



INVITATION TO BID – COMMODITIES 14ITBC94249A-CJC

WATER METERS

For

DEPARTMENT OF WATER RESOURCES

BID DUE DATE AND TIME: Thursday, September 18, 2014 at 11:00a.m.

BID ISSUANCE DATE: August 13, 2014

PURCHASING CONTACT: Charlie Crockett

E-MAIL: charlie.crockett@fultoncountyga.gov

**LOCATION: FULTON COUNTY DEPARTMENT OF PURCHASING &
CONTRACT COMPLIANCE
130 PEACHTREE STREET, S.W., SUITE 1168
ATLANTA, GA 30303**

TABLE OF CONTENTS

Invitation to Bid

Section 1 - Instructions to Bidders, General Terms and Conditions

1. Bid Preparation
2. Receipt and Opening of Bids
3. Certification of Independent Price Determination
4. Term of Contract
5. Examination of Contract Documents
6. Addenda and Interpretations
7. Non-Collusion
8. Conflict of Interest
9. Basis of Award
10. Samples
11. New
12. Brand Name Specifications and Approved Equivalents
13. Insurance and Risk Management Provisions
14. Indemnification
15. Taxes
16. Delivery
17. Placement of Orders
18. Rights and Remedies of County for Default
19. Invoices and Payment Terms
20. Legal Requirements
21. Assignment
22. Rejection of Bid
23. Termination
24. Debarment
25. Right to Protest
26. Binding Authority
27. Submittals

Section 2

Bid Form

Section 3

Forms

- Form 1: Non-Collusion Affidavit of Prime Bidder
- Form 2: Certificate of Acceptance of Request for Bid Requirements
- Form 3: Promise of Non-Discrimination
- Form 4: Employment Report

Section 4

Scope of Work and Technical Specifications

Section 5

Special Conditions

FULTON COUNTY GOVERNMENT

INVITATION TO BID

14ITB94249A-CJC, WATER METERS

Sealed Bids for the procurement of water meters will be received by the Fulton County Department of Purchasing and Contract Compliance at 130 Peachtree Street, S.W. Suite 1168 Atlanta, GA 30303, **no later than 11:00 a.m.**, local time, on **Thursday, September 18, 2014**.

PURPOSE AND SCOPE

The purpose of this Invitation to Bid ("ITB") is to establish an indefinite quantity, firm fixed price contract to be used as the primary source for the commodities/goods listed in the attached specifications. Commodities will be ordered from time to time in such quantity as may be needed to fill any requirements of the County. As it is impossible to determine the precise quantities that may be needed during the contract period, the Vendor is obligated to deliver in minimum/maximum quantities contracted for in accordance with the specific conditions of this bid.

BID DOCUMENTS

This document and supporting documents can be downloaded at the Fulton County Website, <http://www.fultoncountyga.gov> under "Bid Opportunities".

PURCHASING CONTACT

Information regarding the bid or bid requirements, either procedural or technical, may be obtained by submitting questions in writing to:

Fulton County Government
Department of Purchasing & Contract Compliance
Attn: Charlie Crockett, Assistant Purchasing Agent
Fulton County Public Safety Building
130 Peachtree Street, S.W., Suite 1168
Atlanta, Georgia 30303
Email: charlie.crockett@fultoncountyga.gov
Fax: (404) 893-1737
Reference Bid #: 14ITBC94249A-CJC

Any response made by the County will be provided in writing to all Proposers by addendum. No verbal responses shall be authoritative.

PRE-BID CONFERENCE

No Pre-Bid conference will be held.

END OF SECTION

14ITB94249A-CJC, WATER METERS

INSTRUCTIONS TO BIDDERS, GENERAL TERMS AND CONDITIONS

The following provisions are hereby made a part of this Invitation to Bid for Commodities Only (ITB – Commodities).

Any contract or purchase order awarded as the result of this request shall be governed by these General Terms and Conditions.

1. **BID PREPARATION**

- a. Bidders shall **SUBMIT ONE (1) ORIGINAL, SIGNED AND DATED, AND TWO (2) COPIES** on the forms provided in the Bid Document.
- b. All bids must be made on the bid forms contained herein and shall be subject to all requirements of the Agreement Documents. All bids must be regular in every respect and no interlineations, excisions, or special conditions shall be made or included in the bid by the Bidder.
- c. Lump sum, unit price and extensions of unit prices must be entered in the appropriate spaces provided on the Bid Form. The unit price for each unit bid on shall be shown and such price shall include packing, unless otherwise specified. A total shall be entered in the amount column for each item bid on. In case of a discrepancy between a unit price and extended price, the unit price will be presumed to be correct.
- d. All blank spaces must be typed or hand written in blue ink on the “Original”. All dollar amounts must be BOTH in writing and figures and represent prices for the published scope of work without exceptions.
- e. The County may, in its sole discretion, reject any bid determined as irregular, a conditional bid or any bid on which there is an alteration of, or departure from the Bid Schedule attached.
- f. Erasures or other changes in the bids must be explained or noted over the signature of the Bidder. All corrections to any entry must be lined out and initialed by the Bidder. Please do not use correction tapes or fluid. Failure to do so shall render the Bidder as non-responsive and cause rejection of the bid.
- g. Failure to execute the Bid Schedule/Bid Form documents may result in Bidder being deemed non-responsive and cause rejection of the bid.
- h. The County reserves the right to award multiple contracts for the procurement of annual contracts for supplies, construction, services, professional and consultant services.

2. RECEIPT AND OPENING OF BIDS

Sealed bids will be received by the Fulton County Department of Purchasing & Contract Compliance at Fulton County Public Safety Building, 130 Peachtree Street, S.W., Suite 1168 Atlanta, Georgia 30303. All submitted bids shall be time and date stamped according to the clock at the front desk of the Fulton County Department of Purchasing & Contract Compliance. The original signed Bid with two (2) copies shall be submitted in a sealed envelope, addressed to the Department of Purchasing and Contract Compliance and labeled **14ITB94249A-CJC, WATER METERS**.

REQUIRED SUBMITTALS: The bidder **must complete and execute** the forms listed below and the executed Forms must be submitted with your bid submittal:

1. Bid Form
2. Acknowledgement of each Addendum (if applicable)
3. Purchasing & Contract Compliance Forms:
 - a. Form A: Non-Collusion Affidavit of Prime Bidder
 - b. Form B: Certificate of Acceptance of Bid Requirements
 - c. Exhibit A: Promise of Non-Discrimination
 - d. Exhibit B: Employment Report

Any bids received after the stated time and date will not be considered. It shall be the sole responsibility of the bidder to have his/her bid delivered to the Fulton County Department of Purchasing and Contract Compliance for receipt on or before the stated time and date. If a bid is sent by U.S. Mail, the bidder shall be responsible for its timely delivery to the Purchasing Department. Bids delayed by mail will not be considered, shall not be opened, and arrangements shall be made for their return at the bidder's request and expense.

Bid shall be publicly opened, with only the names and total bid price of the bidders disclosed at the opening

3. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION

By submission of this bid, the bidder certifies, and in the case of joint bid each party thereto certifies as to its own organization, that in connection with this procurement:

- (1) The prices in this bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
- (2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to the opening, directly or indirectly to any other bidder or to any competitor; and
- (3) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition.

