

CITY OF NEWPORT, RHODE ISLAND
PURCHASING DIVISION
NOTICE TO BIDDERS

SEALED BIDS

#13-084

Sealed Proposals are being requested to provide a **Waterworks Supplies**, in accordance with all terms and specifications contained herein, will be received in the Purchasing Office, City Hall, 43 Broadway, Newport, R. I., until:

Two (2:00) O'clock P.M. Local Time

May 7, 2013

THIS IS A PUBLIC OPENING

If additional information is needed, please contact the Technical POC listed in the package.

Bids/Proposals must be submitted in sealed envelopes addressed to the Purchasing Office, City Hall, 43 Broadway, Newport, R. I. 02840, and must be plainly marked in the lower left hand corner, "**Waterworks Supplies # 13-084**". Please provide one (1) electronic copy on CD with your submittal.

Note: Bid Tabulations will be posted on the City of Newport website generally within twenty-four (24) hours of the closing date.

It is the bidder's responsibility to see that the bid is delivered within the time and at the place prescribed. Bids received prior to the time of opening will be securely kept, unopened. Bids may be withdrawn on written request (on the letterhead of the bidder and signed by the person signing the bid) which must be received prior to the time fixed for opening. Bids may be modified in the same manner. No bid or modification thereof received after the time set for opening will be considered, even if it is determined by the City that such non-arrival before the time set for opening was due solely to the delay in the mails for which the bidder is not responsible.

Any bidder taking exception to, or questioning any of the provisions, procedures, conditions or specifications herein stated should make such exceptions known to the undersigned, in writing, not less than five (5) days before the bid opening.

Any change or interpretation made as a result thereof will be published in an addendum and mailed to all prospective bidders. Should a bidder still not be satisfied, he may, in the bid, set out and stipulate the exception, with enough explanation to be understood by the City and, within the stipulation, the INCREASE or DECREASE in the bid price because of the exception shall be stated. The City may, at its discretion, accept or reject any or all exceptions.

Federal Excise Taxes and/or Rhode Island Use Taxes are not to be included in the bid. The City will execute exemption certificates if furnished by the bidder when submitting his invoice.

The bidder will state the approximate delivery date in the bid, or the time required to make delivery after notification of award.

The right is reserved, as the interest of the City may require, to reject any or all bid proposals, to waive any technical defect or informality in bids received, and to accept or reject any bid or portion thereof.

The City of Newport reserves the right to reject any or all proposals or to accept any proposals deemed to be for the best interest of the City.

The technical point of contact for this package is Robert Schultz, 401-845-5614 or rschultz@cityofnewport.com

Note: All bidders are responsible for insuring that no **addenda** have been added to the original bid package. All bid packages and addenda are located at www.cityofnewport.com under (Active Bids) within the Purchasing webpage using the above bid/proposal number or you can contact the Purchasing Department.

Prevailing Wage - Any construction over \$ 1,000.00 is required by state law to pay state prevailing wage. A current copy of the most recent Prevailing Wage scale is obtained from the State of Rhode Island, Department of Labor and Training, Division of Professional Regulation or at the Davis-Bacon Wage Determination link. It is also by request for each construction bid document. All vendors supplying construction services must submit certified payrolls from any contractor and sub-contractor who work on the project. No payments are made until all payrolls are up to date, and correct. Click here for Prevailing Wage Tables.

Prevailing Wages also applies to ALL other (Non-Construction) Requirements. If the City's requirement is sealed bid, the DAVIS-BACON Wage Determination applies.

Buy American Act (1933- [Sections 10 \(a-d\) of Title 41](#)) and **Buy American Act Provision** (1982 - [Section 5323\(j\) of Title 49](#)) apply to this requirement, and therefore, documentation may be requested in support.

GENERAL CONDITIONS (if applicable)

1. The City reserves the right to reject any and all proposals, to waive any informality, to request interviews of Service Providers prior to award and to select and negotiate the Service Provider services in the best interest of the City.
2. The Service Provider shall guarantee to perform the services offered and the total price of the proposal for a period of not less than 60 days from the deadline for submission of proposals.
3. The City reserves the right to accept all or part of any proposal, and to negotiate a contract for services and cost with the selected Service Provider.
4. The Service Provider shall provide all necessary personnel, materials and equipment to perform and complete all work under this proposal.
5. All original documents and drawings shall become the property of the City after completion of the Service Provider's work.
6. The City of Newport intends to recommend award of a contract to the City Council for the requested services within one (1) month of receipt of the proposals. The Service Provider shall be prepared to commence work immediately upon execution of a contract with the City.
7. Awards will not be made to any person, firm or company in default of a contract with the City, the State of Rhode Island or the Federal Government.
8. The Service Provider hereby agrees that it will assign to the City of Newport all cause of action that it may acquire under the anti-trust laws of Rhode Island and the United States as the result of conspiracies, combination of contracts in restraint of trade which affect the price of goods or services obtained by the City under this contract if so requested by the City of Newport.
9. Unless otherwise stated, invoices are to be submitted (to Accounting Office) in duplicate upon delivery of service to the City. The invoice must include an itemization of all services provided, including unit list price, net price, extensions and total amount(s) due.
10. Unless otherwise stated, payment will be made within thirty (30) days of the completion of the service, in an acceptable fashion, to the City and receipt of invoice, whichever is later.
11. City is exempt from all sales and Federal excise taxes. Our exemption number is 05-6000260. Please bill less these taxes.

12. The City of Newport's obligations to pay any amount due under a contract are contingent upon availability and continuation of funds for the purpose. The City may terminate the contract, for non-appropriation of funds, and all payment obligations of the City cease on the date of termination.
13. None of the services covered by the contract shall be assigned in full or in part, or sub-contracted without the prior approval of the City.
14. This contract will be for the services described above; however, this agreement should not be considered exclusive. As deemed necessary, the City reserves the right to obtain these services from any other vendor.
15. Unless otherwise specified all costs listed are firm for the term of the contract.
16. Neither party shall be liable for any inability to perform its' obligations under any subsequent agreement due to war, riot, insurrection, civil commotion, fire, flood, earthquake, storm or other act of God.
17. Notification of the parties shall be considered to have been constructively received when it is mailed via the United States Postal Service or delivered in hand to the parties as stated in the contract.
18. If any of the GENERAL TERMS AND CONDITIONS is held to be invalid or unenforceable, it will be construed to have the broadest interpretation which would make it valid and enforceable under such holding. Invalidity or unenforceability of a term or condition will not affect any of the other GENERAL TERMS AND CONDITIONS.
19. Each and every provision and clause required by law to be inserted in any subsequent Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion or correction.
20. Proposal shall also mean quotation, bid, offer, qualification/experience statement, and services. Proposers shall also mean vendors, offerors, bidders, or any person or firm responding to a Request for Proposals.
21. All contracts entered into by the City of Newport shall be governed by the Laws of the State of Rhode Island. Any disputes shall be resolved within the venue of the State of Rhode Island and Newport County.
22. The Service Provider selected for this project shall procure and maintain the following types of insurance:
 - Statutory Workers Compensation and Employer's Liability Insurance

- Professional Services Liability Insurance for errors and omissions (\$1,000,000.00 minimum)
- Liability and Property Damage Insurance (a) Bodily injury liability: \$500,000 each person, \$1,000,000 each occurrence; (b) Property damage liability: \$500,000 each occurrence, \$1,000,000 aggregate.

CITY OF NEWPORT, RHODE ISLAND
Erin Mulligan, Purchasing Agent,
(401) 845-5414

**City of Newport
Department of Utilities
Water Division**

**TECHNICAL SPECIFICATIONS
WATERWORKS SUPPLIES
BID 13-084**

GROUP A - WATER METERS

SMALL SIZE WATER METERS

COLD WATER METER - 5/8", 3/4", 1"

**MAGNETICALLY DRIVEN WITH ELECTRONIC ENCODER REGISTER
AND RADIO FREQUENCY METER READING SYSTEM**

This specification covers cold water displacement meters in sizes 5/8", 3/4", 1", and the materials and workmanship employed in their fabrication. The displacement meters must be of the type known as nutating disc meters, which are positive in action in that the discs displace or carry over a fixed quantity of water for each nutation of the disc when operated under positive pressure. Meters shall conform to latest revision of AWWA C700/C710. Small Meters shall be as manufactured by Badger Meters Co. No other manufacturers will be accepted.

Failure to meet any part of the specification shall be sufficient cause for rejection.

The operating and physical characteristics shown in Tables 1 through 3 shall determine the nominal size of meters. The nominal capacity ratings and the related pressure loss limits shall be those shown in Table 1 for the safe maximum operating capacities. The lengths of the meters shall be the face to face dimensions of the spuds shown in Table 2.

All meters shall have an outer case with separate, removable measuring chambers. Casings shall not be repaired in any manner. The inlet and outlet shall have a common axis. Connection flanges shall be parallel. The size, model and direction of flow through the meters shall be molded/cast in the top side of all meter outer cases.

The bottom closure of the outer casing for 5/8", 3/4", 1" meters shall be of such design that the bottom closure will yield or break under normal freezing conditions to minimize damage to any other part of the meter when specified by customer's supplemental specifications.

All external closures shall be designed for easy removal after long services.

Main-case connections for meters 5/8", 3/4", 1" sizes shall be meter casing spuds having external straight threads conforming to American National Standard Institute (ANSI) B2.1 as far as the specifications apply. Pitch diameters shall be those shown in Table 2.

Coupling nuts shall have internal straight pipe threads conforming (ANSI) B2.1 as far as the specifications apply. Pitch diameters shall be those shown in Table 2.

Coupling tailpieces shall have external taper pipe threads conforming to (ANSI) B2.1 and internal diameters that are approximately equal to the nominal thread size of the tailpiece. Lengths and thread sizes shall be those shown in Table 2.

All meters shall be so designed as to permit the use of an electronic encoder register for connection to an automatic or automated meter reading system. The registration reading shall be U.S. gallons. The register shall not be in contact with the water being measured. The register devices shall be so designed to permit removal and exchange without removal of the meter from the service installation or interruption of service water supply.

The straight reading register shall be of the center sweep test hand type with the test circle located on the periphery of the register and graduated in 100 equal parts, each tenth graduation numbered. The quantity indicated by a single revolution of the test hand shall be that shown in Table 3 for the initial dial. The register shall be equipped with a separate flow indicator for detecting small rates of flow. Register change gears are not acceptable.

The numerals on the number wheels of straight reading registers shall be not less than 5/32" in height and should be readable at a 45-degree angle from the vertical.

The register lock and side gears shall be an integral part of the number wheel discs and hubs. The tumbler pinions shall mesh accurately with the lock and side gears of adjacent number wheels at the turnover positions. Both main and pinion shafts will be so secured in the register frame and/or register plates so that they cannot get out of position. The pinion shaft shall be so designed that there is no possibility of its bending and allowing the pinion to skip at the turnover point.

In the positive displacement meter the disc nutations shall be transmitted by magnetic couplings through the top closure case of the meter.

The magnetic coupling must consist of a 4 pole face charged magnet in the meter and a pole radial charged magnet in the register/electronic encoder assembly. The intermediate gear train shall be combined with the register gearing and be permanently sealed and encased in a housing which shall be a glass lens and a copper bottom.

Gears and pinions shall run free on fixed shafts or be fixed on shafts that run free in the register frame and/or register plates, and shall be so constructed that they cannot become unmeshed.

The maximum indication of initial dial and the minimum capacity allowable of the register shall be those given in Table 3.

