



FINAL ENGINEERING REPORT

FOR THE

WOOD CREEK WATER DISTRICT

CONTRACT 1 – KY 490/US 25N WATERLINE REPLACEMENT

PREPARED BY

KENVIRONS, INC.
770 WILKINSON BLVD
FRANKFORT, KY 40601

PROJECT NO. 2017036

AUGUST 2020



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1. INTRODUCTION

Wood Creek Water District (WCWD) made applications for financial assistance to USDA Rural Development (RD) for the KY 490/US 25N Waterline Replacement project. The project includes replacing approximately 50,000 linear feet of existing 4" waterline with 6" and 8" waterline. A Preliminary Engineering Report dated November 2018 describes in detail the scope and need for this project.

2. BIDS RECEIVED

Bids were opened and read aloud at 10:00 A.M. on July 30, 2020 at the Wood Creek Water District Office. Five (5) bids were received for Contract 1 – KY 490/US 25N Waterline Replacement with the low bidder determined based on the Total Base Bid, which consisted of the Base Project and Alternate Nos. 1 & 2. The low bidder was Cumberland Pipeline, LLC of Columbia, Kentucky for an amount of \$3,086,580.00. The percent difference between the two lowest bids was 0.33%. Certified bid tabulations are contained in Appendix A.

3. PROJECT BUDGET

Wood Creek Water District has actively pursued funding for the proposed project. Table 1 shown below provides a summary of the funding that has been secured.

TABLE 1 - PROJECT FUNDING

Rural Development (RD) Loan	2,942,000
Rural Development (RD) Grant	736,000
Total per RD Letter of Conditions	<u>\$3,678,000</u>

Table 2 on the following page outlines the project budget as established in the RD Letter of Conditions, and a revised budget based upon the bids as received.

TABLE 2 - PROJECT BUDGET

<u>Budget Item</u>	<u>R.D. Letter of Conditions</u>	<u>Revised Cost</u>
Development	\$2,886,360	\$2,910,000*
Contract 1 – KY 490/US 25N Waterline Replacement	2,022,860	2,506,756
Contract 2 – 200,000 Gallon W.S.T. Repaint	300,000	300,000
Contract 3 – AMR Water Meters	563,500	103,244
Land and Rights	10,000	10,000
Legal and Administrative	30,000	30,000
Engineering Fees	360,720	360,720
Interest	82,000	82,000
Environmental	20,000	8,000
Contingencies	288,920	277,280
Total Funding Available	\$3,678,000	\$3,678,000

* See description below and TABLE 3 for explanation of Development cost.

The difference between the lowest construction bid (\$3,086,580.00) and the engineer's opinion of probable construction cost (\$2,819,455.00) is \$267,125 over the initial estimate, which equates to a 9.47% difference.

The original engineer's estimate for the Letter of Conditions included amounts to repaint and install a mixing system in an existing water storage tank as well as purchase 4,025 automatic radio read water meters. A second contract for the water storage tank repaint will be advertised by the end of 2020 to be completed in the spring of 2021 with the engineer's estimate being \$300,000 for Contract 2. Upon at least 80% completion of both Contract 1 and 2, Wood Creek Water District will solicit formal bids for AMR water meters to use the remaining funds. The new water meters will be installed throughout the service area at a rate of approximately 150 meters per month by Wood Creek Water District staff. All meters shall be installed by end of year 2023.

TABLE 3 - DEVELOPMENT COST

<u>Budget Item</u>	<u>Opinion of Probable Cost</u>	<u>Revised Cost</u>
Contract 1 – KY 490/US 25N Waterline Replacement	\$2,022,860	\$2,506,756
Contract 2 – 200,000 Gallon W.S.T. Repaint	300,000	300,000
Contract 3 - AMR Water Meters	563,500	103,244
Total Funding Available	\$2,886,360	\$2,910,000

4. RECOMMENDATIONS

1. It is recommended that the Base Project for Contract 1 – KY 490/US 25N Waterline Replacement be awarded to Cumberland Pipeline, LLC. in the amount of \$2,506,756.00. The Contractor has constructed other similar projects and all reference checks have been exceptional.
2. It is recommended that all funding remaining after the substantial completion of the original contract be utilized as set forth and described in this report.