4. TERM OF CONTRACT

MULTI-YEAR CONTRACT TERM

The contract term shall be as defined below. The County is obligated only to pay such compensation under the contract as may lawfully be made from funds budgeted and appropriated for that purpose during the County's then current fiscal year.

a. Commencement Term

The effective date of the Purchase Order shall begin the starting date, and shall end absolutely and without further obligation on the part of the County on the 31st day of December 2015. The Commencement Term shall be subject to events of termination and the County's termination rights that are described elsewhere in this Agreement. Notwithstanding anything contained in this Agreement, the County's obligation to make payments provided under this Agreement shall be subject to the County's annual appropriations of funds for the goods, services, materials, property and/or supplies procured under this Agreement by the County's governing body and such obligation shall not constitute a pledge of the County's full faith and credit within the meaning of any constitutional debt limitation.

b. Renewal Terms

Unless the terms of this Agreement are fulfilled with no further obligation of the part of either party on or before the final date of the Commencement Term as stated above, or unless an event of termination as defined within this Agreement occurs during the Commencement Term, this Agreement may be renewed at the written option of the County upon the approval of the County Board of Commissioners for two (2) one-year ("Renewal Terms"). However, no Renewal Term of this Agreement shall be authorized nor shall any Renewal Term of this Agreement commence unless and until each Renewal Term has first been approved in writing by the County Board of Commissioners for the calendar year of such Renewal Term. If approved by the County Board of Commissioners, the First Renewal Term shall begin on the 1st day of January, 2016 and shall end no later than the 31st day of December, 2016. If approved by the County Board of Commissioners, the Second Renewal Term shall begin on the 1st day of January, 2017 and shall end no later than the 31st day of December, 2017. If the County chooses not to exercise any Renewal Term as provided in this Section, then the Term of this Agreement then in effect shall also be deemed the "Ending Term" with no further obligation on the party of either party.

c. Term Subject to Events of Termination

All "Terms" as defined within this Section are subject to the section of this Agreement which pertain to events of termination and the County's rights upon termination.

d. Same Terms

Unless mutually agreed upon in writing by the parties, or otherwise indicated herein, all provisions and conditions of any Renewal Term shall be exactly the same as those contained within in this Agreement.

e. Statutory Compliance Regarding Purchase Contracts.

The parties intend that this Agreement shall, and this Agreement shall operate in conformity with and not in contravention of the requirements of O.C.G.A. § 36-60-13, as applicable, and in the event that this Agreement would conflict therewith, then this Agreement shall be interpreted and implemented in a manner consistent with such statute.

5. EXAMINATION OF CONTRACT DOCUMENTS

Prospective bidders shall examine the contract documents and before submitting a bid, shall make a written request to the County for an interpretation or correction of any ambiguity, in consistency or error therein which could be discovered by a bidder. At the bid opening each bidder shall be presumed to have read and be familiar with the contract documents.

6. ADDENDA AND INTERPRETATIONS

No interpretations of the meaning of the invitation to bid, specifications or other pre-bid documents will be made to any Bidder orally. Bidders requiring clarification or interpretation of the Bidding Documents shall make a request to **Charlie Crockett, Assistant Purchasing Agent** no later than 2:00 PM, **Thursday, September 11, 2014**. Written requests for clarification or interpretation may be mailed, hand delivered, e-mailed or faxed to the Purchasing Contact identified in the Invitation to Bid. Telephone inquiries will not be accepted.

Only communications from firms that are in writing will be recognized by the County as duly authorized expressions on behalf of bidders. Any and all such interpretations and any supplemental instructions will be in the form of written Addenda to the Specifications which, and if any addenda are issued to this Invitation to Bid. All responses to written requests for clarification, interpretation, or additional information will be distributed as addenda to this RFP and posted on the Fulton County website www.fultoncountyga.gov.

7. NON-COLLUSION

Bidder certifies that this bid is made without prior understanding, agreement or connection with any other corporation, firm or person submitting a bid for the same work, labor or service to be done or the supplies, materials or equipment to be furnished and is in all respects fair and without collusion or fraud. Bidder further understands collusive bidding is a violation of state and federal law and can result in fines, prison sentences and civil damage awards. Bidder agrees to abide by all conditions of this bid and certifies that person signing is authorized to sign this bid or proposal for the bidder.

8. CONFLICT OF INTEREST

Bidder states that no County officer or employee, nor any business entity in which they have an interest: a) Has an interest in the contract awarded; b) Has been employed or retained to

solicit or aid in the procuring of the resulting contract; c) Will be employed in the performance of such contract without immediate disclosure of such fact to the County.

9. BASIS OF AWARD

The County shall award to the overall lowest responsible and responsive vendor complying with the provisions of the ITB - Commodities. The following criteria may be considered by the County in selecting the most advantageous quote: a) Ability to perform the service required within the specified time; b) Conformance to specification; c) The quality of performance in previous contracts; d) Financial ability to perform the contract; e) Item pricing; f) Bidder references. The County reserves the right to cancel the solicitation and to reject any or all bids in whole or in part and is not bound to accept any bid if rejection of that bid is determined to be contrary to the best interest of the County.

10. SAMPLES

Samples of items when required, must be furnished free of expense to the County and upon request, be returned to the Bidder at the Bidder's expense. Samples of selected items may be retained for comparison purposes.

11. NEW

All items bid must be new. Used, rebuilt and refurbished items will not be considered unless specifically authorized by Fulton County in the written specifications.

12. BRAND NAME SPECIFICATIONS AND APPROVED EQUIVALENTS

Unless otherwise specified, manufacturer's names, trade names, brand names, information and/or catalog numbers listed in the specifications are intended only to identify the quality and characteristics desired. They are not intended to limit competition. The Bidder may offer any equivalent product which meets or exceeds the specifications. If bids are based on equivalent products, the bid must: a) Indicate the alternate manufacturer's name and catalog number; b) Include complete descriptive literature and/or specifications; c) Include proof that the proposed equivalent will meet the specifications. The County reserves the right to be the sole judge of what is equal and acceptable to meet its needs in all respects. If Bidder fails to name a substitute, goods identical to the published standard must be furnished.

13. INSURANCE AND RISK MANAGEMENT PROVISIONS

The successful Bidder(s) shall, during all terms of the Contract maintain in full force and effect (i) commercial general liability insurance in the amounts of \$1,000,000.00 (each occurrence), with a \$2,000,000.00 (general aggregate), (ii) automobile liability insurance with a combined single limit for bodily injury and property damage of not less than \$500,000 with respect to any owned, hired and/or non-owned vehicles utilized in the performance of its' services. At the time of award, a copy of the successful Bidder's Certificate of Insurance must be provided.

14. INDEMNIFICATION

Bidder hereby agrees to release, indemnify, defend and hold harmless the County, its Commissioners, officers, employees, subcontractors, successors, assigns and agents from

and against any and all losses (including death), claims, damages, liabilities, costs and expenses (including but not limited to all actions, proceedings, or investigations in respect thereof and any outcome of any such action, proceeding, or investigation), caused by, relating to, based upon or arising out of any act or omission by contractor, its directors, officers, employees, subcontractors, successors, assigns or agents, or otherwise in connection with its acceptance, of the performance, or nonperformance, of its obligations under this agreements.

Bidder's obligation to protect, defend, indemnify and hold harmless, as set forth hereinabove, shall also include, but is not limited to, any matter arising out of any actual or alleged infringement of any patent, trademark, copyright, or service mark, or other actual or alleged unfair competition disparagement of product or service, or other tort or any type whatsoever, or any actual or alleged violation of trade regulations.

