



**COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET**
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Matthew G. Bevin
Governor

Greg Thomas
Secretary

June 17, 2016

CALL NO. 100
CONTRACT ID NO. 161033
ADDENDUM # 2

Subject: Magoffin County, TGR 0061 (064)
Letting June 24, 2016

- (1) Revised - Plan Sheets - R2U, R2V, R2X, R2Z, R2BB, R2DD, & R2FF
- (2) Revised - Technical Specifications - Pages 322, 357, 359, 361, 373, and 378 of 726
- (3) Deleted - Pages 394 & 395 of 726
- (4) Revised - Meters & Services - Page 456 of 726
- (5) Revised - Technical Provisions - Pages 486, 509, 510, 515, 516, & 517 of 726
- (6) Revised - Bid Items - Pages 714-726 of 726

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

Plan revisions are available at <http://www.lynnimaging.com/kytransportation/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in cursive script that reads "Rachel Mills".

Rachel Mills, P.E.
Director
Division of Construction Procurement

RM:ks
Enclosures



An Equal Opportunity Employer M/F/D

GENERAL SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
MAGOFFIN	10-166.00	R2U

ITEM	DESCRIPTION	UNIT	U.S. 460 MOUNTAIN PARKWAY	U.S. 460 WEST	FRONTAGE ROAD	LICK BRANCH ROAD	BACKAGE ROAD	APPR. 3962+70	PINE POINT ROAD	PINE POINT APPR.	BURNING FORK	BURNING FORK FRONTAGE	APPR. 4027+00	KY 1415	KY 1888	KY 1888 APPROACHES	U.S. 460 EAST	MOT	TOTAL PROJECT	
2651	DIVERSIONS (BY-PASS DETOURS) NO. 1	LS																		1
2651	DIVERSIONS (BY-PASS DETOURS) NO. 2	LS																		1
2651	DIVERSIONS (BY-PASS DETOURS) NO. 3	LS																		1
2651	DIVERSIONS (BY-PASS DETOURS) NO. 4	LS																		1
2653	LANE CLOSURE	EACH																11		11
2654	TRUCK MOUNTED ATTENUATOR	EACH																2		2
2671	PORTABLE MESSAGE SIGNS	EACH																5		5
2690	SAFELoADING	CUYD	45																	45
2696	SHOULDER RUMBLE STRIPS-SAWED	LF	3,080																	3,080
2701	TEMPORARY SILT FENCE	LF																		30,129
2703	SILT TRAP TYPE A	EACH																		127
2704	SILT TRAP TYPE B	EACH																		127
2705	SILT TRAP TYPE C	EACH																		127
2706	CLEAN SILT TRAP TYPE A	EACH																		127
2707	CLEAN SILT TRAP TYPE B	EACH																		127
2708	CLEAN SILT TRAP TYPE C	EACH																		127
2711	SEDIMENT BASIN	CUYD																		3,215
2712	CLEAN SEDIMENT BASIN	CUYD																		3,215
2720	SIDEWALK-4 INCH CONCRETE	SQYD	2,807	273	22															3,102
2726	STAKING	LS																		1
2731	REMOVE STRUCTURE-BRIDGE STA. 3935+25	EACH																		1
2731	REMOVE STRUCTURE - P174	EACH																		1
2731	REMOVE STRUCTURE - P179	EACH																		1
2731	REMOVE STRUCTURE - P182	EACH																		1
2731	REMOVE STRUCTURE - P200	EACH																		1
2775	ARROW PANEL	EACH																5		5
2898	RELOCATE CRASH CUSHION	EACH																20		20
3171	CONCRETE BARRIER WALL TYPE 9T	LF																3,465		3,465
4935	TEMP SIGNALS	LS																1		1
4953	TEMP. RELOCATION OF SIGNAL HEAD	EACH																82		82
5950	EROSION CONTROL BLANKET	SQYD	8,571	450	239	73	741	104	239	137	92	192		46	269	154				11,307
5952	TEMPORARY MULCH	SQYD																		412,679
5953	TEMPORARY SEEDING AND PROTECTION	SQYD																		307,969
5963	INITIAL FERTILIZER	TON																		19
5964	20-10-10 FERTILIZER	TON																		31.9
5985	SEEDING & PROTECTION	SQYD																		615,938
5990	SODDING	SQYD	11,806	376	4,643		1,377													18,202
5992	AGRICULTURAL LIMESTONE	TON																		381.8
6510	PAVE STRIPING - TEMP PAINT 4 IN	LF																158,570		158,570
6513	PAVE STRIPING - TEMP PAINT 12 IN	LF																840		840
6514	PAVEMENT STRIPING-PERMANENT PAINT-4 INCH	LF	53,264	4,618	29,563		11,564	1,272	1,111	1,032	1,510	1,176	824	1,555	3,769	2,026	1,343		114,627	
6515	PAVEMENT STRIPING-PERMANENT PAINT-6 INCH	LF	9,548	101																9,649
6565	PAVEMENT MARKING-THERMO X-WALK 6 IN	LF	478	132	90		247	100	122		218			104						1,491
6568	PAVEMENT MARKING-THERMO STOP BAR-24 INCH	LF	376	71	94		79	41	22	23	35	17	20	15	24	27	12			856
6569	PAVEMENT MARKING-THERMO CROSS-HATCH	SOFT	10,440	1,104			569								1,095		5,675			18,883
6573	PAVEMENT MARKING-THERMO STRAIGHT ARROW	EACH	3																	3
6574	PAVEMENT MARKING-THERMO CURVED ARROW	EACH	37	10	3		5	1	1		4		1		3		2			67
6575	PAVEMENT MARKING THERMO COMB. ARROW	EACH	8	4	1		1				4				3					21
6588	PAVEMENT MARKER TY. IVA-BY TEMP	EACH																1,338		1,338
6600	REMOVE PAVEMENT MARKER TYPE V	EACH	412														3			415
8100	CONCRETE CLASS A	CUYD	3.51																	3.51

- NOTES:**
- ① FOR CONTROLLING DUST CAUSED BY MAINTAINING TRAFFIC ONLY (200 MGAL/MILE)
 - ② APPROXIMATELY 132 ACRES
 - ③ ESTIMATED AT 300 LB PER ACRE AND CONTAINS A MINIMUM OF 100 LBS OF NITROGEN, 100 LBS OF PHOSPHATE, AND 100 LBS OF POTASH PER ACRE
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 - ⑥ FOR GRAVITY RETAINING WALLS STA. 261+55 TO STA. 263+71 & STA. 265+75 TO STA. 267+06

EARTHWORK VOLUMES	
63,700 CU YD	ROCK EXC. ⑧
120,868 CU YD	COMMON ⑧
20,188 CU YD	EMB. BENCH ⑨
4,518 CU YD	SURF. DT. LT.
13,869 CU YD	SURF. DT. RT.
10,071 CU YD	REFILL ⑨
1,426 CU YD	DRAINAGE EXC. ⑩
234,640 CU YD	TOTAL EXC.
152,725 CU YD	EMBANKMENT ⑨
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8,370 CU YD	GRAN. EMB. ⑨
8,370 CU YD	REFILL
191,354 CU YD	TOTAL EMB.
FOR BIDDING	
234,640 CU YD ROADWAY EXC. TOTAL	

- ESTIMATE FOR EARTHWORK CALCULATIONS FOR DESIGN ONLY. THE CONTRACTOR IS ADVISED THAT THE EARTHWORK CALCULATIONS SHOWN ARE FOR INFORMATION ONLY. ASSUMPTIONS FOR SHRINKAGE AND SWELL FACTORS ARE THE CONTRACTORS RESPONSIBILITY.
- ⑧ INCLUDES 2,798 CU YD FOR TRANSVERSE BENCHING
 - ⑨ SEE GEOTECHNICAL NOTES
 - ⑩ 1,426 CU YD OF ROADWAY EXCAVATION CARRIED OVER FROM PIPE DRAINAGE SUMMARY
 - ⑪ 73,600 SQ YD CARRIED OVER FROM PAVING SUMMARY
 - ⑫ QUANTITIES ARE APPROXIMATE. SEE PROPOSAL FOR CONTAMINATED SOIL REMOVAL SPECIFICATIONS

FILE NAME: J:\11303\PROJECT\MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\00N\S\PRO200SU - ADDENDUM - REVISED 6-14-2016.
 USER: ehackworth
 DATE PLOTTED: June 15, 2016
 E-SHEET NAME:
 MicroStation v8.11.9.357

GENERAL SUMMARY

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1,426 CU YD	DRAINAGE EXC.⑩
234,640 CU YD	TOTAL EXC.
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REMOVED BID ITEM 4741 POLE BASE IN MEDIAN WALL & ITEM 4810 ELECTRICAL JUNCTION BOX.

