_

Telephone: \_\_\_\_\_

**Vendor's representative will respond to non-emergency requests for information/service within two (2) business days of the call placed. It is the vendor's responsibility to maintain current information concerning their representative's names and telephone numbers and to provide this information to the City in a reasonable amount of time. Telephone numbers for vendor's staff should either be local numbers or toll-free numbers.**

The City requires an initial response to **emergency** requests for information/service within four (4) hours of the call placed.

Other Communication Devices (fax, e-mail, internet)

The vendor's representative is responsible for providing this information to the City in a timely manner.

In-Person Response to Request for Service: \_\_\_\_\_

**Non-emergency requests for office or site visit for the City will be set within ten (10) business days of the request, unless another time is mutually acceptable to the vendor and the City.**

**Vendor responses to emergency requests for office or site visit for the City will be made the same day or no later than one (1) business day of the initial request.**

Before/After Hours Emergency Requests for Service: \_\_\_\_\_

The vendor is responsible for providing pager or telephone number for twenty-four (24) hour access in the event an emergency occurs before or after normal business hours. If vendor's representative is not available (i.e., vacation, etc.) an alternate emergency contact should be made available and City should be promptly notified. During the next twelve months, city staff may be working on weekends or at hours other than 8:00 am – 5:00 pm, Monday through Friday, due to heavy road construction and real estate development in the city.

Vendor's failure to maintain acceptable communications during the period of the price agreement may subject them to removal from the city's bid list for that product. If that occurs, the city will suspend purchases with that vendor, give the appropriate thirty (30) days written notice, and begin purchases from the next lowest responsive bidder.

10. City Communications with Vendor

The City will provide a list of contact staff with telephone/pager numbers. This list will be updated as needed and provided to the vendors. Additionally, the City maintains a 24-hour 7-day a week emergency communications number. The Meter Activities staff can be contacted either by pager, radio or telephone if vendor is unable to reach through normal communications channels.

11. **The PROPOSAL SCHEDULE PAGES MUST BE SUBMITTED  
IN EXCEL FORMAT ONLY... FAILURE TO COMPLY MAY RESULT  
IN REJECTION OF YOUR BID**

**PART III**  
**ALL NECESSARY FORMS FOR COMPLETION**

---

## PROPOSAL OF BIDDERS

*Page 1 of 3*

All:

The following proposal is made for furnishing the materials/services for the city of Carrollton, Texas.

The undersigned declares that the amount and nature of the materials/services required is understood and that this proposal is in strict accordance with the requirements of the RFP and is a part of this bid, and that there will at no time be a misunderstanding as to the intent of the specifications or conditions to be overcome or pleaded after the bids are opened.

The proposer shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any Department of Transportation (DOT)-assisted contract or in the administration of its Disadvantaged Business Enterprise (DBE) program or the requirements 49 CFR part 26. The proposer shall take all-necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under 49 CFR part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 et seq.).

Further, pursuant to City of Carrollton Ordinance No. 3896, no person shall be favored or discriminated against with respect to any contract on account of age, race, sex, religion, national origin, sexual orientation, gender identity, pregnancy, or political beliefs.

The undersigned hereby proposes to furnish any supplies or equipment necessary for this bid/rfp, F.O.B. Carrollton, Texas, freight pre-paid at the unit prices quoted herein after notice of bid award. The undersigned affirms that they are duly authorized to execute this contract that this company, corporation, firm, partnership or individual and has not prepared this bid in collusion with any other bidder, and that the contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this type of business prior to the official opening of this bid.

Texas Government Code §2270.002 forbids Texas government entities from contracting with any company that excludes or boycotts Israel, or will do so during the term of a contract. Also, Texas Government Code §2252.152 prohibits Texas governments from contracting with companies who do business with Iran, Sudan, or foreign terrorist organizations. If Bidder or Bidder's company boycotts Israel or will boycott Israel during the contract, does business with Iran, Sudan, a terrorist organization, or is an organization listed with the Texas Comptroller Pursuant to Chapter 2252 of the Texas Government Code, you must disclose this in your bid response and provide details of such business.

---

**PROPOSAL OF BIDDERS**

*Page 2 of 3*

In addition, the Vendor who wins a bid/proposal award must guarantee that they will not employ a subcontractor in the performance of the bid award who falls under either law. Submission of a bid proposal shall be deemed an affirmative statement that Bidder does not and will not boycott Israel, and Bidder does not and will contract with Iran, Sudan, or any terrorist organization. If you need to provide the city any detail regarding these new laws, please attach details as needed.

**Please sign on the line below as verification that your company is not excluded from contracting with the city of Carrollton by either Texas law, and will remain in compliance with all of the above for the term of the bid award.**

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

**PROPOSAL OF BIDDERS**  
*Page 3 of 3*

**RFP# 19-046**  
**REQUEST FOR PROPOSAL FOR**  
**WATER METERS**

Respectfully Submitted,

**PLEASE PROVIDE A COPY OF**  
**YOUR W-9**

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
DATE

\_\_\_\_\_  
PRINTED NAME TITLE

\_\_\_\_\_  
COMPANY NAME CONTACT PERSON

\_\_\_\_\_  
MAILING ADDRESS CITY STATE ZIP

\_\_\_\_\_  
PAYMENT ADDRESS CITY STATE ZIP

\_\_\_\_\_  
PHONE NUMBER FAX NUMBER

\_\_\_\_\_  
E-MAIL ADDRESS WEB PAGE

**HUB Vendor Status**  **YES (attach certification)**  **NO** \_\_\_\_\_

**HUB VENDORS:** HUB vendors (Historically Underutilized Business) are vendors who’s company is owned by either a minority or woman. If you are classified as a HUB vendor and have certification to prove this, please respond below and attach a copy of your certification. If you would like to read the Texas bid statute which references HUB vendors, please follow this link

<http://www.statutes.legis.state.tx.us/SOTWDocs/LG/htm/LG.252.htm>

**NO PROPOSAL RESPONSE:** If response is not received in the form of a “RFP Proposal” or “No Proposal Response” bidder will be removed from bid list. Please give a specific reason as to why you are unable to bid, i.e.: we do not sell the required product/service.

**NO PROPOSAL RESPONSE may be faxed to: 972-389-9557** \_\_\_\_\_

---

## ATTACHMENT A

### CONFLICT OF INTEREST QUESTIONNAIRE

Chapter 176 of the Texas Local Government Code requires any Vendor or person considering doing business with a local government entity to disclose in the Questionnaire Form CIQ, the Vendor or person's affiliation or business relationship that might cause a conflict of interest with a local government entity. By law, this questionnaire must be filed with the City Secretary of the City of Carrollton not less than the seventh business day after the person becomes aware of facts that require the statement to be filed.

The conflict of Interest Questionnaire must be completed and returned with your bid if a Vendor or its agent has a conflict pursuant to Chapter 176.

It is the responsibility of every Vendor filling out and returning this bid to determine if there is a conflict meeting the parameters of the state law. If so, **the City of Carrollton requires that this Questionnaire be completed and turned in with your bid.** If there is no conflict pursuant to the provisions of Chapter 176 then you are not required to submit the Questionnaire with your bid. In addition to the foregoing, after the submission of a bid a Vendor must file a questionnaire if the Vendor becomes aware of facts or an event that would constitute a conflict pursuant to state law, or if the facts or event would make a statement in a previously filed questionnaire incomplete or inaccurate.

See Section 176.006, Local Government Code which reads, "A person commits an offense if the person violated

Section 176.006, Local Government Code. An offense under this section is:

- (1) A Class C misdemeanor if the contract amount is less than \$1 million or if there is no contract amount for the contract;
- (2) A Class B misdemeanor if the contract amount is at least \$1 million but less than \$5 million; or
- (3) A Class A misdemeanor if the contract amount is at least \$5 million.

The governing body of a local governmental entity may, at its discretion, declare a contract void if the governing body determines that a Vendor failed to file a conflict of interest questionnaire required by Section 176.006.

<b>CONFLICT OF INTEREST QUESTIONNAIRE</b> For vendor doing business with local governmental entity		<b>FORM CIQ</b>
<p><b>This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.</b></p> <p>This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).</p> <p>By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.</p> <p>A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.</p>	<b>OFFICE USE ONLY</b>	
<p><b>1</b> Name of vendor who has a business relationship with local governmental entity.</p>	Date Received	
<p><b>2</b> <input type="checkbox"/> Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)</p>		
<p><b>3</b> Name of local government officer about whom the information is being disclosed.</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">Name of Officer</p>		
<p><b>4</b> Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.</p> <p style="margin-left: 40px;">A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?</p> <p style="margin-left: 80px;"> <input type="checkbox"/> Yes      <input type="checkbox"/> No                 </p> <p style="margin-left: 40px;">B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?</p> <p style="margin-left: 80px;"> <input type="checkbox"/> Yes      <input type="checkbox"/> No                 </p>		
<p><b>5</b> Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.</p>		
<p><b>6</b> <input type="checkbox"/> Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).</p>		
<p><b>7</b></p> <p style="text-align: center;">                     _____                      Signature of vendor doing business with the governmental entity                 </p> <p style="text-align: right; margin-right: 100px;">                     _____                      Date                 </p>		

**CONFLICT OF INTEREST QUESTIONNAIRE**  
**For vendor doing business with local governmental entity**

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

**Local Government Code § 176.001(1-a):** "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

**Local Government Code § 176.003(a)(2)(A) and (B):**

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

\*\*\*

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

- (i) a contract between the local governmental entity and vendor has been executed;
- or
- (ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

**Local Government Code § 176.006(a) and (a-1)**

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

- (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);
- (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
- (3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

- (A) begins discussions or negotiations to enter into a contract with the local governmental entity; or
- (B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

- (A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);
- (B) that the vendor has given one or more gifts described by Subsection (a); or
- (C) of a family relationship with a local government officer.

---

## ATTACHMENT B

### CERTIFICATE OF INTERESTED PARTIES

Section 2252.908 of the Texas Government Code requires your firm to submit a Form 1295 (Certificate of Interested Parties attached) through the Texas Ethics Commission's website, and a notarized original form as printed from the website to the City prior to approval of the contract. More information can be found at the following links:

[https://www.ethics.state.tx.us/whatsnew/elf\\_info\\_form1295.htm](https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm).