Bidder further agrees to protect, defend, indemnify and hold harmless Fulton County, its Commissioners, officers, employees, subcontractors, successors, assigns and agents from and against any and all claims or liability for compensation under the Worker's Compensation Act, Disability Benefits Act, or any other employee benefits act arising out of injuries sustained by any employees of Bidder. These indemnities shall not be limited by reason of the listing of any insurance coverage.

15. TAXES

Fulton County is exempt from the State of Georgia sales tax and exemption certificate will be furnished upon request.

16. DELIVERY

All prices must be FOB Destination, unloaded inside and assembled unless otherwise indicated.

17. PLACEMENT OF ORDERS

Orders will be placed using one of the following methods:

- a) A Purchase order (PO) will be issued as required for departments having a known requirement, fixed quantities, and one-time delivery, during the entire life of the contract.
- b) A Delivery Order (DO) will be issued as required for departments having a known requirement, fixed quantities, and one-time delivery, during the entire life of the contract.

18. RIGHTS AND REMEDIES OF COUNTY FOR DEFAULT

If any item furnished by the Bidder fails to conform to specifications, or to the sample submitted by the Bidder, the County may reject it. Upon rejection, the Bidder must promptly reclaim and remove such item without expense to the County, and shall immediately replace all such rejected items with others conforming to such specification and samples. If the Bidder fails to do so, the County has the right to purchase in the open market a corresponding quantity of any such items and to deduct from any monies due the Bidder the difference between the prices named in the purchase order and the actual cost to the County. If the Bidder fails to make prompt delivery of any item, the County has the right to

purchase such item in the open market and to deduct from any monies due the Bidder the difference between the prices named in the purchase order and the actual replacement cost to the County. The rights and remedies of the County identified above are in addition to any other rights and remedies provided by law or under the purchase order.

19. INVOICES AND PAYMENT TERMS

Invoices are to be mailed to the County department specified on the resulting purchase order or master agreement. All invoices must include the purchase order number or master agreement number. Failure to comply may result in delayed payments. The County payment terms are Net 30 days unless a cash discount is allowed for payment within not less than twenty (20) days. The payment term shall begin on the date the merchandise is inspected, delivered and accepted by the County and the correct invoice is received in the office specified on the purchase order.

20. LEGAL REQUIREMENTS

Federal, State, County and local ordinances, rules and regulations, and policies shall govern development, submittal and evaluation of quote and disputes about quotes. Lack of knowledge by any Bidder about applicable law is not a defense.

21. ASSIGNMENT

Any purchase order awarded shall not be assignable by the Bidder without the express written approval of the County, and shall not become an asset in any bankruptcy, receivership or guardianship proceedings.

22. REJECTION OF BID

Bids may be considered irregular and may be rejected if they show omissions, alternations of form, additions not called for, conditions, limitations, unauthorized alternate bids or other irregularities of any kind. The County reserves the right to waive minor technicalities or irregularities of bid.

23. TERMINATION

In the event any of the provisions of the purchase order are violated, the County may serve written notice of its intention to terminate the purchase order. Such notice will state the reason(s) for such intention, and unless within ten (10) days after serving notice upon the contractor, such violation has ceased and satisfactory arrangements for correction made, the purchase order shall, upon expiration of ten (10) days, be terminated. Further, the County reserves the right to terminate for its convenience any purchase order in whole or in part upon giving thirty (30) days prior written notice to the other party.

24. DEBARMENT

If a Bidder is presently debarred, suspended, proposed for debarment, declared ineligible, or otherwise excluded from doing business with any government agency which prohibits your firm from participating in any procurement, the Bidder must provide the County with that information as part of its response to this solicitation. Failure to fully and truthfully provide

the information required, may result in the disqualification of your bid from consideration or termination of the purchase order, once awarded.

25. RIGHT TO PROTEST

Any actual bidder or offeror that has submitted a bid/proposal for a particular procurement and is aggrieved in connection with the solicitation or award of the contract shall protest in writing to the purchasing agent after the date that the specific bid or proposal is submitted. No protest will be accepted or considered prior to the date the specific bid or proposal is submitted; it will be considered untimely. All protests shall set forth in full detail the factual and legal bases for the protest and specific relief sought by the protestor. Protests arising from factual or legal bases that the protestor knew or should have known prior to the submission of the bid/proposal must be submitted within three business days of the submission of the bid/proposal. Protests arising from factual or legal bases that the protestor knew or should have known subsequent to the date the bid/proposal was submitted must be submitted within ten business days after the protestor knew or should have known of such bases, but in no event shall any protest be submitted more than ten business days after the award of the contract. Untimely protests will not be considered by the purchasing agent and will be simply denied as untimely. Decisions on timeliness by the purchasing agent are not appealable. An oral protest or a protest to an official, employee, User Department, or other person apart from the Director of Purchasing & Contract Compliance does not comply.

26. BINDING AUTHORITY

The individual submitting this bid must have binding authority to submit contracts on behalf of the responding company. By submitting a response, Bidder agrees that their bid is an offer to sell. All bidders shall comply with all Fulton County purchasing laws, policies, and procedures, as well as relevant state and federal laws, including compliance with EEOC hiring guidelines and requirements under the Americans with Disabilities Act.

27. SUBMITTALS

The following submittals must be completed and submitted with the Bid Submittal. This checklist is provided to ensure that the Bidder submits certain required information with its Bid.

	Bid Submittal Check Sheet	Check (√)
1.	Bid Form w/Pricing Sheets	
2.	Acknowledgment of Addenda	
3.	Form A: Non-Collusion Affidavit of Prime Bidder	
4.	Form B: Certificate of Acceptance of Bid Requirements	
5.	Exhibit A: Promise of Non-Discrimination	
6.	Exhibit B: Employment Report	

END OF SECTION 1

BID FORM WITH PRICING SHEET(S)

Submitted To: Fulton County Government

Submitted By: _____

For: **14ITB94249A-CJC, Water Meters**

Submitted on _____, 2014.

The undersigned, as Bidder, hereby declares that the only person or persons interested in the Bid as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this Bid or in the Contract to be entered into; that this Bid is made without connection with any other person, company or parties making a Bid; and that it is in all respects fair and in good faith without collusion or fraud.

The Bidder further declares that he has examined the specifications and has read all instructions to Bidders and General Terms and Conditions furnished prior to the openings of bids; that he has satisfied himself relative to the commodities/goods to be provided.

THE BASE BID IS THE AMOUNT UPON WHICH THE BIDDER WILL BE FORMALLY EVALUATED AND WHICH WILL BE USED TO DETERMINE THE LOWEST RESPONSIBLE BIDDER.

The base bid may not be withdrawn or modified for a period of sixty (60) days following the receipt of bids.

BASE BID AMOUNT (Do not include any Bid Alternates)

\$ _____
(Dollar Amount in Numbers)

(Dollar Amount in Words)

The Bidder understands that the quantities shown for the unit prices items are subject to either increase or decrease, and that should the quantities of any of the item(s) be increased, the Bidder proposes to provide the additional item(s) at the unit prices stated herein; and should the quantities be decreased, the Bidder also understands that payment will be made on the basis of actual quantities at the unit price bid and will make no claim for anticipated profits for any decrease in quantities; and that actual quantities will be determined upon receipt of item(s), at which time adjustments will be made to the contract amount by direct increase or decrease.