APPENDIX A
CERTIFIED BID TABULATIONS

BID TABULATIONS

KENVIRONS, INC.
770 Wilkinson Blvd.
Frankfort, KY 40601

Owner: Wood Creek Water District
Project: Contract 1 - KY 490/US 25N Waterline Replacement
Bid Date: July 30, 2020 at 10:00 A.M. Local Time

Project No. 2017036

Base Project				Cumberland Pipeline, LLC 2909 Cane Valley Mill Road Columbia, KY 42728		Flo-Contracting, LLC 189 Sunstar Blvd. Monticello, KY 42633		Clay Pipeline, Inc. 70 Fox Hollow Road Manchester, KY 40962	
Item No.	Item Description	Unit	Quantity	Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost
1	8" D.I. CL 350 Pipe w/ Nitrile Gaskets	LF	1,470	\$42.00	\$61,740.00	\$37.35	\$54,904.50	\$38.67*	\$56,844.90
2	8" D.I. CL 350 Pipe w/ Locking Gaskets	LF	350	\$49.00	\$17,150.00	\$41.50	\$14,525.00	\$42.80*	\$14,980.00
3	8" PVC SDR 17 Pipe	LF	38,550	24.00*	925,200.00	23.25	896,287.50	24.56*	946,788.00
4	8" PVC SDR 17 Pipe (Restrained Joint)	LF	140	37.00	5,180.00	36.15	5,061.00	37.37*	5,231.80
5	8" PVC C900 DR 18 Pipe	LF	3,325	25.00	83,125.00	23.35	77,638.75	24.69*	82,094.25
6	6" PVC SDR 17 Pipe	LF	4,430	21.00	93,030.00	20.80	92,144.00	22.11*	97,947.30
7	6" PVC C900 DR 18 Pipe	LF	400	21.00	8,400.00	22.15	8,860.00	23.48*	9,392.00
8	4" PVC SDR 17 Pipe	LF	500	19.00	9,500.00	19.45	9,725.00	20.75*	10,375.00
9	4" PVC C900 DR 18 Pipe	LF	120	19.00	2,280.00	21.15	2,538.00	22.46*	2,695.20
10	3" PVC SDR 17 Pipe	LF	150	22.00	3,300.00	16.90	2,535.00	31.07*	4,660.50
11	2" PVC SDR 17 Pipe	LF	90	22.00	1,980.00	16.30	1,467.00	49.53*	4,457.70
12	2" HDPE DR 9 Pipe	LF	180	19.00	3,420.00	19.00	3,420.00	20.30*	3,654.00
13	Bored Steel Encasement for 8" Pipe	LF	505	250.00	126,250.00	197.00	99,485.00	136.87*	69,119.35
14	Open Cut Steel Encasement for 8" Pipe	LF	320	137.00	43,840.00	90.00	28,800.00	71.98*	23,033.60
15	Bored Steel Encasement for 6" Pipe	LF	110	245.00	26,950.00	175.00	19,250.00	124.03*	13,643.30
16	Open Cut Steel Encasement for 6" Pipe	LF	70	112.00	7,840.00	75.00	5,250.00	38.89*	2,722.30
17	Bored Steel Encasement for 4" Pipe	LF	130	243.00	31,590.00	175.00	22,750.00	120.38*	15,649.40
18	8" Gate Valve	EA	22	1,764.00	38,808.00	1,700.00	37,400.00	1,731.23*	38,087.06
19	6" Gate Valve	EA	9	1,296.00	11,664.00	1,200.00	10,800.00	1,349.59	12,146.31
20	4" Gate Valve	EA	3	1,137.00	3,411.00	1,100.00	3,300.00	1,204.37	3,613.11
21	3" Gate Valve	EA	5	1,083.00	5,415.00	1,000.00	5,000.00	966.85*	4,834.25
22	2" Gate Valve	EA	6	935.00	5,610.00	800.00	4,800.00	834.49*	5,006.94
23	10" Tie-In	EA	1	1,909.00	1,909.00	4,000.00	4,000.00	2,418.33	2,418.33