FILE NAME: J:\11303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\00N\S\PRO200SU - ADDENDUM - REVISED 6-14-2016
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 DATE PLOTTED: June 15, 2016
 E-SHEET NAME:
 MicroStation v8.11.9.357

GENERAL SUMMARY

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MACOFFIN	10-166.00	R2V

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8150	STEEL REINFORCEMENT	LB	163																163
8257	HANDRAIL - PEDESTRIAN ALUMINUM	LF	275		347														622
8901	CRASH CUSHION TYPE VI CLASS BT TL2	EACH																20	20
8902	CRASH CUSHION TYPE VI CLASS B TL3	EACH	1																1
10020NS	FUEL ADJUSTMENT	DOLLAR																	173,665
10030NS	ASPHALT ADJUSTMENT	DOLLAR																	281,175
20166ES810	TEMPORARY PIPE	LF																125	125
20191ED	OBJECT MARKER TY 3	EACH	4												1				5
20210EN	COHESIVE PILE CORE	CUYD																	1,280
20211ES706	BORE AND JACK	LF	380																380
20327ES212	EROSION CONTROL BLANKET (SPECIAL)	SOYD	363																363
20432ES112	REMOVE CRASH CUSHION	EACH	3																3
21289ED	LONGITUDINAL EDGE KEY	LF	27,300																27,300
22520EN	PAVE MARKING-THERMO YIELD BAR-36 IN	LF		30															30
22884EN	CONCRETE MEDIAN BARRIER TY 14E-SINGLE SLOPE	LF	1,365																1,365
23026ED	ARCHITECTURAL TREATMENT	SOYD			191														191
23086EN	CONCRETE MEDIAN BARRIER WALL TYPE 9C (MODIFIED)	LF					350												350
23158ES505	DETECTABLE WARNINGS	SOFT	270	60	140			20			60								550
23237ENIOW	WATERBLAST STRIPE REMOVAL	LF																159,410	159,410
23274ENIIF	TURF REINFORCEMENT MAT 1	SOYD	332		92		211		40	60	198		23						956
24489EC	INLAID PAVEMENT MARKER	EACH	424														4		428
24814EC	PIPELINE INSPECTION	LF																	11,736
5997	TOPSOIL FURNISHED AND PLACED	CUYD	58																58
2731	REMOVE STRUCTURE STA. 3964+13	LS	1																1
2731	REMOVE STRUCTURE STA. 3996+59	LS	1																1
2731	REMOVE STRUCTURE STA. 4024+54	LS	1																1
2731	REMOVE STRUCTURE STA. 217+14 FRONTAGE RD.	LS			1														1
2731	REMOVE STRUCTURE - BILLBOARDS - P147	LS	1																1
2731	REMOVE STRUCTURE - BILLBOARDS - P176	LS	1																1
2731	REMOVE STRUCTURE - BILLBOARDS - P178	LS	1																1
2731	REMOVE STRUCTURE - BILLBOARDS - P181	LS			1														1
2731	REMOVE STRUCTURE - BILLBOARDS - P186	LS			1														1
2731	REMOVE STRUCTURE - BILLBOARDS - P197	LS	1																1
2731	REMOVE STRUCTURE - BILLBOARDS - P205	LS	1																1
24573EN	GAS LINE RELOCATION STA. 3933+09	LS	1																1
24573EN	GAS LINE RELOCATION STA. 3935+75	LS	1																1
24668EC	STEEL ENCASEMENT PIPE	LF	380																380
20465EC	CLEAN CULVERT	LS	1																1
2404	SEPTIC TANK TREATMENT	EACH	1				1												2
2475	PLUG WATER WELL	EACH	2																2

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2731	REMOVE STRUCTURE - BILLBOARDS - P181	LS			1														1
2731	REMOVE STRUCTURE - BILLBOARDS - P186	LS			1														1
2731	REMOVE STRUCTURE - BILLBOARDS - P197	LS	1																1
2731	REMOVE STRUCTURE - BILLBOARDS - P205	LS	1																1
24573EN	GAS LINE RELOCATION STA. 3933+09	LS	1																1
24573EN	GAS LINE RELOCATION STA. 3935+75	LS	1																1
24668EC	STEEL ENCASEMENT PIPE	LF	380																380
20465EC	CLEAN CULVERT	LS	1																1
2404	SEPTIC TANK TREATMENT	EACH	1				1												2
2475	PLUG WATER WELL	EACH	2																2

- NOTES:**
- ① FOR CONTROLLING DUST CAUSED BY MAINTAINING TRAFFIC ONLY (200 MGAL/MILE)
 - ② APPROXIMATELY 132 ACRES
 - ③ ESTIMATED AT 300 LB PER ACRE AND CONTAINS A MINIMUM OF 100 LBS OF NITROGEN, 100 LBS OF PHOSPHATE, AND 100 LBS OF POTASH PER ACRE
 - ④ ESTIMATED AT 11.5 LBS PER 1000 SQUARE FEET
 - ⑤ ESTIMATED AT 3 TON PER ACRE
 - ⑥ FOR GRAVITY RETAINING WALLS STA. 261+55 TO STA. 263+71 & STA. 265+75 TO STA. 267+06

EARTHWORK VOLUMES	
63,700 CU YD	ROCK EXC. ⑧
120,868 CU YD	COMMON ⑧
20,188 CU YD	EMB. BENCH ⑨
4,518 CU YD	SURF. DT. LT.
13,869 CU YD	SURF. DT. RT.
10,071 CU YD	REFILL ⑨
1,426 CU YD	DRAINAGE EXC. ⑩
234,640 CU YD	TOTAL EXC.
152,725 CU YD	EMBANKMENT ⑨
20,188 CU YD	EMB. BENCH ⑨
8,370 CU YD	GRAN. EMB. ⑨
8,370 CU YD	REFILL
191,354 CU YD	TOTAL EMB.
FOR BIDDING	
234,640 CU YD	ROADWAY EXC. TOTAL

- ESTIMATE FOR EARTHWORK CALCULATIONS FOR DESIGN ONLY. THE CONTRACTOR IS ADVISED THAT THE EARTHWORK CALCULATIONS SHOWN ARE FOR INFORMATION ONLY. ASSUMPTIONS FOR SHRINKAGE AND SWELL FACTORS ARE THE CONTRACTORS RESPONSIBILITY.
- ⑧ INCLUDES 2,798 CU YD FOR TRANSVERSE BENCHING
 - ⑨ SEE GEOTECHNICAL NOTES
 - ⑩ 1,426 CU YD OF ROADWAY EXCAVATION CARRIED OVER FROM PIPE DRAINAGE SUMMARY
 - ⑪ 73,600 SQ YD CARRIED OVER FROM PAVING SUMMARY
 - ⑫ QUANTITIES ARE APPROXIMATE. SEE PROPOSAL FOR CONTAMINATED SOIL REMOVAL SPECIFICATIONS

REMOVE BID ITEM 20394ES835 PVC CONDUIT 3 IN MEDIAN BARRIER WALL RACEWAY

MicroStation v8.11.9.357
 E-SHEET NAME:
 USER: ehackworth
 DATE PLOTTED: June 15, 2016
 FILE NAME: J:\1303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\00N\S\PRO20V\SU - ADDENDUM - REVISED 6-14-2016

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
MAGOFFIN	10-166.00	R2X

SHEET NO.	SKREW	COVER HEIGHT	DESIGN PH LEVEL	CURB BOX INLET		DROP BOX INLET										MANHOLE		CONCRETE MEDIAN BARRIER BOX 14A	CONCRETE MEDIAN BARRIER BOX 14B	JUNCTION BOX	ROADWAY EXCAVATION	REMARKS
				TYPE A	TYPE B	TYPE 3	TYPE 4	TYPE 5F	TYPE 6D	TYPE 11	TYPE 12A	TYPE 13G	TYPE 13S	TYPE 14	TYPE A	TYPE C						
ITEM CODE				1456	1480	1496	1499	1517	1529	1544	1550	1559	1568	1577	1756	1767	20932ND	1616	1650	2200		
UNIT TO BID				EA	EA	EA	EA	EA	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	CY		
	US 460																					
	3933+20	3	M														1			16		
	3935+61	4.3	M		1												1					
	3938+50	6	M														1					
	3942+31	3	M														1					
	3943+00	8.5	M													1	1		21			
	3943+69	2.9	M																			
	3946+00	6	M	1																		
	3947+17	4	M	1																11		
	3948+30	6.75	M	1																		
	3948+50	6.75	M	1																		
	3948+98	6.5	M	1																		
	3949+67	7	M	2										1								
	3950+32	6.5	M	1																		
	3950+42	5	M	1				1														
	3951+80	4.5	M	1																		
	3951+83	5.5	M	1																		
	3953+00	5.2	M	1										1								
	3953+80	4.5	M	1																		
	3955+32	5	M							1												
	3956+52	3.3	M							1												
	3958+00	2	M							1												
	3958+50	4	M	1						1												
	3959+00	1.5	M							1												
	3959+50	5.5	M	2																		
	3960+10	2.5	M	1																		
	3961+51	3.5	M							1				1								
	3962+08	13* RT	6	M	2					1												
	3963+47	6	M	1																		
	3964+95	5	M	2																		
	3965+89	4	M										1									
	3966+02	3	M	2		1								1							NO APRON	
	3966+52	3	M	2																		
	3967+02	3	M	2																		
	3968+34	15* RT	4.5	M	2									1								
	3969+02	4	M							1												
	3969+50	3.5	M	1																		
	3970+18	2	M			1														6	NO APRON	
	3971+25	4.5	M	2																		
	3972+75	2.5	M							1												
	3973+02	10	M													2				60		
	3973+35	2.5	M	2																		
	3975+17	4.5	M																			
	3976+00	5	M	2		1													1		JUNCTION BOX NO. 3 NO APRON	
	3979+83	1* LT	5	M			1												1	2	JUNCTION BOX NO. 19	
	3982+00	2.5	M	2																		
	3983+00	5	M			1								1							NO APRON	
	3985+00	2.5	M	2																		
	3985+50	5	M			1								1							NO APRON	
	3986+80	3	M	1																		
	3988+15	4.5	M	2																	9	
SHEET TOTAL				44	1	5	1	1		9		1			7	2	1	5	2	125		