Item #	Item Description	Manf. & model #.	Delivery (days)	Est. Qty.	Unit Price	Extended Price
1.	5/8" X 3/4" COLD WATER METER w/ R900 V3 RADIO			7000		
2.	3/4" X 3/4" COLD WATER METER			100		
3.	1" X 1" COLD WATER METER			100		
4.	1-1/2" X 1-1/2" COLD WATER METER			50		
5.	1-1/2" HP TURBINE WATER METER			10		
6.	2" X 2" COLD WATER METER			60		
7.	2" COMBINATION WATER METER			50		
8.	2" HP TURBINE WATER METER			10		
9.	2" MEASURING CHAMBER REPLACEMENT			10		
10.	2" STRAINER FOR 2" METER			50		
11.	3" COMBINATION WATER METER			50		
12.	3" MEASURING CHAMBER REPLACEMENT			10		
13.	3" STRAINER FOR 3" METER			50		
14.	3" HYDRANT METER			25		
15.	4" COMBINATION WATER METER			30		
16.	4" MEASURING CHAMBER REPLACEMENT			10		
17.	4" STRAINER FOR 4" METER			10		
18.	4" FACTORY MUTUAL FIRE SERVICE METER			30		

19.	4" MEASURING CHAMBER REPLACEMENT			4		
20.	6" FACTORY MUTUAL FIRE SERVICE METER			30		
21.	6" MEASURING CHAMBER REPLACEMENT			4		
22.	8" FACTORY MUTUAL FIRE SERVICE METER			20		
23.	8" MEASURING CHAMBER REPLACEMENT			10		
24.	8" TURBINE UNIT MEASURING ELEMENT (UME)			10		
25.	10" FACTORY MUTUAL FIRE SERVICE METER			6		
26.	10" MEASURING CHAMBER REPLACEMENT			6		
27.	10" TURBINE UNIT MEASURING ELEMENT (UME)			6		
28.	12" FACTORY MUTUAL FIRE SERVICE METER			6		
29.	12" MEASURING CHAMBER REPLACEMENT			6		
30.	12" TURBINE UNIT MEASURING ELEMENT (UME)			6		
31.	1½ " FLANGE KIT & ACCES FOR 1 ½ " METER			5		
32.	2 " FLANGE KIT & ACCES. FOR 2" METER			5		
33.	TOUCH READ PAD & CONNECTION KIT			100		
34.	RADIO TRANSMITTER WITH UP TO 25 FT LEAD			100		
35.	ENCODER REGISTER			200		
36.	3/4" x 5/8" RADIO TRANSMITTER & ENCODER REGISTER WITH UP TO 25' LEAD			1500		
37.	2" RADIO TRANSMITTER & ENCODER REGISTER WITH UP TO 25' LEAD			10		
38.	3" RADIO			10		

	TRANSMITTER & ENCODER REGISTER WITH UP TO 25' LEAD					
39.	4" RADIO TRANSMITTER & ENCODER REGISTER WITH UP TO 25' LEAD			10		
40.	6" RADIO TRANSMITTER & ENCODER REGISTER WITH UP TO 25' LEAD			20		
41.	8" RADIO TRANSMITTER & ENCODER REGISTER WITH UP TO 25' LEAD			10		
42.	Data Logger			60		
43.	MARKERS, WATER, EMS, NEAR SURFACE 50ct/box			80		
44.	HYDRANT WRENCH			30		
45.	HYDRANT METER REBUILD KIT			10		
	TOTAL COST (LINES 1-45)					\$ _____

The Total Bid Amount is the value on which your bid will be evaluated. In the case of computational errors, the correct product of Estimated Quantities and Unit Prices shall equal the Total Price for each Item and correct sum of Total (extended) Price for all Items shall be the Total Bid Amount.

The undersigned acknowledges receipt of the following addenda (list by the number and date appearing on each addendum) and thereby affirms that its Bid considers and incorporates any modifications to the originally issued Bidding Documents included therein.

ADDENDUM # _____ DATED _____
ADDENDUM # _____ DATED _____
ADDENDUM # _____ DATED _____
ADDENDUM # _____ DATED _____

BIDDER: _____

Signed by: _____

[Type or Print Name]

Title: _____

Business Address: _____

Business Phone: _____

Note: If the Bidder is a corporation, the Bid shall be signed by an officer of the corporation; if a partnership, it shall be signed by a partner. If signed by others, authority for signature shall be attached.

The full name and addresses of persons or parties interested in the foregoing Bid, as principals, are as follows:

<i>Name</i>	<i>Address</i>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

END OF SECTION 2

FORM 1: NON-COLLUSION AFFIDAVIT OF BIDDER/OFFEROR

STATE OF GEORGIA

COUNTY OF FULTON

I, _____ certify that pursuant to Fulton County Code Section 2-320 (11), this bid or proposal is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same work, labor or service to be done or the supplies, materials or equipment to be furnished and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of state and federal law and can result in fines, prison sentences and civil damages awards. I agree to abide by all conditions of this bid or proposal and certify that I am authorized to sign this bid or proposal for the bidder.

Affiant further states that pursuant to O.C.G.A. Section 36-91-21 (d) and (e), _____ has not, by itself or with others, directly or indirectly, prevented or attempted to prevent competition in such bidding or proposals by any means whatsoever. Affiant further states that (s)he has not prevented or endeavored to prevent anyone from making a bid or offer on the project by any means whatever, nor has Affiant caused or induced another to withdraw a bid or offer for the work.

Affiant further states that the said offer of _____ is bona fide, and that no one has gone to any supplier and attempted to get such person or company to furnish the materials to the bidder only, or if furnished to any other bidder, that the material shall be at a higher price.

(COMPANY NAME)

(PRESIDENT/VICE PRESIDENT)

Sworn to and subscribed before me this _____ day of _____, 20__.

(SECRETARY/ASSISTANT SECRETARY)

(Affix corporate seal here, if a corporation)

Notary Public: _____

County: _____

Commission Expires: _____

NOTE:

IF THE OFFEROR IS A PARTNERSHIP, ALL OF THE PARTNERS AND ANY OFFICER, AGENT, OR OTHER PERSON WHO MAY HAVE REPRESENTED OR ACTED FOR THEM IN BIDDING FOR OR PROCURING THE CONTRACT SHALL ALSO MAKE THIS OATH.

IF THE OFFEROR IS A CORPORATION, ALL OFFICERS, AGENTS, OR OTHER PERSONS WHO MAY HAVE ACTED FOR OR REPRESENTED THE CORPORATION IN BIDDING FOR OR PROCURING THE CONTRACT SHALL MAKE THE OATH.

FORM 2: FULTON COUNTY CERTIFICATE OF ACCEPTANCE OF BID/PROPOSAL REQUIREMENTS

This is to certify that on this day, offeror acknowledges that he/she has read this solicitation document, pages # _____ to # _____ inclusive, including any addenda # _____ to # _____ exhibit(s) # _____ to # _____, attachment(s) # _____ to # _____, and/or appendices # _____ to # _____ in its entirety, and agrees that no pages or parts of the document have been omitted, that he/she understands, accepts and agrees to fully comply with the requirements therein, and that the undersigned is authorized by the offeror to submit the proposal herein and to legally obligate the offeror thereto.

This is also to certify that the offeror has reviewed the form Fulton County contract included in the solicitation documents and agrees to be bound by its terms, or that the offeror certifies that it is submitting any proposed modification to the contract terms with its proposal. The offeror further certifies that the failure to submit proposed modifications with the proposal waives the offeror's right to submit proposed modifications later. The offeror also acknowledges that the indemnification and insurance provisions of Fulton County's contract included in the solicitation documents are non-negotiable and that proposed modifications to said terms may be reason to declare the offeror's proposal as non-responsive.

