

**ADDENDUM NO. 1
TO THE
PLANS AND SPECIFICATIONS
for
WATER MAIN RELOCATION
INDOT PROJECT NO. 1800974 CANNELBURG ROAD (C.R. 900 E.)
FROM C.R. 450 N. TO C.R. 100 N. RECONSTRUCTION – PHASE IV & V
FOR THE
DAVISS COUNTY RURAL WATER SYSTEM, INC.
DAVISS COUNTY, INDIANA

MEI PROJECT NO. 2019016-03**

DECEMBER 2, 2020

The following items shall amend, clarify, and/or correct plans and/or specifications for the above project and shall take precedence over items in conflict herein:

ITEM NO. 1 - Reference Specifications, BID PROPOSAL, Pages 21, 21A, and 21B:

DELETE: Delete the Bid Proposal Pages 21, 21A, and 21B that is included in the specifications.

REPLACE WITH: The attached Bid Proposal Pages 21, 21A, and 21B issued by Addendum No. 1 dated December 2, 2020.

ITEM NO. 2 - Reference Specifications, AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT, ARTICLE 4 – CONTRACT TIMES, 4.02 Contract Times : Days, Page 31:

DELETE: “The Work will be substantially completed One Hundred Eighty (180) days after the date when the Contract Times commence to run”

REPLACE WITH: “The Work will be substantially completed for ALL WORK south of STA. 153+82 (12” gate valve north of STA. 153+79 boring) within Ninety (90) days after the date when the Contract Times commence to run and ALL REMAINING WORK north of STA. 153+82 within One Hundred Eighty (180) days after the date when the Contract Times commence to run”

ITEM NO. 3 - Reference Specifications, GENERAL WATER MAIN SPECIFICATIONS, G-20 GATE VALVES, Page G-8 and G-9:

DELETE: “A.W.W.A. Resilient Seated Gate Valve Standard C-509” and “Valve boxes shall consist of PVC, SDR-21 pipe with an aluminum valve box top, model VBTA 10 Al. as manufactured by Castings, Inc. with removable cast iron lid.”.

REPLACE WITH: “A.W.W.A. Resilient Seated Gate Valve Standard C-515” and “Valve boxes shall be screw type two piece or three piece cast iron with removable cast iron lid (marked as “water”) as manufactured by FASTECH, Fastener Technology, Inc. or equal and shall include BOXLOK Valve Box Alignment Device, Model 1, 367-4850.”.

ADD: American Flow Control and Kennedy as Engineer pre-approved equals to the specified Mueller valves. Also, American Flow Control “Alpha” restrained joint valves are approved in lieu of a standard mechanical joint valve with mechanical joint restraints. All gate valves shall include SS nuts and bolts.

ITEM NO. 4 - Reference Specifications, GENERAL WATER MAIN SPECIFICATIONS, G-21 FIRE HYDRANTS, Page G-9 and G-22 FLUSHING HYDRANTS, Page G-10:

ADD: American Flow Control and Kennedy as Engineer pre-approved equals to the specified Mueller hydrants. All hydrants shall include SS nuts and bolts.

ITEM NO. 5 - Reference Specifications, GENERAL WATER MAIN SPECIFICATIONS, G-25 METER BOXES AND COVERS, Page G-10:

DELETE: “Covers and lids shall be manufactured by Ford”.

REPLACE WITH: “Covers and lids shall be manufactured by Vestal MFG. Co.”.

ITEM NO. 6 - Reference Plans, SHEET 16, Note for Removal of Existing Control Valve Pit:

DELETE: “CONTRACTOR SHALL REMOVE CONTROL VALVE PIT AND APPURTENANCES, TO A MIN. DEPTH OF 18” BELOW GRADE AFTER NEW CONTROL VALVE PIT IS PLACED INTO SERVICE”

REPLACE WITH: “CONTRACTOR SHALL COMPLETELY REMOVE CONTROL VALVE PIT AND APPURTENANCES AFTER NEW CONTROL VALVE PIT IS PLACED INTO SERVICE AND RETURN CONTROL VALVE TO OWNER. BID ITEM SHALL ALSO INCLUDE CUT, CAP AND BLOCKING OF INLET AND OUTLET LINES AND BACKFILL WITH WELL COMPACTED GRADE “B” BORROW BACKFILL”

ITEM NO. 7 - Reference Specifications, GENERAL WATER MAIN SPECIFICATIONS, Page G-34:

ADD:

BUTTERFLY CONTOL VALVE AND ELECTRIC ACTUATOR

- A. Valves shall be electrically actuated and shall be provided by the valve manufacturer. One (1) – six (6) inch valve is required for this project.
- B. All valves shall meet or exceed the latest revision of AWWA Standard C504 for Class 150B butterfly valves and shall meet or exceed the requirements of this specification. Valves 12’’ and smaller shall have a working pressure of 200 psi. All valves shall be tested at and shall be capable of withstanding bi-directional line hydrostatic test pressure up to 225 psi without leaking. All valve components shall conform to Underwriters Laboratories classification in accordance with ANSI/NSF Standard 61.

Valve bodies shall be of cast iron per ASTM A126 Class B. Flange end valves shall be of the short body design with 125 lb. flanged ends, faced and drilled per ANSI B16.1 standard for cast iron flanges.

Discs shall be offset to provide an uninterrupted 360 degree seating edge and shall be cast iron per ASTM A48, Class 40C. The disc seating edge shall be solid 316 stainless steel. Sprayed mating seating surfaces are not acceptable. The disc shall be securely attached to the valve shaft utilizing a field removable / replaceable 316 stainless steel torque screw on sizes 3 – 12’’ or a tangential pin locked in place with a set screw on Sizes 14 – 20’’.

Valve shaft shall be type 304 stainless steel. Valve shaft seals shall be self-compensating V-type packing with a minimum of four sealing rings. One-piece molded shaft seals and o-ring shaft seals are not acceptable.

The seat shall be of Buna-N for water, and shall be molded in and vulcanized to the valve body. The seat shall contain an integral shaft seal protecting the valve bearings and packing from any line debris. Seats vulcanized to cartridge inserts in the valve body and seats on the disc are not acceptable.

Valve shaft bearings shall be non-metallic and permanently lubricated.

Exterior and interior metallic surfaces of each valve shall be shop painted per the latest revision of AWWA C504. The interior of the body shall have a full rubber lining vulcanized to the valve body. Rubber lining on the flange face and boot style seats are not acceptable.

The valve actuator shall be sized for the specified conditions, per AWWA C504.

AWWA C504 Butterfly valves shall be DeZURIK Style BAW.

C. Valve electric actuator specification for intelligent, non-intrusive electric actuators:

1. GENERAL:

The actuators shall be suitable for use on a nominal 120 volt single phase 60 hertz power supply and are to incorporate motor, integral reversing starter, local control facilities, terminals for remote control and indication connections, and a backlit LCD display with digital position indication and alarm icons.

It shall be possible to carry out the setting of the torque, turns, and configuration of the indication contacts without the necessity to remove any electrical compartment covers.

Actuators shall be 'O' ring sealed, watertight to IP68, NEMA 4, 4x and 6, and shall at the same time have an inner watertight and dustproof 'O' ring seal between the terminal compartment and the internal electrical elements of the actuator fully protecting the motor and all other internal electrical elements of the actuator from ingress of moisture and dust when the terminal cover is removed on site for cabling

The actuator shall include an on-board data logger to store operational data such as valve torque profiles, actuator events, and statistics that can be viewed locally on the LCD screen or downloaded via infrared port. A PDA shall be furnished by the actuator manufacturer and include actuator diagnostic software to download, review, analyze, and reconfigure the actuator.

The actuator shall include a device to ensure that the motor runs with the correct rotation for the required direction of valve travel with either phase sequence of the three-phase power supply connected to the actuator.

2. ACTUATOR SIZING:

The actuator shall be sized to guarantee valve closure at the specified differential pressure. The safety margin of motor power available for seating and unseating the valve shall be sufficient to ensure torque switch trip at maximum valve torque with the supply voltage 10% below nominal. The operating speed shall be such as to give valve closing and opening at approximately 10-12 inches per minute unless otherwise stated in the job specification.

3. AMBIENT TEMPERATURE:

The actuator shall be capable of functioning in an ambient temperature ranging from minus 22°F (-30°C) to + 158°F (+70°C).

4. MOTOR:

The electric motor shall be a 24 VDC permanent magnet, high torque, and low inertia motor.

Actuators shall incorporate a motor speed controller to allow for simple, non-intrusive, field adjustable speed control. To simplify set-up, speed control shall be adjusted over a 4:1 speed range (i.e. 30-120 seconds) by any of the following means: IR setting tool, PDA and laptop PC.