24	6" Tie-In	EA	4	1,815.00	7,260.00	3,800.00	15,200.00	1,694.35	6,777.40
25	4" Tie-In	EA	2	1,320.00	2,640.00	3,700.00	7,400.00	1,642.04	3,284.08
26	3" Tie-In	EA	6	1,320.00	7,920.00	3,700.00	22,200.00	1,143.74*	6,862.44
27	2" Tie-In	EA	7	1,045.00	7,315.00	3,700.00	25,900.00	1,153.05*	8,071.35
28	24" x 8" Tapping Sleeve & Valve	EA	1	5,339.00	5,339.00	4,500.00	4,500.00	4,926.45	4,926.45
29	20" x 6" Tapping Sleeve & Valve	EA	1	4,327.00	4,327.00	4,000.00	4,000.00	4,218.74	4,218.74
30	6" x 6" Tapping Sleeve & Valve	EA	3	2,749.00	8,247.00	2,600.00	7,800.00	2,975.04*	8,925.12
31	4" x 4" Tapping Sleeve & Valve	EA	4	2,253.00	9,012.00	2,100.00	8,400.00	2,180.84	8,723.36
32	3" x 3" Tapping Sleeve & Valve	EA	2	2,288.00	4,576.00	2,000.00	4,000.00	1,808.91	3,617.82
33	Air Release Valve	EA	5	890.00	4,450.00	1,200.00	6,000.00	1,070.98	5,354.90
34	Fire Hydrant	EA	25	5,000.00	125,000.00	4,900.00	122,500.00	5,913.97*	147,849.25
35	3" Blow-Off Assembly	EA	15	2,160.00	32,400.00	1,900.00	28,500.00	1,795.46*	26,931.90
36	Leak Detection Meter	EA	1	1,242.00	1,242.00	3,500.00	3,500.00	2,303.74	2,303.74
37	Meter Reconnect	EA	209	500.00	104,500.00	650.00	135,850.00	648.30*	135,494.70
38	3/4" Service Tubing	LF	6,270	5.00	31,350.00	16.00	100,320.00	10.42*	65,333.40
39	Cut & Cap Existing Waterline	EA	15	1,787.00	26,805.00	1,500.00	22,500.00	1,075.01	16,125.15
40	Hazel Patch Creek Directional Bore	LS	1	59,500.00	59,500.00	30,000.00	30,000.00	21,251.46	21,251.46
41	KY 490 Zone Meter	LS	1	28,000.00	28,000.00	28,000.00	28,000.00	31,590.69	31,590.69
42	Jackson Road Zone Meter	LS	1	23,000.00	23,000.00	25,000.00	25,000.00	28,044.90	28,044.90
43	KY 490 Booster Pump Station	LS	1	254,000.00	254,000.00	140,000.00	140,000.00	203,980.00	203,980.00
44	3" Pressure Reducing Station No. 1	LS	1	17,427.00	17,427.00	15,000.00	15,000.00	20,971.60	20,971.60
45	3" Pressure Reducing Station No. 2	LS	1	17,797.00	17,797.00	15,000.00	15,000.00	20,855.05	20,855.05
46	4" Pressure Reducing Station No. 3	LS	1	18,707.00	18,707.00	16,000.00	16,000.00	23,607.18	23,607.18
47	Free Bore	LF	630	45.00	28,350.00	100.00	63,000.00	35.00	22,050.00
48	Pavement Replacement								
48a.	Crushed Stone	LF	3,500	16.00	56,000.00	15.00	52,500.00	20.60	72,100.00
48b.	Light Duty Bituminous Asphalt	LF	2,100	40.00	84,000.00	45.00	94,500.00	73.00	153,300.00
49	Telemetry Allowance	LS	1	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
TOTAL BASE PROJECT					\$2,506,756.00		\$2,427,510.75		\$2,501,945.28