TABLE 1 - DISC METER PERFORMANCE CHARACTERISTICS

Meter Size Inches / mm	Required Safe Maximum Operating Capacity (GPM)	Maximum Pressure Loss At AWWA Safe Maximum Operating Capacity (PSI)	Recommended Maximum Rate For Continuous Operations (GPM)	Minimum Test Flow (GPM)	Normal Test Flow Limits (GPM)	Maximum Number of Disc Nutations:	
						Per 1 Gallon	Per 1 Cubic Foot
5/8" Bronze	20	2.1 @ 10 GPM	10	1/8	1/8 - 20	57.4	435
1" Bronze	55	5.3 @ 50 GPM	50	3/4	1-1/4 - 70	14.5	108.9
1-1/2" Hex NPT	120	7.3 @ 100 GPM	80	1-1/4	2-1/2- 120	5.97	44.63
1-1/2" Elliptical	120	7.3 @ 100 GPM	80	1-1/4	2-1/2- 120	5.97	44.63
2" Hex NPT	170	8.6 @ 160 GPM	100	1-1/2	2-1/2- 170	3.64	27.2
2" Elliptical	170	8.6 @ 160 GPM	100	1-1/2	2-1/2- 170	3.64	27.2

**TABLE 2 - DIMENSIONAL DESIGN LIMITS FOR METERS AND EXTERNAL CONNECTIONS
5/8" - 1" DISC METERS**

Meter Size Inches	Meter Length Threaded Spud Ends Inches	Meter Spuds Nominal Thread Size Inches	Meter Housing Spuds Pitch Diameter		Coupling Nuts Pitch Diameter		Coupling Tailpieces	
			Minimum Inches	Maximum Inches	Minimum Inches	Maximum Inches	Length Inches	Nominal Thread Size Inches
5/8"	7-1/2"	3/4"	0.978	0.988	0.992	1.002	2-3/8"	1/2"
1"	10-3/4"	1-1/4"	1.563	1.573	1.580	1.590	2-5/8"	1"

**TABLE 3 - MAXIMUM INDICATION ON INITIAL DIAL AND MINIMUM REGISTER CAPACITY
DISC METERS**

Meter Size Inches	Maximum Allowable Indication of Initial Dial			Minimum Allowable Capacity of Register, Millions		
	Cu. Ft.	Gallons	M ³	Cu. Ft.	Gallons	M ³
5/8"	1	10	0.1	1	10	0.1
1"	1	10	0.1	1	10	0.1
1-1/2"	10	100	1	10	100	1
2"	10	100	1	10	100	1

The measuring chambers shall be self-contained units, molded without secondary machining, firmly seated, easily removed from the main cases and shall not be a part of the main case. Both halves of the measuring chamber and the internal element shall be marked with the manufacturer's symbol or name. The chamber shall be secured to the main case so that the accuracy of the meter will not be affected by any distortions of the case when operating at a pressure of 150 psi. All chambers shall be equipped with a replaceable, reversible thrust roller bearing insert assembled in the wall of the chamber. Control of disc spindle motion shall be by means of a cone and support structure molded as an integral part of the chamber top. The support structure shall also serve to position the lower drive pawl, magnet shaft, and magnet assembly, which transmits disc

nutations to the register. Only nutating disc type chambers will be accepted. Piston type measuring chambers will not be accepted.

The measuring disc shall be of the nutating type, made of a suitable engineering thermoplastic polymer molded without secondary machining. The disc shall be equipped with a thrust roller and a stainless steel disc spindle. The disc nutations shall not exceed the quantities given in Table 1.

All disc meters shall be provided with strainer screens of rigid molded thermoplastic material which fit snugly, are easy to remove, and have an effective straining area at least double that of the main-case inlet.

Register screws and inlet and outlet coupling nuts on disc meters, if furnished, shall be drilled for seal wire. Register screws on turbo meters, if furnished, shall be drilled for seal wire. Seal wire holes shall not be less than 3/32" in diameter.

Register box enclosures, rings and lids shall be made of an engineering thermoplastic or other suitable synthetic polymer.

The measuring chamber, 5/8", 3/4", 1" shall be made of a dimensionally stable reinforced thermoplastic molded without secondary machining. They shall be of two-piece snap joint and be secured in the main casing so that the accuracy of the meter shall not be affected by any distortion of the cases when operating at pressures to 150 psi. All chambers shall be equipped with a removable, reversible thrust roller insert, inserted into the wall of the chamber. The bearing surface of the insert shall be at least 1/5 the thickness of the outside diameter of the thrust roller head.

Discs shall be made of a suitable synthetic polymer with specific gravity approximately equal to that of water. The disc shall have sufficient dimensional stability to retain operating clearances at working temperatures to 80°F and not warp or deform when exposed to operating temperatures to 100°F.

Measuring chamber diaphragms shall be an integrally molded part of the measuring chamber halves.

The meters shall meet the following requirements for accuracy when tested with potable water at a maximum temperature of 80°F.

At any rate of flow within the normal test flow limits specified in Table 1, the meter shall register not less than 98.5% and not more than 101.5% of the water actually passed through the meter.

At the minimum test flow rate specified in Table 1, the 5/8" and 5/8"x3/4" meters shall register not less than 98.5% and not more than 101.0% of the water actually passed through the meter.

At the minimum test flow rate specified in Table 1, the 3/4"x3/4" meter shall register not less than 97% and not more than 101.0% of the water actually passed through the meter.

At the minimum test flow rate specified in Table 1, the 1" meter shall register not less than 95% and not more than 101.0% of the water actually passed through the meter.

Meters supplied under this specification shall operate without leakage or damage to any part at a working pressure of 150 psi.

The manufacturer shall repair or replace, without charge, those parts in which a defect has developed within 18 months from date of shipment upon their return to the manufacturer or upon proper proof of a defect, except that the warranty shall not apply if the meter has been modified by the use of replacement parts not made by the manufacturer. The manufacturer shall have a minimum of 10 years of experience in the design and manufacture of encoder registers for water meters.

The manufacturer shall repair or replace, at its option, without charge, all meters rejected for failure to comply with this specification.

LARGE & COMPOUND METERS

These specifications are in compliance with the latest revision of AWWA Standard C702 with certain exceptions as noted below. All specifications meet or exceed the latest revision on AWWA C702.

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 positive displacement meter for measuring low rates of flow enclosed in a single maincase. An automatic, spring-loaded valve shall open at high flow rate conditions permitting flow through the turbine meter.

The capacity of the meters in terms of normal operating range, maximum loss of head, and maximum continuous flow shall be as shown below:

Size	Normal Operating Range (gpm)	Max. Head Loss at AWWA Max. Cont Flow (psi)	Max. Cont. (gpm)	Capacity (gpm)	Max. Extended Low Flow
1 1/2"	½ - 100	5.4	100	100	1/4
2"	1/2 - 170	5.4	170	200	1/4
3"	1/2 - 400	5.3	400	450	1/4
4"	3/4 - 800	8.2	800	1000	3/8
6"	3/4 - 1500	8	1500	2000	3/8

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

Size	Laying Length	Max. Height from Center with Local Register
1 1/2"	13"	5 7/8"
2"	15 1/4"	5 7/8"
3"	17"	6 5/8"
4"	20"	7 1/4"
6"	24"	8 7/8"

Casing bolts shall be made of type 316 stainless steel.

Maincases shall be flanged. The 2" size shall have optional oval flanges or round flanges per Table 4, AWWA C702. The 3" through 6" sizes shall be round flanged per Table 4, AWWA C702.

The maincase and cover shall be sand cast of water works bronze containing not less than 75% copper. The size, model, manufacturer's trademark, and arrows indicating direction of flow shall be cast in raised characters on the sides of the maincase. An NPT test plug shall be located on the maincase cover for the purpose of field-testing the

meter. The maincase shall have a single 3/4" NPT drain plug located on the maincase near the outlet end of the meter casing.

Separate local registers for high flow and low flow shall be provided in magnetic-drive register assemblies. Turbine and disc flow rates shall be totalized independently on separate number wheel stacks within the separate local register assemblies. Registers shall be permanently sealed, straight reading indicating in cubic feet, gallons, or cubic meters. Registers shall include the meter size, a center-sweep test hand, domed glass lens and metal register can. Two separate low flow indicators shall provide independent leak detection. The registers shall be serviceable without interruption of the meter's operation.

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

Registers shall be secured to meter bayonet with a seal wire tamper resistant screw or tamperproof TORX™ seal screw.

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

The turbine measuring assembly shall be a self-contained unit, attached to the housing for easy field removal. The turbine spindles shall be stainless steel. The rotor shall balance or "float" between the turbine spindles throughout the typical operating range of the meter.

The nutating disc chamber shall be a self-contained unit mounted in a separate cover plate, attached to the housing for easy field removal. It shall conform to AWWA Standard C-700 for the following sizes: 2" and 3" - 5/8" disc chamber assembly; 4" and 6" - 3/4" disc chamber assembly.

A strainer shall be provided for the disc chamber assembly. It shall be easily removable and have an effective straining area of at least double the disc meter inlet.

Registration accuracy over the normal operating range shall be 98.5% to 101.5%. Registration accuracy at the crossover shall not be less than 97% for 2", 3" and 4" sizes and no less than 95% for the 6" size. Registration accuracy at the low flow rate shall not be less than 95%.

All meters shall be available with two optional incremental digital encoder registers per AWWA C707, shall meet all AWWA C702 performance standards, and shall include all required hardware for installation. The incremental digital encoders shall provide accurate digital signals with a resolution of one tenth of the meter's test circles.

Acceptable meters shall be the Badger Recordall® Compound Series or approved equal.
Electronic Encoder Register (EER)

The transmitter shall meet applicable requirements of C707 and remain free of moisture. The transmitter shall consist of a mechanical local register as defined in Section 8 above, combined with electronic circuitry to provide a digital electronic switch closure. This electronic encoded register assembly shall transmit a signal through properly shielded (grounded) transmission wire.

The EER circuitry design shall contain a piezoelectric transducer. The electronic encoder register shall provide non-proprietary, digitally formatted data to the AMR device representing accurate meter information.

The EER enclosure shall include a test hand that covers the entire dial face and a totalizing odometer. The digital output of the encoder is equal to 1/10 of the quantity indicated by a single revolution of the test hand and it shall be that shown in Table 2 for the initial dial. The dial face shall have division gradients of 1/100th of the units of registration.

The EER shall be designed to assemble to the meter with a four position bayonet and seal screw fastening. The register must be factory pre-wired to integrally mounted AMR devices requiring no wiring in the field. Optionally, factory pre-wired registers to remote or pit installed AMR devices shall be available.

The meter size and units of registration, U.S. gallons as specified by purchaser, shall be designated on the EER dial face. Every register shall utilize a flow indicator for leak detection and shall display it in appropriate colors; red for U.S. Gallons.

The EER shall be encased in housing which shall be a glass lens and a copper bottom. No plastic register lens or bottom is allowed. No oil can be used in the registers. Registers with terminal screw connection through the face of the register will not be allowed.

The EER shall provide a digital switch closure. The minimum time the switch shall be closed is 10 milliseconds. The maximum time the switch shall be closed is 100 milliseconds.

The EER shall operate with an open circuit input voltage up to 30 volts across the output wires.

The EER must be permanently sealed to provide moisture resistance to flooded pit or submerged conditions. The permanent seal between the glass lens and copper (metal)

bottom shall utilize an adhesive seal without the use of gaskets. Absolutely no gasketed seals will be allowed.

Radio Frequency Meter Reading System

The City of Newport owns and uses an Orion Automatic Meter Reading System (AMR) for collecting water meter readings. All meters and RF devices supplied must be fully compatible with, and able to be read by the City's reading system.

The Orion Automatic Meter Reading System (AMR) is a one-way bubble-up RF system. The AMR system utilizes an FCC non-licensed radio frequency band to communicate meter reading data to an Orion Receiver (Receiver). An Orion Transmitter (Transmitter) located at the meter is used to transmit readings, along with specific data to the Receiver when the Receiver is in the proximity range of the transmitted signal. The system is able to process and store the information gathered from each Transmitter in a database.

In combination with Transmitters located at the meter, the AMR system can perform the following functions:

- A. METER READING - The Transmitter shall bubble-up and transmit readings every four seconds.

- B. HIGH RESOLUTION - To provide useful consumption data the AMR system shall record usage through the meter to the closest one (1) gallon or one tenth (1/10) cubic foot increment on residential sized meters, 5/8" through 1.