5. MOTOR PROTECTION:

Protection shall be provided for the motor as follows:

- A. The motor shall be de-energized in the event of stall when attempting to unseat a jammed valve.
- B. Motor temperature shall be sensed by a thermostat to protect against overheating.
- C. Single phasing protection.

6. GEARING:

The actuator gearing shall be totally enclosed in an oil- filled gearcase suitable for operation at any angle. All main drive gearing must be of metal construction.

Standard gear oil shall be used to lubricate the gearcase. Special or exotic lubricants shall not be used, as they may be difficult to source in remote locations.

Actuators shall provide direct quarter-turn output and shall not require the use of an intermediate gearbox.

7. HAND OPERATION:

A handwheel shall be provided for emergency operation engaged when the motor is declutched by a lever or similar means, with the drive being restored to power automatically by starting the motor. The hand/auto selection lever should be padlockable in both "Hand" and "Auto" positions. It should be possible to select hand operation while the actuator is running or start the actuator motor while the hand/auto selection lever is locked in "Hand" without damage to the drive train.

The handwheel drive must be mechanically independent of the motor drive, and any gearing should be such as to permit emergency manual operation in a reasonable time. Clockwise operation of the handwheel shall give closing movement of the valve. For safety purposes, it shall be possible to disengage the electric drive with the declutch lever. This disengagement and any subsequent reengagement shall not cause any damage to the valve or operator, even with the motor running.

8. DRIVE BUSHING:

The actuator shall be furnished with a drive bushing easily detachable for machining to suit the valve stem or gearbox input shaft. The drive bush shall be positioned in a detachable base of the actuator.

9. TORQUE AND TURNS LIMITATIONS:

An inexpensive setting tool shall be included for non-intrusive set-up, calibration, and interrogation of the actuator. Using the vendor-supplied setting tool, torque and turns limitation shall be adjustable as follows:

- A. Position setting range: 2.5 to 100,000 turns, with resolution to 7.5° of actuator output.
- B. Torque setting: 40% to 100% rated torque.
- C. Torque sensing must be affected directly electrically or electronically. Extrapolating torque from mechanically measured motor speed is not acceptable due to response time. Torque measurement shall be independent of variations in frequency, voltage or temperature.
- D. "Latching" to be provided for the torque sensing system to inhibit torque off during unseating or during starting in mid-travel against high inertia loads.

The electric circuit diagram of the actuator should not vary with valve type remaining identical regardless of whether the valve is to open or close on torque or position limit.

10. REMOTE VALVE POSITION/ACTUATOR STATUS INDICATION:

In the event of a (main) power (supply) loss or failure, the position contacts must continue to be able to supply remote position feedback and maintain interlock capabilities. If batteries are required to maintain contact functionality the actuator vendor shall provide a supply sufficient for 30 continuous days of un-powered operation with one complete valve cycle every hour.

A backup power source must be provided in the actuator to ensure correct remote limit switch indication should the actuator be moved manually when the power supply is interrupted.

The position of the actuator and valve must be updated contemporaneously, even when the power supply is not present.

Four contacts shall be provided which can be selected to indicate any position of the valve with each contact externally selectable as normally open or normally closed. The contacts shall be rated at 5A, 250V AC, 30V DC.

As an alternative to providing valve position, any of the four above contacts shall be selectable to signal one of the following:

- A. Valve Opening or Closing
- B. Valve Moving (Continuous or Pulsing)
- C. Local Stop Selected
- D. Local Selected
- E. Remote Selected
- F. Open or Close Interlock Active
- G. ESD Active
- H. Motor Tripped on Torque in Mid-Travel
- I. Motor Tripped on Torque Going Open
- J. Motor Tripped on Torque Going Closed
- K. Pre-Set Torque Exceeded
- L. Valve Jammed
- M. Actuator Being Operated by Handwheel
- N. Lost Main Power Phase
- O. Customer 24V DC or 120V AC Supply Lost
- P. Battery Low
- Q. Internal Failure Detected
- R. Thermostat Tripped

11. LOCAL POSITION INDICATION:

The actuator must provide a local LCD display of the position of the valve, even when the power supply is not present. The display shall be able to be rotated in 90-degree increments so as to provide easy viewing regardless of mounting position.

The actuator shall include a digital LCD position indicator with a numeric display from fully open to fully closed in 1% increments. Red, green, and yellow lights corresponding to Open, Closed, and Intermediate positions shall be included on the actuator. The digital display shall be maintained even when the power to the actuator is isolated.