PIPE DRAINAGE SUMMARY

MicroStation v8.11.9.357 E-SHEET NAME: DATE PLOTTED: June 15, 2016 USER: ehackworth FILE NAME: J:\1303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\DN'S\PROPOSAL - ADDENDUM - REVISED 6-14-2016

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
MAGOFFIN	10-166.00	R2X

SHEET NO.	ITEM CODE	SKREW	COVER HEIGHT	DESIGN PH LEVEL	CURB BOX INLET		DROP BOX INLET								MANHOLE		CONCRETE MEDIAN BARRIER BOX 14A	CONCRETE MEDIAN BARRIER BOX 14B	JUNCTION BOX	ROADWAY EXCAVATION	REMARKS
					TYPE A	TYPE B	TYPE 3	TYPE 4	TYPE 5F	TYPE 6D	TYPE 11	TYPE 12A	TYPE 13G	TYPE 13S	TYPE 14	TYPE A					
	UNIT TO BID				EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	CY	
	US 460																				
	3933+20		3	M																	16
	3935+61		4.3	M		1															
	3938+50		6	M																	
	3942+31		3	M																	
	3943+00		8.5	M												1					21
	3943+69		2.9	M													1				
	3946+00		6	M	1																
	3947+17		4	M	1																11
	3948+30		6.75	M	1																
	3948+50		6.75	M	1																
	3948+98		6.5	M	1																
	3949+67		7	M	2									1							
	3950+32		6.5	M	1																
	3950+42		5	M	1				1												
	3951+80		4.5	M	1																
	3951+83		5.5	M	1																
	3953+00		5.2	M	1									1							
	3953+80		4.5	M	1																
	3955+32		5	M						1											
	3956+52		3.3	M						1											
	3958+00		2	M						1											
	3958+50		4	M	1					1											
	3959+00		1.5	M						1											
	3959+50		5.5	M	2																
	3960+10		2.5	M	1																
	3961+51		3.5	M						1				1							
	3962+08	13° RT	6	M	2					1											
	3963+47		6	M	1																
	3964+95		5	M	2																
	3965+89		4	M									1								
	3966+02		3	M	2		1							1							NO APRON
	3966+52		3	M	2																
	3967+02		3	M	2																
	3968+34	15° RT	4.5	M	2									1							
	3969+02		4	M						1											
	3969+50		3.5	M	1																
	3970+18		2	M		1														6	NO APRON
	3971+25		4.5	M	2																
	3972+75		2.5	M						1											
	3973+02		10	M												2				60	
	3973+35		2.5	M	2																
	3975+17		4.5	M																	
	3976+00		5	M	2		1												1		JUNCTION BOX NO. 3
	3979+83	1° LT	5	M				1											1	2	JUNCTION BOX NO. 19
	3982+00		2.5	M	2																
	3983+00		5	M		1								1							NO APRON
	3985+00		2.5	M	2																
	3985+50		5	M		1								1							NO APRON
	3986+80		3	M	1																
	3988+15		4.5	M	2																9
	SHEET TOTAL				44	1	5	1	1	9		1		7	2	1	5	2		125	

PIPE DRAINAGE SUMMARY

MicroStation v8.11.9.357 E-SHEET NAME: DATE PLOTTED: June 15, 2016 USER: ehackworth FILE NAME: J:\1303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\DN'S\PROPOSAL - ADDENDUM - REVISED 6-14-2016

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
MAGOFFIN	10-166.00	R2Z

SHEET NO.	SKEW	COVER HEIGHT	DESIGN PH LEVEL	CURB BOX INLET		DROP BOX INLET										MANHOLE		CONCRETE MEDIAN BARRIER BOX 14A	CONCRETE MEDIAN BARRIER BOX 14B	JUNCTION BOX	ROADWAY EXCAVATION	REMARKS
				TYPE A	TYPE B	TYPE 3	TYPE 4	TYPE 5F	TYPE 6D	TYPE 11	TYPE 12A	TYPE 13G	TYPE 13S	TYPE 14	TYPE A	TYPE C						
	ITEM CODE			1456	1480	1496	1499	1517	1529	1544	1550	1559	1568	1577	1756	1767	20932ND	1616	1650	2200		
	UNIT TO BID			EA	EA	EA	EA	EA	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	CY		
	US 460																					
	3989+50	2.5	M	2																		
	3991+22	2.5	M	2																		
	3991+62	5	M	2																		
	3991+90	1° RT	5	M	2															15		
	3994+75		4	M	2																	
	3997+25		4	M	2																	
	3999+48	8° RT	11	M	1		1													35		
	4001+63		4.5	M	1		1															
	4002+00		5.2	M	1																	
	4003+15	17° RT	8	M																36		
	4004+65		5	M	1																	
	4007+00		6	M	1																	
	4009+20		5	M	1															281		
	4010+20			M																		
	4011+50		5	M	1																	
	4014+00		6	M	1																	
	4014+50		5	M		1																
	4016+50		9.5	M	1		1								1				1	98		
	4019+00		6	M	1																	
	4021+40		11.5	M		1														9		
	4024+74	46° RT	1.5	M																		
	4037+50		7	M		1														107		
	4039+50		9	M		1																
	4042+16		4.5	M											1							
	4043+25		4.5	M		1																
	4045+48		4.5	M		1																
	4048+79	12° LT	5	M																3		
	4049+88		8	M		1				1										15	NO APRON	
	4051+86			M																		
	4055+50		7	M		1				1											NO APRON	
	4058+40		6	M			1													15	NO APRON	
	SHEET TOTAL				22	2	9	1		2					2				1	614		

MicroStation v8.11.9.357
 E-SHEET NAME:
 USER: ehackworth
 DATE PLOTTED: June 15, 2016
 FILE NAME: J:\1303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\DMN\S\PRO0202SU - ADDENDUM - REVISED 6-14-2016

PIPE DRAINAGE SUMMARY

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
MAGOFFIN	10-166.00	R2Z

SHEET NO.	ITEM CODE	SKEW	COVER HEIGHT	DESIGN PH LEVEL	CURB BOX INLET			DROP BOX INLET								MANHOLE		CONCRETE MEDIAN BARRIER BOX 14A	CONCRETE MEDIAN BARRIER BOX 14B	JUNCTION BOX	ROADWAY EXCAVATION	REMARKS
					TYPE A	TYPE B	TYPE 3	TYPE 4	TYPE 5F	TYPE 6D	TYPE 11	TYPE 12A	TYPE 13C	TYPE 13S	TYPE 14	TYPE A	TYPE C					
	UNIT TO BID				EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	CY		
	US 460																					
	3989+50		2.5	M	2																	
	3991+22		2.5	M	2																	
	3991+62		5	M	2																	
	3991+90	1° RT	5	M	2																15	
	3994+75		4	M	2																	
	3997+25		4	M	2																	
	3999+48	8° RT	11	M	1			1													35	
	4001+63		4.5	M	1			1														
	4002+00		5.2	M	1																	
	4003+15	17° RT	8	M																	36	
	4004+65		5	M	1																	
	4007+00		6	M	1																281	
	4009+20		5	M	1																	
	4010+20			M																		
	4011+50		5	M	1																	
	4014+00		6	M	1																	
	4014+50		5	M				1														
	4016+50		9.5	M	1			1							1				1		98	
	4019+00		6	M	1																	
	4021+40		11.5	M				1													9	
	4024+74	46° RT	1.5	M																		
	4037+50		7	M				1													107	
	4039+50		9	M				1														
	4042+16		4.5	M											1							
	4043+25		4.5	M				1														
	4045+48		4.5	M				1														
	4048+79	12° LT	5	M																	3	
	4049+88		8	M				1													15	
	4051+86			M																		
	4055+50		7	M				1														
	4058+40		6	M																	15	
	SHEET TOTAL				22	2	9	1			2					2				1	614	