[https://www.ethics.state.tx.us/whatsnew/FAQ\\_Form1295.html](https://www.ethics.state.tx.us/whatsnew/FAQ_Form1295.html)

**Once bid evaluations take place by city staff, you will be notified that an award to your company is pending and that this form is mandatory. You will need to provide this form, filled out and filed with the state of Texas Ethics Committee, to the City and DART before City Council and DART Board of Directors, as applicable, before approval can be considered.**

**You can fill out the form online, get a certificate number, and that number goes in the upper right box.**

<b>CERTIFICATE OF INTERESTED PARTIES</b>		<b>FORM 1295</b>	
Complete Nos. 1 - 4 and 6 if there are interested parties. Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.		<b>OFFICE USE ONLY</b>	
<b>1</b> Name of business entity filing form, and the city, state and country of the business entity's place of business.		Must file online at <a href="http://www.ethics.state.tx.us/File">www.ethics.state.tx.us/File</a>	
<b>2</b> Name of governmental entity or state agency that is a party to the contract for which the form is being filed.			
<b>3</b> Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.			
4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary
<b>5</b> Check only if there is no Interested Party. <input type="checkbox"/>			
<b>6 UNSWORN DECLARATION</b> My name is _____, and my date of birth is _____. My address: _____ (street) _____ (city) _____ (state) _____ (zip code) _____ (country). I declare under penalty of perjury that the foregoing is true and correct. Executed in _____ County, State of _____, on the _____ day of _____, 20____. <span style="float: right;">(month) (year)</span> <div style="text-align: center; margin-top: 10px;">                         _____                          Signature of authorized agent of contracting business entity                          (Declarant)                     </div>			
<b>ADD ADDITIONAL PAGES AS NECESSARY</b>			

## **ATTACHMENT C**

### **19-046 WATER METERS**

**PRICING SHEET PLACEHOLDER PAGE  
PLEASE SEE ATTACHMENT C**

**PLEASE NOTE THE PRICING SHEET MUST BE SUBMITTED ELECTRONICALLY ONLY (ON A FLASH DRIVE) AND MUST BE COMPLETED IN EXCEL FORMAT ONLY; FAILURE TO DO SO WILL RESULT IN A REJECTION OF YOUR PROPOSAL.**

---

## ATTACHMENT D CONTACT INFORMATION

Vendor Representative to the City of Carrollton: \_\_\_\_\_

Telephone: \_\_\_\_\_

**Vendor's representative will respond to non-emergency requests for information/service within two (2) business days of the call placed. It is the vendor's responsibility to maintain current information concerning their representative's names and telephone numbers and to provide this information to the City in a reasonable amount of time. Telephone numbers for vendor's staff should either be local numbers or toll-free numbers.**

The City requires an initial response to **emergency** requests for information/service within four (4) hours of the call placed.

Other Communication Devices (fax, e-mail, internet)

The vendor's representative is responsible for providing this information to the City in a timely manner.

In-Person Response to Request for Service: \_\_\_\_\_

**Non-emergency requests for office or site visit for the City will be set within ten (10) business days of the request, unless another time is mutually acceptable to the vendor and the City.**

**Vendor responses to emergency requests for office or site visit for the City will be made the same day or no later than one (1) business day of the initial request.**

Before/After Hours Emergency Requests for Service: \_\_\_\_\_

The vendor is responsible for providing pager or telephone number for twenty-four (24) hour access in the event an emergency occurs before or after normal business hours. If vendor's representative is not available (i.e., vacation, etc.) an alternate emergency contact should be made available and City should be promptly notified. During the next twelve months, city staff may be working on weekends or at hours other than 8:00 am – 5:00 pm, Monday through Friday, due to heavy road construction and real estate development in the city.

Vendor's failure to maintain acceptable communications during the period of the price agreement may subject them to removal from the city's bid list for that product. If that occurs, the city will suspend purchases with that vendor, give the appropriate thirty (30) days written notice, and begin purchases from the next lowest responsive bidder.

---

## ATTACHMENT E

### ACKNOWLEDGMENT AND AGREEMENT

The undersigned has read, understands, and will comply with all the special conditions listed on pages 15 and 16.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name and Title

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

\_\_\_\_\_  
Date

## ATTACHMENT F

### SPECIFICATION ITEM #1, #1A, #2, & 2A.

#### DESCRIPTION: POSITIVE DISPLACEMENT 5/8" - 2" DISC METERS

The purpose of these specifications is to provide the City of Carrollton, Texas with the highest grade of water meters available. These are to be made of the best material and workmanship. Only meters manufactured within the continental limits of the United States will be acceptable. **“Preference will be given to bidders who have been engaged in the manufacture and marketing of the meters offered, or a substantially similar type electronic meter component, for a minimum of ten (10) years. Bids from manufacturer distributors will not be accepted unless the meters in question are only sold through distributors and not from the manufacturer.”**

Compliance with or variation from the specifications must be noted as to each item on the specification sheet. All variations from the specifications must be noted on the bid form.

**Check indicates minimum compliance:**   $\checkmark$

1. **Application:** for residential or small commercial applications where water volumes are low, and low flow sensitivity is important.
2. **Accuracy Registration Tests:** the Water Utilities Division may run Accuracy registration tests on all meters received. The manufacturer shall guarantee that all new meters furnished under this contract will meet the required new meter accuracy standards as established by the American Water Works Association (AWWA) Standard C-700-09 for Cold Water Displacement Type Meters for a period of at least one (1) year from date of receipt.

In addition, Vendor shall unconditionally guarantee each meter performance in accordance with AWWA C700-90 Standard or latest revision thereof, for a period of fifteen (15) years or registration of 1,500,000 gallons.

3. **Registers:** The register shall be of the straight reading type and read in U.S. gallons. It shall contain six (6) number wheels and the register face shall contain one hundred (100) equally divided graduations at its periphery, with a sweep-hand. For 5/8" and 1" disc meters, it shall have a registration capacity of one million (1,000,000) gallons, and ten (10) gallons per sweep-hand revolution. For 1 1/2" and 2" disc meters, it shall have a registration capacity of ten million (10,000,000) gallons and one hundred (100) gallons per sweep-hand revolution. The digits shall be black in color with the lowest registering three digits (below the 1,000 gallon registration) to be a contrasting color. It shall also be completely separated from the waterway. The register shall be magnetically driven and a permanently roll sealed type. The term "sealed" shall mean moisture and dust-proof and be mechanically disconnected from measuring components. Register shall be provided with glass lens, molded heat-treated, scratch resistant with sufficient thickness to provide protection for the register face. The manufacture date and corresponding meter size should be readily visible on each register to insure proper sizing if register exchange is needed. All registers of like-size meters shall be interchangeable with each other without loss of accuracy.

All meters shall be furnished with either internal or external tamper-proof protection locking devices for registers. Lead seals and wire will not be allowed.

4. **Register Boxes:** Register boxes and covers shall be made of bronze or a suitable synthetic polymer.

- 
- \_\_\_5. **Cases:** Main cases shall be made of bronze, containing no less than 75% copper. Casing bolts shall be made of stainless steel or brass. Note: All External-Case Closure Fasteners shall comply with AWWA Standards for pressure containment assemblies. Failure to meet copper standard will result in rejection of bid and disqualification on future bids. Bottom plates shall be made of bronze or a suitable synthetic polymer and they shall be constructed in such a way as to offer freeze protection. Direction of water flow shall also be clearly marked.
- \_\_\_6. All registers must be adaptable to a register that is capable of encoding in digit format. The meter reading is to allow direct interrogation of the register from a remote location. In addition bidder must be able to provide a CMR type system.
- \_\_\_7. Registers shall contain low flow or leak indicators.
- \_\_\_8. **Strainers:** All meters shall contain removable polypropylene plastic strainer screens. The strainer shall be located near the inlet maincase port before the measuring chamber and control block assembly. Strainers must comply with Section 4.6 of AWWA Standard C700-09, or latest revision thereof.
- \_\_\_9. **Measuring Chambers:** Measuring chambers shall be made of bronze or a suitable synthetic polymer and shall be smoothly and accurately machined. It shall contain a diaphragm made of the same material and be freely inserted. Measuring chambers shall be equipped with a nutating disc that shall be made of a suitable synthetic polymer.
- \_\_\_10. **Operating Specifications:** Operating specifications and performance shall meet or exceed applicable American Water Works Association (AWWA) C-700-09 specifications.
- \_\_\_11. **Main Case Connections:** Main case connections for meters up to 1" size shall be spuds having external straight threads conforming to ANSI 82.1. Meters shall be shipped with plastic end caps in place on meter threads. Laying lengths for 5/8" meters shall be 7 1/2"; for 1" meters - 10 3/4". For 1 1/2" disc meters the laying length shall be 13"; the connections shall be two (2) Bolt oval/elliptical flanges on both ends; the connection type shall be an external thread. For 2" disc meters the laying length shall be 17"; the spud size shall be 1 1/4"; the type shall be external thread.
- \_\_\_12. **Certification:** The meters are to be accepted on a certificate furnished by the manufacturer certifying that the meters supplied meet these specifications. The meters will be tested by the City of Carrollton to determine whether they do or do not meet the specification. Any failure to specify exceptions will be basis for disqualification.
- \_\_\_13. **Literature:** The bidders will furnish descriptive brochures, schematics, and parts and price lists. They will also furnish in writing any meter or chamber maintenance programs their company offers. This information will also include cost and availability. If the bidder does not provide meter or chamber maintenance programs, they will provide a listing of companies qualified to perform this service. This listing will include name, address, telephone and fax numbers.
- \_\_\_14. **Guarantee:** Meters shall be guaranteed against defects in materials and workmanship for a period of fifteen (15) years or registration of 1,500,000 gallons. Parts to replace these in which a defect may develop within such period will be supplied without charge, piece for piece, upon proper proof of such defect.

The register shall have a warranty period of fifteen (15) years. Any register failure, including fogging and condensating, within two (2) years from the date of shipment, shall necessitate replacement, without cost to the City of Carrollton. The manufacturer shall refund to the City of Carrollton the cost of removing defective registers from service with such refund not to exceed five (5) dollars for each register.

- 
- \_\_\_15. **Rejected Meters:** Rejected meters will be replaced or satisfactorily readjusted if they fail to comply with these specifications.
- \_\_\_16. **Meter Numbering System:** The City of Carrollton has an inventory tracking system for meters. The successful bidder, at the time meter orders are placed, will be given a series of numbers, beginning with the fiscal year, followed by a sequential series. These numbers are to be imprinted on each meter, and on the register lid or in a clearly visible area. *Only the 5/8" & 1' meters should have the meter number stamped on the inside and outside of the register lid and also the body of the meter.*
- \_\_\_17. This specification is subject to conditions outlined in Bid Instructions, Special Conditions, and Item 6.
- \_\_\_18. Bidders shall furnish a list of ten other municipalities in Texas and/or surrounding states with whom they do business. This list will contain name of a contact person, address and telephone number.
- \_\_\_19. **Materials:**
- "This product shall be certified as suitable for contact with drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 61, Drinking Water Systems Components-Health Effects. All meters shall have received verifiable certification of compliance with the National Sanitation Foundation (NSF) Standard 61. Every bidder shall submit with their bid a signed statement clearly stating the present status of their receiving certification of compliance with the NSF 61 Standard for each particular make, model, and size of water meter being bid. a failure to submit this verification may result in the disqualification of that bid and its removal from consideration."

Materials used in meters shall comply with the Safe Drinking Water Act.