Company: _____

Signature: _____

Name: _____

Title: _____

Date: _____

(Corporate Seal)

FORM 3: PROMISE OF NON-DISCRIMINATION

“Know all persons by these presents, that I/We (_____),
Name

_____ Title Firm Name

Hereinafter “Company”, in consideration of the privilege to bid on or obtain contracts funded, in whole or in part, by Fulton County, hereby consent, covenant and agree as follows:

- 1) No person shall be excluded from participation in, denied the benefit of, or otherwise discriminated against on the basis of race, color, national origin or gender in connection with any bid submitted to Fulton County for the performance of any resulting there from,
- 2) That it is and shall be the policy of this Company to provide equal opportunity to all businesses seeking to contract or otherwise interested in contracting with this Company without regard to the race, color, gender or national origin of the ownership of this business,
- 3) That the promises of non-discrimination as made and set forth herein shall be continuing in nature and shall remain in full force and effect without interruption,
- 4) That the promise of non-discrimination as made and set forth herein shall be made a part of, and incorporated by reference into, any contract or portion thereof which this Company may hereafter obtain,
- 5) That the failure of this Company to satisfactorily discharge any of the promises of non-discrimination as made and set forth herein shall constitute a material breach of contract entitling the Board to declare the contract in default and to exercise any and all applicable rights and remedies, including but not limited to cancellation of the contract, termination of the contract, suspension and debarment from future contracting opportunities, and withholding and/or forfeiture of compensation due and owing on a contract; and
- 6) That the bidder shall provide such information as may be required by the Director of Contract Compliance pursuant to Section 4.4 of the Fulton County Non-Discrimination in Purchasing and Contracting Ordinance.

SIGNATURE: _____

ADDRESS: _____

TELEPHONE NUMBER: _____

FORM 4 – EMPLOYMENT REPORT

The demographic employment make-up for the business submitting this Quote must be identified and submitted with this bid. In addition, if any lower tier supplier(s) will be utilized by the bidder to provide the goods/commodities requested, the demographic employment make-up of the lower tier supplier(s) must be identified and submitted with your response.

JOB CATEGORIES	WHITE (Not Hispanic Origin)		BLACK or AFRICAN AMERICAN (Not of Hispanic Origin)		HISPANIC or LATINO		AMERICAN INDIAN or ALASKAN NATIVE (AIAN)		ASIAN		NATIVE HAWAIIAN or OTHER PACIFIC ISLANDER (NHOP)		TWO or MORE RACES	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
EXECUTIVE/SENIOR LEVEL OFFICIALS and MANAGERS														
FIRST/MID LEVEL OFFICIALS MANAGERS														
PROFESSIONALS														
TECHNICIANS														
SALES WORKERS														
ADMINISTRATIVE SUPPORT WORKERS														
CRAFT WORKERS														
OPERATIVES														
LABORERS & HELPERS														
SERVICE WORKERS														
TOTAL														

Do you intend to utilize lower tier suppliers? Yes No

If **yes**, list each _____

Please identify if your business is 51% owned, operated and controlled by either of the following:

African- American Hispanic-American American-Indian Asian Native-Hawaiian

Pacific Islander or; owned by a Non-Minority

Firm's Name: _____

Address: _____

Phone: _____

Email Address: _____

Submitted by: _____

Date: _____

SCOPE OF WORK TECHNICAL SPECIFICATIONS

PRODUCT SPECIFICATIONS

All water meters furnished shall be produced at a manufacturing facility in the United States and conform to the "Standard Specifications for Cold Water Meters" C-700, latest revision issued by AWWA or as otherwise stated.

All meters shall have a non-corrosive maincase made of a lead-free brass containing a minimum of 85% copper, such as Envirobrass II, that meets NSF 61 Annex G standard required by the Safe Drinking Water Act 2014 requirement

The county requires that the meter manufacturer furnish data in bar code format to include meter ID, meter size, factory test results, manufacturer name and date manufactured.

TYPE

Only magnetic driven, positive displacement meters of the flat nutating disc type or oscillating piston type design.

SIZE, CAPACITY, LENGTH

The size, capacity, and meter lengths shall be as specified in AWWA Standard C700 latest revision. The maximum number of disc nutations or piston oscillations is not to exceed those specified in AWWA C700 latest revision, Sec. 4.2 Registration, Table 1.

The serial number should be stamped on the maincase of the meter. Maincase markings shall be cast raised and shall indicate size, model, direction of flow and NSF 61 certification. Plastic main cases are not acceptable.

Meters for 5/8", 3/4", and 1" shall be the removeable bottom cap type. Bronze bottom caps shall be provided on 5/8", 3/4", and 1" meter sizes. 1-1/2" and 2" meters shall be the split case type made of lead-free brass, such as Envirobrass II, for the upper and lower shell assemblies.

All lead-free brass maincases shall be guaranteed free from manufacturing defects in workmanship and material for the life of the meter.

Direct Read Standard Register

The register shall be of the straight reading sealed magnetic drive type; and shall contain six (6) numeral wheels. Registers must be roll sealed or hermetically sealed. The register lid shall overlap the register box to protect the lens and must be made of a copper based alloy or a suitable synthetic polymer. The dial shall have a red center sweep test hand and shall include a low flow indicator on the dial face. The size of the meter and the date of manufacture shall be printed on the register face.

Registers shall be secured to the maincase by means of a tamperproof seal pin or an approved register seal screw that requires a special tool for removal.

Encoder Register

Meter registers shall use true absolute encoder technology and report cumulative consumption values upon visual inspection. Registers shall be enumerated in U.S. gallons. All registers shall

electronically read in 100-Gallon units. No battery dependent or pulse type systems will be accepted.

The register must be hermetically and permanently sealed so that it is impervious to dust, dirt, and moisture. It must operate under water. The manufacturer must guarantee in writing that the actual odometer reading will match the electronic read sent. If this is ever not the case, the manufacturer shall be responsible for the lost revenue at the Utility's prevailing rate.

The meter register shall have three terminal connections. The connection between the meter register and the remote pit lid module shall be accomplished by the use of a three conductor wire; each end connection of the wire shall be factory sealed with epoxy. The County shall not have to make any wiring connections. Each $\frac{5}{8}$ " and $\frac{3}{4}$ " positive displacement meter shall be provided with 6 feet of wire. Each 1", 1 $\frac{1}{2}$ ", and 2" positive displacement meter shall be provided with 20 feet of wire. An 8 digit ID number shall be stored in the solid state memory of the register. The ID number shall be factory set and programmable.

Radio Frequency Capability Options

The metering system must be capable of being upgraded to radio frequency communications. Fulton Co. plans to read "hard-to-access" water meters equipped with meter interface units. Only true absolute encoder registers from Neptune, Sensus or approved equal will be acceptable. The system must be capable of reading them by either a "touch" type system or a radio frequency system. In the radio read system, the encoder registers will be connected to a meter interface unit that shall provide the radio link from the meter to the remote interface unit.

The manufacturer will guarantee that the reading obtained electronically matches the mechanical odometer read on the register and the manufacturer will pay the difference at the current rates whenever a discrepancy appears.

For maintenance ease, the Vendor shall be the sole manufacturer of the different components of the system. (Reading equipment, RF transmitters, encoder registers and meters)

For the purpose of ease of implementation, the system shall not require any special licensing, including licenses from FCC.