FILE NAME: J:\1303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\DN'S\RD0202SU - ADDENDUM - REVISED 6-14-2016.
 USER: ehackworth
 DATE PLOTTED: June 15, 2016
 E-SHEET NAME:
 MicroStation v8.11.9.357

PIPE DRAINAGE SUMMARY

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
MAGOFFIN	10-166.00	R2BB

SHEET NO.	SKREW	COVER HEIGHT	DESIGN PH LEVEL	CURB BOX INLET		DROP BOX INLET										MANHOLE		CONCRETE MEDIAN BARRIER BOX 14A	CONCRETE MEDIAN BARRIER BOX 14B	JUNCTION BOX	ROADWAY EXCAVATION	REMARKS			
				TYPE A	TYPE B	TYPE 3	TYPE 4	TYPE 5F	TYPE 6D	TYPE 11	TYPE 12A	TYPE 13G	TYPE 13S	TYPE 14	TYPE A	TYPE C									
ITEM CODE				1456	1480	1496	1499	1517	1529	1544	1550	1559	1568	1577	1756	1767	20932ND	1616	1650	2200					
UNIT TO BID				EA	EA	EA	EA	EA	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	CY					
	BACKAGE ROAD																					169			
	75+57	2° LT	4	M	1		2																	NO APRON	
	80+06		5	M	1																				
	81+56		5	M	1		1																		NO APRON
	82+37		5.5	M	1		1																		NO APRON
	82+60	5° RT	8	M	1		1																		
	84+75		6.5	M	1																				
	85+50		3	M			1																		NO APRON
	88+58		4	M	1																				
	88+83		4	M	1																				
	89+05	12° RT	4	M	1																				
	90+16	29° LT	2	M			1								1										
	92+50		5	M	1		2																		NO APRON
	94+50		4	M	1																				
	96+80		4	M	1																				
	97+80	34° RT	5	M	1																				22
	98+23		5	M	1																				
	98+56		5	M	1																				
	100+35		5	M	1		1																		NO APRON
	101+00		4	M			1																		NO APRON
	101+53		4	M	1																				
	102+53		4	M	1																				
	103+44		4	M	1																				
SHEET TOTAL						19	11								2								191		

MicroStation v8.11.9.357
 E-SHEET NAME:
 USER: ebackworth
 DATE PLOTTED: June 15, 2016
 FILE NAME: J:\11303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\DN'S\ROADBBSU - ADDENDUM - REVISED 6-14-2016.DWG

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
MAGOFFIN	10-166.00	R2DD

SHEET NO.	SKEW	COVER HEIGHT	DESIGN PH LEVEL	CURB BOX INLET		DROP BOX INLET										MANHOLE		CONCRETE MEDIAN BARRIER BOX 14A	CONCRETE MEDIAN BARRIER BOX 14B	JUNCTION BOX	ROADWAY EXCAVATION	REMARKS
				TYPE A	TYPE B	TYPE 3	TYPE 4	TYPE 5F	TYPE 6D	TYPE 11	TYPE 12A	TYPE 13G	TYPE 13S	TYPE 14	TYPE A	TYPE C						
ITEM CODE				1456	1480	1496	1499	1517	1529	1544	1550	1559	1568	1577	1756	1767	20932ND	1616	1650	2200		
UNIT TO BID				EA	EA	EA	EA	EA	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	CY		
	FRONTAGE ROAD																					
	201+60	5.4	M	2																		
	204+25	4.9	M	1																		
	205+22	4.3	M																			
	207+05	4.7	M	1																		
	210+00	3.5	M	1																		
	212+50	5	M	1																		
	214+95	4.5	M	1																		
	216+05	4	M	1																		
	217+30	4.5	M	1																		
	217+50	4	M																			
	217+70	4	M																			
	218+30	4	M																			
	219+20	4	M	1																		
	219+92	3	M																			
	221+75	3	M																			
	222+78	4	M	1																		
	223+49	4	M	1																		
	224+70	5	M	1																		
	225+75	7	M	1																		
	226+17	4	M																			
	226+70	4	M	1																		
	228+50	4	M	1																		
	231+21	4	M	1																		
	235+15	4	M	1																		
	236+35	4	M	1																		
	237+65	4	M	1																		
	238+85	4	M	1																		
	240+05	4	M	1																		
	241+55	3	M																			
	242+45	4	M	1																		
	243+74	4	M	1																		
	244+31	4	M	1																		
	244+83	3	M	1																		
	246+06	5	M	1																		
	247+33	5	M	1																		
	248+67	4	M	1																		
	252+51	36° LT	10.5	M																		
	253+53		4	M	1																	
	253+78		6.5	M	2																	
	254+03		4	M	1																	
	254+85	19° RT	9.5	M	2																	
	255+75		4	M	1																	
	256+30	48° RT	6	M																		
	258+20		4.5	M	1																	
	259+77		5	M	1																	
	260+30	27° RT	6	M	1																	
	262+78		5.5	M	1																	
	266+75		4.5	M	1																	
	268+95		4.5	M	1																	
	271+11		4	M																		
SHEET TOTAL				42										5	1	3	2	1		2	179	

PIPE DRAINAGE SUMMARY

MicroStation v8.11.9.357
 E-SHEET NAME:
 USER: ehackworth
 DATE PLOTTED: June 15, 2016
 FILE NAME: J:\1303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\DN'S\PRO2DDSU - ADDENDUM - REVISED 6-14-2016

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
MAGOFFIN	10-166.00	R2DD

SHEET NO.	SKEW	COVER HEIGHT	DESIGN PH LEVEL	CURB BOX INLET		DROP BOX INLET										MANHOLE		CONCRETE MEDIAN BARRIER BOX 14A	CONCRETE MEDIAN BARRIER BOX 14B	JUNCTION BOX	ROADWAY EXCAVATION	REMARKS
				TYPE A	TYPE B	TYPE 3	TYPE 4	TYPE 5F	TYPE 6D	TYPE 11	TYPE 12A	TYPE 13G	TYPE 13S	TYPE 14	TYPE A	TYPE C						
ITEM CODE				1456	1480	1496	1499	1517	1529	1544	1550	1559	1568	1577	1756	1767	20932ND	1616	1650	2200		
UNIT TO BID				EA	EA	EA	EA	EA	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA	CY			
	FRONTAGE ROAD																					
	201+60	5.4	M	2																		
	204+25	4.9	M	1																		
	205+22	4.3	M																			
	207+05	4.7	M	1																		
	210+00	3.5	M	1																		
	212+50	5	M	1																		
	214+95	4.5	M	1																		
	216+05	4	M	1																		
	217+30	4.5	M	1																		
	217+50	4	M																			
	217+70	4	M																			
	218+30	4	M																			
	219+20	4	M	1																		
	219+92	3	M																			
	221+75	3	M																			
	222+78	4	M	1																		
	223+49	4	M	1																		
	224+70	5	M	1																		
	225+75	7	M	1																		
	226+17	4	M																			
	226+70	4	M	1																		
	228+50	4	M	1																		
	231+21	4	M	1																		
	235+15	4	M	1																		
	236+35	4	M	1																		
	237+65	4	M	1																		
	238+85	4	M	1																		
	240+05	4	M	1																		
	241+55	3	M																			
	242+45	4	M	1																		
	243+74	4	M	1																		
	244+31	4	M	1																		
	244+83	3	M	1																		
	246+06	5	M	1																		
	247+33	5	M	1																		
	248+67	4	M	1																		
	252+51	36° LT	10.5	M																		
	253+53		4	M	1																	
	253+78		6.5	M	2																	
	254+03		4	M	1																	
	254+85	19° RT	9.5	M	2																	
	255+75		4	M	1																	
	256+30	48° RT	6	M																		
	258+20		4.5	M	1																	
	259+77		5	M	1																	
	260+30	27° RT	6	M	1																	
	262+78		5.5	M	1																	
	266+75		4.5	M	1																	
	268+95		4.5	M	1																	
	271+11		4	M																		
SHEET TOTAL				42									5	1	3	2	1		2	179		

CONCRETE MEDIAN BARRIER BOX 14A
CONCRETE MEDIAN BARRIER BOX 14B

MicroStation v8.11.9.357
 E-SHEET NAME:
 USER: ehackworth
 DATE PLOTTED: June 15, 2016
 FILE NAME: J:\1303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\DN'S\PRO2DDSU - ADDENDUM - REVISED 6-14-2016