Total Base Project	\$2,506,756.00	\$2,427,510.75	\$2,501,945.28
Total Alternate No. 1	344,916.00	389,663.00	353,256.89
Total Alternate No. 2	234,908.00	279,447.00	254,115.36
TOTAL BASE BID	\$3,086,580.00	\$3,096,620.75	\$3,109,317.53

*Denotes a mathematical error

The above is a true and complete tabulation of the Bids received by Wood Creek Water District at their office located at 1670 E Hal Rogers Parkway, London, KY on July 30, 2020 at 10:00 A.M. Local Time.

By: Brendan Welch
Brendan Welch, P.E.

8/4/2020
Date



BID TABULATIONS

KENVIRONS, INC.
770 Wilkinson Blvd.
Frankfort, KY 40601

Owner: Wood Creek Water District
 Project: Contract 1 - KY 490/US 25N Waterline Replacement
 Bid Date: July 30, 2020 at 10:00 A.M. Local Time

Project No. 2017036

Base Project				Akins Excavating Company, Inc. 182 Busy Lane Corbin, KY 40701		BP Pipeline 269 Pebbles Lane Quincy, KY 41166	
Item No.	Item Description	Unit	Quantity	Unit Cost	Cost	Unit Cost	Cost
1	8" D.I. CL 350 Pipe w/ Nitrile Gaskets	LF	1,470	\$61.00	\$89,670.00	\$45.00	\$66,150.00
2	8" D.I. CL 350 Pipe w/ Locking Gaskets	LF	350	\$67.00	23,450.00	\$48.00	16,800.00
3	8" PVC SDR 17 Pipe	LF	38,550	26.00	1,002,300.00	32.00*	1,233,600.00
4	8" PVC SDR 17 Pipe (Restrained Joint)	LF	140	\$49.00	6,860.00	\$38.00	5,320.00
5	8" PVC C900 DR 18 Pipe	LF	3,325	26.00	86,450.00	34.00	113,050.00
6	6" PVC SDR 17 Pipe	LF	4,430	23.00	101,890.00	25.00	110,750.00
7	6" PVC C900 DR 18 Pipe	LF	400	25.00	10,000.00	25.00	10,000.00
8	4" PVC SDR 17 Pipe	LF	500	22.00	11,000.00	16.00*	8,000.00
9	4" PVC C900 DR 18 Pipe	LF	120	23.00	2,760.00	16.00	1,920.00
10	3" PVC SDR 17 Pipe	LF	150	36.00	5,400.00	22.00	3,300.00
11	2" PVC SDR 17 Pipe	LF	90	58.00	5,220.00	14.00	1,260.00
12	2" HDPE DR 9 Pipe	LF	180	21.00	3,780.00	14.00	2,520.00
13	Bored Steel Encasement for 8" Pipe	LF	505	230.00	116,150.00	200.00*	101,000.00
14	Open Cut Steel Encasement for 8" Pipe	LF	320	95.00	30,400.00	65.00*	20,800.00
15	Bored Steel Encasement for 6" Pipe	LF	110	185.00	20,350.00	145.00	15,950.00
16	Open Cut Steel Encasement for 6" Pipe	LF	70	77.00	5,390.00	55.00	3,850.00
17	Bored Steel Encasement for 4" Pipe	LF	130	165.00	21,450.00	90.00	11,700.00
18	8" Gate Valve	EA	22	1,825.00	40,150.00	2,000.00	44,000.00