To minimize the potential for RF interference from other devices, the meter interface unit shall transmit using the Frequency Hopping Spread Spectrum technique comprised of alternating pseudo-random frequencies within the 902 MHz to 928 MHz unlicensed bandwidth.

Power shall be supplied to the meter interface unit by a lithium battery. The batteries shall be field replaceable (the replacement shall be demonstrated), and be designed and guaranteed for a minimum twenty (20) years life expectancy. The meter interface unit shall not require reprogramming if the battery discharges before it is replaced.

No programming shall be necessary for installation.

The meter interface unit will exist in a single port to read one register or a dual port that will read two registers at one time.

The meter interface unit shall interface to ProRead AutoDetect, Sensus or approved true absolute encoder registers via a 3-conductor wire.

Each device shall have a unique pre-programmed identification number of 10 characters. The ID number will be permanent and shall not be altered. Each device shall be labeled with the ID number in numeric form. The label shall also display FCC approval information and manufacturer's designation.

The meter interface unit shall transmit the encoded meter reading and its unique ID number.

The meter interface unit shall be capable of being received by either a handheld receiver or a Drive-By receiver without special configuration or remanufacture.

Tamper resistance shall be provided by a "non-reading" if the wiring has been disconnected, indicating wire tamper. A system that only provides the last available reading is not permissible.

For pit or vault applications, the meter interface unit shall be designed for being installed through the industry standard 1-3/4" hole in the pit lid with no degradation of transmission range. The meter interface unit will be capable of mounting to various thickness of pit lids from 1/2" to 3".

The range will not be affected when the pit is flooded.

A factory potting process will protect the circuit board and the battery.

The antenna shall be made of a metallic material to withstand traffic configuration.

MEASURING CHAMBER

Nutating disc type:

The measuring chamber shall be of a two-piece snap-joint type with no fasteners allowed. The chamber shall be made of a non-hydrolyzing synthetic polymer. No screws shall be used to secure the chamber together.

The flat nutating disc chamber shall be of the one-piece design and made from non-hydrolyzing synthetic polymer, and shall contain a type 316 stainless steel spindle. The nutating disc shall be equipped with a synthetic polymer thrust roller located within the disc slot. The control block shall be the same material as the measuring chamber and be located on top of the chamber. The control block assembly shall be located after the strainer.

Oscillating piston type:

The oscillating piston chamber shall be made of a suitable synthetic polymer and shall not be cast as part of the maincase. The measuring chamber shall be held in place without the use of fasteners. The measuring chamber piston shall operate against a replaceable control roller, allowing for repair to AWWA standards. The control roller shall rotate on a stainless measuring chamber steel pin. There shall be an elastomeric seal or seals between measured and unmeasured water, preventing leakage around the measuring element.

STRAINERS

All meters shall contain removable plastic strainer screens. The strainer shall be located near the maincase inlet port, before the measuring chamber and control block assembly. Straps or other types of fasteners shall not be accepted.

PERFORMANCE

To ensure accuracy, each meter must be accompanied by a factory test tag certifying the accuracy at the flows required by AWWA C700 (low, intermediate, and full flow).

Normal meter operating range shall be warranted per AWWA C700 Section 4.2 Table 1.

<u>Size</u>	<u>Range (100 +/- 1.5)</u>
5/8"	1/2 - 20 gpm
3/4"	3/4 - 30 gpm
1"	1 - 50 gpm
1-1/2"	2 - 100 gpm
2"	2-1/2" - 160 gpm

MANUFACTURER

Meters and meter parts shall be manufactured, assembled, and tested within the Continental United States. Manufacturers may be required to provide proof of where and of what percentage of the meter register, chamber, and maincase is manufactured as per specified.

Manufacturers shall have a minimum of ten years of field and production experience with all sizes of the model quoted for model standardization. Manufacturers shall provide only one model of meter which complies with these specifications. Meter suppliers must manufacture a full line of meters, 5/8" – 10".

SYSTEMS GUARANTEE

All meters shall be guaranteed upgradeable to a Neptune ProRead Absolute Encoder or a Sensus ICE Encoder.

Meter Size	Laying Length
5/8" x 3/4"	7 1/2"
3/4" x 3/4"	7 1/2"
1"	10 3/4"
1 1/2"	13"
2"	17"

ACCESSORIES

ALL POSITIVE DISPLACEMENT METERS SHALL BE PROVIDED WITH TWO (2) WASHERS OF THE APPROPRIATE SIZE.

Cold Water Meters/Fire Service Meter Specifications

1. General

All meters furnished shall be manufactured by a registered ISO 9001 quality standard facility. Acceptable meters shall have a minimum of ten years of successful field use. All specifications meet or exceed the latest revision of AWWA C702.

2. Type

Compound meters shall consist of a combination of an AWWA Class II turbine meter for measuring high rates of flow and a nutating disc type or oscillating piston type positive displacement meter for measuring low rates of flow enclosed in a single maincase. An automatic valve shall direct flows through the disc meter at low flow rates and through the turbine meter at high flow rates. At high flow rates, the automatic valve shall also serve to restrict the flow through the disc meter to minimize wear. Compound meters shall be of the single or dual register single body design. No dual body or combination style meter will be accepted.

3. Operating Characteristics

The meters shall comply with the operating characteristics shown below:

Size	Normal Operating Maximum Loss of Head	Maximum Maximum Intermittent	Continuous Low
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	Range (gpm) (gpm) Flow (gpm)	Flow (gpm)	at Max Cont Flow (psi)		Flow
2"	1/2 - 200	160	8	200	1/8
3"	1/2 - 450	350	8	450	1/8
4"	1 - 1000	700	8	1000	1/2
6"	1 1/2 - 2000	1400	8.5	2000	3/4
6" x 8"	1 1/2 - 2000	2000	10.5	2000	3/4

4. Size

The size of meters shall be determined by the nominal size (in inches) of the opening in the inlet and outlet flanges. Overall lengths of the meters shall be as follows:

Meter Size	Laying Length
2"	15 1/4"
3"	17"
4"	20"
6"	24"
6" x 8"	55 3/8"

5. Case and Cover

The maincase and cover shall be cast from lead free brass containing a minimum of 85% copper such as Envirobrass II. The size, model, and arrows indicating direction of flow shall be cast in raised characters on the maincase and cover. The covers all contain a stainless steel calibration vane for the purpose of calibrating the turbine measuring element while the meter is in-line and under pressure. A test plug shall be located in the maincase or the cover for the purpose of field testing of the meter.

6. External Bolts

Casing bolts shall be made of AISI Type 316 stainless steel.

7. Connections

Main cases shall be flanged. The 2" meters shall be oval flanged and 3" through 6" sizes shall be round flanged per Table 4, AWWA C702.

8. Direct Read Standard Registers

Separate magnetic-drive registers shall record the flow of the turbine meter and the nutating disc type or oscillating piston type positive displacement meter and their total will be the registration of the compound meter. The registers shall be permanently sealed, straight reading indicating in gallons. Registers shall include a center-sweep test hand, a low flow indicator, and a glass lens. The registers shall be serviceable without interruption of the meter's operation.

9. Register Boxes

Register boxes and covers shall be of bronze composition. The name of the manufacturer shall be clearly identifiable and located on the register box covers.

10. Register Box Sealing

The register box shall be affixed to the cover by means of a tamper-proof seal pin or an approved tamper-proof device.