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
MAGOFFIN	10-166.00	R2FF

SHEET NO.	ITEM CODE	SKEW	COVER HEIGHT	DESIGN PH LEVEL	CURB BOX INLET		DROP BOX INLET								MANHOLE		CONCRETE MEDIAN BARRIER BOX 14A	CONCRETE MEDIAN BARRIER BOX 14B	JUNCTION BOX	ROADWAY EXCAVATION	REMARKS	
					TYPE A	TYPE B	TYPE 3	TYPE 4	TYPE 5F	TYPE 6D	TYPE 11	TYPE 12A	TYPE 13G	TYPE 13S	TYPE 14	TYPE A						TYPE C
	UNIT TO BID					EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	CY		
	US 460 WEST																					
	997+35	32° LT	11	M																	122	
	997+95		7	M	1																	
	999+45		6	M	1																	
	1001+25		6	M											1							
	APPR. 3962																					
	8+13		3.5	M		1															18	
	8+23	13° LT	4	M											1							
	8+55	13° LT	3	M						12	1							1			JUNCTION BOX NO. 2	
	9+02		6	M	1																	
	9+42		6	M											1							
	PINE POINT RD																					
	49+00		1.5	M										1								
	PINE POINT APR.																					
	11+35		4	M																		
	12+20		8	M																		
	12+50		1	M										1								
	BURNING FORK																					
	99+12	2° LT	9	M	2																68	
	98+35		9	M																		
	BURNING FORK FRONTAGE																					
	7+96	35° LT	5	M																	27	
	APPR. 4027+00																					
	74+33	27° RT	2.5	M																		
	KY 1888																					
	54+00		11	M																	15	
	KY 1888 APPR.																					
	51+88	27° LT	7.5	M		1															67	
	KY 1415																					
	46+40		5.6	M		1															NO APRON	
	46+85		4.1	M		1															NO APRON	
	49+23	20° LT	2.3	M																		
	SHEET TOTAL					5		4				12	1		2	3	1			1	317	
	PROJECT TOTAL					132	3	29	2	1	2	9	12	7	1	7	14	4	1	5	6	1366

PIPE DRAINAGE SUMMARY

FILE NAME: J:\11303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\DN\S\PRO2FFSU - ADDENDUM - REVISED 6-14-2016.DWG
 USER: ehackworth
 DATE PLOTTED: June 15, 2016
 E-SHEET NAME:
 MicroStation v8.11.9.357

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
MAGOFFIN	10-166.00	R2FF

SHEET NO.	ITEM CODE	SKEW	COVER HEIGHT	DESIGN PH LEVEL	CURB BOX INLET		DROP BOX INLET								MANHOLE		CONCRETE MEDIAN BARRIER BOX 14A	CONCRETE MEDIAN BARRIER BOX 14B	JUNCTION BOX	ROADWAY EXCAVATION	REMARKS	
					TYPE A	TYPE B	TYPE 3	TYPE 4	TYPE 5F	TYPE 6D	TYPE 11	TYPE 12A	TYPE 13G	TYPE 13S	TYPE 14	TYPE A						TYPE C
	UNIT TO BID					EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	CY		
	US 460 WEST																					
	997+35	32° LT	11	M																	122	
	997+95		7	M	1																	
	999+45		6	M	1																	
	1001+25		6	M											1							
	APPR. 3962																					
	8+13		3.5	M		1															18	
	8+23	13° LT	4	M											1							
	8+55	13° LT	3	M						12	1							1			JUNCTION BOX NO. 2	
	9+02		6	M	1																	
	9+42		6	M											1							
	PINE POINT RD																					
	49+00		1.5	M										1								
	PINE POINT APR.																					
	11+35		4	M																		
	12+20		8	M														1				
	12+50		1	M										1								
	BURNING FORK																					
	99+12	2° LT	9	M	2																68	
	98+35		9	M																		
	BURNING FORK FRONTAGE																					
	7+96	35° LT	5	M																	27	
	APPR. 4027+00																					
	74+33	27° RT	2.5	M																		
	KY 1888																					
	54+00		11	M																	15	
	KY 1888 APPR.																					
	51+88	27° LT	7.5	M		1															67	
	KY 1415																					
	46+40		5.6	M		1															NO APRON	
	46+85		4.1	M		1															NO APRON	
	49+23	20° LT	2.3	M																		
	SHEET TOTAL					5		4				12	1		2	3	1			1	317	
	PROJECT TOTAL					132	3	29	2	1	2	9	12	7	1	7	14	4	1	5	6	1366

PIPE DRAINAGE SUMMARY

FILE NAME: J:\11303\PROJECT_MILESTONES\CONTRACT_PLANS_AND_PROPOSAL\CONTRACT_PLAN_SET\ROADWAY\DN\S\PRO2FFSU - ADDENDUM - REVISED 6-14-2016.DWG
 USER: ehackworth
 DATE PLOTTED: June 15, 2016
 E-SHEET NAME:
 MicroStation v8.11.9.357

lengths of not more one mile. The OWNER may allow testing in longer sections on a case by case basis.

- d) Duration of test shall be no less than two (2) hours.
- e) Where leaks are evident on the surface where joints are covered, the joints shall be recaulked, repoured, bolts retightened or relaid, and leakage minimized regardless of total leakage as shown by test.
- f) All pipe fittings and other materials found to be defective under test shall be removed, repaired or replaced at the discretion of the OWNER.
- g) Lines which fail to meet test requirements shall be repaired and retested as necessary until test requirements are complied with.
- h) The CONTRACTOR shall furnish a recording pressure gauge for the pressure and leakage test. Charts shall become the property of the OWNER at conclusion of test.

7.5 DISINFECTION OF WATER LINES

The new potable water lines shall not be placed in service, either temporarily or permanently, until they have been thoroughly disinfected by the Continuous Feed Method as set forth in the latest edition of AWWA Specification C-651. Specification C-651 is reproduced in the Reference Section of this Contract Document in its entirety.

The following requirements apply to the disinfection activity:

- a) All flushing and test waters shall be potable water obtained from the "Public Utility" that is chosen by the OWNER. Withdrawals of water from the "Public Utility" system must be both authorized and metered. The "Public Utility" will bill the CONTRACTOR for all waters used in accordance with its current leak adjustment rate.
- b) The Tablet and Slug Method of disinfection may not be used.
- c) The water lines shall be flushed prior to disinfection. Flush waters may be discharged to the nearest storm drain or surface water way in a controlled manner which will not result in environmental damage.
- d) The CONTRACTOR shall have a chlorine test kit in his possession for purposes of monitoring the disinfection dose.
- e) The free chlorine residual immediately after chlorine dosing shall be 50 mg/l. The free chlorine residual 24 hours after chlorine dosing shall not be less than 25 mg/l.
- f) The heavily chlorinated waters of disinfection shall be neutralized with an approved neutralizing agent prior to discharge.
- g) After disinfection and flushing, and before the water main is placed in service, bacteriological samples shall be collected and analyzed in accordance with the requirements of the Kentucky Department for Natural Resources and Environmental Protection. The new

SECTION X
TECHNICAL SPECIFICATIONS
VALVES

10.1 SCOPE

This work shall consist of furnishing and installing valves on 1.25-inch diameter and greater High Density Polyethylene Pipe.

10.1.A QUALITY ASSURANCE/SUBMITTALS

10.1.A.1 Submit five copies of manufacturer's certification of compliance with applicable AWWA specifications. Certificate to be signed by corporate officer having authority to legally bind the company.

10.2 MATERIALS

10.2.1 General: Valves 2" and larger shall be resilient wedge gate valves. Valves less than 2" shall be thermoplastic ball valves unless otherwise stated.

10.2.2 Gate Valves: All gate valves shall be of the **AWWA C515 RESILIENT WEDGE GATE VALVE TYPE** suitable for wastewater applications with iron body, nonrising stem, fully bronze mounted (Mueller or approved equal). GATE VALVES SHALL BE RATED FOR WORKING WATER PRESSURES OF 150 PSI. Valves shall be of standard manufacture and of the highest quality both as to materials and workmanship.

All gate valves for "below ground" service shall be furnished with mechanical joint end connections. Gate valves for "above ground" (or pit) installations shall be furnished with flanged end connections.

All gate valves shall have the name or monogram of the manufacturer, the year the valve casting was made, the size of the valve, and the working water pressure cast on the body of the valve.

Each gate valve for "below ground" service shall be installed in a vertical position with a valve box, as shown in the Design Drawings. Gate valves set with boxes shall be provided with a two inch square operating nut and shall be opened by turning to the left (counterclockwise). Each gate valve for "above ground" (or pit) installations shall be furnished with a hand wheel operator.

10.2.5 Valve Box and Cover: The valve box and cover shall be of cast iron construction and shall be engraved with the word “SEWER”. Valve Box (can) shall be vertically adjustable.

10.2.6 Valve Markers: Each valve assembly shall be delineated by a valve marker as detailed in the Drawings. The marker shall consist of a 3” green PE pipe embedded vertically adjacent to the valve. The marker shall include a weatherproof label identifying the valve owner and provide an emergency phone number for the owner.