The local display should be large enough to be viewed from a distance of six feet (6') when the actuator is powered up.

12. INTEGRAL STARTER AND TRANSFORMER:

The reversing starter, control transformer, and local controls shall be integral with the valve actuator, suitably housed in a NEMA 6 enclosure to prevent breathing and condensation buildup. Actuator shall incorporate a solid-state starter suitable for up to a maximum of 1,200 starts per hour. The controls supply transformer shall be fed from two of the incoming three phases. It shall have the necessary tappings and be adequately rated to provide power for the following functions:

- A. 24 VDC power supply to the motor
- B. 24V DC output where required for remote controls
- C. Supply for all the internal electrical circuits

13. INTEGRAL PUSH BUTTONS AND SELECTOR:

Integral to the actuator shall be local controls for Open, Close, and Stop, and a local/remote selector switch, padlockable in any one of the following three positions:

- A. Local Control Only
- B. Off (No Electrical Operation)
- C. Remote Control plus Local Stop Only.

It shall be possible to select maintained or non-maintained local control.

The local controls shall be arranged so that the direction of valve travel can be reversed without the necessity of stopping the actuator.

14. CONTROL FACILITIES:

The necessary wiring and terminals shall be provided in the actuator for the following control functions:

Connections for external remote controls fed from an internal 24V DC supply and/or from an external supply of (min. 12V, max. 120V) to be suitable for any one or more of the following methods of control:

- A. Open, Close, and Stop
- B. Open and Close
- C. Overriding Emergency, Shutdown to Close (or Open) Valve from a "Make" Contact.
- D. Two-Wire Control, Energize to Close (or Open), De-Energize to Open (or Close)

Selection of maintained or push-to-run control for modes (A) and (B) above shall be provided and it shall be possible to reverse valve travel without the necessity of stopping the actuator. The starter contactors shall be protected from excessive current surges during travel reversal by an automatic time delay on energization of approximately 300 ms.

The internal circuits associated with the remote control and monitoring functions are to be designed to withstand simulated lightning impulses of up to 2.0 kV.

Where shown on the drawings, the actuator shall include a plug-in card integral to the actuator to provide analog (4-20 mA) position control.

15. MONITORING & DIAGNOSTICS FACILITIES:

The actuator shall include an on-board datalogger to store operational data such as valve torque profiles, actuator events, and statistics that can be viewed locally on the actuator LCD display or downloaded via infrared port.

Diagnostic status screens must be provided on the LCD display to show multiple functions simultaneously so troubleshooting can be affected rapidly and efficiently. All diagnostic information should be contained on no more than nine (9) screens so multiple functions can be checked simultaneously.

Provision shall be made to display valve torque demand as a percent of rated actuator torque and position simultaneously on the actuator display, so as to facilitate valve troubleshooting and diagnostics.

In addition to "local" monitoring on the actuator's LCD display, the actuator shall provide an Infrared communications port to facilitate two-way communication via an IrDA port. This port shall enable download of historical actuator data and configuration settings to permit analysis of changes in actuator or valve performance.

A PC-based software tool shall also be provided to allow configuration and graphical diagnostic information to be reviewed, analyzed, and reconfigured. This software tool shall provide configuration data, a time stamped event log, and torque profiles. The torque profiling shall plot valve position and torque output in both the opening and closing direction. In order to facilitate future troubleshooting, the actuator manufacturer or their representative shall download an "as installed" torque profile for each actuator and provide on a disk to owner. If torque profiles cannot be created by actuator software, "as installed" torque information shall be compiled by state-licensed Professional Engineer (P.E.) and provided in a usable format on disk for the owner's use.

16. WIRING AND TERMINALS:

Internal wiring shall be of tropical grade PVC insulated stranded cable of appropriate size for the control and three- phase power. Each wire shall be clearly identified at each end.

The terminal compartment shall be separated from the inner electrical components of the actuator by means of a watertight seal.

The terminal compartment of the actuator shall be provided with a minimum of two threaded cable entries.

All wiring supplied as part of the actuator to be contained within the main enclosure for physical and environmental protection. External conduit connections between components are not acceptable.

Control logic circuit boards and relay boards must be mounted on plastic mounts to comply with double insulated standards. No more than a single primary size fuse shall be provided to minimize the need to remove single covers for replacement.