## ALTERNATE SPECIFICATION FOR 5/8" WATER METERS (AMR)

### DESCRIPTION: POSITIVE DISPLACEMENT 5/8" DISC METERS ELECTRONIC COMPONENTS

The purpose of these specifications is to provide the City of Carrollton; Texas with the highest grade of water meters electronic components available. These are to be made of the best material and workmanship. Only electronic components manufactured within the continental limits of the United States will be acceptable. **“Preference will be given to bidders who have been engaged in the manufacture and marketing of the meters offered, or a substantially similar type electronic meter component, for a minimum of ten (10) years. Bids from manufacturer distributors will not be accepted unless the meters in question are only sold through distributors and not from the manufacturer.”**

The following items are minimum stated requirements for use of automated meter reading by touchread. Vendors are requested to carefully evaluate requirements and clearly state any exceptions to items listed. System components, which allow the most flexibility in reading multiple meter manufacturers, will be given consideration as a cost component of the bid.

Compliance with or variation from the specifications must be noted as to each item on the specification sheet. All variations from the specifications must be noted on the bid form.

Note: Specifications for the required cold water meters can be found in a separate specification.

Each component priced must include all peripheral needs (screws, wires, tools, instructions, etc.)

#### **Part A: Check indicates compliance:**

1. Application: for residential or small commercial applications where water volumes are low, and low flow sensitivity is important.
2. The Water Utilities Division may run accuracy registration tests on all meters received. The manufacturer shall guarantee that all new meters furnished under this contract will meet the required meter accuracy standards as established by the American Water Works Association (AWWA) Standards for a period of at least one (1) year from date of receipt.
3. **Registers:** shall be of the absolute encoder type and permanently sealed in a vacuum purged or nitrogen gas filled copper or stainless steel can. Systems utilizing generator pulses or low voltage conversions are not acceptable under this standard. Batteries shall not be required. Similar size, type, and registration of registers shall be interchangeable. Registers shall be equipped with low flow indicators and faceplates must be stamped with date of manufacture (month and year) and serial identity number. Registers shall read in U. S. Gallons. These units shall be clearly designated on the face of the register.

The register shall have a full test sweep hand dial divided into gradients of 1.10 of the units of registration. Register test rings shall be available for shop testing. The register shall employ a leak detection indicator on the dial face.

Upon inquiry from a remote location, the absolute encoder register shall disclose the exact position of the four or six most prominent number rollers as well as the electronic identity number of the register without the use of internal power. All power necessary for data transmission shall be supplied from the interrogation device. All registers shall be compatible with various brands of interrogation equipment. The electronic identity number must be programmable with a minimum of ten digits.

All registers shall employ a device to offer a “quick transfer” of the roller bank assembly to prevent ambiguous readings.

All registers shall be easily upgraded to Automatic Meter Reading (AMR) which includes Telephone, Radio, Cable, etc. with the substitution of the remote receptacle with a Meter Interface Unit (MIU).

**AMR:** Automatic Meter Reading Systems and hand-held interrogation devices shall not be part of this specification.

Data transmission shall be instantaneous and supplied in an ASCII format without conversion or modification. The register must operate reliably down to at least 3.0 volts.

Color-coded wire terminals (red, green and black) shall be provided, however, only the red and black terminals will be utilized for a two-wire connection to the interface pad. The green terminal shall only be utilized to convert to AMR via the use of a Meter Interface Unit. A suitable wire terminal cover shall be provided and is factory potted when ordered for underground pit installations.

All registers must be removable without disassembly of meter or depressurizing the service line. Register must be free of openings to protect the internal electronics of the register.

Lens covers shall be made of mineral glass for underground pit installations. All other register assembly and material requirements stated shall also apply.

Can/Cannot be retrofitted to water meters in place. Please explain response.

The City requires placement of sequentially placed numbers for permanent identification. The manufacturer needs to identify best placement of this information for electronically read meters.

- \_\_4. **Remote Receptacle:** Remote receptacles shall be available in a pit mount style and be accessible for easy installation. No serial identity number storage is permitted at the remote receptacle. There shall be no data storage or power source in the remote receptacle.

Remote receptacles shall utilize ultra violet stabilized materials to prevent degradation when prolonged to constant sunlight.

Pit mounted touch pads shall be supplied with a minimum of twelve (12) feet of three conductor single strand wire which is red, black, and green in color.

Pit mounted touch pads shall be factory potted and offer easy installation without the use of wire connections or splicing. The pit-mounted assembly shall be self-secured without the need of fasteners.

Interrogation shall be achieved by inductive coupling without physical connection of the reading device.

Each component priced must include all peripheral needs (screws, o-rings, cable, tops, covers, grommets, tools, instructions, etc.).

- \_\_5. **Warranties:** All encoded registers shall be free from defects in materials and workmanship for a period of eighteen (18) months from the date of shipment, or twelve (12) months after installation, whichever occurs first. In addition, the registers and pads supplied with the meters are guaranteed to perform accurately from the date of shipment for a period of ten (10) years.

- \_\_6. **Evaluation of Bids:** Published guarantees and exchange/repair programs offered by the bidders will be carefully considered and will be an important factor, along with the prices quoted and experience of bidders, in evaluating bids for an award.

- \_\_7. **Compatibility:** All bidders are hereby required to submit a "site license" with their bid, which specifically indemnifies the buyer and its suppliers of interrogation equipment action for patent infringement. This indemnification shall enable the utility the flexibility to read all meters with any interrogation device they choose, regardless of brand. This is an absolute requirement.

**Part B: ✓ Check indicates minimum compliance**

- \_\_1. **Visual Display Unit/Interrogation Unit for encoder registers:** a meter reader to obtain meter readings and to verify the proper installation and operation of the encoder meter and remote device shall utilize the unit. The unit shall be compatible with pit mounted touch pads and also with the counter.
- \_\_2. The unit shall consist of a sturdy plastic housing and shall contain a microprocessor and display screen. Power shall be provided by a Nickel Metal Hydride battery pack. A battery-charging device shall be provided with each unit.
- \_\_3. The unit shall be capable of disclosing the position of the four or six most prominent digits of the roller bank and the ten digit register identify number, without a physical connection by utilizing inductive coils as a means of communication. When reading the counter, the unit shall display the four to seven digit reading and the counter serial number.
- \_\_4. The unit shall be provided with a “read” (activation) button and have the ability to retain the reading displayed. The unit shall automatically erase readings after a 60-second interval unless the “read” button is depressed.
- \_\_5. The unit shall have the ability to recall the last reading obtained by pressing the trigger twice quickly.
- \_\_6. The unit shall be capable of simple diagnostics, such as indicating open circuits and faulty register electronics.
- \_\_7. The unit shall be able to transfer meter reading and identity number automatically to various hand-held meter-reading systems by a simple cable connection.
- \_\_8. The unit shall be guaranteed to be free from defects in materials and workmanship for a period of one (1) year from the date of shipment.
- \_\_9. Cable and Battery Charger connection port
- \_\_10. Ability to display error codes and battery charge time
- \_\_11. Ability to detect register malfunction and display appropriate error codes.
- \_\_12. Ability to display a low battery warning
- \_\_13. Ability to recharge fully within 16 hours.

**SPECIFICATION  
ITEM #3**

**DESCRIPTION: 3" PORTABLE FIRE HYDRANT METERS**

1. The purpose of these specifications is to provide the City of Carrollton, Texas with the highest grade of water meters available. These are to be made of the best material and workmanship. Only meters manufactured within the continental limits of the United States will be acceptable. **“Preference will be given to bidders who have been engaged in the manufacture and marketing of the meters offered, or a substantially similar type electronic meter component, for a minimum of ten (10) years. Bids from manufacturer distributors will not be accepted unless the meters in question are only sold through distributors and not from the manufacturer.”**

Compliance with or variation from the specifications must be noted as to each item on the specification sheet. All variations from the specifications must be noted on the bid form.

Check indicates minimum compliance: \_\_\_√

- \_\_\_1. **Application:** for measuring high-volume water usage from fire hydrants or other fire protection systems.
- \_\_\_2. **Gate Valve:** meter must be equipped with 2" brass gate valve and a standard brass male hose coupling on the outlet side.
- \_\_\_3. **Register:** The register shall be of the straight reading type and read in U.S. gallons. It shall contain six (6) number wheels and the register face shall contain one hundred (100) equally divided graduations at its periphery, with a sweep-hand. It shall have a registration capacity of ten million (10,000,000) gallons, and one hundred (100) gallons per sweep-hand revolution. The digits shall be black in color with the lowest registering three digits (below the 1,000 gallon registration) to be a contrasting color. It shall also be completely separated from the waterway. The register shall be magnetically driven and a permanently roll sealed type. The term "sealed" shall mean moisture and dust-proof and be mechanically disconnected from measuring components. The manufacture date and corresponding meter size should be readily visible on each register to insure proper sizing if register exchange is needed. The manufacturer's serial number shall be stamped on the outside of the register box end.
- \_\_\_4. **Register Box Sealing:** may be accomplished by means of a tamperproof seal pin that must be destroyed in order to remove the register or some type of tamperproof device/pin.
- \_\_\_5. **Case and Cover:**

Alternative 1: Main case shall be made of bronze, containing no less than 75% copper. The size, model, arrows indicating direction of flow, and "AWWA Class II" shall be cast in raised characters on the main case or cover.

Alternative 2: Main case shall be made of cast aluminum and the cover cast bronze. The main case and cover shall be finished with a thermo-plastic coating for corrosion resistance. The size, model, arrows indicating direction of flow, and "AWWA Class II" shall be cast in raised characters on the main case or cover.

Casing bolts shall be made of stainless steel or brass. The name and manufacturer and the meter serial number shall be clearly identifiable and located on the register box cover.
- \_\_\_6. All meters must be adaptable to a register that is capable of encoding in digit format. The register must allow direct interrogation from a remote location or be adaptable to other automated meter reading technology as appropriate.
7. Registers shall contain low flow or leak indicators.

- \_\_\_ 8. **Measuring Chambers:** Measuring chambers shall be made of bronze or a suitable synthetic polymer and shall be smoothly and accurately machined. It shall contain an inlet hub, rotor, and strainer, and be held in place by stainless steel fasteners. It shall not be adversely affected by particles of sand.

Measuring chambers shall be mounted in a horizontal position that will allow water to pass straight through the meter casing and measuring chamber housing.

Turbine rotor shall be made of vulcanized hard rubber or suitable synthetic polymer and shall be as near as possible to the specific gravity of water.

Turbine spindles shall be made of stainless steel or other suitable corrosion-resistant material. Phosphor bronze spindles are not acceptable.

Measuring chambers or cages shall be inter-changeable with meters of the same size, type and manufacture.

- \_\_\_ 9. **Operating Range:** Meters must have an operating range for continuous flows of 8 gpm to 350 gpm. Meters must be equipped with a flow restriction plate, which must be an integral part of the design. Restriction plate must limit maximum flow to 400 gpm.

- \_\_\_ 10. **Operating Specifications:** Operating specifications and performance shall meet or exceed applicable American Water Works Association (AWWA) C-701-88, Class II specifications, or latest revision thereof.