10.2.7 Line Plug: If the valve is to be installed at the end of a line the CONTRACTOR shall provide a thrust backed plug.

10.3 INSTALLATION

Trenching, bedding, and backfilling requirements for gate valves shall conform to the installation requirements for water lines and fittings. The base of the valve shall be anchored in concrete as shown in the Design Drawings. The valve box shall be installed vertically, centered over the stem of the operating nut. The valve box base shall be placed at least two inches above the flanged joint of the valve cover. The top of the operating nut should be no higher than the hub or upper part of the valve box base where it connects to the center section.

-- THE END --

FULL SERVICE – CONTRACTOR shall connect resident’s building sewer (also known as lateral) to the newly installed, operational grinder pumping unit. CONTRACTOR shall provide a ‘clean out’ in the lateral. CONTRACTOR must secure the necessary plumbing permit and employ a licensed plumber to make the final connection.

5. All related site work including clearing, grading, trenching, backfilling, surface restoration, clean-up, etc.

PLEASE NOTE - Installation of the Pumping Station 1-1/4” service main between the pump station and the main force main is covered under a separate section of these specifications and is not a part of this specification.

11.2 QUALITY CONTROL

11.2.1 Base Bidding: These specifications and the Drawings are based on the provision of a **Keen centrifugal sealed grinder type model KH62-21C, Watermark EPS, or equal.** To simplify repairs and inventory of spare parts, the OWNER has mandated that the SUCCESSFUL BIDDER (CONTRACTOR) provide a single pump unit for use throughout the system.

11.2.2 Guarantee: The manufacturer of the submersible pumping station shall guarantee all equipment supplied against defects in workmanship and material for a period of sixty (60) months after notice of OWNER’s acceptance, but no greater than sixty-five (65) months after receipt of shipment. The OWNER will report any defects found during the warranty period to the MANUFACTURER. ALL replacement pumps and controls installed during as well as after the warranty period expires shall be warranted for sixty (60) months starting 3 months from date of shipment.

In the event a component fails to perform as specified or is proven defective in service during the warranty period, the Manufacturer shall repair or replace, at his discretion, such defective part without cost to the OWNER. He shall further provide, without cost, such labor as may be required to replace, repair, or modify major equipment components.

11.2.3 Start-Up: The manufacturer shall provide the services of a factory-trained representative for a minimum period of two weeks on-site to perform initial start-up of the pumping units and to instruct the OWNER's operating personnel in the operation and maintenance of the equipment.

PVC pipe.

12.9.2 Check Valve: Check valves shall be horizontal swing checks with outside spring and lever -- flanged joint. The valve body shall be cast iron and the trim shall be bronze.

12.9.3 Plug Valve: Valves shall be of the non-lubricated eccentric type with resilient faced plugs and shall be furnished with end connections as those shown on the plans. Flanged valves shall be drilled to the ANSI 125/150-lb. Standard.

Valve bodies shall be of the ASTM A126 Class B Cast Iron. Bodies in 4" and larger shall be furnished with 1/8" welded overlay seam of not less than 90% pure nickel. Seat area shall be raised with raised surface completely covered with weld to insure that the plug face only contacts the nickel. Screwed in seats shall not be acceptable.

Port areas shall be full flow and unobstructed when open. Port area shall be rectangular and not less than 80% of full pipe area.

Plugs shall be of the ASTM A126 class B cast iron. The plug shall have a cylindrical seating surface eccentrically offset from the center of the plug shaft. The interference between the plug face and the body seat, with the plug in the close position, shall be externally adjustable in the field with the valve in the line under pressure.

Bearings shall be sleeve type metal bearings and shall be sintered, oil impregnated permanently lubricated type 316 ASTM A743 Grade CD-8M.

Valve shaft seals shall be of the multiple V-ring type and shall be externally adjustable and repackable without removing the bonnet or actuator from the valve. Valve utilizing O-ring seals, non-adjustable packing, or so-called grit-excluders shall not be acceptable.

Pressure rating shall be 175 psi for valves through 12" and 150 psi for valves 14" through 72". Each valve shall be given a hydrostatic and seat test results being certified when the required by the specifications.

Valves shall be furnished with actuators as shown on the plans.

12.9.4 Pressure Gage: A pressure gage shall be installed on the discharge header. The pressure gage shall have a minimum face diameter of 4.5 inches, read 0 to 100 FEET HEAD and be accurate to 1/2 percent of scale. The pressure gage shall be equipped with an isolation valve, snubber and protective diaphragm suitable for use with wastewater.

12.9.5 Ball Valve: Ball valves shall be bronze valves.

12.9.6 Emergency Quick Disconnect: Provide an emergency quick disconnect with valve and fittings as shown on the Plans.

13.3.5 Type "D" Manholes: A drop pipe shall be provided for a sewer entering a manhole at an elevation of 25 inches or more above the manhole invert and shall be built as a part of the standard manhole. The pipe shall be laid as shown on the Drawings and encased with 3500 psi concrete from the drop stack to the reinforced base of the manhole.

13.3.6 Precast Concrete Rings: Precast concrete rings for manholes shall conform to ASTM C478, Class II, Wall B, with a minimum concrete strength of 4,000 psi, except that rings for manholes over 12 feet deep shall be Class III. O-ring gaskets shall be installed between connected ring sections.

13.3.7 Manhole Inverts: Manhole inverts shall be formed from 3500 psi concrete. Inverts for a "straight-through" manhole shall be formed by laying the pipe straight through the manhole, pouring the concrete invert, and then cutting out the top half of the pipe. Curved inverts shall be constructed of concrete, as shown, and shall form a smooth, even half-pipe section as shown on the Design Drawings. The inverts shall be constructed when the manhole is being built using prefabricated forms.

13.3.8 Manhole Steps: Manhole steps shall be made of steel reinforced polypropylene or any steel reinforced plastic step which produces equal or better performance.

13.3.9 Manhole Frames and Covers: Standard manhole castings shall consist of J.R. Hoe & Sons MC 385 frame and lid, Neenah Foundry R-1683 frame and lid or approved equal.

Watertight manhole castings shall consist of cast iron frames with machined bearing surfaces, gasket seal, and bolted lids. They shall be J.R. Hoe & Sons M-375 watertight, Neenah Foundry R-1916 watertight or approved equal.

Manhole covers must sit neatly in the rings, with contact edges machined for even bearing and tops flush with ring edge. They shall have sufficient corrugations to prevent a slipperiness. The lids shall have two pick holes about 1-1/4 inches wide and 1/2 inch deep with 3/8 inch undercut all around. Lids on sanitary sewer manholes must not be perforated.

13.3.10 Manhole Inserts: All manhole lids shall be equipped with a 304 stainless steel insert to control storm water inflow through the pick holes.

13.3.11 Backfilling: Manhole backfilling shall not commence until the ENGINEER has inspected the structure. The manhole backfilling methodology shall conform to the methodology employed for the gravity lines adjacent the structure. Backfilling shall occur in uniform horizontal lifts around the full circumference of the structure to avoid displacement by unbalanced loadings.

SECTION 15104

METERS AND SERVICES

1.0 GENERAL

The CONTRACTOR shall furnish all labor, tools, equipment, and materials necessary for installing meter services as shown on the plans and as directed.

2.0 MATERIALS

2.1 METERS

The meters shall be AMR Hersey "Hot Rod" Series IIS magnetic drive positive displacement disc meters. This meter is a proprietary item for synchronization with the existing water system.

2.2 CORPORATION STOPS, SETTERS AND SADDLES

The corporation stops, setters and saddles shall be manufactured by The Ford Meter Box Company, Mueller Water Products or approved equal.

2.3 METER SETTINGS

The existing Meter settings (preferred) for 5/8" x 3/4" meters consist of the following: 18" x 24" white corrugated box, Vestal WM-18 18" cast iron flat lid, Ford VB HH142-7W resetter, Ford C38-2-8.5 meter coupling; Ford C14-33-G 3/4" FPT x coupling; 1/2" sch. 40 cap and 1/2" x 2' sch. 40 brace pipe. Alternate manufacturers include Mueller Water Products and J.R. Hoe and Sons.

2.4 INDIVIDUAL PRESSURE REGULATING VALVE

Individual pressure regulating valves will not be required on this project.

2.5 SERVICE LINES

Unless indicated otherwise on the plans, all Service Lines shall be 3/4" polyethylene plastic tubing using a corporation stop in accordance with the Standard Details. Service pipe shall meet all AWWA Specifications with a minimum pressure rating of 200 psi. Polyethylene service tubing shall be ultra high density type equal to DRISCOPIPE Series 5100, CTS, JM Eagle "Pure-core" series or approved equal. Stainless steel stiffeners will be used with the tubing at all corp. stops, meter tie-ins, etc. Tracer wire as specified in Section 15100 shall be laid with all service tubing.