A durable terminal identification card showing plan of terminals shall be provided attached to the inside of the terminal box cover indicating:

- A. Serial Number
- B. External Voltage Values
- C. Wiring Diagram Number
- D. Terminal Layout

17. ENCLOSURE:

Actuators shall be 'O' ring sealed, watertight to IP68 (7 meters-72 hours), NEMA 4, 4x and 6, and shall at the same time have an inner watertight and dustproof 'O' ring seal between the terminal compartment and the internal electrical elements of the actuator fully protecting the motor and all other internal electrical elements of the actuator from ingress of moisture and dust when the terminal cover is removed on site for cabling. Enclosure protection of NEMA 6, IP68, shall be guaranteed without the need of suitable cable glands.

Enclosure must allow for temporary site storage without the need for electrical supply connection or removal of any components.

All external fasteners should be of stainless steel.

18. STARTUP KIT:

Each actuator shall be supplied with a startup kit comprising installation instruction, electrical wiring diagram, and sufficient spare cover screws and seals to make good any site losses during the commissioning period.

19. PERFORMANCE TEST CERTIFICATE:

Each actuator must be performance tested and individual test certificates shall be supplied free-of-charge. The test equipment should simulate a typical valve load and the following parameters should be recorded:

- A. Current at maximum torque setting
- B. Torque at maximum torque setting
- C. Flash Test Voltage
- D. Actuator Output Speed or Operating Time

In addition, the test certificate should record details of specification, such as gear ratios for both manual and automatic drive, closing direction, and wiring diagram code number.

20. FAILSAFE OPTION:

Type 1 External Failsafe option is required which will allow control of the valve to the main's failsafe position. 24V DC battery power supply shall be provided by the SCADA integrator to the actuators.

21. ACCEPTABLE MANUFACTURERS:

Rotork IQ or IQT Series.

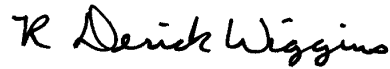
CHECK VALVE

Check Valve shall be manufactured by DeZURIK, Style CRF Rubber Flapper Swing Check Valve, Size 6 Inch, Body Style 100 Series 100 Rubber Flapper To 175 PSI End Connection F1 Flanged; ASME 125/150 Body Material DI Ductile Iron Flapper Material NBR Acrylonitrile-Butadiene (NBR) Coating or Paint S40SD0 12 mils minimum (non-stainless steel parts) of Blue DeZURIK Epoxy (NSF Std. 61) on Interior and Standard (SP10) surface prep AND 12 mils minimum (non-stainless steel parts) of Blue DeZURIK Epoxy (NSF Std. 61) on Exterior and Standard (SP10) surface prep. Valve shall also include plunger device for allowing backflow when engaged.

ITEM NO. 8 - Reference Plans, GENERAL, Notes pertaining to service line borings in all cross sections:

CLARIFICATION: Service line borings shall include 2" SDR-11 POLY Casing and Tracer Wire in addition to the 1" SDR-9 CL200 POLY Service Line.

Respectfully submitted,
MIDWESTERN ENGINEERS, INC.



R. Derick Wiggins, P.E.
Sr. Project Engineer

**BID PROPOSAL
WATER MAIN RELOCATION
INDOT PROJECT NO. 1800974
CANNELBURG ROAD (CR 900 E) FROM CR 450 N TO CR 100 N
RECONSTRUCTION - PHASE IV & V
FOR
DAVISS COUNTY RURAL WATER SYSTEM, INC.
DAVISS COUNTY, INDIANA**