11. Meter Serial Number

The meter serial number shall be imprinted on the meter flange or cover as well as the register box covers.

12. Encoder Register

Meter registers shall use true absolute encoder technology and report cumulative consumption values upon visual inspection. Registers shall be enumerated in U.S. gallons. All registers shall electronically read in 100-Gallon units. No battery dependent or pulse type systems will be accepted.

The register must be hermetically and permanently sealed so that it is impervious to dust, dirt, and moisture. It must operate under water. The manufacturer must guarantee in writing that the actual odometer reading will match the electronic read sent. If this is ever not the case, the manufacturer shall be responsible for the lost revenue at the utility's prevailing rate.

The meter register shall have three terminal connections. The connection between the meter register and the remote pit lid module shall be accomplished by the use of a three conductor wire; each end connection of the wire shall be factory sealed with epoxy. The County shall not have to make any wiring connections. Each compound meter shall be provided with 20 feet of wire. An 8 digit ID number shall be stored in the solid state memory of the register. The ID number shall be factory set and programmable.

13. Measuring Chambers

The turbine measuring chamber shall be a self-contained unit, attached to the cover for easy removal. The turbine shaft shall be tungsten carbide with tungsten carbide inserts and shall rotate in removable graphite bushings. Thrust bearings shall be tungsten carbide.

The positive displacement chamber shall be a self-contained unit mounted on the cover and easily removable from the cover. It shall conform to AWWA Standard C700 for the following sizes: 2" and 3"-5/8" disc, 4"-3/4" disc, 6"-1" disc.

14. Measuring Chamber Replacement

A replacement measuring chamber shall be available as a complete assembly, factory calibrated to AWWA standards that includes the cover, registers, and both the turbine measuring element and the positive displacement chamber assembly. It shall be easily field removable from the meter body without the requirement of unbolting flanges.

15. Intermediate Gear Train - Turbine Section

The intermediate gear train shall be directly coupled from the turbine rotor and magnetically coupled to the register through the meter cover. The gear train shall be housed in the turbine measuring chamber. All moving parts of the gear train shall be made of a self-lubricating polymer or stainless steel for operation in water. Single register meters shall include intermediate gear trains, including all coordinator parts located in oil filled, "O"-ring sealed cavity which is completely separated from pipeline or surface water.

16. Automatic Valve

The automatic valve shall be of the spring-loaded, poppet type. All valve parts shall be made of lead free brass containing a minimum of 85% copper such as Envirobrass II, stainless steel, or a suitable polymer with a replaceable semi-hard EPDM rubber seat or of the weighted, link-mounted, swing type.

Only the cover must be removed to gain access to the valve for inspection or service.

The positive displacement meter shall include a self-actuated valve that directs flow through the PD meter at low flow rates and through the turbine meter at high flow rates. At high flow rates, the self-actuated throttle valve shall restrict the flow through the disc meter to minimize wear.

17. Strainer

A strainer shall be provided for the nutating disc type or oscillating piston type positive displacement meter. It shall be easily removable and have an effective straining area of double the disc meter inlet.

Strainers for the compound meters shall be made of lead free brass containing a minimum of 85% copper such as Envirobrass II. The manufacturer's name, strainer pipe size, and direction of flow shall be cast in raised letters and shall be clearly visible. The strainer screen shall be made of perforated AISI Type 18-8 stainless steel plate to prevent debris greater than 3/16 " from entering the meter. The effective area shall be at least twice the meter maincase inlet area. The 2" strainer shall be furnished with oval two-bolt flanged connections, full faced gaskets and stainless bolts. The 3" and larger strainers shall be with round flanged connections, full faced gaskets and stainless bolts.

18. Registration Accuracy

Registration accuracy over the normal operating range shall be 98.5% to 101.5%. Registration at the crossover shall not be less than 95% with direct reading registers. Registration at the crossover shall not be less than 90% with absolute encoder or generator remote registers. Registration at the extended low flow rate shall not be less than 95%.

19. Remote Capability Options

All meters shall be equipped with true absolute encoder remote registers per AWWA C707 and shall meet all AWWA C702 performance standards.

All meters shall be guaranteed upgradeable to a Neptune Absolute Encoder or Sensus ICE Encoder.

20. Radio Frequency Capability Options

The metering system must be capable of being upgraded to radio frequency communications. Fulton Co. plans to read "hard-to-access" water meters equipped with meter interface units. Only true absolute encoder registers from Neptune, Sensus or approved equal will be acceptable. The system must be capable of reading them by either a "touch" type system or a radio frequency system. In the radio read system, the encoder registers will be connected to a meter interface unit that shall provide the radio link from the meter to the remote interface unit.

The manufacturer will guarantee that the reading obtained electronically matches the mechanical odometer read on the register and the manufacturer will pay the difference at the current rates whenever a discrepancy appears.

For maintenance ease, the Vendor shall be the sole manufacturer of the different components of the system. (Reading equipment, RF transmitters, encoder registers and meters)

For the purpose of ease of implementation, the system shall not require any special licensing, including licenses from FCC.

To minimize the potential for RF interference from other devices, the meter interface unit shall transmit using the Frequency Hopping Spread Spectrum technique comprised of alternating pseudo- random frequencies within the 902 MHz to 928 MHz unlicensed bandwidth.

Power shall be supplied to the meter interface unit by a lithium battery. The batteries shall be field replaceable (the replacement shall be demonstrated), and be designed and guaranteed for a minimum twenty (20) years life expectancy. The meter interface unit shall not require reprogramming if the battery discharges before it is replaced.

No programming shall be necessary for installation.

The meter interface unit will exist in a single port to read one register or a dual port that will read two registers at one time.

The meter interface unit shall interface to ProRead AutoDetect, Sensus or approved true absolute encoder registers via a 3-conductor wire.

Each device shall have a unique pre-programmed identification number of 10 characters. The ID number will be permanent and shall not be altered. Each device shall be labeled with the ID number in numeric form. The label shall also display FCC approval information and manufacturer's designation.

The meter interface unit shall transmit the encoded meter reading and its unique ID number.

The meter interface unit shall be capable of being received by either a handheld receiver or a Drive-By receiver without special configuration or remanufacture.

Tamper resistance shall be provided by a "non-reading" if the wiring has been disconnected, indicating wire tamper. A system that only provides the last available reading is not permissible.

For pit or vault applications, the meter interface unit shall be designed for being installed through the industry standard 1-3/4" hole in the pit lid with no degradation of transmission range. The meter interface unit will be capable of mounting to various thickness of pit lids form 1/2" to 3".

The range will not be affected when the pit is flooded.

A factory potting process will protect the circuit board and the battery. The antenna shall be made of a metallic material to withstand traffic configuration.

Cold Water Meters / Fire Service Meter Specifications

1. General

All meters furnished shall be manufactured by a registered ISO 9001 quality standard facility. All specifications meet or exceed the latest revision of AWWA C703.

2. Type

Meters shall consist of a combination of an AWWA Class II in-line horizontal axis turbine for measuring high rates of flow and a positive displacement bypass meter conforming to AWWA C700 for measuring low rates of flow. An automatic valve shall direct the flow from the bypass meter to the mainline meter as flow rates increase and back to the bypass meter as flow rates decrease. All components of the meter assembly shall be both UL (Underwriter's Laboratory) Listed and FM (Factory Mutual) approved for fire service use.