(PE) Plastic Fittings for Polyethylene”, Plastic Pipe and Fittings, and to the U.S. Department of Transportation Title 49, Part 192, “Transportation of Natural and or Other Gas by Pipeline - Minimum Safety Regulations”. The same manufacturer shall supply polyethylene pipe and heat fusion fittings. Pipe and fittings from different manufacturers shall not be interchanged.

The pipe shall be the four equally spaced longitudinal yellow stripes extruded into the pipe OD or the yellow pipe highly visible identification of gas service and in compliance with APWA/ULCC standards for color-coding of gas distribution lines. **The pipe shall be SDR 11 yellow stripe.** The designation PE 3408 and indication of pipe size, material, manufacture, pressure rating, and temperature rating, and as appropriate, type and grade shall be stamped or die-marked on the pipe. The die stamp must have a blunt or rounded edge that will minimize stress concentration.

All fittings for 4 inch and above Polyethylene shall be butt-fusion; no mechanical fittings will be accepted.

The polyethylene pipe maximum allowable operating pressure (MAOP) may not exceed 100 psig for plastic pipe used in distribution systems. The following table shows the typical data represented by Performance pipes. All dimensions are Iron Pipe Size (IPS) with the Standard Dimensions Ratio (SDR) equal to 11.

Nominal Size (in.)	Outside Diameter (in.)	Minimum Wall (in.)	Inside Diameter (in.)	MAOP (psig per CFR Part 192 @ 100 F or less)
1	1.315	0.120	1.075	100
2	2.375	0.216	1.943	100
3	3.5	0.318	2.825	100
4	4.5	0.409	3.682	100

All joints are to be mechanically joined, socket fusion, and or butt fusion as specified by the manufactures’ procedures in accordance with ASTM D 2513, Category 1, Joining, and the requirements of the Owner.

The installation of all polyethylene pipes must provide enough flexibility to allow for expansion and contraction of the material with temperature changes. It is desirable to slightly snake the pipe in the trench prior to trimming and joining adjacent sections.

Plastic pipe with scratches, gouges, or grooves deeper than one-tenth (0.10) the wall thickness on the OD of the pipe shall be rejected. Localized pipe damage may be cut out and the undamaged portion of the pipe may be used

~~least two complete turns of wrapping tape. The repaired point of the pipe shall then be retested to determine if the repairs were effective. The holiday detector used shall be of the type recommended by the manufacture of the coating materials and shall in no case be operated at a higher voltage than that specified by the coating manufacture. The above described testing shall be done at all times in the presence of the Inspector.~~

3.02.13 Tracing Wire

All buried Polyethylene gas pipe lines will require No. 12 underground insulated Tracing Wire to be placed 12” maximum above the gas pipe. All Tracing Wire must have continuous contact throughout the gas system. Connections will need to be completed with underground rated wire connectors supplied by Contractor.

3.02.14 Warning Tape

Warning tape is to be supplied by the contractor. Warning tape is to be installed at a minimum of 10” below finish grade, and at a maximum of 24” above the top of the pipe.

3.02.15 Carsonite Signs

Yellow carsonite signs and decals are to be installed by the Contractor. Carsonite signs are to be installed at all elbows, bends, tees, valves and on continuous straight lines-of-sight at 500 foot increments, unless the terrain requires more frequent placement. Carsonite signs are to be offset approximately 1 foot from the centerline of the gas line installation.

3.03 Valves For Gas Mains

3.03.01 Key Valves

All key valves shall meet or exceed DOT, CFR 49 Part 192, “Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards” and ANSI B16.40; “1985 American National standard for Manually Operated Thermoplastic Gas Shut-off Valves in Gas Distribution Systems”, ASTM D-2513, “Standard Specification for Thermo-plastic Gas Pressure Pipe, Tubing and Fittings”.

Distribution or service 2-inch or 4-inch shut-off valves are to be polyethylene (PE) 3408, with 2-inch wrench head. The 2-inch size shall be joined using butt fusion, but 4-inch size shall be the butt fusion outlet ends only to accommodate SDR 11 pipe. ~~Buried steel valves are to be full port, steel body, weld by weld, ball valves, with non rising stem, and 2” wrench head.~~ Valve working pressure rating shall be 100 psig for intermediate pressure (5 psig – 60 psig) and 740 psig for high pressure

mains (100psig – 400 psig) minimum or as specified by the Owner. ~~All high pressure valves shall be self lubricating and manufactured by Baylon.~~ Other valves may be Permaserts, Rock Wells, Nordstorm, Baylon, or approved equal. No flange type valve shall be permitted for underground service, but shall be used on various above ground facilities.

3.03.02 Valve Box and Cover

The valve box and cover shall be of cast iron construction and shall be engraved with the word “gas”.

3.03.03 Valve Installation

Before installing the valve, care shall be taken to see that all foreign material and objects are removed from the interior of the valve. All valves that are welded must be open during the welding process. The valve shall be opened and closed to see that all moving parts are in working order, and left open during pressure testing procedures.

All valves key stems shall be set at a 90 degrees vertical angle and joined to the pipe in the manner determined by the type of valve. Valve box bases shall be set over the valve in such a manner that the valve box does not touch or transfer stress to the valve. Old rubber mats or cut and shaped tires may be used under the fabricated valve box to provide a cushion between the body of the valve and pipe section of the valve box.

3.04 Gas Main Crossings

3.04.01 Road Crossings

The original surface pavement on all open cut roadways shall be either cut square or sawed straight. As with open cut, if boring is required the steel conduit shall be extended from right-of-way to right-of-way. The Contractor shall obtain written permission from the appropriate agency prior to beginning any roadway excavation. Backfill within the limits of a roadway prism may require special compaction in accordance with the requirements of the roadway crossing permits.

Surfacing shall be replaced where the roadway has gravel, concrete, or asphalted paving in the same thickness as were removed, or as specified by the Owner, and completed as soon as possible following backfilling.

Gas line road crossings shall be installed within specified wall thickness steel casing unless otherwise specified. The casing ends shall be supported with compacted soil to prevent sagging, and the ends shall be secured with approved rubber end boot in sizes 6” x 2”, 8” x 4” or 10” x 6” size depending the size of the casing and the pipe. The insulator boots at the ends must be clamped with stainless steel straps to hold the boots in place.

the riser and PE pipe and to prevent settling.

3.05.07 STEEL SERVICE LINE RISER INSTALLATION

~~Construct the service riser at the meter set as follows:~~

- ~~1) For service line pipe 3/4" to 1", cold bend the riser to 90° using an 18" radius bending shoe.~~
- ~~2) For service line risers larger than 1", use a long radius weld elbow to make the 90° direction change.~~

~~Cold bend service line pipe, as follows:~~

- ~~1) For fusion bond epoxy coated pipe, inspect for damage in the bend area. Repair these areas with approved materials.~~
- ~~2) For coal tar coated pipe, remove coating from all bend areas and recoat with approved coating repair materials.~~

~~Pressure test the service line before tapping into the main (see Pressure Test section).~~

3.05.08 TAPPING THE MAIN & PURGING THE SERVICE LINE

After the installation has been tested, tap and purge the service line of all air (see Purging section).

If the service tee is a self-tapping punch-it, use the tee manufacturer's companion tools for tapping.

For a non-self-tapping tee on a steel line, use a tapping machine.

Before applying the completion cap on a steel service tee, pipe dope the threads to prevent leakage through the tee's cap or plug.

3.05.09 SHUT OFF & RESTORE SERVICES

Most services can be turned off and on using the punch tee as a valve. Service tees will likely not completely turn off the flow of gas enough to ensure gas-free work on the service line.

3.05.10 Saddles Tees (Electron Fusion Tap Tees Only)

Saddle tees shall be specific for the type, size, and pressure rating of the mainline as recommended by the saddle manufacturer. Each saddle tap tee used to make a hot tap must be designed for the minimum operating

pressure of 100 psig. Saddles shall be full-encirclement, mechanical tapping tees or fusion-type saddles constructed of medium-density ASTM D 2513 Gas PE 2406/2708 Yellow. Mechanical saddles must be designed to ensure a reliable, gas tight, connection, and must provide a body sleeve that threads and locks itself to the main. Saddles and saddle components must meet or exceed the requirements of ASTM D 2513, ISO 4437, CSA B137.4. The Preferred manufacturer is the Perfection Saddle Tees. Compression saddle tees are not acceptable.

3.05.11 Service Valves (for 2" and above service connections)

Service valves shall meet or exceed DOT, Pipeline Safety Regulations Title 49, CFR, Part 192, §192.145 and 192.191, ANSI B16.40, ASTM D-2513, ASTM A 126, ASTM 126 and API 6D. Valves are to be Polyvalve constructed of 3408 high density PE.