BASE BID

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	PRICE	TOTAL PRICE
1.	12" PVC, SDR-21, CL 200 WATER MAIN W/TRACER WIRE	6,080	L.F.	\$	\$
2.	8" PVC, SDR-21, CL 200 WATER MAIN W/TRACER WIRE	10,320	L.F.	\$	\$
3.	6" PVC, SDR-21, CL 200 WATER MAIN W/TRACER WIRE	140	L.F.	\$	\$
4.	4" PVC, SDR-21, CL 200 WATER MAIN W/TRACER WIRE	660	L.F.	\$	\$
5.	20"X0.25" WELDED STEEL CASING BY BORING WITH 12" PVC SDR-21 CL. 200 REST. JOINT YELOMINE WATER MAIN, "RACT" CASING SPACERS ON 8' CENTERS, END SEALS AND TRACER WIRE	250	L.F.	\$	\$
6.	20"X0.25" WELDED STEEL CASING BY BORING WITH 8" PVC SDR-21 CL. 200 REST. JOINT YELOMINE WATER MAIN, "RACT" CASING SPACERS ON 8' CENTERS, END SEALS AND TRACER WIRE	240	L.F.	\$	\$
7.	16"X0.25" WELDED STEEL CASING BY BORING WITH 6" PVC SDR-21 CL. 200 REST. JOINT YELOMINE WATER MAIN, "RACT" CASING SPACERS ON 8' CENTERS, END SEALS AND TRACER WIRE	80	L.F.	\$	\$
8.	12"X0.25" WELDED STEEL CASING BY BORING WITH 4" PVC SDR-21 CL. 200 REST. JOINT YELOMINE WATER MAIN, "RACT" CASING SPACERS ON 8' CENTERS, END SEALS AND TRACER WIRE	255	L.F.	\$	\$
9.	12" PVC, SDR-21, CL 200 REST. JOINT YELOMINE WATER MAIN W/ TRACER WIRE BY UNCASSED BORING	680	L.F.	\$	\$
10.	8" PVC, SDR-21, CL 200 REST. JOINT YELOMINE WATER MAIN W/ TRACER WIRE BY UNCASSED BORING	1,580	L.F.	\$	\$
11.	2" SDR-11 POLY SERVICE CASING WITH 1" SDR-9 POLY SERVICE LINE BY BORING W/TRACER WIRE	1,260	L.F.	\$	\$
12.	1" SDR-9 POLY SERVICE LINE BY OPEN CUT W/TRACER WIRE	1,000	L.F.	\$	\$
13.	LEAK DETECTION DEVICE	2	EA.	\$	\$
14.	WET TAP NEW 12" TO EX. 8" MAIN W/8" GATE VALVE	1	EA.	\$	\$
15.	WET TAP NEW 8" TO EX. 8" MAIN W/8" GATE VALVE	2	EA.	\$	\$
16.	WET TAP NEW 8" TO EX. 12" MAIN W/8" GATE VALVE	1	EA.	\$	\$
17.	WET TAP NEW 4" TO EX. 8" MAIN W/4" GATE VALVE	1	EA.	\$	\$
18.	WET TAP NEW 4" TO EX. 4" MAIN W/4" GATE VALVE	3	EA.	\$	\$
19.	WET TAP NEW 6" TO EX. 6" MAIN W/6" GATE VALVE	1	EA.	\$	\$
20.	WET TAP NEW 3" TO EX.3" MAIN W/3" GATE VALVE	1	EA.	\$	\$
21.	DRY TAP NEW 4" TO EX. 2" MAIN	1	EA.	\$	\$
22.	12" GATE VALVE WITH POLY ENCASEMENT	8	EA.	\$	\$
23.	8" GATE VALVE WITH POLY ENCASEMENT	7	EA.	\$	\$
24.	6" GATE VALVE WITH POLY ENCASEMENT	1	EA.	\$	\$
25.	4" GATE VALVE WITH POLY ENCASEMENT	7	EA.	\$	\$

BASE BID (CONTINUED)