19	6" Gate Valve	EA	9	1,255.00	11,295.00	1,200.00	10,800.00
20	4" Gate Valve	EA	3	1,025.00	3,075.00	1,600.00*	4,800.00
21	3" Gate Valve	EA	5	980.00	4,900.00	1,100.00	5,500.00
22	2" Gate Valve	EA	6	910.00	5,460.00	800.00	4,800.00
23	10" Tie-In	EA	1	1,665.00	1,665.00	700.00	700.00
24	6" Tie-In	EA	4	1,395.00	5,580.00	400.00	1,600.00
25	4" Tie-In	EA	2	1,325.00	2,650.00	350.00	700.00
26	3" Tie-In	EA	6	1,305.00	7,830.00	350.00	2,100.00
27	2" Tie-In	EA	7	1,318.00	9,226.00	250.00	1,750.00
28	24" x 8" Tapping Sleeve & Valve	EA	1	5,290.00	5,290.00	4,500.00	4,500.00
29	20" x 6" Tapping Sleeve & Valve	EA	1	4,380.00	4,380.00	3,200.00	3,200.00
30	6" x 6" Tapping Sleeve & Valve	EA	3	2,660.00	7,980.00	2,700.00	8,100.00
31	4" x 4" Tapping Sleeve & Valve	EA	4	2,285.00	9,140.00	2,200.00	8,800.00
32	3" x 3" Tapping Sleeve & Valve	EA	2	2,065.00	4,130.00	1,750.00	3,500.00
33	Air Release Valve	EA	5	1,005.00	5,025.00	400.00	2,000.00
34	Fire Hydrant	EA	25	5,360.00	134,000.00	4,500.00	112,500.00
35	3" Blow-Off Assembly	EA	15	1,930.00	28,950.00	500.00	7,500.00
36	Leak Detection Meter	EA	1	3,065.00	3,065.00	900.00	900.00
37	Meter Reconnect	EA	209	575.00	120,175.00	300.00	62,700.00
38	3/4" Service Tubing	LF	6,270	8.25	51,727.50	4.00	25,080.00
39	Cut & Cap Existing Waterline	EA	15	885.00	13,275.00	250.00	3,750.00
40	Hazel Patch Creek Directional Bore	LS	1	14,080.00	14,080.00	200,000.00	200,000.00
41	KY 490 Zone Meter	LS	1	30,815.00	30,815.00	6,500.00	6,500.00
42	Jackson Road Zone Meter	LS	1	26,810.00	26,810.00	6,500.00	6,500.00
43	KY 490 Booster Pump Station	LS	1	265,000.00	265,000.00	196,000.00	196,000.00
44	3" Pressure Reducing Station No. 1	LS	1	17,375.00	17,375.00	7,500.00	7,500.00
45	3" Pressure Reducing Station No. 2	LS	1	17,225.00	17,225.00	7,500.00	7,500.00
46	4" Pressure Reducing Station No. 3	LS	1	10,025.00	10,025.00	7,500.00	7,500.00
47	Free Bore	LF	630	50.00	31,500.00	45.00	28,350.00
48	Pavement Replacement						
	48a. Crushed Stone	LF	3,500	9.25	32,375.00	15.00*	52,500.00
	48b. Light Duty Bituminous Asphalt	LF	2,100	35.00	73,500.00	35.00*	73,500.00
49	Telemetry Allowance	LS	1	20,000.00	20,000.00	20,000.00	20,000.00
TOTAL BASE PROJECT					\$2,560,193.50	*	\$2,651,100.00