- \_\_\_ 11. **Measurement and Connections:** Main case connections shall be 2 1/2" - 7 1/4" national standard brass female thread swivel fire hose pin lug coupling with strainer on inlet side of meter and a brass male hose coupling on the outlet side. (Strainer and orifice as integral part of meter is acceptable).

Gasket to be furnished with inlet firehose coupling.

- \_\_\_ 12. **Certification:** The meters are to be accepted on a certificate furnished by the manufacturer certifying that the meters supplied meet these specifications. The meters will be tested by the City of Carrollton to determine whether they do or do not meet the specification. Any failure to specify exceptions will be basis for disqualification.

13. **Literature:** The bidders will furnish descriptive brochures, schematics, and parts and price lists. They will also furnish in writing any meter or chamber maintenance programs their company offers. This information will also include cost and availability. If the bidder does not provide meter or chamber maintenance programs, they will provide a listing of companies qualified to perform this service. This listing will include name, address, telephone and fax numbers.

- \_\_\_ 14. **Guarantee:** Meters shall be guaranteed against defects in materials and workmanship for a period of fifteen (15) years. Parts to replace these in which a defect may develop within such period will be supplied without charge, piece for piece, upon proper proof of such defect.

The register shall have a warranty period of fifteen (15) years. Any register failure, including fogging and condensating, within two (2) years from the date of shipment, shall necessitate replacement, without cost to the City of Carrollton. The manufacturer shall refund to the City of Carrollton the cost of removing defective registers from service with such refund not to exceed five (5) dollars for each register.

- \_\_\_ 15. **Rejected Meters:** Rejected meters will be replaced or satisfactorily readjusted if they fail to comply with these specifications.

- \_\_\_ 16. **Meter Numbering System:** The City of Carrollton has an inventory tracking system for meters. The successful bidder, at the time meter orders are placed, will be given a series of numbers, beginning with the fiscal year, followed by a sequential series. These numbers are to be imprinted on each meter, either on the register lid or in a clearly visible area.

- 
- \_\_\_17. This specification is subject to conditions outlined in Bid Instructions, Special Conditions, and Item 6.
- \_\_\_18. Bidders shall furnish a list of ten other municipalities in Texas and/or surrounding states with whom they do business. This list will contain name of a contact person, address, and telephone number.
- \_\_\_ 19. **Materials:** Materials used in meters offered shall comply with the Safe Drinking Water Act of 1986

"This product shall be certified as suitable for contact with drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 61, Drinking Water Systems Components-Health Effects. All meters shall have received verifiable certification of compliance with the National Sanitation Foundation (NSF) Standard 61. Every bidder shall submit with their bid a signed statement clearly stating the present status of their receiving certification of compliance with the NSF 61 Standard for each particular make, model, and size of water meter being bid. a failure to submit this verification may result in the disqualification of that bid and its removal from consideration."

Materials used in meters shall comply with the Safe Drinking Water Act.

- \_\_\_20. Compliance with Texas Commission on Environmental Quality rules for backflow prevention necessitate the addition of a backflow device on subject meters. The City of Carrollton complies with this requirement and issues subject meters with the device intact. The device shall be a testable 2" double check valve assembly (DCVA) composed of two independently acting, approved spring loaded check valves, including tightly closing resilient seated shutoff valves located at each end of the assembly and fitted with properly located resilient sealed test cocks. Stamps of approval include: USC, AWWA, UPC, ASSE, and CSA.

---

 SPECIFICATION

## ITEM #4, #4C.

**DESCRIPTION: FIRE SERVICE TYPE WATER METERS 6", 8", AND 10"**

1. The purpose of these specifications is to provide the City of Carrollton, Texas with the highest grade of water meters available. These are to be made of the best material and workmanship. Only meters manufactured within the continental limits of the United States will be acceptable. **“Preference will be given to bidders who have been engaged in the manufacture and marketing of the meters offered, or a substantially similar type electronic meter component, for a minimum of ten (10) years. Bids from manufacturer distributors will not be accepted unless the meters in question are only sold through distributors and not from the manufacturer.”**

Compliance with or variation from the specifications must be noted as to each item on the specification sheet. All variations from the specifications must be noted on the bid form.

**Check indicates minimum compliance:** 

- \_\_\_1. **Required Product Approvals:** All meters shall be approved by the National Fire Prevention Association as well as the Underwriters Laboratories.

In addition to the requirements of this specification and any special requirements set forth in the bid requests, all meters shall meet current standard specifications of the American Water Works Association for the type service required.

- \_\_\_2. **Product Application:** As a combined fire and domestic service meter where one water line, rather than two, serve both fire and domestic needs or, as a master meter for automatic sprinkler systems and fire services.

- \_\_\_3. **Product Requirements:**

- A. Main line of the meter shall be either a proportional type or a high velocity turbine type for measuring high flows, with an automatic weighted swing type valve for diverting low flow rates through a positive displacement meter. Reverse flow protection shall be provided for the meter. Note: The City of Carrollton utilizes a bypass meter on these installations. See Item 1.
- B. Proportional main line discharge throat shall be epoxy coated, to offer corrosion resistance in the throat.
- C. Measuring chamber disc and turbine spindles shall be made of stainless steel or monel as described in Section 2.6 of AWWA Standard C703-96, or latest revision thereof.
- D. Measuring cages or chambers shall be made of copper alloy or suitable engineering plastic as described in Section 2.4 of AWWA Standard C703-96, or latest revision.
- E. Measuring turbines and discs shall be made of vulcanized rubber or suitable engineering plastic that shall be as near as possible to the specific gravity of water as described in Section 2.5 of AWWA Standard C703-96, or latest revision.
- F. Accuracy registration tests will be run by the City of Carrollton on all meters received. The manufacturer shall guarantee that all new meters furnished will meet the required new meter accuracy standards as established by AWWA C-705, latest revision, for a period of at least one (1) year from date of receipt.

## G. Casings

1. Main casings shall be either of approved copper alloy or epoxy coated cast iron. Bypass casing shall be of approved copper alloy.
2. A durable strainer shall protect each measuring portion of the meter. Strainers shall have a cover plate for inspection and removal of debris from the screen without disturbing the pipeline.
3. Synthetic polymers will be accepted for parts described in Section 2.4 of AWWA Standard C703-96, or latest revision.

H. Connections: All connections (flanges, nuts, bolts, gaskets, etc) must be provided with the meters. These items must meet or exceed AWWA Standard C703-96

## \_\_\_4. **Registers, Register Drive, and Register Box**

- A. Registers shall be straight reading, read in U. S. gallons, with center sweep test hand, and shall be sealed. (The term "sealed" shall mean a register that is moisture and dust-proof, mechanically disconnected from the measuring components and shall be non-repairable factory exchange type or shop repairable). The date of the manufacture shall be visible on the register face.
- B. On a 4-inch and larger meters it is essential that there be an obvious sharp color contrast between the numeral wheels that register 10,000 gallons per revolution and more and those that register 1,000 gallons per revolution and less.
- C. Magnetically coupled registers are required.
- D. Coordinator registers are acceptable.
- E. Register box is to be made of copper alloy.

## \_\_\_5. **Serial Numbering**

- A. The manufacturer's serial number shall be stamped on the outside of the register box lid and case.
- B. All numerals shall be a minimum of 1/4" in height.

\_\_\_6. **Operating Specifications:** Operating specifications and performance shall meet or exceed applicable American Water Works Association (AWWA) C-703-96 requirements, or latest revision thereof.

\_\_\_7. **Certification:** The meters are to be accepted on a certificate furnished by the manufacturer certifying that the meters supplied meet these specifications. The meters may be tested by the City of Carrollton to determine whether they do or do not meet the specification. Any failure to specify exceptions will be basis for disqualification.

The manufacturer shall be required to furnish a certificate showing that each meter has been tested for accuracy of registration and that it complies with accuracy and capacity requirements of AWWA C703-96 or the latest revision thereof. To ensure accuracy, each meter must be accompanied by a factory test tag certifying accuracy at low flows, two crossover points and high flows.

\_\_\_8. **Literature:** The bidders will furnish descriptive brochures, schematics, and parts and price lists. They will also furnish in writing any meter or chamber maintenance programs their company offers. This information will also include cost and availability. If the bidder does not provide meter or chamber maintenance programs, they will provide a listing of companies qualified to perform this service. This listing will include name, address, telephone and fax numbers.

- 
- \_\_\_9. **Guarantee:** Meters shall be guaranteed against defects in materials and workmanship for a period of fifteen (15) years. Parts to replace these in which a defect may develop within such period will be supplied without charge, piece for piece, upon proper proof of such defect.

Registers shall be repaired or replaced, if defective within one million gallons for each one-inch (1") normal diameter of meter, or fifteen (15) years, whichever shall occur first.

- \_\_\_10. **Rejected Meters:** Rejected meters will be replaced or satisfactorily readjusted if they fail to comply with these specifications.

- \_\_\_11. **Meter Numbering System:** The City of Carrollton has an inventory tracking system for meters. The successful bidder, at the time meter orders are placed, will be given a series of numbers, beginning with the fiscal year, followed by a sequential series. These numbers are to be imprinted on each meter, either on the register lid or in a clearly visible area.

- \_\_\_12. This specification is subject to conditions outlined in Bid Instructions, Special Conditions, Item 6.

- \_\_\_13. Bidders shall furnish a list of ten other municipalities in Texas and/or surrounding states with whom they do business. This list will contain name of a contact person, address, and telephone number.

- \_\_\_14. **Materials:**

"This product shall be certified as suitable for contact with drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 61, Drinking Water Systems Components-Health Effects. All meters shall have received verifiable certification of compliance with the National Sanitation Foundation (NSF) Standard 61. Every bidder shall submit with their bid a signed statement clearly stating the present status of their receiving certification of compliance with the NSF 61 Standard for each particular make, model, and size of water meter being bid. a failure to submit this verification may result in the disqualification of that bid and its removal from consideration."

Materials used in meters shall comply with the Safe Drinking Water Act.

- \_\_\_15. **Special Note:** It is the desire of the City of Carrollton to use "drop in" meters where they are physically located inside vaults. If the meters bid cannot meet this criteria, vendors must list each additional part necessary for a correct product fit. The individual price breakdown of each additional part must be clearly stated.

---

 SPECIFICATION

## ITEM #5, #5A

DESCRIPTION: COMPOUND METERS 4", 6", AND 8"

## REQUIREMENTS: MINIMUM

1. The purpose of these specifications is to provide the City of Carrollton, Texas with the highest grade of water meters available. These are to be made of the best material and workmanship. Only meters manufactured within the continental limits of the United States will be acceptable. **“Preference will be given to bidders who have been engaged in the manufacture and marketing of the meters offered, or a substantially similar type electronic meter component, for a minimum of ten (10) years. Bids from manufacturer distributors will not be accepted unless the meters in question are only sold through distributors and not from the manufacturer.”**

Compliance with or variation from the specifications must be noted as to each item on the specification sheet. All variations from the specifications must be noted on the bid form.