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	PRICE	TOTAL PRICE
26.	12" MEGALUG MJ RESTRAINT	72	EA.	\$ _____	\$ _____
27.	8" MEGALUG MJ RESTRAINT	106	EA.	\$ _____	\$ _____
28.	6" MEGALUG MJ RESTRAINT	16	EA.	\$ _____	\$ _____
29.	4" MEGALUG MJ RESTRAINT	63	EA.	\$ _____	\$ _____
30.	3" MEGALUG MJ RESTRAINT	2	EA.	\$ _____	\$ _____
31.	12" MEGALUG BELL RESTRAINT	20	EA.	\$ _____	\$ _____
32.	8" MEGALUG BELL RESTRAINT	34	EA.	\$ _____	\$ _____
33.	4" MEGALUG BELL RESTRAINT	17	EA.	\$ _____	\$ _____
34.	2" LINE STOP	1	EA.	\$ _____	\$ _____
35.	3" LINE STOP	1	EA.	\$ _____	\$ _____
36.	4" LINE STOP	3	EA.	\$ _____	\$ _____
37.	6" LINE STOP	1	EA.	\$ _____	\$ _____
38.	8" LINE STOP	3	EA.	\$ _____	\$ _____
39.	12" LINE STOP	1	EA.	\$ _____	\$ _____
40.	3-WAY FIRE HYDRANT WITH 6" GATE VALVE	6	EA.	\$ _____	\$ _____
41.	FLUSH HYDRANT WITH 3" GATE VALVE	3	EA.	\$ _____	\$ _____
42.	WATER METER RELOCATION W/NEW TANDEM SETTER & PRV	25	EA.	\$ _____	\$ _____
43.	WATER METER RECONNECTION W/NEW TANDEM SETTER & PRV	7	EA.	\$ _____	\$ _____
44.	CUT AND CAP EXISTING WATER MAIN	20	EA.	\$ _____	\$ _____
45.	INDOT #53 STONE FOR RESURFACING AND BACKFILL	500	TON	\$ _____	\$ _____
46.	GRADE "B BORROW BACKFILL	1,500	TON	\$ _____	\$ _____
47.	LINE LOCATION MARKERS	15	EA.	\$ _____	\$ _____
48.	FARM TILE REPAIRS	200	EA.	\$ _____	\$ _____
49.	FLOWABLE FILL OF ABANDONDED MAINS UNDER PAVEMENT	113	CY.	\$ _____	\$ _____
50.	REMOVE EXISTING APPURTENANCES (HYDRANTS & VALVE BOXES) ON EX. RETIRED LINES & RETURN TO OWNER	1	L.S.	\$ _____	\$ _____
51.	NEW CONTROL VALVE PIT	1	L.S.	\$ _____	\$ _____
52.	REMOVE EXISTING CONTROL VALVE PIT	1	L.S.	\$ _____	\$ _____
53.	2" PRV PIT	4	EA.	\$ _____	\$ _____
54.	EROSION CONTROL PLAN & IMPLEMENTATION	1	L.S.	\$ _____	\$ _____
				TOTAL BASE BID	\$ _____
					<i>(Figures)</i>

(Words)

**ALTERNATE "A" BID: BETTERMENT COST (ADDER TO INCREASE FROM 8" TO 12" WHERE ONLY 8" EXISTS)
(COST INCREASE ONLY FOR 8" TO 12" DIFFERENCE)**

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
2A.	12" PVC, SDR-21, CL 200 WATER MAIN W/TRACER WIRE	7,000	L.F.	\$ _____	\$ _____
6A.	20"X0.25" WELDED STEEL CASING BY BORING WITH 12" PVC SDR-21 CL. 200 REST. JOINT YELOMINE WATER MAIN, "RACI" CASING SPACERS ON 8' CENTERS, END SEALS AND TRACER WIRE	240	L.F.	\$ _____	\$ _____
10A.	12" PVC, SDR-21, CL 200 WATER MAIN W/TRACER WIRE BY UNCASSED BORING	1,500	L.F.	\$ _____	\$ _____
16A.	WET TAP NEW 12" TO EX. 12" MAIN W/12" GATE VALVE	1	EA.	\$ _____	\$ _____
23A.	12" GATE VALVE WITH POLY ENCASEMENT	5	EA.	\$ _____	\$ _____
27A.	12" MEGALUG MJ RESTRAINT	85	EA.	\$ _____	\$ _____
32A.	12" MEGALUG BELL RESTRAINT	32	EA.	\$ _____	\$ _____
TOTAL ALTERNATE "A" BID					\$ _____ <i>(Figures)</i>

ALTERNATE "B" BID: BETTERMENT COST (DEDUCT TO INSTALL OWNER PROVIDED 12" WATER MAIN INSTEAD OF CONTRACTOR PROVIDED 8" WATER MAIN WHERE ONLY 8" EXISTS) (COST DECREASE ONLY)

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY		UNIT PRICE	TOTAL PRICE
2B.	TRACER WIRE, EQUIPMENT, & LABOR TO INSTALL OWNER PROVIDED 12" PVC, SDR-21, CL 200 WATER MAIN	3,200	L.F.	\$ _____	\$ _____
TOTAL ALTERNATE "B" BID					\$ _____ <i>(Figures)</i>

NOTE: THE BASIS OF AWARD MAY CONSIDER THE BASE BID WITH OR WITHOUT EITHER ALTERNATE BID IN DETERMINING THE LOWEST RESPONSIVE AND RESPONSIBLE BIDDER.

Respectfully Submitted:

Signature

Address

Title

Date

(SEAL) (If BID is by a Corporation)

License Number (if applicable)