- C. LEAK DETECTION – To assist in the timely identification of potential leaks, the Transmitter shall report information to the utility in regard to potential leaks.

- D. Data Profile – The transmitter shall support a data profile feature, with the capability to store over 21,000 consumption readings with leak detection and tamper information.

GROUP B - METER BOXES, COVERS AND EXTENSION RINGS

The wall of the meter box shall be molded in one piece. The wall thickness shall be in excess of .55 inch and withstand vertical crush loads of 20,000 pounds. An anti-settling flange shall be molded on the bottom of the meter box to retard settling in soft soil. A flange shall be molded on the top to provide a wide and even seating surface for the cover. Material is modified polyethylene. The interior color shall be bright, reflective white and the exterior color shall be black. All surfaces, inner and outer walls, shall be smooth.

Meter box covers shall be Monitor; double lid meter box covers as manufactured by the Ford Meter Box Company, Inc. The cover number shall be MC-xx-MB-T, 20 inch lid opening and 24, 30 or 36 inch base as requested. There shall be one (1) hole in the lid, approximately two (2) inches in diameter for the installation of Electronic Meter Reading Module. Meter box covers shall be made of best merchantable cast iron and shall be provided with a lifter worm lock. The bolt shall be forged silicon-bronze, accurately cut in the shape of a pentagon. There shall be two bronze washers between the iron worm and the iron lid to insure easy operation of the lock. The covers shall have double lid with a 7 ½ to 8 inch dead space in the neck of cover to provide for maximum frost protection. All double lid covers shall have inset lids, suitable for lawn settings. Replacement top lids with 2 inch hole for electronic reading module shall also be available as requested.

Meter box covers shall be Wabash; double lid meter box covers as manufactured by the Ford Meter Box Company, Inc. The covers for different size meters shall be number W-2, 9 ½ inch lid opening and 20 inch base, and number W-3, 11 ½ inch lid opening and 22 inch base. Covers for large settings shall be Monitor, as manufactured by the Ford Meter Box Company, Inc., 22 inch top and 22 inch base with inner frost lid.

Extension rings to fit on 24", 30" and 36" barrels shall be Ford Monitor for a standard 20" cover.

GROUP C - HEAVY DUTY GATE BOXES, HEAVY DUTY ROADWAY BOXES AND COVERS

Gate boxes for gate valves 3 inch and larger shall be of tough even-grained cast iron and of the adjustable, slip, heavy duty pattern type. The upper section of the box shall be provided with a flange having sufficient bearing area to prevent undue settlement. The length of the top section shall be at least 26 inches and the length of the bottom section shall be at least 36 inch for a 5-foot box. The inside diameter of the box shall be at least 5 ¼ inches. The lower section of the box shall be designed with a bell to enclose the operating nut and stuffing box of the valve.

Covers shall be tight fitting and essentially dirt-tight. Covers shall be flush with the top of the box, and shall be marked "WATER". Gate boxes shall be as manufactured by Mueller Company # H10364 or Tyler # 5664-S.

Roadway boxes for all curb valves shall be 4 ½ inch shaft roadway boxes as manufactured by Mueller Company # H10366, size 145-r for 1 ¼ inch and 1 ½ inch curb stops. Curb boxes for all ¾ inch and 1 inch shall be 2 ½ inch shaft number 94-E extension service boxes as manufactured by the Mueller Company or approved equal.

Repair lids for 2 ½ inch shaft shall be Mueller Inside Pattern Number 10373 or Mueller Outside Pattern Number 10374 as requested.

GROUP D - WATER SERVICE TUBING

Piping for water services shall be continuous Type K annealed seamless copper water tubing designed for potable water conforming to all applicable sections of ANSI/ASTM B88 Standard Specification for Seamless Copper Water Tube and AWWA C800. One inch size tubing shall be supplied in coils of xx feet. All tubing dimensions shall be standard "copper tube size" (CTS) dimensions as specified in the applicable standards.

Copper tubing shall be as manufactured by Halstead Metal Products, a Division of Halstead Industries, Inc., or approved equal.

GROUP E - CORPORATION STOPS

Corporation stops shall be of the ball type meeting or exceeding the requirements of AWWA C800 and shall open right (clockwise). The inlet side shall have AWWA iron pipe thread (I.P.) connections and the outlet side shall have compression end fittings. Corporations shall be of bronze and rated for a minimum 175 psi working pressure.

Corporation stops be as manufactured by Ford Meter Box Co., Inc., Wabash, IN; A. Y. McDonald Mfg. Co., Dubuque, IA; or approved equal.

GROUP F - CURB STOPS

Curb stops shall be manufactured of brass, cast in conformance with AWWA Standard C-800 latest revision. The inlet and outlet shall have compression end fittings and shall be rated for a minimum working 175 psi working pressure.

Valves shall be of the plug O-ring type and shall open right (clockwise) one quarter turn with positive stops in the open and closed positions. The stem that turns the ball shall exert no other force on it except to open and close the valve and shall be held securely in place by means of a bronze ring. The valve shall have a substantial T-head for the operation of the valve. The stops or lugs for controlling the motion of the T-head shall be enclosed and properly positioned to line up the waterway through the ball with the water passage through the valve body. Curb stops shall be provided with no waste or drain.

Curb stops shall be as manufactured by Ford Meter Box Co., Inc., Wabash, IN; A. Y. McDonald Mfg. Co., Dubuque, IA; or approved equal.

GROUP G - UNIONS AND COUPLING

Red Hed copper-to-copper three (3) pc brass unions figure 421G or equal. Red Hed copper to iron thread brass couplings figure 413G or equal.

All brass fittings must be in accordance with AWWA Standard C-800 latest revision.

Lead PAC couplings shall be Ford Lead PAC # Q34-43 and Q34-23.

GROUP H – THREADED BRASS FITTINGS AND NIPPLES

All brass fittings must be in accordance with AWWA Standard C-800 latest revision. Miscellaneous brass fittings shall be manufactured of low-lead Brass, CDA/UNS Brass Alloys C89520 or C89833, conforming to ASTM B584.

GROUP I - PIPE COUPLINGS & TRANSITION COUPLINGS

Couplings shall be constructed of a middle ring, two (2) follower rings, two (2) resilient gaskets of specially compounded rubber, and a set of steel track-head bolts. The middle ring shall have a conical flare at each end to receive the wedge portion of the gaskets. The follower rings shall confine the outer ends of the gaskets. Bolts and nuts shall be manufactured of low alloy corrosion resistant steel with rolled threads. Couplings shall have at least the following number of bolts per coupling according to size:

- 2 bolts for ¾" to 2" couplings
- 4 bolts for 4" coupling
- 6 bolts for 6" and 8" coupling
- 8 bolts for 10" and 12" couplings
- 12 bolts for 16" and 20" couplings
- 15 bolts for 24" couplings

Couplings ¾ inch to 2 inch shall be Dresser Style 38, or equal and larger couplings shall be Dresser Style 138 or Mueller # H-1020.

Couplings shall have sufficient range in each size to fit either Class D pit cast pipe or standard centrifugal cast pipe.

Transition couplings shall have sufficient range to fit either Class D pit cast pipe or standard centrifugal cast pipe on one end and Asbestos Cement Pipe on the other.

GROUP J – EXTENDED RANGE PIPE COUPLINGS

Extended range couplings shall be manufactured in accordance with AWWA Standard C219. All cast components shall be ductile iron, meeting or exceeding requirements of ASTM A 536, grade 65-45-12. Gaskets shall be formed from Nitrile Butadiene Rubber compounded for water service and shall be NSF 61 certified. Extended range couplings shall as manufactured by ROMAC Industries MACRO, or approved equal.

GROUP K - CIRCUMFERENTIAL REPAIR CLAMPS AND OUTLET CLAMPS

Circumferential repair clamps shall consist of a of annealed, non-corrosive, 18-8 nickel bearing type 302, Austenitic Stainless Steel band in which a flat gasket is bonded. The specially compounded neoprene gasket shall be cemented to the band and shall have the proper degree of toughness and softness for maximum sealing efficiency. The gasket shall be resistant to weather, gas, oil, and impervious to water. It shall not crack or harden. The gasket shall be the gridded interlocking finger type. Malleable or ductile iron lugs shall be securely attached to the stainless steel band and have mutually supporting stabilizing fingers to permit tightening of the bolt to the maximum allowable torque. Lug design shall include drop in bolts. Bolts and nuts shall be low alloy steel with rolled threads and a generous shoulder to prevent bolt rotation under maximum torque loading. Minimum diameter ranges for each nominal pipe size shall be:

Pipe Size	single section	extra wide range
4 inch	4.74-5.14	4.70-5.50
	4.95-5.35	
6 inch	6.84-7.21	6.75-7.55
	7.04-7.44	
8 inch	8.99-9.89	8.88-9.68
	9.25-9.65	
10 inch	11.04-11.46	11.05-12.05
	11.37-11.77	
12 inch	13.14-13.56	13.10-14.30
	13.56-13.96	

Clamps shall be available in widths of 7", 9", 12", and 15" plus or minus 1".

Clamps shall be Mueller 500, Dresser 360 or approved equal.

Clamps with service outlets shall have 1 inch female iron pipe outlet and be 12" in width plus or minus 1".

GROUP L - BELL JOINT CLAMPS AND M J RESTRAINTS

Bell joint clamps shall be cast of ductile iron, shall be of split construction and adjustable to provide a close fit on both the pipe bell and the spigot. The spigot ring shall compress a rubber-compound gasket when drawn up by bolts connected to a bell ring.

Mechanical joint restraint shall be incorporated in the design of the follower gland and shall include a restraining mechanism which when actuated, imparts multiple wedging action against the pipe. The actuating bolt shall be threaded into the wedges and have a 1 ¼" hex operating nuts. Glands shall be manufactured of high strength ductile iron, conforming to the requirements of ASTM A536, Grade 65-45-12. The mechanical joint restraint device shall have a water working pressure of at least 350-psi. This restraint shall be Stargrip, Megalug or approved equal.

GROUP M - CAST IRON FITTINGS AND PIPE FITTINGS

Cast iron fittings, 12 inches and smaller, shall be short body conforming to ANSI A21.10 latest revision. Mechanical joints and push-on joints shall conform to ANSI A21.11 latest revision.

All cast iron fittings shall be gray iron, Class 250 where applicable and shall be cement lined in accordance with ANSI A21.4 latest revision, double thickness, coated with a coal tar pitch varnish to which sufficient oil has been added to make a smooth, tough tenacious coating.

PIPE FITTINGS SPECIFICATIONS

Compact ductile iron mechanical joint pipe fittings shall be in accordance with AWWA Standard C153/A21.53 latest revision.

Material - Ductile iron, ASTM A536, minimum grade 70-50-5 in accordance with AWWA Standard C-110 OR C-153 (ANSI A21.10) latest revision.

Pressure - Class 350 in accordance with AWWA Standard C-110 or C-153 (ANSI A21.10) latest revision 350-psi water working pressure.

Testing - In accordance with AWWA Standard C-110 or C-153 (ANSI A21.10) latest revision three times WWP (350-psi) - Body capable of withstanding hydrostatic testing of 1050-psi.

Flow Characteristics - I.D. equal to I.D. of Class 50/51 ductile iron pipe thus allowing the full flow feature.

Laying Length - Shore body design - straight section of body deleted to provide a more compact and less heavy fitting without reducing strength for flow characteristics.

Cement Lining - In Accordance with AWWA Standard C-104 (ANSI A21.4) latest revision.

Gasket - In accordance with AWWA Standard C-111 (ANSI A21.11) latest revision.

T- Bolts - Malleable iron or Corten in accordance with AWWA Standard C-111 (ANSI A21.11) latest revision.

Approvals - Factory Mutual Approved. Underwriters Laboratories Listed. Bolts furnished for mechanical joints shall be high strength, low alloy, steel bolts, with rolled threads, tee head and hexagonal nuts. All jointing material required is included under this item.