**Check indicates compliance:**   $\checkmark$

1. **Product Application:** where a high degree of accuracy is required over a wide range of water flow rates. Hotels, motels, institutions, schools, factories, office buildings, apartment houses and commercial properties are potential applications.
2. **Accuracy Registration Tests:** Accuracy registration tests may be run by the Water Utilities Division on all meters received. The manufacturer shall guarantee that all new meters furnished under this contract will meet the required new meter accuracy standards as established by the American Water Works Association (AWWA) Standard C-702-01, or latest revision thereof, for Cold Water Displacement Type Meters for a period of at least one (1) year from date of receipt.
3. **Product Requirements:**
  - A. Meters shall be of the dual register compound type which totalize the output from two (2) interacting measuring chambers or compound meters which totalize from two separate yet interacting measuring units with separate registers and different serial numbers stamped on the outer main cases and the outside of the register housing lids. One chamber shall be of the turbine type for measuring large flows; the other a displacement chamber of the oscillating piston type of disc type for measuring small flows. An automatic valve mechanism shall direct the flows throughout the chambers so as to have them function within their normal designed limits.
  - B. Size - of the meter shall be determined by the nominal size of the opening of the inlet and outlet flanges of the meter.
  - C. Measuring cages or chambers shall be made of copper alloy or suitable engineering plastic as described in Section 2.4 of AWWA Standard C702-01.
  - D. Measuring turbines and discs shall be made of vulcanized rubber or suitable engineering plastic that shall be as near as possible to the specific gravity of water as described in Section 4.1.5 of AWWA Standard C702-01, or most current revision.
  - E. Casings:
    1. Main casings shall be either of approved copper alloy or epoxy coated cast iron. Bypass casing shall be of approved copper alloy, and in no instance shall repaired casings be acceptable.

2. The main case shall be so constructed as to contain both the turbine and displacement measuring chambers as separate units. Both measuring chambers must be accessible by removal of a single upper shall assembly. Access to the measuring chamber must be obtainable without disturbing the main case as set in the pipeline. All sizes to have flanged ends.
  3. Each measuring portion of the meter shall be protected by a durable strainer. The straining area shall be equal to at least double the size of the diameter of the opening of the meter. Strainers shall have a cover plate for inspection and removal of debris from the screen without disturbing the pipeline.
  4. Synthetic polymers will be accepted for parts described in Section 4.1 of AWWA Standard C702-01.
  5. The main cases shall be fitted with a drain plug. A test plug of adequate size must be accessible from the top so as to allow testing in pit settings and confined areas.
- F. Connections: all connections (flanges, nuts, bolts, gaskets, etc) must be provided with the meters. All gaskets shall be full-face with pre-stamped bolt holes. All nuts and bolts shall be constructed of stainless steel. These items must meet or exceed AWWA Standard C702-01.
- G. Displacement Measuring Chamber: shall be a self-contained unit including a strainer, which can be firmly seated and removed as a unit. No part of this chamber shall be case as part of the main case. The measuring chamber shall be of the oscillating piston type or nutating disc type. Chamber for measuring low flow shall throttle down at crossover and high flow rates to prevent premature wear.
- H. Automatic Valve: shall be of the weighted, swing type or spring-loaded type. The valve and linkage shall be Water Works Bronze; all shafts shall be #316 stainless steel. The valve shall be so positioned in the meter that water passing through it will follow a straight path in passing from inlet to outlet.
- I. Registration: shall be accurately recorded through the normal test flow limits at not less than 98.5% nor more than 103% of actual thruput. At crossover, that point when measurement transfers from one chamber to the other, accuracy must exceed 95%. Accuracy at minimum test flow shall be at least 95% at rate of flow specified in table below:

<u>Size</u>	<u>Normal Test Flow Limits/GPM</u>	<u>Minimum Test Flow/GPM</u>
4"	6 - 500	3/4
6"	10-1000	1
8"	16-1600	2

- J. Pressure Test: Meters shall be guaranteed to operate successfully at a working pressure of 150 PSI, without leakage or damage to any part.

#### 4. Registers, Register Drive, and Register Box

- A. The meters shall contain one billing register which totalizes the registration from both the turbine and displacement chambers or separate registers for turbine or displacement chambers. Registers shall be straight reading, read in U. S. gallons, with center sweep test hand, and shall be sealed. (The term "sealed" shall mean a register that is moisture and dust-proof, mechanically disconnected from the measuring components and shall be non-repairable factory exchange type or shop repairable). The date of the manufacture shall be visible on the register face.

A second non-billing register shall totalize the registration of the displacement chamber only on single register compound meters. It shall be of the straight reading type with a size (6) wheel odometer and test dial. The register can be used for proper meter sizing and meter accuracy testing.

- B. It is essential that 2-inch and 3-inch meters have an obvious sharp color contrast between the numeral wheels that register 1,000 gallons per revolution and more and those that register 100 gallons per revolution and less. On a 4-inch and larger meters it is essential that there be an obvious sharp color contrast between the numeral wheels that register 10,000 gallons per revolution and more and those that register 1,000 gallons per revolution and less.
- C. Magnetically coupled registers are required.
- D. Coordinator registers are acceptable.
- E. Register box is to be made of bronze or suitable synthetic polymer.
- F. The size, type and direction of flow through the meter shall be case in raised characters on the main case.
- G. Register box shall be sealed to the meter in such a manner that unauthorized removal is apparent.

**5. Serial Numbering**

- A. The manufacturer's serial number shall be stamped on the outside of the register box lid and case.
- B. All numerals shall be a minimum of 1/4" in height.

**6. Operating Specifications:** Operating specifications and performance shall meet or exceed applicable American Water Works Association (AWWA) C-702-01 requirements, or latest revision thereof.

**7. Certification:** The meters are to be accepted on a certificate furnished by the manufacturer certifying that the meters supplied meet these specifications. The meters will be tested by the City of Carrollton to determine whether they do or do not meet the specification. Any failure to specify exceptions will be basis for disqualification.

The manufacturer shall be required to furnish a certificate showing that each meter has been tested for accuracy of registration and that it complies with accuracy and capacity requirements of AWWA C702-01 or the latest revision thereof.

Meter models and designs shall have been continuously manufactured in the United States for a minimum of ten (10) years.

**8. Literature:** The bidders will furnish descriptive brochures, schematics, and parts and price lists. They will also furnish in writing any meter or chamber maintenance programs their company offers. This information will also include cost and availability. If the bidder does not provide meter or chamber maintenance programs, they will provide a listing of companies qualified to perform this service. This listing will include name, address, telephone and fax numbers.

**9. Guarantee:** Meters shall be guaranteed against defects in materials and workmanship for a period of fifteen (15) years. Parts to replace these in which a defect may develop within such period will be supplied without charge, piece for piece, upon proper proof of such defect.

The register shall have a warranty period of fifteen (15) years. Any register failure, including fogging and condensating, within two (2) years from the date of shipment, shall necessitate replacement, without cost to the City of Carrollton.

**10. Rejected Meters:** Rejected meters will be replaced or satisfactorily readjusted if they fail to comply with these specifications.

- 
- \_\_\_ 11. **Meter Numbering System:** The City of Carrollton has an inventory tracking system for meters. The successful bidder, at the time meter orders are placed, will be given a series of numbers, beginning with the fiscal year, followed by a sequential series. These numbers are to be imprinted on each meter, either on the register lid or in a clearly visible area.
- \_\_\_ 12. This specification is subject to conditions outlined in Bid Instructions, Special Conditions, Item 6.
- \_\_\_ 13. Bidders shall furnish a list of ten other municipalities in Texas and/or surrounding states with whom they do business. This list will contain name of a contact person, address, and telephone number.
- \_\_\_ 14. **Materials:**
- "This product shall be certified as suitable for contact with drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 61, Drinking Water Systems Components-Health Effects. All meters shall have received verifiable certification of compliance with the National Sanitation Foundation (NSF) Standard 61. Every bidder shall submit with their bid a signed statement clearly stating the present status of their receiving certification of compliance with the NSF 61 Standard for each particular make, model, and size of water meter being bid. a failure to submit this verification may result in the disqualification of that bid and its removal from consideration."
- Materials used in meters shall comply with the Safe Drinking Water Act.
- \_\_\_ 15. **Installation:** Must comply with General Design Standards of the City of Carrollton in effect at the time of installation. Please note that these standards are periodically reviewed and changes are made as necessary.
- \_\_\_ 16. **Special Note:** It is the desire of the City of Carrollton to use "drop in meters" where they are physically located inside vaults. If the meters bid cannot meet this criteria, vendors must list each additional part necessary for a correct product fit. The individual price breakdown of each additional part must be clearly stated.

---

 SPECIFICATION

## ITEM #6, #6A, #7, #7A, #7B

**DESCRIPTION: TURBINE METERS FOR CUSTOMER SERVICE 1 1/2", 2", 4", 6", AND 8"**
**REQUIREMENTS: MINIMUM**

1. The purpose of these specifications is to provide the City of Carrollton, Texas with the highest grade of water meters available. These are to be made of the best material and workmanship. Only meters manufactured within the continental limits of the United States will be acceptable. **“Preference will be given to bidders who have been engaged in the manufacture and marketing of the meters offered, or a substantially similar type electronic meter component, for a minimum of ten (10) years. Bids from manufacturer distributors will not be accepted unless the meters in question are only sold through distributors and not from the manufacturer.”**

Compliance with or variation from the specifications must be noted as to each item on the specification sheet. All variations from the specifications must be noted on the bid form.

**Check indicates compliance:**   $\checkmark$

1. **Product Application:** 1 1/2" & 2" may be used for residential or small commercial installations such as irrigation systems, golf courses, plant process lines, car wash facilities, or master metering needs.  
4" - 8" may be used for commercial, residential and specialized industrial applications.
2. **Accuracy Registration Tests:** Accuracy registration tests may be run by the Water Utilities Division on all meters received. The manufacturer shall guarantee that all new meters furnished under this contract will meet the required new meter accuracy standards as established by the American Water Works Association (AWWA) Standard C-701-07, Class II, or latest revision thereof, for Cold Water Meters - Turbine Type, For Customer Service, for a period of at least one (1) year from date of receipt.
3. **Product Requirements:**
  - A. Meters shall be designed for easy removal of all interior parts without disturbing the connections to the pipeline.
  - B. Size - of the meter shall be determined by the nominal size of the opening of the inlet and outlet flanges of the meter.
  - C. The turbine chamber shall be mounted in a horizontal position so that water must essentially travel in a straight path from the meter inlet to the meter outlet during high flow operation.
  - D. Measuring cages or chambers shall be made of copper alloy or suitable engineering plastic as described in Section 4.1 of AWWA Standard C701-07, or latest revision.
  - E. Measuring turbines and discs shall be made of vulcanized rubber or suitable engineering plastic that shall be as near as possible to the specific gravity of water as described in Section 4.1 of AWWA Standard C701-07, or latest revision.
  - F. Main assembly cases:
    1. Main casings shall be made of copper alloy. Casing bolts shall be made of stainless steel or bronze. Cases shall be designed for easy removal of interior parts without disturbing connections to the pipeline. Bypass casing shall be of approved copper alloy. In no instance shall repaired casings be acceptable.
    2. All sizes to have flanged ends. All external bolts or screws shall be stainless steel.