Total Base Project	\$2,560,193.50	\$2,651,100.00
Total Alternate No. 1	371,190.00	339,680.00
Total Alternate No. 2	245,278.50	225,520.00
TOTAL BASE BID	\$3,176,662.00	\$3,216,300.00

*Denotes a mathematical error

BID TABULATIONS

KENVIRONS, INC.
770 Wilkinson Blvd.
Frankfort, KY 40601

Owner: Wood Creek Water District
 Project: Contract 1 - KY 490/US 25N Waterline Replacement
 Bid Date: July 30, 2020 at 10:00 A.M. Local Time

Project No. 2017036

Alternate No. 1

Item No.	Item Description	Unit	Quantity	Cumberland Pipeline, LLC 2909 Cane Valley Mill Road Columbia, KY 42728		Flo-Contracting, LLC 189 Sunstar Blvd. Monticello, KY 42633		Clay Pipeline, Inc. 70 Fox Hollow Road Manchester, KY 40962		Akins Excavating Company, Inc. 182 Busy Lane Corbin, KY 40701		BP Pipeline 269 Pebbles Lane Quincy, KY 41166	
				Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost
6	6" PVC SDR 17 Pipe	LF	9,310	21.00	\$195,510.00	20.80	\$193,648.00	22.11	* \$205,844.10	24.00	\$223,440.00	25.00	\$232,750.00
10	3" PVC SDR 17 Pipe	LF	300	22.00	6,600.00	16.90	5,070.00	31.07	* 9,321.00	22.00	6,600.00	22.00	6,600.00
12	2" HDPE DR 9 Pipe	LF	300	19.00	5,700.00	19.00	5,700.00	20.30	* 6,090.00	23.00	6,900.00	14.00	4,200.00
16	Open Cut Steel Encasement for 6" Pipe	LF	40	112.00	4,480.00	175.00	7,000.00	38.89	* 1,555.60	78.00	3,120.00	55.00	2,200.00
19	6" Gate Valve	EA	5	1,296.00	6,480.00	1,200.00	6,000.00	1,349.59	6,747.95	1,255.00	6,275.00	1,200.00	6,000.00
21	3" Gate Valve	EA	3	1,083.00	3,249.00	1,000.00	3,000.00	966.85	* 2,900.55	980.00	2,940.00	1,100.00	3,300.00
22	2" Gate Valve	EA	3	935.00	2,805.00	800.00	2,400.00	834.49	* 2,503.47	810.00	2,430.00	800.00	2,400.00
26	3" Tie-In	EA	1	1,320.00	1,320.00	3,700.00	3,700.00	1,143.74	1,143.74	1,325.00	1,325.00	350.00	350.00
27	2" Tie-In	EA	5	1,045.00	5,225.00	3,700.00	18,500.00	1,153.05	* 5,765.25	1,325.00	6,625.00	250.00	1,250.00
34	Fire Hydrant	EA	5	5,000.00	25,000.00	4,900.00	24,500.00	5,913.97	* 29,569.85	5,320.00	26,600.00	4,500.00	22,500.00
35	3" Blow-Off Assembly	EA	1	2,160.00	2,160.00	1,900.00	1,900.00	1,795.46	1,795.46	1,830.00	1,830.00	500.00	500.00
37	Meter Reconnect	EA	44	500.00	22,000.00	650.00	28,600.00	648.30	* 28,525.20	555.00	24,420.00	300.00	13,200.00
38	3/4" Service Tubing	LF	1,320	5.00	6,600.00	16.00	21,120.00	10.42	* 13,754.40	8.25	10,890.00	4.00	5,280.00
39	Cut & Cap Existing Waterline	EA	1	1,787.00	1,787.00	1,500.00	1,500.00	1,075.01	1,075.01	885.00	885.00	250.00	250.00
47	Free Bore	LF	320	45.00	14,400.00	100.00	32,000.00	35.00	11,200.00	50.00	16,000.00	45.00	14,400.00
48	Pavement Replacement												
	48a. Crushed Stone	LF	220	16.00	3,520.00	15.00	3,300.00	20.60	4,532.00	9.25	2,035.00	15.00	3,300.00
	48b. Light Duty Bituminous Asphalt	LF	150	40.00	6,000.00	45.00	6,750.00	73.00	10,950.00	35.00	5,250.00	35.00	5,250.00
50	Bored Steel Encasement for 3" Pipe	LF	105	240.00	25,200.00	175.00	18,375.00	40.79	* 4,282.95	165.00	17,325.00	90.00	9,450.00
51	16" x 16" Tapping Sleeve & Valve	EA	1	3,920.00	3,920.00	3,800.00	3,800.00	3,123.34	3,123.34	3,500.00	3,500.00	3,500.00	3,500.00
52	8" x 6" Tapping Sleeve & Valve	EA	1	2,960.00	2,960.00	2,800.00	2,800.00	2,577.02	2,577.02	2,800.00	2,800.00	3,000.00	3,000.00
TOTAL ALTERNATE NO. 1					\$344,916.00		\$389,663.00		* \$353,256.89		\$371,190.00		\$339,680.00

*Denotes a mathematical error

BID TABULATIONS

KENVIRONS, INC.
770 Wilkinson Blvd.
Frankfort, KY 40601

Owner: Wood Creek Water District
 Project: Contract 1 - KY 490/US 25N Waterline Replacement
 Bid Date: July 30, 2020 at 10:00 A.M. Local Time