GROUP N - DUCTILE IRON PIPE

Ductile Iron Pipe shall be centrifugally cast in metal molds and meet all the requirements of ANSI A21.51 (AWWA Standard C-151 latest revision) and Federal Specifications WW-P-421C and is supplied in maximum lengths of 20 FT.

The pipe shall be double cement lined and bituminous seal coated inside to ANSI A21.4 (AWWA Standard C-104 latest revision) unless otherwise specified and bituminous seal coated on the outside unless otherwise specified. Joints shall be push-on types. Joints shall comply with ANSI A21.11 (AWWA Standard C-104 latest revision). Class of pipe shall be 52.

GROUP O – FERNCOS

Ferncos: Must be made of specially formulated elastomeric PVC with high tear and shear strength. Must be resistant to caustic chemicals. Must conform to applicable parts of ASTM C443, C564, and D1869. Stainless clamps must be corrosion-resistant and rustproof.

GROUP P - SERVICE TAP SADDLE

The service saddle shall have a ductile iron body per ASTM A536. The saddle shall have an outlet for the service connection that will allow an NPT or AWWA thread to be tapped into it. The saddle shall have two carbon steel bales per ASTM A108 (C1018) and be electro-galvanized with dichromate seal per ASTM B633. The nuts shall be cold formed semi-finished heavy hex steel A563 with an electro galvanized with di-chromate seal per ASTM B633. The washers shall be carbon steel per ASTM A108 and electro-galvanized with dichromate seal per ASTM B633. The gasket shall be a TaperSeal outlet gasket that has a hydro-mechanical lip that seals better on the pipe surface as the line content pressure increases. The gasket shall be made of Nitrile (Buna N) and NSF 61 listed. The gasket shall be compounded to resist: water, oil acids, alkalies, most (aliphatic) hydrocarbon fluids and many other chemicals. The gasket shall have a temperature range of -20°F to +180°F. The gasket shall be fully cemented into a cavity to hold it in place around the outlet during installation.

BODIES: Ductile Iron ASTM A536. Tap threads are full and free from shear and conform to AWWA Standards.

BALES: Carbon Steel ASTM A108 (C1018) electro-galvanized with di-chromate seal ASTM B633 or 18-8 type 304 stainless steel straps.

NUTS: Cold formed semi-finished heavy hex steel ASTM A563 electro-galvanized with di-chromate seal ASTM B633.

WASHERS: Carbon Steel ASTM-A108, electro-galvanized with a di-chromate seal ASTM B633.

STUDS: Type 304 Stainless Steel 5/8".

GASKET: Nitrile (Buna N) NSF 61® compounded to resist - oil, acids alkalies, most (aliphatic) hydrocarbon fluids, water and many chemicals. Temperature -20°F to 180°F.

FINISH: Fusion bonded Epoxy.

OUTLET: 2 inch female iron pipe thread.

GROUP Q - RESILIENT SEATED GATE VALVES

Resilient seat, wedge type gate valves shall be manufactured to meet all applicable requirements of AWWA C509. The resilient seating mechanism shall provide zero leakage at 200 psi working pressure when installed with line flow in either direction. Valves shall be rated for a working pressure of 250 psi and a test pressure of 500 psi.

Valves shall open right and an arrow shall be cast in a standard 2-inch square-operating nut.

Valve bodies shall be of ductile iron and shall have nonrising threaded bronze stems acting through a bronze stem nut. Opening nuts shall be 2 inches square and shall open as specified above. All buried valves shall have mechanical joint ends.

Valve wedges shall be of cast iron with resilient seating surfaces permanently bonded to the wedges in strict accordance with ASTM D429 or attached to the face of the wedges with stainless steel screws. Each valve shall have a smooth, unobstructed water way equal to or greater than the full nominal diameter of the valve free from sediment pockets.

Valves shall have low friction, torque-reduction thrust bearings. All O-rings and gaskets shall be removable without taking the valves out of service.

A non-toxic fusion-bonded epoxy coating, minimum thickness of 8mils, which is safe for potable water shall be applied to exterior and interior valve surfaces in accordance with AWWA C550.

For purposes of standardization, resilient seat gate valves shall be as manufactured by M&H Valve Co., US Pipe, or Mueller Co..

GROUP R - BUTTERFLY VALVES

All 16", 20" and 24" valves shall be butterfly valves. The butterfly valves shall be rubber seated, for buried service. Butterfly valves shall comply with AWWA Standard C-504 latest revision, class 150-B. Valves shall be Mueller Linesal III A3211-20 Allis Chalmers Streamseal or B.I.F. Sureseal.

Valve bodies and discs shall be of ASTM A48, Class 40, and cast iron, with mechanical joint ends. Rubber seats may be mounted on the disc and or in the body. When the rubber is in the body, the rubber seat shall be steel reinforced. When the rubber is on the disc, the seat-mating surface shall be 18-8 stainless steel, and when the rubber is in the body, the disc shall be NI-resistant alloy cast iron, ASTM A436, Type 1. Internal retaining rings and screws used with rubber seats shall be 18-8 stainless steel. Valve

seats shall provide tight shutoff at 150-psi upstream and 0 psi downstream, and a maximum velocity of 16 feet per second.

Valve shafts shall comply with the requirements of AWWA Standard C504 latest revision. Shaft seals shall be "O" ring seals, contained in a removable corrosion-resistant recess. Shaft seals shall be of a design allowing replacement of seals without removing the valve shaft. The valve operator shall comply with AWWA Standard C504 latest revision for buried service, with an operating nut. Operators shall be sized to seat, unseat, open and close the valve with 150-psi shut-off pressure. The contractor shall furnish the City detailed shop drawings, material detail, and all dimensions of all parts for each size valve ordered before proceeding with the manufacture of the valves. Valves shall turn RIGHT or CLOCKWISE to OPEN.

GROUP S – FIRE HYDRANTS

Hydrants shall comply in all respects to AWWA Standard C-502 latest revision, in addition to the following design standards:

Hydrants shall be of compression type closing with the pressure, minimum valve opening 5 ¼", with two (2) 2 ½" hose nozzles and one (1) 4 ½" pumper nozzle. The direction of opening shall be right or clockwise. Hose and pumper nozzles shall be the 1/4 turn or threaded type, and secured into place by stainless steel or corrosion resistant pins or screws. Pressure seals behind the nozzle flanges shall be "O" rings.

All hose nozzle threads shall be Newport Specifications. All operating cap nuts and nozzle caps will be Pentagon (5-sided) measuring 1 5/8". All pumper nozzles shall have nozzle cap chains with cap chain rings. All hose nozzles shall have cap chains with cap chain rings.

The bonnet area shall house triple "O" rings and an anti-friction washer. Upper and lower barrel flanges (except those designed to break upon impact) are to be integrally cast with the barrel. Non-breakaway lugs are not acceptable.

The union between the upper and lower stems shall be made by a breakable coupling retained into place by stainless steel or corrosion resistant pins. The two-piece traffic flange shall be held in place by nuts and bolts. The upper barrel shall be able to be rotated 360 degrees without removing any bolts.

The hydrant drain valve is to operate automatically each time the hydrant is operated. The hydrant elbow shall be equipped with at least two copper or bronze lined drain ports.

The seat ring shall thread into a bronze bushing or drain ring. Pressure seals shall be "O" rings. Hydrants shall be factory tested at 300 PSI with the main valve in both the open and closed position.

Threads at the barrel base shall be intrinsic to the barrel, or secured by set screws, tack weld or other acceptable method.

For purposes of standardization and aesthetic continuity, hydrants shall be Kennedy K81A "Guardian", Kennedy K81D "Guardian" or Mueller Super Centurion 200

All hydrant bodies are to be painted factory yellow.

GROUP T - FIRE HYDRANT INSERTS 4 1/2" V.O. TRAFFIC MODEL

All hydrant inserts shall comply in all respects to AWWA Standard C-502 latest revision, in addition to the following design standards:

Hydrants shall be of compression type closing with the pressure, minimum valve opening 4 ½", with two (2) 2 ½" hose nozzles and one (1) 4 ½" pumper nozzle. The direction of opening shall be right or clockwise. Hose and pumper nozzles shall be the 1/4 turn or threaded type, and secured into the upper body by stainless steel or corrosion resistant pins or screws. Pressure seals behind the nozzles flanges shall be "O" rings.

All hose nozzle threads shall be Newport Specifications. All operating cap nuts and nozzle caps will be pentagon (5-sided) measuring 1 5/8". All pumper nozzles shall have nozzle cap chains with cap chain rings. All hose nozzles shall have cap chains with cap chain rings.

The bonnet area shall house triple "O" rings and an anti-friction washer. Upper and lower barrel flanges (except those designed to break upon impact) are to be integrally cast with barrel. Non-breakaway lugs are not acceptable.

The union between the upper and lower stems shall be made by a breakable coupling retained into place by stainless steel or corrosion resistant pins. The two-piece traffic flange shall be held in place by nuts and bolts. The upper barrel shall be able to be rotated 360' without removing any bolts.

The hydrant drain valve is to operate automatically each time the hydrant is operated.

The hydrant shall be factory tested at 300 psi with the main valve in both open and closed position. All hydrant insert lower barrel threads will spin into Kennedy, R.D. Woods and Mathew type hydrant shoes for conversion.

For purposes of standardization and aesthetic continuity, hydrants shall be Kennedy "Guardian" inserts traffic model or A-466 Centurion three-way, 2 hose and one pumper nozzles, stop-in bonnet (upper half) spin in (R.D. Wood conversion) with drain (lower half).

All hydrant bodies are to be painted factory yellow.

GROUP U – FIRE HYDRANT PARTS

Parts for R D Woods/Mathews, Kennedy, American Darling, Mueller and United Fire Hydrants as listed on proposal sheet.

City of Newport Utilities Department
Water Division
Water Works Supplies

Bid 13-084	Aprox Qty	Description	Unit Price	Total
GROUP : COLD WATER METERS				
SMALL SIZE WATER METERS				
item #	1	500	5/8" METER W/ENCODER, REGISTER AND RTU	_____
item #	2	500	3/4" METER W/ENCODER, REGISTER AND RTU	_____
item #	3	25	1" METER W/ENCODER, REGISTER AND RTU	_____
INTERMEDIATE SIZE SINGLE JET WATER METERS				
item #	4	20	1 1/2" METER W/ENCODER, REGISTER AND RTU	_____
item #	5	20	2" METER W/ENCODER, REGISTER AND RTU	_____
item #	6	4	3" METER W/ENCODER, REGISTER AND RTU	_____
item #	7	4	4" METER W/ENCODER, REGISTER AND RTU	_____
item #	8	3	6" METER W/ENCODER, REGISTER AND RTU	_____
COMPOUND METERS				
item #	9	2	3" COMP METER W/ENCODER, REGISTER AND RTU	_____
item #	10	2	4" COMP METER W/ENCODER, REGISTER AND RTU	_____
item #	11	2	6" COMP METER W/ENCODER, REGISTER AND RTU	_____
item #	12	1	8" COMP METER W/ENCODER, REGISTER AND RTU	_____
STRAINERS				
item #	13	1	4" BRONZE STRAINER – FLANGED	_____
item #	14	1	6" BRONZE STRAINER – FLANGED	_____
item #	15	1	8" BRONZE STRAINER - FLANGED	_____
WATER METERS FITTINGS AND ACCESSORIES				
item #	16	1	UNIVERSAL RADIO TRNSMITTER UNIT	_____

item #	17	400	5/8 STRAIGHT METER COUPLING	_____	_____
item #	18	400	5/8 ANGLE METER COUPLING	_____	_____
item #	19	250	3/4 STRAIGHT METER COUPLING	_____	_____
item #	20	250	3/4 ANGLE METER COUPLING	_____	_____
item #	21	25	1" STRAIGHT METER COUPLING	_____	_____
item #	22	25	1" ANGLE METER COUPLING	_____	_____
item #	23	500	5/8 METER GASKETS LEATHER	_____	_____
item #	24	500	3/4 METER GASKETS LEATHER	_____	_____
item #	25	400	1 METER GASKET	_____	_____
item #	26	100	1 1/2" METER FLANGE	_____	_____
item #	27	50	2" METER FLANGE	_____	_____
item #	28	8	3" METER FLANGE	_____	_____
item #	29	8	4" METER FLANGE	_____	_____
item #	30	20	6" METER FLANGE	_____	_____
item #	31	1	8" METER FLANGE	_____	_____
item #	32	5	4X3 COMPACT ADAPTER FLANGE FOR METERS	_____	_____
item #	33	5	2X1 1/2 COMPACT ADAPTER FLANGE FOR METERS	_____	_____
item #	34	5	2X1 ADAPTER FLANGE FOR METERS	_____	_____
item #	35	200	1 1/2 FLANGE GASKET (2 EAR)	_____	_____
item #	36	200	2 FLANGE GASKET (2 EAR)	_____	_____
item #	37	20	3 FLANGE GASKET FULL FACE	_____	_____
item #	38	20	4 FLANGE GASKET FULL FACE	_____	_____
item #	39	20	6 FLANGE GASKET FULL FACE	_____	_____