3. Each measuring portion of the meter shall be protected by a durable strainer. Stainless steel connection bolts and gaskets are also to be provided. The straining area shall be equal to at least double the size of the diameter of the opening of the meter. Strainers shall be bronze with stainless steel inserts. Cast iron strainers for meters 8" and larger with bronze or stainless steel inserts will be acceptable. Strainers shall have a cover plate for inspection and removal of debris from the screen without disturbing the pipeline. All meters shall contain strainer screens. Strainers must comply with Section 4.1 of AWWA Standard C701-07, or latest revision.
  4. Synthetic polymers will be accepted for parts described in Section 4.1 of AWWA Standard C701-07, or latest revision.
  5. The main cases shall be fitted with a drain plug. A test plug of adequate size must be accessible from the top so as to allow testing in pit settings and confined areas.
- G. Connections: all connections (flanges, nuts, bolts, gaskets, etc) must be provided with the meters. All gaskets shall be full-face with pre-stamped bolt holes. All nuts and bolts shall be constructed of stainless steel. These items must meet or exceed AWWA Standard C701-07, or latest revision.
- H. Measuring Chamber: Turbine spindles shall be made of stainless steel or other suitable corrosion resistant material. Measuring chambers or cages shall be self-contained and easily detached and removed from the main case installation. Measuring chambers or cages shall be interchangeable with meters of the same size, type and manufacture.
- I. Automatic Valve: shall be of the weighted, swing type or spring-loaded type. The valve and linkage shall be Water Works Bronze; all shafts shall be #316 stainless steel. The valve shall be so positioned in the meter that water passing through it will follow a straight path in passing from inlet to outlet.
- J. Registration: shall be accurately recorded through the normal test flow limits at not less than 98.5% nor more than 103% of actual thruput.
- K. Pressure Test: Meters shall be guaranteed to operate successfully at a working pressure of 150 psi, without leakage or damage to any part.
- L. All registers must be adaptable to a remote meter reading system.
- M. Registers shall contain low flow or leak indicators.
- N. **Measuring Chambers:** Measuring chambers shall be made of bronze or a suitable synthetic polymer and shall be smoothly and accurately machined. It shall contain an inlet hub, rotor, and strainer, and be held in place by stainless steel fasteners. It shall not be adversely affected by particles of sand.
- O. **Operating Specifications:** Operating specifications and performance shall meet or exceed applicable American Water Works Association (AWWA) C-701-07 specifications, or latest revisions.

4. **Registers, Register Drive and Register Box**

- A. Registers shall be straight reading, read in U. S. gallons, with center sweep test hand, and shall be sealed. (The term "sealed" shall mean a register that is moisture and dust-proof, mechanically disconnected from the measuring components and shall be non-repairable factory exchange type). The register shall be a standard assembly requiring no additional components to make the seal permanent. The gasket must be under no less than fifty (50) pounds pressure at the time of manufacture. Sealing must be accompanied by a metal rolling process by which the metal of the register can is rolled over the outer edge of the register lens to perfect a permanent seal. The date of the manufacture shall be visible on the register face. Test rings for registers shall be furnished at no additional cost.

- B. It is essential that these meters have an obvious sharp color contrast between the numeral wheels that register 1,000 gallons per revolution and more and those that register 100 gallons per revolution and less. On 4-inch and larger meters it is essential that there be an obvious sharp color contrast between the numeral wheels that register 10,000 gallons per revolution and more and those that register 1,000 gallons per revolution and less.
- C. Magnetically coupled registers are required.
- D. Register box is to be made of copper alloy.
- E. The size, type and direction of flow through the meter shall be cast in raised characters on the main case.
- F. Register box shall be sealed to the meter in such a manner that unauthorized removal is apparent.

\_\_\_5. **Serial Numbering**

- A. **The manufacturer's serial number shall be stamped on the outside of the register box lid and case.**
- B. All numerals shall be a minimum of 1/4" in height.

\_\_\_6. **Operating Specifications:** Operating specifications and performance shall meet or exceed applicable American Water Works Association (AWWA) C-701-07 requirements, or latest revision thereof.

\_\_\_7. **Certification:** The meters are to be accepted on a certificate furnished by the manufacturer certifying that the meters supplied meet these specifications. The meters will be tested by the City of Carrollton to determine whether they do or do not meet the specification. Any failure to specify exceptions will be basis for disqualification.

The manufacturer shall be required to furnish a certificate showing that each meter has been tested for accuracy of registration and that it complies with accuracy and capacity requirements of AWWA C701-07 or the latest revision thereof. To ensure accuracy, each meter must be accompanied by a factory test tag certifying accuracy at low flows, two crossover points and high flows.

Meter models and designs shall have been continuously manufactured in the United States for a minimum of ten (10) years.

\_\_\_8. **Literature:** The bidders will furnish descriptive brochures, schematics, and parts and price lists. They will also furnish in writing any meter or chamber maintenance programs their company offers. This information will also include cost and availability. If the bidder does not provide meter or chamber maintenance programs, they will provide a listing of companies qualified to perform this service. This listing will include name, address, telephone and fax numbers.

\_\_\_9. **Guarantee:** Meters shall be guaranteed against defects in materials and workmanship for a period of fifteen (15) years. Parts to replace these in which a defect may develop within such period will be supplied without charge, piece for piece, upon proper proof of such defect.

The register shall have a warranty period of fifteen (15) years. Any register failure, including fogging and condensating, within two (2) years from the date of shipment, shall necessitate replacement, without cost to the City of Carrollton.

\_\_\_10. **Rejected Meters:** Rejected meters will be replaced or satisfactorily readjusted if they fail to comply with these specifications.

\_\_\_11. **Meter Numbering System:** **The City of Carrollton has an inventory tracking system for meters. The successful bidder, at the time meter orders are placed, will be given a series of numbers, beginning with the fiscal year, followed by a sequential series. These numbers are to be imprinted on each meter, either on the register lid or in a clearly visible area.**

- 
- \_\_\_12. This specification is subject to conditions outlined in Bid Instructions, Special Conditions, Item 6.
- \_\_\_13. Bidders shall furnish a list of ten other municipalities in Texas and/or surrounding states with whom they do business. This list will contain name of a contact person, address, and telephone number.
- \_\_\_14. **Materials:** Materials used in meters offered shall comply with the Safe Drinking Water Act of 1986.
- "This product shall be certified as suitable for contact with drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 61, Drinking Water Systems Components-Health Effects. All meters shall have received verifiable certification of compliance with the National Sanitation Foundation (NSF) Standard 61. Every bidder shall submit with their bid a signed statement clearly stating the present status of their receiving certification of compliance with the NSF 61 Standard for each particular make, model, and size of water meter being bid. a failure to submit this verification may result in the disqualification of that bid and its removal from consideration."
- Materials used in meters shall comply with the Safe Drinking Water Act.
- \_\_\_15. **Installation:** Must comply with General Design Standards of the City of Carrollton in effect at the time. Please note that these standards are periodically reviewed and changes are made as necessary.
- \_\_\_16. **Special Tools:** In the event that special tools are required to perform maintenance on the meter, the bidder will furnish a sufficient supply at no extra charge.
- \_\_\_17. **Special Note:** It is the desire of the City of Carrollton to use "drop in meters" where they are physically located inside vaults. If the meters bid cannot meet this criteria, vendors must list each additional part necessary for a correct product fit. The individual price breakdown of each additional part must be clearly stated.
- \_\_\_18. **Main Case Connections:** For 1 1/2" turbine meters the laying length shall be 13"; the connections shall be two (2) Bolt oval/elliptical flanges on both ends; For 2" turbine meters the laying length shall be 17"; the spud size shall be 1 1/4".

## SPECIFICATIONS

### ITEM #8, #8A, #8B, & #8C.

**DESCRIPTION: TURBINE METERS FOR FIRE SERVICE 4", 6", 8, AND 10"**

**REQUIREMENTS: MINIMUM**

1. The purpose of these specifications is to provide the City of Carrollton, Texas with the highest grade of water meters available. These are to be made of the best material and workmanship. Only meters manufactured within the continental limits of the United States will be acceptable. **“Preference will be given to bidders who have been engaged in the manufacture and marketing of the meters offered, or a substantially similar type electronic meter component, for a minimum of ten (10) years. Bids from manufacturer distributors will not be accepted unless the meters in question are only sold through distributors and not from the manufacturer.”**

Compliance with or variation from the specifications must be noted as to each item on the specification sheet. All variations from the specifications must be noted on the bid form.

**Check indicates compliance:**  √

- \_\_\_1. **Product Application:** where a high degree of accuracy is required over a wide range of water flow rates. Hotels, motels, institutions, schools, factories, office buildings, apartment houses and commercial properties are potential applications.
- \_\_\_2. **Required Product Approvals:** In addition to the requirements of this specification and any special requirements set forth in the bid request, all products offered shall meet the AWWA Standard for Cold Water Meters - Turbine Type for Customer Service C701-12 Class II. All meters furnished under this specification shall be UL approved for fire service.
- \_\_\_3. **Supplementary Specifications:** The standard used in preparation of this specification is AWWA Standard C701-12 and C703-86 (Strainers). All meters shall, in addition to supplementary requirements, meet all the requirements outlined in AWWA Standard C701-88, Class II and C703-86 (Strainers).
- \_\_\_4. **Accuracy Registration Tests:** Accuracy registration tests may be run by the Utility Customer Service Division on all meters received. The manufacturer shall guarantee that all new meters furnished under this contract will meet the required new meter accuracy standards as established by the American Water Works Association (AWWA) Standard C-701, or latest revision for a period of at least one (1) year from date of receipt.
- \_\_\_5. **Product Requirements:**
  - A. Turbine spindles shall be made of stainless steel or other suitable corrosion resistant material.
  - B. Size of the meter shall be determined by the nominal size of the opening of the inlet and outlet flanges of the meter.
  - C. The turbine chamber shall be mounted in a horizontal position so that water must essentially travel in a straight path from the meter inlet to the meter outlet during high flow operation.
  - D. Measuring cages or chambers shall be made of copper alloy or suitable engineering plastic as described in Section 2.4 of AWWA Standard C702-86.
  - E. Measuring turbines and discs shall be made of vulcanized rubber or suitable engineering plastic that shall be as near as possible to the specific gravity of water as described in Section 2.5 of AWWA Standard C703-86.
  - F. Measuring chambers or cages shall be self-contained and easily detached and removed from the main case without disturbing main case installation.