Project No. 2017036

Alternate No. 2				Cumberland Pipeline, LLC 2909 Cane Valley Mill Road Columbia, KY 42728		Flo-Contracting, LLC 189 Sunstar Blvd. Monticello, KY 42633		Clay Pipeline, Inc. 70 Fox Hollow Road Manchester, KY 40962		Akins Excavating Company, Inc. 182 Busy Lane Corbin, KY 40701		BP Pipeline 269 Pebbles Lane Quincy, KY 41166	
Item No.	Item Description	Unit	Quantity	Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost
6	6" PVC SDR 17 Pipe	LF	5,990	21.00	\$125,790.00	20.80	\$124,592.00	22.11 *	\$132,438.90	22.75	\$136,272.50	25.00	\$149,750.00
8	4" PVC SDR 17 Pipe	LF	120	19.00	2,280.00	19.45	2,334.00	20.75 *	2,490.00	27.00	3,240.00	16.00	1,920.00
10	3" PVC SDR 17 Pipe	LF	40	22.00	880.00	16.90	676.00	31.07 *	1,242.80	27.00	1,080.00	22.00	880.00
12	2" HDPE DR 9 Pipe	LF	80	19.00	1,520.00	19.00	1,520.00	20.30 *	1,624.00	22.00	1,760.00	14.00	1,120.00
17	Bored Steel Encasement for 4" Pipe	LF	35	243.00	8,505.00	175.00	6,125.00	120.38 *	4,213.30	145.00	5,075.00	90.00	3,150.00
19	6" Gate Valve	EA	3	1,296.00	3,888.00	1,200.00	3,600.00	1,349.59	4,048.77	1,255.00	3,765.00	1,200.00	3,600.00
20	4" Gate Valve	EA	2	1,137.00	2,274.00	1,100.00	2,200.00	1,204.37	2,408.74	1,025.00	2,050.00	1,100.00	2,200.00
21	3" Gate Valve	EA	1	1,083.00	1,083.00	1,000.00	1,000.00	966.85	966.85	977.00	977.00	1,100.00	1,100.00
22	2" Gate Valve	EA	2	935.00	1,870.00	800.00	1,600.00	834.49 *	1,668.98	712.00	1,424.00	800.00	1,600.00
23	10" Tie-In	EA	1	1,909.00	1,909.00	4,000.00	4,000.00	2,418.33	2,418.33	2,055.00	2,055.00	700.00	700.00
24	6" Tie-In	EA	1	1,815.00	1,815.00	3,800.00	3,800.00	1,694.35	1,694.35	1,375.00	1,375.00	400.00	400.00
25	4" Tie-In	EA	2	1,320.00	2,640.00	3,700.00	7,400.00	1,642.04	3,284.08	1,315.00	2,630.00	350.00	700.00
26	3" Tie-In	EA	1	1,320.00	1,320.00	3,700.00	3,700.00	1,143.74	1,143.74	1,300.00	1,300.00	350.00	350.00
27	2" Tie-In	EA	2	1,045.00	2,090.00	3,700.00	7,400.00	1,153.05 *	2,306.10	1,260.00	2,520.00	250.00	500.00
34	Fire Hydrant	EA	3	5,000.00	15,000.00	4,900.00	14,700.00	5,913.97 *	17,741.91	5,435.00	16,305.00	4,500.00	13,500.00
35	3" Blow Off Assembly	EA	4	2,160.00	8,640.00	1,900.00	7,600.00	1,795.46 *	7,181.84	1,835.00	7,340.00	500.00	2,000.00
37	Meter Reconnect	EA	36	500.00	18,000.00	650.00	23,400.00	648.30 *	23,338.80	550.00	19,800.00	300.00	10,800.00
38	3/4" Service Tubing	LF	1,100	5.00	5,500.00	16.00	17,600.00	10.42 *	11,462.00	8.25	9,075.00	4.00	4,400.00
39	Cut & Cap Existing Waterline	EA	1	1,787.00	1,787.00	1,500.00	1,500.00	1,075.01	1,075.01	1,025.00	1,025.00	250.00	250.00
47	Free Bore	LF	300	45.00 *	13,500.00	100.00	30,000.00	35.00	10,500.00	50.00	15,000.00	45.00	13,500.00
48	Pavement Replacement												
	48a Crushed Stone	LF	300	16.00	4,800.00	15.00	4,500.00	20.60	6,180.00	9.25	2,775.00	15.00	4,500.00
	48b Light Duty Bituminous Asphalt	LF	160	40.00	6,400.00	45.00	7,200.00	73.00	11,680.00	35.00	5,600.00	35.00	5,600.00
53	10" x 6" Tapping Sleeve & Valve	EA	1	3,417.00	3,417.00	3,000.00	3,000.00	3,006.86	3,006.86	2,835.00	2,835.00	3,000.00	3,000.00
TOTAL ALTERNATE NO. 2					* \$234,908.00		\$279,447.00		* \$254,115.36		\$245,278.50		\$225,520.00

*Denotes a mathematical error