GROUP B: METER BOXES, COVERS AND EXTENSION RINGS

item #	40	5	PLASTIC METER PIT 24"X36"	_____	_____
item #	41	5	PLASTIC METER PIT 30"X36"	_____	_____

item #	42	6	FORD MONITOR COVER COMPLETE 24"	_____	_____
item #	43	6	FORD MONITOR COVER COMPLETE 30"	_____	_____
item #	44	3	FORD MONITOR COVER COMPLETE 36"	_____	_____
item #	45	3	FORD MONITOR COVERS, LIDS ONLY W/2" HOLE FOR ELECTRONIC READING MODULE, 21" DIAMETER	_____	_____
item #	46	10	FORD MONITOR, COVER INNER FROST LID, 21" DIAMETER	_____	_____
item #	47	3	FORD METER BOX COVER W-2, 9 1/2" TOP, 20" BASE	_____	_____
item #	48	3	FORD METER BOX COVER, LID ONLY, W-2	_____	_____
item #	49	3	FORD METER BOX COVER W-3, 11 1/2", TOP, 22" BASE	_____	_____
item #	50	3	FORD METER BOX COVER, LID ONLY, W-3	_____	_____
item #	51	3	FORD MONITOR EXTENSION RING, 20"X24"	_____	_____
item #	52	3	FORD MONITOR EXTENSION RING, 20"X30"	_____	_____
item #	53	3	FORD MONITOR EXTENSION RING, 20"X36"	_____	_____

GROUP C: HEAVY DUTY GATE BOXES, HEAVY DUTY ROADWAY BOXES AND COVERS

item #	54	50	5" GATE BOXES COMPLETE W/COVERS	_____	_____
item #	55	75	5" GATE BOXES TOP SECTION ONLY W/COVER	_____	_____
item #	56	20	5" GATE BOX COVER ONLY	_____	_____
item #	57	40	GATE BOX EXTENSION PIECE 14" LONG #58	_____	_____
item #	58	40	GATE BOX EXTENSION PIECE 1 1/2" LONG	_____	_____
item #	59	40	GATE BOX EXTENSION PIECE 2" LONG	_____	_____
item #	60	40	GATE BOX EXTENSION PIECE 3" LONG	_____	_____
item #	61	40	GATE BOX EXTENSION PIECE 4" LONG	_____	_____
item #	62	40	GATE BOX EXTENSION PIECE 6" LONG	_____	_____
item #	63	30	4 1/2" ROADWAY BOXES COMPLETE W/COVERS	_____	_____
item #	64	40	4 1/2" ROADWAY BOX COVER ONLY	_____	_____
item #	65	10	ROADWAY BOX EXTENSION PIECE 18" LONG #49	_____	_____
item #	66	100	2 1/2" SERVICE BOXES COMPLETE	_____	_____

item #	67	50	2 1/2" SERVICE BOXES TOP SECTION ONLY W/COVER	_____	_____
item #	68	50	SERVICE BOX EXTENSION PIECE 16" LONG # 152	_____	_____
item #	69	200	2 1/2" REPAIR LIDS, MUELLER OUTSIDE PATTERN	_____	_____
item #	70	200	2 1/2" REPAIR LIDS, MUELLER INSIDE PATTERN	_____	_____

GROUP D WATER SERVICE TUBING

item #	71	300	3/4" COPPER TUBING TYPE K	_____	_____
item #	72	300	1" COPPER TUBING TYPE K	_____	_____
item #	73	180	1 1/4" COPPER TUBING TYPE K	_____	_____
item #	74	120	1 1/2" COPPER TUBING TYPE K	_____	_____
item #	75	120	2" COPPER TUBING TYPE K	_____	_____

GROUP E: CORPORATION COCKS

item #	76	50	3/4" CORP. COCK CC	_____	_____
item #	77	50	1" CORP. COCK CC	_____	_____
item #	78	25	1 1/4" CORP. COCK CC	_____	_____
item #	79	25	1 1/2" CORP. COCK CC	_____	_____
item #	80	25	2" CORP. COCK CC	_____	_____
item #	81	50	3/4" CORP. COCK IP	_____	_____
item #	82	50	1" CORP. COCK IP	_____	_____
item #	83	25	1 1/4" CORP. COCK IP	_____	_____
item #	84	25	1 1/2" CORP. COCK IP	_____	_____
item #	85	25	2" CORP. COCK IP	_____	_____

GROUP F: CURB STOPS

item #	86	150	3/4" CURB STOP, CTS PACK JOINT, OPEN RIGHT	_____	_____
item #	87	100	1" CURB STOP, CTS PACK JOINT, OPEN RIGHT	_____	_____
item #	88	15	1 1/4" CURB STOP, CTS PACK JOINT, OPEN RIGHT	_____	_____
item #	89	15	1 1/2" CURB STOP, CTS PACK JOINT, OPEN RIGHT	_____	_____

item #	90	15	2" CURB STOP, CTS PACK JOINT, OPEN RIGHT	_____	_____
item #	91	12	3/4" CURB STOP, FEMALE IRON PIPE, OPEN RIGHT	_____	_____
item #	92	12	1" CURB STOP, FEMALE IRON PIPE, OPEN RIGHT	_____	_____
item #	93	12	1 1/4" CURB STOP, FEMALE IRON PIPE, OPEN RIGHT	_____	_____
item #	94	12	1 1/2" CURB STOP, FEMALE IRON PIPE, OPEN RIGHT	_____	_____
item #	95	12	2" CURB STOP, FEMALE IRON PIPE, OPEN RIGHT	_____	_____

GOUP G: PACK JOINT COUPLINGS AND ADAPTERS

item #	96	100	3/4"X3/4" CTS PACK JOINT COUPLING	_____	_____
item #	97	100	1"X1" CTS PACK JOINT COUPLING	_____	_____
item #	98	75	1 1/4"X1 1/4" CTS PACK JOINT COUPLING	_____	_____
item #	99	50	1 1/2"X1 1/2" CTS PACK JOINT COUPLING	_____	_____
item #	100	25	2"X2" CTS PACK JOINT COUPLING	_____	_____
item #	101	100	3/4" FEMALE IRON PIPE X 3/4" CTS PACK JOINT ADAPTER	_____	_____
item #	102	100	1" FEMALE IRON PIPE X 3/4" CTS PACK JOINT ADAPTER	_____	_____
item #	103	50	1" FEMALE IRON PIPE X 1 CTS PACK JOINT ADAPTER	_____	_____
item #	104	25	1 1/4" FEMALE IRON PIPE X 1 1/4" CTS PACK JOINT ADAPTER	_____	_____
item #	105	25	1 1/2" FEMALE IRON PIPE X 1 1/2" CTS PACK JOINT ADAPTER	_____	_____
item #	106	30	2" FEMALE IRON PIPE X 2" CTS PACK JOINT ADAPTER	_____	_____
item #	107	100	3/4" MALE IRON PIPE X 3/4" CTS PACK JOINT ADAPTER	_____	_____
item #	108	100	1" MALE IRON PIPE X 3/4" CTS PACK JOINT ADAPTER	_____	_____
item #	109	100	1" MALE IRON PIPE X 1" CTS PACK JOINT ADAPTER	_____	_____
item #	110	50	1 1/4" MALE IRON PIPE X 1 1/4" CTS PACK JOINT ADAPTER	_____	_____
item #	111	50	1 1/2" MALE IRON PIPE X 1 1/2" CTS PACK JOINT ADAPTER	_____	_____
item #	112	50	2" MALE IRON PIPE X 2" CTS PACK JOINT ADAPTER	_____	_____
item #	113	25	1"XXS LEAD PAK X 3/4" CTS PACK JOINT COUPLING	_____	_____
item #	114	25	5/8"XXS LEAD PAK X 3/4" CTS PACK JOINT COUPLING	_____	_____

GROUP H: THREADED BRASS

NIPPLES

item #	115	6	BRASS NIPPLE 1/2XCLOSE	_____	_____
item #	116	6	BRASS NIPPLE 1/2X2	_____	_____
item #	117	6	BRASS NIPPLE 1/2X3	_____	_____
item #	118	6	BRASS NIPPLE 1/2X4	_____	_____
item #	119	6	BRASS NIPPLE 1/2X5	_____	_____
item #	120	6	BRASS NIPPLE 1/2X6	_____	_____
item #	121	6	BRASS NIPPLE 3/4XCLOSE	_____	_____
item #	122	6	BRASS NIPPLE 3/4X2	_____	_____
item #	123	6	BRASS NIPPLE 3/4X3	_____	_____
item #	124	6	BRASS NIPPLE 3/4X4	_____	_____
item #	125	6	BRASS NIPPLE 3/4X5	_____	_____
item #	126	6	BRASS NIPPLE 3/4X6	_____	_____
item #	127	6	BRASS NIPPLE 1XCLOSE	_____	_____
item #	128	6	BRASS NIPPLE 1X2	_____	_____
item #	129	6	BRASS NIPPLE 1X3	_____	_____
item #	130	6	BRASS NIPPLE 1X4	_____	_____
item #	131	6	BRASS NIPPLE 1X5	_____	_____
item #	132	6	BRASS NIPPLE 1X6	_____	_____
item #	133	6	BRASS NIPPLE 1 1/4XCLOSE	_____	_____
item #	134	6	BRASS NIPPLE 1 1/4X2	_____	_____
item #	135	6	BRASS NIPPLE 1 1/4X3	_____	_____
item #	136	6	BRASS NIPPLE 1 1/4X4	_____	_____
item #	137	6	BRASS NIPPLE 1 1/4X5	_____	_____
item #	138	6	BRASS NIPPLE 1 1/4X6	_____	_____

item #	139	6	BRASS NIPPLE 1 1/2XCLOSE	_____	_____
item #	140	6	BRASS NIPPLE 1 1/2X2	_____	_____
item #	141	6	BRASS NIPPLE 1 1/2X3	_____	_____
item #	142	6	BRASS NIPPLE 1 1/2X4	_____	_____
item #	143	6	BRASS NIPPLE 1 1/2X5	_____	_____
item #	144	6	BRASS NIPPLE 1 1/2X6	_____	_____
item #	145	6	BRASS NIPPLE 2XCLOSE	_____	_____
item #	146	6	BRASS NIPPLE 2X2 1/2	_____	_____
item #	147	6	BRASS NIPPLE 2X3	_____	_____
item #	148	6	BRASS NIPPLE 2X4	_____	_____
item #	149	6	BRASS NIPPLE 2X5	_____	_____
item #	150	6	BRASS NIPPLE 2X6	_____	_____
item #	151	6	BRASS NIPPLE 3XCLOSE	_____	_____
item #	152	6	BRASS NIPPLE 3X4	_____	_____
item #	153	6	BRASS NIPPLE 3X5	_____	_____
item #	154	6	BRASS NIPPLE 3X6	_____	_____
FITTINGS					
item #	155	6	BRASS ELBOW 90DEGREE 1/2	_____	_____
item #	156	6	BRASS ELBOW 90DEGREE 3/4	_____	_____
item #	157	6	BRASS ELBOW 90DEGREE 1	_____	_____
item #	158	6	BRASS ELBOW 90DEGREE 1 1/4	_____	_____
item #	159	6	BRASS ELBOW 90DEGREE 1 1/2	_____	_____
item #	160	6	BRASS ELBOW 90DEGREE 2	_____	_____
item #	161	6	BRASS ELBOW 45DEGREE 1/2	_____	_____
item #	162	6	BRASS ELBOW 45DEGREE 3/4	_____	_____
item #	163	6	BRASS ELBOW 45DEGREE 1	_____	_____