- G. Measuring chambers or cages shall be inter-changeable with meters or the same size, type and manufacture.
- H. Casings
  - 1. Main casings shall be either of approved copper alloy or epoxy coated cast iron.
  - 2. Access to the measuring chamber must be obtainable without disturbing the main case as set in the pipeline. All sizes to have flanged ends.
  - 3. Each measuring portion of the meter shall be protected by a durable strainer. The straining area shall be equal to at least 4 times the size of the diameter of the opening of the meter. Strainers shall have a cover plate for inspection and removal of debris from the screen without disturbing the pipeline. Meters furnished under this specification shall be furnished with strainers, stainless steel connection bolts, and gaskets. Strainers shall be approved by the National Fire Protection Association (NFPA) or be listed with the Underwriters Laboratories (UL) in their fire protection equipment list. This approval requires the use of main line strainer, either a Y type or basket type, having the same NFPA or UL approval and a minimum straining area of four times the pipe cross section area of the turbine meter.
  - 4. Synthetic polymers will be accepted for parts described in Section 2.4 of AWWA Standard C702-86, or latest revision.
  - 5. The main cases shall be fitted with a drain plug. A test plug of adequate size must be accessible from the top so as to allow testing in pit settings and confined areas.
- I. Connections: all connections (flanges, nuts, bolts, gaskets, etc) must be provided with the meters. All gaskets shall be full-face with pre-stamped bolt holes. All nuts and bolts shall be constructed of stainless steel. These items must meet or exceed AWWA Standard C702-86.

J. The register shall conform to the following capacity chart:

Minimum Registration Minimum Capacity of Register

<u>Meter Size</u>	<u>In Gallons</u>	<u>In Millions of Gallons</u>
4"	1000	100
6"	1000	1000
8"	1000	1000
10"	1000	1000

K. Pressure Test: Meters shall be guaranteed to operate successfully at a working pressure of 150 PSI, without leakage or damage to any part.

6. **Registers, Register Drive, and Register Box**

- A. Registers shall be straight reading, read in U. S. gallons, with center sweep test hand, and shall be sealed. (The term "sealed" shall mean a register that is moisture and dust-proof, mechanically disconnected from the measuring components and shall be non-repairable factory exchange type or shop repairable). The date of the manufacture shall be visible on the register face.
- B. It is essential that 4-inch and larger meters have an obvious sharp color contrast between the numeral wheels that register 1,000 gallons per revolution or more and those that register 100 gallons per revolution or less. On a 4-inch and larger meters it is essential that there be an obvious sharp color contrast between the numeral wheels that register 10,000 gallons per revolution and more and those that register 1,000 gallons per revolution or less.
- C. Magnetically coupled registers are required.
- D. Register box is to be made of copper alloy.

- E. The size, type and direction of flow through the meter shall be cast in raised characters on the main case.
- F. Register box shall be sealed to the meter in such a manner that unauthorized removal is apparent.
- G. Test rings for registers shall be furnished at no additional cost.

\_\_\_7. **Serial Numbering**

- A. The manufacturer's serial number shall be stamped on the outside of the register box lid and case.
- B. All numerals shall be a minimum of 1/4" in height.

\_\_\_8. **Operating Specifications:** Operating specifications and performance shall meet or exceed applicable American Water Works Association (AWWA) C-702-86 requirements, or latest revision thereof.

\_\_\_9. **Certification:** The meters are to be accepted on a certificate furnished by the manufacturer certifying that the meters supplied meet these specifications. The meters will be tested by the City of Carrollton to determine whether they do or do not meet the specification. Any failure to specify exceptions will be basis for disqualification.

The manufacturer shall be required to furnish a certificate showing that each meter has been tested for accuracy of registration and that it complies with accuracy and capacity requirements of AWWA C702-86 or the latest revision thereof. To ensure accuracy, each meter must be accompanied by a factory test tag certifying accuracy at low flows, two crossover points and high flows.

Meter models and designs shall have been continuously manufactured in the United States for a minimum of ten (10) years.

\_\_\_10. **Literature:** The bidders will furnish descriptive brochures, schematics, and parts and price lists. They will also furnish in writing any meter or chamber maintenance programs their company offers. This information will also include cost and availability. If the bidder does not provide meter or chamber maintenance programs, they will provide a listing of companies qualified to perform this service. This listing will include name, address, telephone and fax numbers.

\_\_\_11. **Guarantee:** Meters shall be guaranteed against defects in materials and workmanship for a period of fifteen (15) years. Parts to replace these in which a defect may develop within such period will be supplied without charge, piece for piece, upon proper proof of such defect.

The register shall have a warranty period of fifteen (15) years. Any register failure, including fogging and condensating, within two (2) years from the date of shipment, shall necessitate replacement, without cost to the City of Carrollton.

\_\_\_12. **Rejected Meters:** Rejected meters will be replaced or satisfactorily readjusted if they fail to comply with these specifications.

\_\_\_13. **Meter Numbering System:** The City of Carrollton has an inventory tracking system for meters. The successful bidder, at the time meter orders are placed, will be given a series of numbers, beginning with the fiscal year, followed by a sequential series. These numbers are to be imprinted on each meter, either on the register lid or in a clearly visible area.

\_\_\_14. This specification is subject to conditions outlined in Bid Instructions, Special Conditions, Item 6.

\_\_\_15. Bidders shall furnish a list of ten other municipalities in Texas and/or surrounding states with whom they do business. This list will contain name of a contact person, address, and telephone number.

\_\_\_16. **Materials:**

"This product shall be certified as suitable for contact with drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 61, Drinking Water Systems Components-Health Effects. All meters shall have received verifiable certification of compliance with the National Sanitation Foundation (NSF) Standard 61. Every bidder shall submit with their bid a signed statement

---

clearly stating the present status of their receiving certification of compliance with the NSF 61 Standard for each particular make, model, and size of water meter being bid. a failure to submit this verification may result in the disqualification of that bid and its removal from consideration."

Materials used in meters shall comply with the Safe Drinking Water Act.

- \_\_\_17. **Installation:** Must comply with General Design Standards of the City of Carrollton in effect at the time. Please note that these standards are periodically reviewed and changes are made as necessary.
- \_\_\_18. **Special Tools:** In the event that special tools are required to perform maintenance on the meters, the bidder will furnish a sufficient supply at no extra charge.

---

 SPECIFICATION

## ITEM #9, #9A, &amp; #9B.

## DESCRIPTION: DETECTOR CHECK VALVE ASSEMBLIES

(CLOSED FIRE LINE SERVICES) 4", 6", 8"

## REQUIREMENTS: MINIMUM

1. The purpose of these specifications is to provide the City of Carrollton, Texas with the highest grade of detector check valve assemblies available. These assemblies must be equipped with a bypass meter. These are to be made of the best material and workmanship. Only valves and meters manufactured within the continental limits of the United States will be acceptable. **“Preference will be given to bidders who have been engaged in the manufacture and marketing of the meters offered, or a substantially similar type electronic meter component, for a minimum of ten (10) years. Bids from manufacturer distributors will not be accepted unless the meters in question are only sold through distributors and not from the manufacturer.”**

Compliance with or variation from the specifications must be noted as to each item on the specification sheet. All variations from the specifications must be noted on the bid form.

**Check indicates compliance:** 

1. **Required Product Approvals:** All assemblies shall be approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

In addition to the requirements of this specification and any special requirements set forth in the bid requests, all components shall meet current standard specifications of the American Water Works Association for the type service required, and as a minimum, meet the requirements of AWWA Standard C510-97, or latest revision.

2. **Product Description:** The closed fire service assembly shall consist of a detector check valve, plus a positive displacement bypass meter.

3. **Application:** For installation in commercial fire lines, or any water supply system, to detect leakage or unauthorized use.

4. **Definitions:**

A. Closed fire line service - a system with automatic sprinklers only, regularly inspected and supervised by an insurance agency.

B. Metering - Monitored with a detector check device.

5. **Product Requirements:**

A. Consists of a main valve and bypass meter, with an automatic weighted swing type valve for diverting low flow rates. Reverse flow protection shall be provided for the meter.

B. The clapper seat shall be rubber to bronze.

C. Weights (excluding bypass meters) shall range from a minimum of 160 lb. for 4", 300 lb. for 6", to 400 lb. for an 8".

D. Casings

1. Main casings shall be either of approved copper alloy or epoxy coated cast iron. Bypass casing shall be of approved copper alloy.

2. Synthetic polymers will be accepted for parts described in Section 2.4 of AWWA Standard C703-86, or latest revision.
  3. The size, model, manufacturer's serial number, company name and direction of flow shall be cast, stamped or provided on an etched metal plate mechanically attached on the outer case of the valve.
  4. External fasteners (casing bolts, studs, nuts, screws, and washers) shall be made of copper alloy containing not less than fifty-seven (57%) copper, stainless steel, or of steel treated to resist corrosion by a process to be approved by the City of Carrollton and shall be designed for easy removal after long service.
- E. Connections: All valve connections (control piping, connections to components, etc.) shall be threaded in accordance with ANSI/ASME B 1.20.1 or flanged in accordance with ANSI/ASME B 16.1, ANSI/ASME B 16.24.
- F. The detector check valve shall cut off all flow through it until minimum differential is met. It shall effectively prevent backflow, and shall not bind or stick in service.
- G. The check valve shall be of a weighted swing type that closes by gravity or be an internally spring loaded type device. The weight or load of the valve and any supplemental weight or load imposed on it shall offer sufficient resistance to incoming water to direct all small rates of flow through the by-pass meter (installed by Utility Customer Service Division) and shall open under a difference of pressure between 1.5 psi to 3.0 psi. When the amount of water being used through the by-pass meter results in a differential of 1.5 psi to 3.0 psi the check valve shall open and when fully open shall provide clear passage through the valve.
- H. The valve weights shall be of bronze or a bronze shell loaded with an appropriate material. The valve and supplemental weight pins or spindles shall be of bronze or other suitable non-ferrous material, and all valve and supplemental weight pins or springs shall be of bronze or other suitable non-ferrous material, and all valve and supplemental weight hinge bearings shall be bushed with bronze or hard rubber. Spring-loaded valves shall use stainless steel springs. All internal working parts of the device shall be of stainless steel. (Engineering Plastic Bushings acceptable on spring loaded valves).
- I. The valve clapper shall be faced with semi-hard rubber or elastomeric discs and shall be held in place with a stainless or bronze clamping disc.
- J. Valve seats shall be of bronze, shall have a satisfactory width of face and shall be firmly held in place.
- K. The valve shall have end flanges which thickness conforms to the American Standard cast iron pipe flange, Class 125.
- L. The inlet and outlet of the detector check valve shall be paralleled and have a common axis.
- M. The valve shall have a maximum working pressure of 175 psi.
- N. An air bleeder device shall be provided at the top of the upper main body.
- O. The valve shall be equipped with a pair of tapped bosses on each side of the valve to permit the installation of a by-pass water meter to record water usage.
- \_\_6. **Dissimilar Metals:** The valve assembly must adhere to ANSI/AWWA Standard C510-97, Section 2.1.
- \_\_7. **Bypass Meter: Registers, Register Drive, and Register Box:** See Section I.
- \_\_8. **Operating Specifications:** Operating specifications and performance shall meet or exceed applicable American Water Works Association (AWWA) C-703-86, requirements, or latest revision thereof as well as ANSI/AWWA C-510-97, or latest revision.