3. Capacity

The capacity of the meters in terms of normal operating range, maximum rate for continuous use, maximum loss of head, and extended low flow capability is as follows:

Size	Normal Operating Extended Range (gpm)	Maximum Rate for Continuous Use (gpm)	Maximum Loss of Head @ Max Rate (psi)	Loss of Head Low Flow (gpm)
4"	3/4 - 1200	1200	9	3/8
6"	1 1/2 - 2500	2500	10.5	3/4
8"	2 - 4000	4000	10.5	1
10"	2 - 6500	6500	9	1

4. Size

The size of meters shall be determined by the nominal size (in inches) of the opening in the inlet and outlet flanges. Overall lengths of the meters shall be as follows:

Meter Size	Laying Length
4"	33"
6"	45"
8"	53"
10"	68"

5. Case

The meter body, strainer body, and valve body shall be fabricated steel with a coating of fusion-bonded epoxy both internally and externally or coated ductile iron. The meter body shall be welded to the valve body effecting a uni-body construction with the valve. The strainer outlet and meter inlet shall be connected by a Style 77 Victaulic or other UL Listed/FM Approved grooved coupling. The meter assembly shall have a rated working pressure of 175 psi.

6. Cover

The meter cover shall be cast of lead free brass containing a minimum of 85% copper such as Envirobrass II. An arrow indicating direction of flow shall be cast in raised characters on the cover. The cover shall have a rated working pressure of 175 psi. The cover shall contain a calibration vane for the purpose of calibrating the turbine measuring element while in-line and under pressure. The calibration vane shall be mounted under the register that is attached in a tamper-resistant manner.

7. External Bolts

Meter cover bolts shall be made of AISI Type 316 stainless steel.

8. Connections

Inlet and outlet flanges shall be round flanged per AWWA C207, Class D.

9. Registers

Registers shall be permanently roll-sealed, straight reading in gallons. Registers shall include a center-sweep test hand and low flow indicator. Registers shall be removable for replacement without interruption of the service line.

10. Register Boxes

Register boxes and covers shall be of bronze composition. The name of the manufacturer and the meter serial number shall be clearly identifiable and located on the register box covers.

11. Register Box Sealing

The register box shall be affixed to the top cover by means of a tamper-proof seal pin or an approved tamper-proof device.

12. Meter Serial Number

The meter serial number shall be on the meter flange or cover and on register box covers.

13. Encoder Register

Meter registers shall use true absolute encoder technology and report cumulative consumption values upon visual inspection. Registers shall be enumerated in U.S. gallons. All registers shall electronically read in 100-Gallon units. No battery dependent or pulse type systems will be accepted.

The register must be hermetically and permanently sealed so that it is impervious to dust, dirt, and moisture. It must operate under water. The manufacturer must guarantee in writing that the actual odometer reading will match the electronic read sent. If this is ever not the case, the manufacturer shall be responsible for the lost revenue at the utility's prevailing rate.

The meter register shall have three terminal connections. The connection between the meter register and the remote pit lid module shall be accomplished by the use of a three conductor wire; each end connection of the wire shall be factory sealed with epoxy. The County shall not have to make any wiring connections. Each fire service meter shall be provided with 20 feet of wire. An 8 digit ID number shall be stored in the solid state memory of the register. The ID number shall be factory set and programmable.

14. Measuring Chamber Replacement

A replacement measuring chamber shall be available as a complete assembly, factory calibrated to AWWA standards, which includes the cover, registers, and the turbine measuring element. It shall be easily field removable from the meter body without the requirement of unbolting flanges.

15. Intermediate Gear Train

The intermediate gear train shall be directly coupled to the turbine rotor and magnetically coupled to the register through the meter cover. The gear train shall be housed within the turbine measuring chamber. All moving parts of the gear train shall be made of a self-lubricating polymer or AISI Type 316 stainless steel for operation in water.

16. Bypass Meter

The bypass meter shall be of a positive displacement type. The bypass meter may be piped on the left or right side of the assembly. The bypass meter shall include a self-actuated valve that directs flow through the disc meter at low flow rates, and through the turbine meter at high flow rates. At high flow rates, the self-actuated throttle valve shall restrict the flow through the disc meter to minimize wear.

17. Automatic Valve

The automatic valve shall be of the spring-loaded, knuckle-joint type. All internal linkage parts shall be stainless steel. A vulcanized rubber disc on a stainless steel clapper plate shall seal against a bronze seat. The springs shall be AISI Type 18-8 stainless steel.

18. Registration Accuracy

Registration accuracy over the normal operating range shall be 98.5% to 101.5%.

19. Remote Capability Options

All meters shall be equipped with true absolute encoder remote registers per AWWA C707, and meet all AWWA C703 performance standards.

All meters shall be guaranteed upgradeable to a Neptune Absolute Encoder or Sensus ICE Encoder.

20. Radio Frequency Capability Options

The metering system must be capable of being upgraded to radio frequency communications. Fulton Co. plans to read "hard-to-access" water meters equipped with meter interface units. Only true absolute encoder registers from Neptune, Sensus or approved equal will be acceptable. The system must be capable of reading them by either a "touch" type system or a radio frequency system. In the radio read system, the encoder registers will be connected to a meter interface unit that shall provide the radio link from the meter to the remote interface unit.

The manufacturer will guarantee that the reading obtained electronically matches the mechanical odometer read on the register and the manufacturer will pay the difference at the current rates whenever a discrepancy appears.

For maintenance ease, the Vendor shall be the sole manufacturer of the different components of the system. (Reading equipment, RF transmitters, encoder registers and meters)

For the purpose of ease of implementation, the system shall not require any special licensing, including licenses from FCC.

To minimize the potential for RF interference from other devices, the meter interface unit shall transmit using the Frequency Hopping Spread Spectrum technique comprised of alternating pseudo-random frequencies within the 902 MHz to 928 MHz unlicensed bandwidth.

Power shall be supplied to the meter interface unit by a lithium battery. The batteries shall be field replaceable (the replacement shall be demonstrated), and be designed and guaranteed for a minimum twenty (20) years life expectancy. The meter interface unit shall not require reprogramming if the battery discharges before it is replaced.

No programming shall be necessary for installation.

The meter interface unit will exist in a single port to read one register or a dual port that will read two registers at one time.

The meter interface unit shall interface to ProRead AutoDetect, Sensus or approved true absolute encoder registers via a 3-conductor wire.

Each device shall have a unique pre-programmed identification number of 10 characters. The ID number will be permanent and shall not be altered. Each device shall be labeled with the ID number in numeric form. The label shall also display FCC approval information and manufacturer's designation.

The meter interface unit shall transmit the encoded meter reading and its unique ID number.

The meter interface unit shall be capable of being received by either a handheld receiver or a Drive-By receiver without special configuration or remanufacture.

Tamper resistance shall be provided by a "non-reading" if the wiring has been disconnected, indicating wire tamper. A system that only provides the last available reading is not permissible.

For pit or vault applications, the meter interface unit shall be designed for being installed through the industry standard 1-3/4" hole in the pit lid with no degradation of transmission range. The meter interface unit will be capable of mounting to various thickness of pit lids from 1/2" to 3".

The range will not be affected when the pit is flooded.

A factory potting process will protect the circuit board and the battery.

The antenna shall be made of a metallic material to withstand traffic configuration.

END OF SECTION 4

SPECIAL CONDITIONS

Bidder shall submit pricing exactly as directed. Bidder shall provide pricing on each of the items. Failure to comply will result in a determination of non-responsive and disqualification of bid.

END OF SECTION 5