item #	164	6	BRASS ELBOW 45DEGREE 1 1/4	_____	_____
item #	165	6	BRASS ELBOW 45DEGREE 1 1/2	_____	_____
item #	166	6	BRASS ELBOW 45DEGREE 2	_____	_____
item #	167	6	BRASS TEE 1/2	_____	_____
item #	168	6	BRASS TEE 3/4	_____	_____
item #	169	6	BRASS TEE 1	_____	_____
item #	170	6	BRASS TEE 1 1/4	_____	_____
item #	171	6	BRASS TEE 1 1/2	_____	_____
item #	172	6	BRASS TEE 2	_____	_____
item #	173	6	BRASS TEE 3/4X1/2	_____	_____
item #	174	6	BRASS TEE 1/2X1/2X3/4	_____	_____
item #	175	6	BRASS TEE 1X3/4	_____	_____
item #	176	6	BRASS TEE 1X1/2	_____	_____
item #	177	6	BRASS TEE 1 1/4X1	_____	_____
item #	178	6	BRASS TEE 1 1/4X3/4	_____	_____
item #	179	6	BRASS TEE 1 1/2X1 1/4	_____	_____
item #	180	6	BRASS TEE 1 1/2X1	_____	_____
item #	181	6	BRASS TEE 2X1 1/2	_____	_____
item #	182	6	BRASS TEE 2X1 1/4	_____	_____
item #	183	6	BRASS TEE 2X1	_____	_____
item #	184	6	BRASS TEE 2X3/4	_____	_____
item #	185	6	BRASS COUPLING 1/2	_____	_____
item #	186	6	BRASS COUPLING 3/4	_____	_____
item #	187	6	BRASS COUPLING 1	_____	_____
item #	188	6	BRASS COUPLING 1 1/4	_____	_____
item #	189	6	BRASS COUPLING 1 1/2	_____	_____

item #	190	6	BRASS COUPLING 2	_____	_____
item #	191	6	BRASS COUPLING 3/4X1/2	_____	_____
item #	192	6	BRASS COUPLING 1X3/4	_____	_____
item #	193	6	BRASS COUPLING 1X1/2	_____	_____
item #	194	6	BRASS COUPLING 1 1/4X1	_____	_____
item #	195	6	BRASS COUPLING 1 1/4X3/4	_____	_____
item #	196	6	BRASS COUPLING 1 1/2X1 1/4	_____	_____
item #	197	6	BRASS COUPLING 1 1/2X1	_____	_____
item #	198	6	BRASS COUPLING 1 1/2X3/4	_____	_____
item #	199	6	BRASS COUPLING 2X1 1/2	_____	_____
item #	200	6	BRASS COUPLING 2X1 1/4	_____	_____
item #	201	6	BRASS COUPLING 2X1	_____	_____
item #	202	6	BRASS COUPLING 2X3/4	_____	_____
item #	203	3	BRASS COUPLING 2 1/2X2	_____	_____
item #	204	3	BRASS COUPLING 3X2	_____	_____
item #	205	6	BRASS BUSHING 1/2X3/8	_____	_____
item #	206	6	BRASS BUSHING 1/2X1/4	_____	_____
item #	207	6	BRASS BUSHING 3/4X1/2	_____	_____
item #	208	6	BRASS BUSHING 1X3/4	_____	_____
item #	209	6	BRASS BUSHING 1X1/2	_____	_____
item #	210	6	BRASS BUSHING 1 1/4X1	_____	_____
item #	211	6	BRASS BUSHING 1 1/4X3/4	_____	_____
item #	212	6	BRASS BUSHING 1 1/2X1 1/4	_____	_____
item #	213	6	BRASS BUSHING 1 1/2X1	_____	_____
item #	214	6	BRASS BUSHING 1 1/2X3/4	_____	_____
item #	215	6	BRASS BUSHING 1 1/2X1/2	_____	_____

item #	216	6	BRASS BUSHING 2X1 1/2	_____	_____
item #	217	6	BRASS BUSHING 2X1 1/4	_____	_____
item #	218	6	BRASS BUSHING 2X1	_____	_____
item #	219	6	BRASS BUSHING 2X3/4	_____	_____
item #	220	6	BRASS BUSHING 2X1/2	_____	_____
item #	221	6	BRASS BUSHING 2 1/2X2	_____	_____
item #	222	3	BRASS BUSHING 3X2	_____	_____

GROUP I: PIPE COUPLINGS

item #	223	24	3/4" COUPLINGS, 2 BOLT	_____	_____
item #	224	24	1" COUPLINGS, 2 BOLT	_____	_____
item #	225	18	1 1/4" COUPLINGS, 2 BOLT	_____	_____
item #	226	18	1 1/2" COUPLINGS, 2 BOLT	_____	_____
item #	227	24	2" COUPLINGS, 2 BOLT	_____	_____
item #	228	12	4" COUPLING FOR CAST OR DUCTILE IRON, 4 BOLT	_____	_____
item #	229	16	6" COUPLING FOR CAST OR DUCTILE IRON, 6 BOLT	_____	_____
item #	230	18	8" COUPLING FOR CAST OR DUCTILE IRON, 6 BOLT	_____	_____
item #	231	8	10" COUPLING FOR CAST OR DUCTILE IRON, 8 BOLT	_____	_____
item #	232	18	12" COUPLING FOR CAST OR DUCTILE IRON, 8 BOLT	_____	_____
item #	233	8	16" COUPLING FOR CAST OR DUCTILE IRON, 12 BOLT	_____	_____
item #	234	8	20" COUPLING FOR CAST OR DUCTILE IRON, 12 BOLT	_____	_____
item #	235	8	24" COUPLING FOR CAST OR DUCTILE IRON, 15 BOLT	_____	_____

TRANSITION COUPLINGS

item #	236	12	4" TRANSITION COUPLING FOR CAST/DUCTILE IRON TO ASBESTOS CEMENT PIPE	_____	_____
item #	237	12	6" TRANSITION COUPLING FOR CAST/DUCTILE IRON TO ASBESTOS CEMENT PIPE	_____	_____
item #	238	18	8" TRANSITION COUPLING FOR CAST/DUCTILE IRON TO ASBESTOS CEMENT PIPE	_____	_____
item #	239	8	10" TRANSITION COUPLING FOR CAST/DUCTILE IRON TO ASBESTOS CEMENT PIPE	_____	_____

item #	240	18	12" TRANSITION COUPLING FOR CAST/DUCTILE IRON TO ASBESTOS CEMENT PIPE	_____	_____
item #	241	4	16" TRANSITION COUPLING FOR CAST/DUCTILE IRON TO ASBESTOS CEMENT PIPE	_____	_____
item #	242	4	20" TRANSITION COUPLING FOR CAST/DUCTILE IRON TO ASBESTOS CEMENT PIPE	_____	_____
item #	243	4	24" TRANSITION COUPLING FOR CAST/DUCTILE IRON TO ASBESTOS CEMENT PIPE	_____	_____
GROUP	J		CIRCUMFERENTIAL REPAIR CLAMPS AND OUTLET CLAMPS		
item #	244	12	4" EXTENDED RANGE COUPLING	_____	_____
item #	245	12	6" EXTENDED RANGE COUPLING	_____	_____
item #	246	18	8" EXTENDED RANGE COUPLING	_____	_____
item #	247	6	10" EXTENDED RANGE COUPLING	_____	_____
item #	248	18	12" EXTENDED RANGE COUPLING	_____	_____
			GROUP K: CIRCUMFERENTIAL REPAIR CLAMPS AND OUTLET CLAMPS		
item #	249	12	REPAIR CLAMP 3/4x6"	_____	_____
item #	250	12	REPAIR CLAMP 1x6"	_____	_____
item #	251	12	REPAIR CLAMP 1 1/4x6"	_____	_____
item #	252	12	REPAIR CLAMP 1 1/2x6"	_____	_____
item #	253	12	REPAIR CLAMP 2x6"	_____	_____
item #	254	10	4" REPAIR SLEEVE, 4.74-5.12, 8" LONG, SINGLE BAND	_____	_____
item #	255	10	4" REPAIR SLEEVE, 4.95-5.35, 8" LONG, SINGLE BAND	_____	_____
item #	256	10	4" REPAIR SLEEVE, 4.74-5.14, 10" LONG, SINGLE BAND	_____	_____
item #	257	10	4" REPAIR SLEEVE, 4.95-5.35, 10" LONG, SINGLE BAND	_____	_____
item #	258	10	4" REPAIR SLEEVE, 4.74-5.14, 12" LONG, SINGLE BAND	_____	_____
item #	259	10	4" REPAIR SLEEVE, 4.95-5.35, 12" LONG, SINGLE BAND	_____	_____
item #	260	10	4" REPAIR SLEEVE, 4.74-5.14, 16" LONG, SINGLE BAND	_____	_____
item #	261	10	4" REPAIR SLEEVE, 4.95-5.35, 16" LONG, SINGLE BAND	_____	_____
item #	262	10	6" REPAIR SLEEVE, 6.84-7.24, 8" LONG, SINGLE BAND	_____	_____
item #	263	10	6" REPAIR SLEEVE, 7.04-7.44, 8" LONG, SINGLE BAND	_____	_____

item #	264	10	6" REPAIR SLEEVE, 6.84-7.24, 10" LONG, SINGLE BAND	_____	_____
item #	265	10	6" REPAIR SLEEVE, 7.04-7.44, 10" LONG, SINGLE BAND	_____	_____
item #	266	10	6" REPAIR SLEEVE, 6.84-7.24, 12" LONG, SINGLE BAND	_____	_____
item #	267	10	6" REPAIR SLEEVE, 7.04-7.44, 12" LONG, SINGLE BAND	_____	_____
item #	268	10	6" REPAIR SLEEVE, 6.84-7.24, 16" LONG, SINGLE BAND	_____	_____
item #	269	10	6" REPAIR SLEEVE, 7.04-7.44, 16" LONG, SINGLE BAND	_____	_____
item #	270	10	8" REPAIR SLEEVE, 8.99-9.39, 8" LONG, SINGLE BAND	_____	_____
item #	271	10	8" REPAIR SLEEVE, 9.25-9.65, 8" LONG, SINGLE BAND	_____	_____
item #	272	10	8" REPAIR SLEEVE, 8.99-9.39, 10" LONG, SINGLE BAND	_____	_____
item #	273	10	8" REPAIR SLEEVE, 9.25-9.65, 10" LONG, SINGLE BAND	_____	_____
item #	274	10	8" REPAIR SLEEVE, 8.99-9.39, 12" LONG, SINGLE BAND	_____	_____
item #	275	10	8" REPAIR SLEEVE, 9.25-9.65, 12" LONG, SINGLE BAND	_____	_____
item #	276	10	8" REPAIR SLEEVE, 8.99-9.39, 16" LONG, SINGLE BAND	_____	_____
item #	277	10	8" REPAIR SLEEVE, 9.25-9.65, 16" LONG, SINGLE BAND	_____	_____
item #	278	10	10" REPAIR SLEEVE, 11.04-11.46, 8" LONG, SINGLE BAND	_____	_____
item #	279	10	10" REPAIR SLEEVE, 11.37-11.77, 8" LONG, SINGLE BAND	_____	_____
item #	280	10	10" REPAIR SLEEVE, 11.04-11.46, 10" LONG, SINGLE BAND	_____	_____
item #	281	10	10" REPAIR SLEEVE, 11.37-11.77, 10" LONG, SINGLE BAND	_____	_____
item #	282	10	10" REPAIR SLEEVE, 11.04-11.46, 12" LONG, SINGLE BAND	_____	_____
item #	283	10	10" REPAIR SLEEVE, 11.37-11.77, 12" LONG, SINGLE BAND	_____	_____
item #	284	10	10" REPAIR SLEEVE, 11.04-11.46, 16" LONG, SINGLE BAND	_____	_____
item #	285	10	10" REPAIR SLEEVE, 11.37-11.77, 16" LONG, SINGLE BAND	_____	_____
item #	286	10	12" REPAIR SLEEVE, 13.14-13.56, 8" LONG, SINGLE BAND	_____	_____
item #	287	10	12" REPAIR SLEEVE, 13.56-13.96, 8" LONG, SINGLE BAND	_____	_____
item #	288	6	12" REPAIR SLEEVE 14.00-14.40 8" LONG, SINGLE BAND	_____	_____
item #	289	10	12" REPAIR SLEEVE, 13.14-13.56, 10" LONG, SINGLE BAND	_____	_____