- \_\_\_9. **Certification:** The valves/meters are to be accepted on a certificate furnished by the manufacturer certifying that the valves/meters supplied meet these specifications. The meters may be tested by the City of Carrollton to determine whether they do or do not meet the specification. Any failure to specify exceptions will be basis for disqualification. The manufacturer shall be required to furnish a certificate showing that each by-pass meter has been tested for accuracy of registration.

Meter/valve models and designs shall have been continuously manufactured in the United States for a minimum of ten (10) years.

- \_\_\_10. **Literature:** The bidders will furnish descriptive brochures, schematics, and parts and price lists. They will also furnish in writing any meter, chamber, or valve maintenance programs their company offers. This information will also include cost and availability. If the bidder does not provide meter, chamber, or valve maintenance programs, they will provide a listing of companies qualified to perform this service. This listing will include name, address, telephone and fax numbers.

- \_\_\_11. **Rejected Valves/Meters:** Rejected valves/meters will be replaced or satisfactorily readjusted if they fail to comply with these specifications.

- \_\_\_12. **Meter Numbering System (for by-pass meter):** The City of Carrollton has an inventory tracking system for meters. The successful bidder, at the time meter orders are placed, will be given a series of numbers, beginning with the fiscal year, followed by a sequential series. These numbers are to be imprinted on each meter, either on the register lid or in a clearly visible area.

- \_\_\_13. This specification is subject to conditions outlined in Bid Instructions, Special Conditions, Item 6.

- \_\_\_14. Bidders shall furnish a list of ten other municipalities in Texas and/or surrounding states with whom they do business. This list will contain name of a contact person, address, and telephone number.

- \_\_\_15. **Materials:**

"This product shall be certified as suitable for contact with drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 61, Drinking Water Systems Components-Health Effects. All meters shall have received verifiable certification of compliance with the National Sanitation Foundation (NSF) Standard 61. Every bidder shall submit with their bid a signed statement clearly stating the present status of their receiving certification of compliance with the NSF 61 Standard for each particular make, model, and size of water meter being bid. a failure to submit this verification may result in the disqualification of that bid and its removal from consideration."

Materials used in meters shall comply with the Safe Drinking Water Act.

- \_\_\_16. **Installation:** Must comply with General Design Standards of the City of Carrollton in effect at the time. Please note that these standards are periodically reviewed and changes are made as necessary.

- \_\_\_17. **Valve Repair:** If special licensing or technical expertise is required for valve repair, and/or product must be sent to a factory for repair, bidders must provide detailed description of responsibilities and detailed costs for service.

---

 SPECIFICATION

## ITEM #10, #10A &amp; #10B.

**DESCRIPTION: DOUBLE CHECK DETECTOR ASSEMBLIES (FIRE LINE SERVICES) 4", 6", 8"**
**REQUIREMENTS: MINIMUM**

1. The purpose of these specifications is to provide the City of Carrollton, Texas with the highest grade of detector check valve assemblies available. These are to be made of the best material and workmanship. Only meters manufactured within the continental limits of the United States will be acceptable. **“Preference will be given to bidders who have been engaged in the manufacture and marketing of the meters offered, or a substantially similar type electronic meter component, for a minimum of ten (10) years. Bids from manufacturer distributors will not be accepted unless the meters in question are only sold through distributors and not from the manufacturer.”**

Compliance with or variation from the specifications must be noted as to each item on the specification sheet. All variations from the specifications must be noted on the bid form.

**Check indicates compliance:**

1. **Required Product Approvals:** All assemblies shall be approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

In addition to the requirements of this specification and any special requirements set forth in the bid requests, all components shall meet current standard specifications of the American Water Works Association for the type service required, and as a minimum, meet the requirements of AWWA Standard C510, or latest revision. Components must also be FM approved mainline and UL approved.

2. **Product Description:** The closed fire service assembly shall consist of two internally loaded, independently operating check valves, located between two tightly closing resilient-seated shutoff valves (OS&Y), with four properly placed resilient-seated test cocks, plus a positive displacement bypass meter. A valve automatically controls flow between the mainline meter and the bypass meter indicate the total consumption throughout the system.

3. **Application:** For installation in commercial fire lines, or any water supply system, to detect leakage or unauthorized use.

4. **Definitions:**

- A. Full-ported test cock: A full-ported test cock shall have an opening at least equal in area to the area of the specified size of the test cock.
- B. Independently acting check valve: An independent check valve shall share no common parts except for body housing. There can be no contact between any moving components of either check valve through its normal operation. The failure of either check valve in any mode can in no way affect the operation of the other check valve.

5. **Product Requirements:**

- A. Consists of two independent spring-loaded poppet-type check valve assemblies mounded in a common body. Two gate valves and four test cocks for field-testing. Valve assemblies should be easily removed for in-line servicing. The bypass consists of an approved double check valve assembly, shutoff valves, testcocks, and a meter with low flow accuracy.
- B. Proportional main line discharge throat shall be epoxy coated, to offer corrosion resistance in the throat.
- C. The clapper seat shall be rubber to bronze.

- D. Weights with OS/Y valves (excluding bypass meters) shall range from a minimum of 450 lb. for 4", 800 lb. for 6", to 1600 lb. for an 8".
  - E. Test plugs must be non-ferris, e.g., brass or plastic.
  - F. Testing shall be performed at the time of installation and is recommended annually thereafter.
  - G. Casings
    - 1. Main casings shall be either of approved copper alloy or epoxy coated cast iron. Bypass casing shall be of approved copper alloy.
    - 2. Each measuring portion of the meter shall be protected by a durable strainer. The straining area shall be equal to four times the size of the diameter of the opening of the meter. Strainers shall have a cover plate for inspection and removal of debris from the screen without disturbing the pipeline.
    - 3. Synthetic polymers will be accepted for parts described in Section 2.4 of AWWA Standard C703-86, or latest revision.
  - H. Connections: All meter connections (flanges, nuts, bolts, gaskets, etc) must be provided with the meters. These items must meet or exceed AWWA Standard C703-86, or latest revision. All valve connections (test cocks, control piping connections to components, etc. shall be threaded in accordance with ANSI/ASME B 1.20.1 or flanged in accordance with ANSI/ASME B 16.1, ANSI/ASME B 16.24
- \_\_\_6. **Dissimilar Metals:** The valve assembly must adhere to ANSI/AWWA Standard C510-97, Section 2.1, or latest revision.
- \_\_\_7. **Bypass Meter: Registers, Register Drive, and Register Box**
- A. Registers shall be straight reading, read in U. S. gallons, with center sweep test hand, and shall be sealed. (The term "sealed" shall mean a register that is moisture and dust-proof, mechanically disconnected from the measuring components and shall be non-repairable factory exchange type or shop repairable). The date of the manufacture shall be visible on the register face.
  - B. Registers shall be of the straight reading type and read in U.S. gallons. It shall contain six (6) number wheels and the register face shall contain one hundred (100) equally divided graduations at it's periphery, with a sweep-hand. It shall have a registration capacity of one million (1,000,000) gallons, and ten (10) gallons per sweep-hand revolution. The digits shall be black in color with the lowest registering three digits (below the 1,000 gallon registration) to be a contrasting color. It shall also be completely separated from the waterway. The register shall be magnetically driven and a permanently rolled sealed type. The term "sealed" shall mean moisture and dust-proof and be mechanically disconnected from measuring components. The manufacture date and corresponding meter size should be readily visible on each register to insure proper sizing if register exchange is needed.
  - C. Register boxes and covers shall be made of bronze or a suitable synthetic polymer.

---

\_\_8. **Serial Numbering**

- A. The manufacturer's serial number shall be stamped on the outside of the register box lid and case.
- B. All numerals shall be a minimum of 1/4" in height.

\_\_9. **Operating Specifications:** Operating specifications and performance shall meet or exceed applicable American Water Works Association (AWWA) C-703-86 requirements, or latest revision thereof as well as ANSI/AWWA C-510-97, or latest revision.

\_\_10. **Certification:** The meters are to be accepted on a certificate furnished by the manufacturer certifying that the meters supplied meet these specifications. The meters will be tested by the City of Carrollton to determine whether they do or do not meet the specification. Any failure to specify exceptions will be basis for disqualification.

The manufacturer shall be required to furnish a certificate showing that each meter has been tested for accuracy of registration and that it complies with accuracy and capacity requirements of AWWA C510-97 or the latest revision thereof.

Meter/valve models and designs shall have been continuously manufactured in the United States for a minimum of ten (10) years.

\_\_11. **Literature:** The bidders will furnish descriptive brochures, schematics, and parts and price lists. They will also furnish in writing any meter, chamber, or valve maintenance programs their company offers. This information will also include cost and availability. If the bidder does not provide meter, chamber, or valve maintenance programs, they will provide a listing of companies qualified to perform this service. This listing will include name, address, telephone and fax numbers.

\_\_12. **Testers:** Bidders must furnish a listing of companies providing certified testers of backflow prevention devices in the metroplex area.

\_\_13. **Rejected Valves/Meters:** Rejected valves/meters will be replaced or satisfactorily readjusted if they fail to comply with these specifications.

\_\_14. **Meter Numbering System (for by-pass meter):** The City of Carrollton has an inventory tracking system for meters. The successful bidder, at the time meter orders are placed, will be given a series of numbers, beginning with the fiscal year, followed by a sequential series. These numbers are to be imprinted on each meter, either on the register lid or in a clearly visible area.

\_\_15. This specification is subject to conditions outlined in Bid Instructions, Special Conditions, Item 6.

\_\_16. Bidders shall furnish a list of ten other municipalities in Texas and/or surrounding states with whom they do business. This list will contain name of a contact person, address, and telephone number.

\_\_17. **Materials:**

"This product shall be certified as suitable for contact with drinking water by an accredited certification organization in accordance with ANSI/NSF Standard 61, Drinking Water Systems Components-Health Effects. All meters shall have received verifiable certification of compliance with the National Sanitation Foundation (NSF) Standard 61. Every bidder shall submit with their bid a signed statement clearly stating the present status of their receiving certification of compliance with the NSF 61 Standard for each particular make, model, and size of water meter being bid. a failure to submit this verification may result in the disqualification of that bid and its removal from consideration."

Materials used in meters shall comply with the Safe Drinking Water Act.

- 
- \_\_\_18. **Installation:** Must comply with General Design Standards of the City of Carrollton in effect the time. Please note that these standards are periodically reviewed and changes are made as necessary.
  - \_\_\_19. **Backflow Prevention Assembly Repair:** If special licensing or technical expertise is required for assembly repair, and/or product must be sent to a factory for repair, bidders must provide detailed description of responsibilities and detailed costs for service.
  - \_\_\_20. **Special Note:** It is the desire of the City of Carrollton to use "drop in meters" where they are physically located inside vaults. If the meters bid cannot meet this criteria, vendors must list each additional part necessary for a correct product fit. The individual price breakdown of each additional part must be clearly stated.