item #	290	10	12" REPAIR SLEEVE, 13.56-13.96, 10" LONG, SINGLE BAND	_____	_____
item #	291	6	12" REPAIR SLEEVE 14.00-14.40 10" LONG, SINGLE BAND	_____	_____
item #	292	10	12" REPAIR SLEEVE, 13.14-13.56, 12" LONG, SINGLE BAND	_____	_____
item #	293	10	12" REPAIR SLEEVE, 13.56-13.96, 12" LONG, SINGLE BAND	_____	_____
item #	294	6	12" REPAIR SLEEVE 14.00-14.40 12" LONG, SINGLE BAND	_____	_____
item #	295	10	12" REPAIR SLEEVE, 13.14-13.56, 16" LONG, SINGLE BAND	_____	_____
item #	296	10	12" REPAIR SLEEVE, 13.56-13.96, 16" LONG, SINGLE BAND	_____	_____
item #	297	6	12" REPAIR SLEEVE 14.00-14.40 16" LONG, SINGLE BAND	_____	_____
item #	298	10	4" REPAIR SLEEVE, 4.70-5.50, 8" LONG, DOUBLE BAND	_____	_____
item #	299	10	4" REPAIR SLEEVE, 4.70-5.50, 10" LONG, DOUBLE BAND	_____	_____
item #	300	10	4" REPAIR SLEEVE, 4.70-5.50, 12" LONG, DOUBLE BAND	_____	_____
item #	301	10	4" REPAIR SLEEVE, 4.70-5.50, 16" LONG, DOUBLE BAND	_____	_____
item #	302	10	6" REPAIR SLEEVE, 6.75-7.55, 8" LONG, DOUBLE BAND	_____	_____
item #	303	10	6" REPAIR SLEEVE, 6.75-7.55, 10" LONG, DOUBLE BAND	_____	_____
item #	304	10	6" REPAIR SLEEVE, 6.75-7.55, 12" LONG, DOUBLE BAND	_____	_____
item #	305	10	6" REPAIR SLEEVE, 6.75-7.55, 16" LONG, DOUBLE BAND	_____	_____
item #	306	10	8" REPAIR SLEEVE, 8.88-9.68, 8" LONG, DOUBLE BAND	_____	_____
item #	307	10	8" REPAIR SLEEVE, 8.88-9.68, 10" LONG, DOUBLE BAND	_____	_____
item #	308	10	8" REPAIR SLEEVE, 8.88-9.68, 12" LONG, DOUBLE BAND	_____	_____
item #	309	10	8" REPAIR SLEEVE, 8.88-9.68, 16" LONG, DOUBLE BAND	_____	_____
item #	310	10	10" REPAIR SLEEVE, 11.05-12.05, 8" LONG, DOUBLE BAND	_____	_____
item #	311	10	10" REPAIR SLEEVE, 11.05-12.05, 10" LONG, DOUBLE BAND	_____	_____
item #	312	10	10" REPAIR SLEEVE, 11.05-12.05, 12" LONG, DOUBLE BAND	_____	_____
item #	313	10	10" REPAIR SLEEVE, 11.05-12.05, 16" LONG, DOUBLE BAND	_____	_____
item #	314	10	12" REPAIR SLEEVE, 13.10-14.30, 8" LONG, DOUBLE BAND	_____	_____
item #	315	10	12" REPAIR SLEEVE, 13.10-14.30, 10" LONG, DOUBLE BAND	_____	_____

item #	316	10	12" REPAIR SLEEVE, 13.10-14.30, 12" LONG, DOUBLE BAND	_____	_____
item #	317	10	12" REPAIR SLEEVE, 13.10-14.30, 16" LONG, DOUBLE BAND	_____	_____
item #	318	6	REPAIR SERVICE SLEEVE 4.74-5.14, 1" I.P. TAP 12" LONG	_____	_____
item #	319	6	REPAIR SERVICE SLEEVE 4.95-5.35, 1" I.P. TAP 12" LONG	_____	_____
item #	320	6	REPAIR SERVICE SLEEVE 6.84-7.24, 1" I.P. TAP 12" LONG	_____	_____
item #	321	6	REPAIR SERVICE SLEEVE 7.04-7.44, 1" I.P. TAP 12" LONG	_____	_____
item #	322	6	REPAIR SERVICE SLEEVE 8.99-9.39, 1" I.P. TAP 12" LONG	_____	_____
item #	323	6	REPAIR SERVICE SLEEVE 9.25-9.65, 1" I.P. TAP 12" LONG	_____	_____
item #	324	6	REPAIR SERVICE SLEEVE 11.04-11.46, 1" I.P. TAP 12" LONG	_____	_____
item #	325	6	REPAIR SERVICE SLEEVE 11.37-11.77, 1" I.P. TAP 12" LONG	_____	_____
item #	326	6	REPAIR SERVICE SLEEVE 11.75-12.15, 1" I.P. TAP 12" LONG	_____	_____
item #	327	6	REPAIR SERVICE SLEEVE 13.14-13.56, 1" I.P. TAP 12" LONG	_____	_____
item #	328	6	REPAIR SERVICE SLEEVE 13.56-13.96, 1" I.P. TAP 12" LONG	_____	_____
item #	329	6	REPAIR SERVICE SLEEVE 14.00-14.40, 1" I.P. TAP 12" LONG	_____	_____

GROUP L: BELL JOINT CLAMPS AND M J RESTRAINTS

item #	330	12	6" BELL JOINT CLAMP	_____	_____
item #	331	12	8" BELL JOINT CLAMP	_____	_____
item #	332	4	12" BELL JOINT CLAMP	_____	_____
item #	333	4	16" BELL JOINT CLAMP	_____	_____
item #	334	4	18" BELL JOINT CLAMP	_____	_____
item #	335	4	20" BELL JOINT CLAMP	_____	_____
item #	336	8	24" BELL JOINT CLAMP	_____	_____
item #	337	6	4" MJ RETAINER GLANDS	_____	_____
item #	338	6	6" MJ RETAINER GLANDS	_____	_____
item #	339	6	8" MJ RETAINER GLANDS	_____	_____
item #	340	6	12" MJ RETAINER GLANDS	_____	_____

item #	341	6	4" MEGALUG	_____	_____
item #	342	24	6" MEGALUG	_____	_____
item #	343	24	8" MEGALUG	_____	_____
item #	344	12	12" MEGALUG	_____	_____
item #	345	24	4" ACCESSORY KIT - WITH BOLTS AND GASKET	_____	_____
item #	346	24	6" ACCESSORY KIT - WITH BOLTS AND GASKET	_____	_____
item #	347	24	8" ACCESSORY KIT - WITH BOLTS AND GASKET	_____	_____
item #	348	24	12" ACCESSORY KIT - WITH BOLTS AND GASKET	_____	_____

GROUP M: CAST IRON FITTINGS AND PIPE FITTINGS

item #	349	4	4" MJ CAP	_____	_____
item #	350	4	6" MJ CAP	_____	_____
item #	351	4	8" MJ CAP	_____	_____
item #	352	4	12" MJ CAP	_____	_____
item #	353	4	4" MJ PLUG	_____	_____
item #	354	4	6" MJ PLUG	_____	_____
item #	355	4	8" MJ PLUG	_____	_____
item #	356	4	12" MJ PLUG	_____	_____
item #	357	2	4" MJ COUPLING	_____	_____
item #	358	2	6" MJ COUPLING	_____	_____
item #	359	2	8" MJ COUPLING	_____	_____
item #	360	2	12" MJ COUPLING	_____	_____
item #	361	2	6"X4" MJ REDUCER	_____	_____
item #	362	2	8"X4" MJ REDUCER	_____	_____
item #	363	2	12"X4" MJ REDUCER	_____	_____
item #	364	2	12" X 6" MJ REDUCER	_____	_____
item #	365	2	12" X 8" MJ REDUCER	_____	_____

item #	366	2	4" MJ TEE	_____	_____
item #	367	2	6" X 4" MJ TEE	_____	_____
item #	368	2	6" MJ TEE	_____	_____
item #	369	2	8" X 4" MJ TEE	_____	_____
item #	370	2	8" X 6" MJ TEE	_____	_____
item #	371	2	8" MJ TEE	_____	_____
item #	372	2	12" X 4" MJ TEE	_____	_____
item #	373	4	12" X 6" MJ TEE	_____	_____
item #	374	3	12" X 8" MJ TEE	_____	_____
item #	375	3	12" MJ TEE	_____	_____
item #	376	3	6" X 6" HYDRANT TEE W/ANCHOR GLAND	_____	_____
item #	377	4	8" X 6" HYDRANT TEE W/ANCHOR GLAND	_____	_____
item #	378	4	12" X 6" HYDRANT TEE W/ANCHOR GLAND	_____	_____
item #	379	4	4" MJ BEND 11 1/4 DEGREE	_____	_____
item #	380	4	6" MJ BEND 11 1/4 DEGREE	_____	_____
item #	381	4	8" MJ BEND 11 1/4 DEGREE	_____	_____
item #	382	4	12" MJ BEND 11 1/4 DEGREE	_____	_____
item #	383	4	4" MJ BEND 22 1/2 DEGREE	_____	_____
item #	384	4	6" MJ BEND 22 1/2 DEGREE	_____	_____
item #	385	4	8" MJ BEND 22 1/2 DEGREE	_____	_____
item #	386	4	12" MJ BEND 22 1/2 DEGREE	_____	_____
item #	387	4	4" MJ BEND 45 DEGREE	_____	_____
item #	388	4	6" MJ BEND 45 DEGREE	_____	_____
item #	389	4	8" MJ BEND 45 DEGREE	_____	_____
item #	390	4	12" MJ BEND 45 DEGREE	_____	_____
item #	391	4	4" MJ BEND 90 DEGREE	_____	_____

item #	392	4	6" MJ BEND 90 DEGREE	_____	_____
item #	393	4	8" MJ BEND 90 DEGREE	_____	_____
item #	394	4	12" MJ BEND 90 DEGREE	_____	_____

GROUP N: DUCTILE IRON PIPE

item #	395	100	4" DUCTILE IRON PIPE	_____	_____
item #	396	100	6" DUCTILE IRON PIPE	_____	_____
item #	397	100	8" DUCTILE IRON PIPE	_____	_____
item #	398	100	12" DUCTILE IRON PIPE	_____	_____
item #	399	100	16" DUCTILE IRON PIPE	_____	_____
item #	400	100	20" DUCTILE IRON PIPE	_____	_____
item #	401	100	24" DUCTILE IRON PIPE	_____	_____

GROUP O: FERNCO

item #	402	6	4" CLAY TO PLASTIC FERNCO	_____	_____
item #	403	6	4" PLASTIC TO PLASTIC FERNCO	_____	_____
item #	404	6	6" CLAY TO PLASTIC FERNCO	_____	_____
item #	405	6	6" PLASTIC TO PLASTIC FERNCO	_____	_____
item #	406	6	6" x 4" CLAY TO PLASTIC FERNCO	_____	_____
item #	407	6	6" x 4" PLASTIC TO PLASTIC FERNCO	_____	_____
item #	408	6	8" CLAY TO PLASTIC FERNCO	_____	_____

GROUP P: SERVICE CLAMPS

item #	409	4	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 3 AC/DI PIPE	_____	_____
item #	410	4	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 4 AC/DI PIPE	_____	_____
item #	411	4	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 6 AC/DI PIPE	_____	_____
item #	412	4	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 8 AC/DI PIPE	_____	_____
item #	413	6	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 10 AC/DI PIPE	_____	_____
item #	414	6	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 12 AC/DI PIPE	_____	_____

item #	415	2	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 14 AC/DI PIPE	_____	_____
item #	416	2	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 16 AC/DI PIPE	_____	_____
item #	417	2	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 18 AC/DI PIPE	_____	_____
item #	418	2	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 20 AC/DI PIPE	_____	_____
item #	419	2	DOUBLE STRAP SERVICE SADDLES, TAP 2" IP THREAD, TO FIT 24 AC/DI PIPE	_____	_____

GROUP Q: RESILIENT SEATED GATE VALVES

item #	420	6	4" MJ RESILIENT SEATED GATE VALVE	_____	_____
item #	421	12	6" MJ RESILIENT SEATED GATE VALVE	_____	_____
item #	422	12	8" MJ RESILIENT SEATED GATE VALVE	_____	_____
item #	423	8	12" MJ RESILIENT SEATED GATE VALVE	_____	_____

GROUP R: BUTTERFLY GATE VALVES

item #	424	4	16" MJ BUTTERFLY GATE VALVE	_____	_____
item #	425	4	20" MJ BUTTERFLY GATE VALVE	_____	_____
item #	426	4	24" MJ BUTTERFLY GATE VALVE	_____	_____

GROUP S: FIRE HYDRANTS

item #	427	2	FIRE HYDRANT 5 1/4" 3 1/2 FT TRENCH	_____	_____
item #	428	4	FIRE HYDRANT 5 1/4" 4 FT TRENCH	_____	_____
item #	429	6	FIRE HYDRANT 5 1/4" 4 1/2 FT TRENCH	_____	_____
item #	430	6	FIRE HYDRANT 5 1/4" 5 FT TRENCH	_____	_____
item #	431	6	FIRE HYDRANT 5 1/4" 5 1/2 FT TRENCH	_____	_____
item #	432	4	FIRE HYDRANT 5 1/4" 6 FT TRENCH	_____	_____

GROUP T: FIRE HYDRANT INSERTS

item #	433	3	FIRE HYDRANT INSERT 4 1/2" 3 1/2 FT TRENCH	_____	_____
item #	434	4	FIRE HYDRANT INSERT 4 1/2" 4 FT TRENCH	_____	_____
item #	435	6	FIRE HYDRANT INSERT 4 1/2" 4 1/2 FT TRENCH	_____	_____
item #	436	6	FIRE HYDRANT INSERT 4 1/2" 5 FT TRENCH	_____	_____

item #	437	6	FIRE HYDRANT INSERT 4 1/2" VO 5 1/2 FT TRENCH	_____	_____
item #	438	3	FIRE HYDRANT INSERT 4 1/2" VO 6 FT TRENCH	_____	_____

GROUP U: FIRE HYDRANT PARTS

MATHEWS FIRE HYDRANT PARTS

item #	439	20	MATHEWS M-1 TAP BOLTS	_____	_____
item #	440	12	MATHEWS M-3 HOLD DOWN NUT	_____	_____
item #	441	12	MATHEWS M-4 REVOLVING NUT	_____	_____
item #	442	20	MATHEWS M-7A STUFFING BOX NUT O-RING TYPE	_____	_____
item #	443	12	MATHEWS M-8A O-RING PRESSURE SEAL	_____	_____
item #	444	12	MATHEWS M-8B O-RING WEATHER SEAL	_____	_____
item #	445	6	MATHEWS M-26 STEM 5'2" 3' BURY	_____	_____
item #	446	6	MATHEWS M-26 STEM 5'8" 3'6" BURY	_____	_____
item #	447	6	MATHEWS M-26 STEM 6'2" 4' BURY	_____	_____
item #	448	6	MATHEWS M-26 STEM 6'8" 4'6" BURY	_____	_____
item #	449	6	MATHEWS M-26 STEM 7'2" 5' BURY	_____	_____
item #	450	6	MATHEWS M-26 STEM 7'8" 5'6" BURY	_____	_____
item #	451	6	MATHEWS M-26 STEM 8'2" 6' BURY	_____	_____
item #	452	6	MATHEWS M-26 STEM 8'8" 6'6" BURY	_____	_____
item #	453	12	MATHEWS M-28 MAIN VALVE WASHER	_____	_____
item #	454	12	MATHEWS M-32 RUBBER ELBOW GASKET FOR 4 1/2" INSERT	_____	_____
item #	455	12	MATHEWS M-34 LOCK & CAP NUT	_____	_____
item #	456	12	MATHEWS M-35 LOCK & CAP NUT GASKET	_____	_____
item #	457	12	MATHEWS M-36 DRAIN VALVE W/FACING & RIVETS	_____	_____
item #	458	20	MATHEWS M-39 WOODRUFF KEYS	_____	_____
item #	459	12	MATHEWS M-40 BRASS DRAIN VALVE BOTTOM PLATE	_____	_____

KENNEDY K81A FIRE HYDRANT PARTS

item #	460	12	KENNEDY K8105 O-RING	_____	_____
item #	461	6	KENNEDY K8106 THRUST WASHER	_____	_____
item #	462	12	KENNEDY K8109 CAP GASKET	_____	_____
item #	463	12	KENNEDY K8111 O-RING	_____	_____
item #	464	6	KENNEDY K8125 ELBOW GASKET	_____	_____
item #	465	12	KENNEDY K8126A O-RING	_____	_____
item #	466	12	KENNEDY K8128 SEAT RING	_____	_____
item #	467	12	KENNEDY K8130 O-RING	_____	_____
item #	468	12	KENNEDY K8131 MAIN VALVE	_____	_____
item #	469	8	KENNEDY K8132 BOTTOM PLATE	_____	_____
item #	470	6	KENNEDY K8137 DRAIN VALVE FACING	_____	_____
item #	471	12	KENNEDY K8143 HOSE NOZZLE CAP GASKET	_____	_____
item #	472	12	KENNEDY K8143 STEAMER NOZZLE CAP GASKET	_____	_____
item #	473	12	KENNEDY K8145 HOSE NOZZLE O-RING	_____	_____
item #	474	12	KENNEDY K8145 STEAMER NOZZLE O-RING	_____	_____
AMERICAN DARLING B84B FIRE HYDRANT PARTS					
item #	475	24	AMERICAN DARLING 54-84-2-2 HOUSING O-RING	_____	_____
item #	476	6	AMERICAN DARLING 54-84-4-4 THRUST WASHER	_____	_____
item #	477	6	AMERICAN DARLING 54-84-5-3 PIPE PLUG	_____	_____
item #	478	12	AMERICAN DARLING 54-84-14 HOUSING GASKET	_____	_____
item #	479	12	AMERICAN DARLING 54-84-20-4 HOSE NOZZLE O-RING	_____	_____
item #	480	12	AMERICAN DARLING 54-84-22 HOSE GASKET	_____	_____
item #	481	12	AMERICAN DARLING 54-84-25-4 STEAMER NOZZLE O-RING	_____	_____
item #	482	12	AMERICAN DARLING 54-84-27 STEAMER GASKET	_____	_____
item #	483	4	AMERICAN DARLING 54-84-30-6 TRAVEL STOP NUT	_____	_____
item #	484	20	AMERICAN DARLING 54-84-36-1 SEAT O-RING	_____	_____

item #	485	12	AMERICAN DARLING 54-84-38 DRAIN RING GASKET	_____	_____
item #	486	6	AMERICAN DARLING 54-84-38-1 BARREL GASKET	_____	_____
item #	487	6	AMERICAN DARLING 54-84-144 WEATHER SHIELD	_____	_____
MUELLER SUPER CENTURION 200 FIRE HYDRANT PARTS					
item #	488	12	MUELLER A-5 BONNET O-RING	_____	_____
item #	489	12	MUELLER A-12 STEM O-RING	_____	_____
item #	490	6	MUELLER A-15 PUMPER NOZZLE GASKET	_____	_____
item #	491	6	MUELLER A-16 PUMPER NOZZLE O-RING	_____	_____
item #	492	6	MUELLER A-19 HOSE NOZZLE GASKET	_____	_____
item #	493	6	MUELLER A-20 HOSE NOZZLE O-RING	_____	_____
item #	494	6	MUELLER A-38 DRAIN RING HOUSING O-RING	_____	_____
item #	495	6	MUELLER A-39 SEAT RING TOP O-RING	_____	_____
item #	496	12	MUELLER A-47 CAP NUT SEAL	_____	_____
item #	497	6	MUELLER A-48 LOCK WASHER	_____	_____
item #	498	2	MUELLER A-50 SHOE 6" MJ	_____	_____
item #	499	6	MUELLER A-85 WEATHER SEAL	_____	_____
HYDRANT REPAIR KITS - COLLISION REPAIR KIT					
item #	500	12	KENNEDY 5 1/4 VO K81A COLLISION RO KIT	_____	_____
item #	501	12	KENNEDY 4 1/2 VO K81A COLLISION RP KIT	_____	_____
item #	502	12	MUELLER CENTURION 200 COLLISION RP KIT	_____	_____
item #	503	12	AMERICAN DARLING B84B COLLISION RP KIT	_____	_____
HYDRANT EXTENSION KITS					
item #	504	6	KENNEDY 12" 5 1/4 VO K81A	_____	_____
item #	505	6	KENNEDY 6" 5 1/4 VO K81A	_____	_____
item #	506	6	KENNEDY 12" 4 1/2 VO K81A	_____	_____
item #	507	6	KENNEDY 6" 4 1/2 VO K81A	_____	_____

item #	508	6	MUELLER 12" 5 1/4 VO Centurion 200	_____	_____
item #	509	6	MUELLER 6" 5 1/4 VO Centurion 200	_____	_____
item #	510	6	AMERICAN DARLING 12" 5 1/4VO B84B	_____	_____
item #	511	6	AMERICAN DARLING 6" 5 1/4VO B84B	_____	_____

**City of Newport
Department of Utilities - Water Division**

Waterworks Supplies
Bid/Proposal Sheet # 13-084

Date: _____

I/We _____ the undersigned do hereby propose to furnish the City of Newport, Rhode Island, **Water Works Supplies**, in accordance with all terms and specifications contained herein:

1. See attached price sheets

NAME OF FIRM	SIGNATURE & TITLE
ADDRESS, CITY, ZIP CODE	
TELEPHONE NUMBER	FAX NUMBER
E-MAIL ADDRESS	

NOTE:

On a separate attachment, or use the one provided, list the Officers of your Corporation or Principals of your LLC. Award can not be done without the attachment.

Also, Please provide any literature you feel may be necessary.

All bidders are responsible for insuring that no **addendums** have been made to the original bid package.

All bid packages and addendumes are located at www.cityofnewport.com or you can contact the Purchasing Department.

City of Newport
Department of Utilities - Water Division

Waterworks Supplies
Bid # 13-084

List the Officers of your Corporation or Principals of your LLC. Award can not be done without the attachment.

Complete Company Name

Name	Title/Officer/Position
Name	Title/Officer/Position