3.05.12 Excess Flow Valve (EFV)

Under CFR, Title 49, Part 192, §192.381, Service Lines: Excess flow valve performance standards: excess flow valves are installed on a service line that operate continuously throughout the year at not less than 10 psig. The valve shall close automatically at flows 50% above the customer's established flow rate, and allow pressures to equalize across the valve at 5 percent of the manufacturer's specified closure flow rate, up to a maximum of 20 cubic feet per hour. The EFV shall be marked and identified on the as-built drawings. All EFV shall be designed for a trip flow rate of 400 standard cubic feet per hour. The EFV shall be installed 12" downstream at the service tap connection and as shown on the detail drawing, two 1" high density 3408 PE couplings will be utilized as additional fittings to install Perfection Corporation Excess Flow Valve for 1" gas service lines. Fusible or Permasert EFVs as manufactured by Perfection are recommended.

3.05.13 Gas Anodeless Risers

Anodeless gas Risers shall meet ASTM D 2513, Category 1, ANSI B 1.20, ANSI B 31.8, US DOT 192, NFPA-58, and CSA B 137.4. The gas carrying steel pipe nipple shall meet the requirements of ASTM A53 pipe. All risers shall be factory leak tested to 150 psig. Polyethylene tubing shall be 1" or 2" IPS, medium density 2406 PE. The steel pipe coating shall be fusion bonded epoxy (FBE), and shall be 3 to 10 mils in thickness, with the epoxy coating continuing through half the threaded nipple. Risers shall be pre-bent, 36-inch horizontal length and 30-inch vertical rise, with a PE 2406 pig tail. The entire steel casing of the anodeless riser shall be primed with Butyl based primer and taped with a PE/Butyl tape of the same manufacturer. Tracing wire clamps shall be installed on the shield riser located 1-inch just below the gas stop. Risers

shall be compacted in place to provide a rigid and sturdy setting.

3.05.14 Gas Stop

Gas stop must meet ANSI B16.33, ANSI B1.20.1, shall be 1" FIPT Inlet /Outlet x 1" Insulated Union with Threaded Tailpiece, 100 psig. Black Iron Body-Brass Plug, Flat Head with Lockwings.. Larger size valves shall be a specified on the project drawings.

3.06 Gas Service Line Installation

Gas service lines and appurtenances shall be installed in accordance with TP 1.0, Excavation, Trenching, and Backfilling for Gas Utilities, and TP 2.0, Gas Line Separation Requirements. A minimum of 1.5 feet of cover is required for gas service lines.

Service lines shall be cut using tools specifically designed to leave a smooth, even, and square end on the pipe. The cut ends shall be reamed to the full inside diameter of the pipe. Pipe ends are to be connected using fittings that seal to the outside surface of the pipe, which shall be cleaned and smoothly finish before installation.

All 1 and 2-inch service connections to gas mains 2-inch and larger of PE pipe 3408 SDR11 shall be made using saddles tees depending on the anticipated load and distance from the point of tap to the metering point. Particular care shall be exercised to assure that the main is not damaged by the installation of the saddle. The saddle shall be aligned on the gas main so that it is at a 90-degree angle above the top of the pipe.

When making service connections to steel pipe, a sacrificial anode is to be placed on the existing steel main a minimum of 12" away from the steel service tap.

3.07 Pressure Test

Pressure tests shall be according to the DOT, Part 192, Subpart J, Test Requirements, §192.513, each segment of plastic pipeline must be tested in accordance with this section.

3.07.01.01 SCOPE

This section covers the Utility standards for pressure testing of all distribution facilities. All distribution facilities shall be tested in accordance with these standards. This includes replacements and extensions to the system for services and mains. This also includes testing for reinstating service lines.

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Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE (REVISED: 6-14-16)	84,168.00	TON		\$	
0020	00005		GEOGRID REINFORCEMENT FOR SUBGRADE	73,600.00	SQYD		\$	
0030	00100		ASPHALT SEAL AGGREGATE	6.00	TON		\$	
0040	00103		ASPHALT SEAL COAT	2.00	TON		\$	
0050	00190		LEVELING & WEDGING PG64-22	7,397.00	TON		\$	
0060	00194		LEVELING & WEDGING PG76-22	525.00	TON		\$	
0070	00212		CL2 ASPH BASE 1.00D PG64-22	25,921.00	TON		\$	
0080	00214		CL3 ASPH BASE 1.00D PG64-22 (REVISED: 6-14-16)	20,807.00	TON		\$	
0090	00216		CL3 ASPH BASE 1.00D PG76-22	13,186.00	TON		\$	
0100	00221		CL2 ASPH BASE 0.75D PG64-22	3,592.00	TON		\$	
0110	00301		CL2 ASPH SURF 0.38D PG64-22	6,890.00	TON		\$	
0120	00387		CL3 ASPH SURF 0.38B PG76-22	5,827.00	TON		\$	
0130	02084		JPC PAVEMENT-8 IN	142.00	SQYD		\$	
0140	02101		CEM CONC ENT PAVEMENT-8 IN	1,096.00	SQYD		\$	
0150	02677		ASPHALT PAVE MILLING & TEXTURING	4,083.00	TON		\$	
0160	20071EC		JOINT ADHESIVE	71,500.00	LF		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1660	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM	1.00	LS		\$	
1670	01314		PLUG PIPE	3.00	EACH		\$	
1680	01810		STANDARD CURB AND GUTTER	47,276.00	LF		\$	
1690	01811		STANDARD CURB AND GUTTER MOD	346.00	LF		\$	
1700	01815		BARRIER CURB AND GUTTER	42.00	LF		\$	
1710	01825		ISLAND CURB AND GUTTER	92.25	LF		\$	
1720	01875		STANDARD HEADER CURB	2,952.00	LF		\$	
1730	01956		CONC TERMINAL SECTION TYPE 1	8.00	EACH		\$	
1740	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	79.00	EACH		\$	
1750	01986		DELINEATOR FOR BARRIER WALL-B/Y	29.00	EACH		\$	
1760	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	24.00	EACH		\$	
1770	01990		DELINEATOR FOR BARRIER WALL-B/W	40.00	EACH		\$	
1780	02001		CURB TO BARRIER WALL TRANS	4.00	EACH		\$	
1790	02002		REMOVE TEMP CONC BARRIER WALL	505.00	LF		\$	
1800	02003		RELOCATE TEMP CONC BARRIER	3,465.00	LF		\$	
1810	02014		BARRICADE-TYPE III	39.00	EACH		\$	
1820	02015		CEMENT CONCRETE ISLAND	153.00	SQYD		\$	
1830	02091		REMOVE PAVEMENT	614.00	SQYD		\$	
1840	02159		TEMP DITCH	44.00	LF		\$	
1850	02160		CLEAN TEMP DITCH	44.00	LF		\$	
1860	24867EC		CONTAMINATED SOIL REMOVAL P100 (REVISED: 6-14-16)	3,750.00	TON		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1870	02200		ROADWAY EXCAVATION	234,640.00	CUYD		\$	
1880	02203		STRUCTURE EXCAV-UNCLASSIFIED	287.00	CUYD		\$	
1890	02223		GRANULAR EMBANKMENT	8,370.00	CUYD		\$	
1900	02242		WATER	1,110.00	MGAL		\$	
1910	02262		FENCE-WOVEN WIRE TYPE 1	3,038.00	LF		\$	
1920	02351		GUARDRAIL-STEEL W BEAM-S FACE	6,887.50	LF		\$	
1930	02360		GUARDRAIL TERMINAL SECTION NO 1	9.00	EACH		\$	
1940	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	5.00	EACH		\$	
1950	02367		GUARDRAIL END TREATMENT TYPE 1	1.00	EACH		\$	
1960	02369		GUARDRAIL END TREATMENT TYPE 2A	8.00	EACH		\$	
1970	02381		REMOVE GUARDRAIL	7,075.50	LF		\$	
1980	02391		GUARDRAIL END TREATMENT TYPE 4A	4.00	EACH		\$	
1990	02397		TEMP GUARDRAIL	400.00	LF		\$	
2000	02404		SEPTIC TANK TREATMENT	2.00	EACH		\$	
2010	02429		RIGHT-OF-WAY MONUMENT TYPE 1	240.00	EACH		\$	
2020	02432		WITNESS POST	240.00	EACH		\$	
2030	02475		PLUG WATER WELL	2.00	EACH		\$	
2040	02488		CHANNEL LINING CLASS IV	6,734.00	CUYD		\$	
2050	02545		CLEARING AND GRUBBING 132 ACRES	1.00	LS		\$	
2060	02555		CONCRETE-CLASS B CHANNEL LINING	3.00	CUYD		\$	
2070	02555		CONCRETE-CLASS B FENCE	15.28	CUYD		\$	
2080	02555		CONCRETE-CLASS B GRAVITY RETAINING WALL	201.50	CUYD		\$	
2090	02562		TEMPORARY SIGNS	1,450.00	SQFT		\$	
2100	02585		EDGE KEY	479.50	LF		\$	
2110	02596		FABRIC-GEOTEXTILE TYPE I	9,222.00	SQYD		\$	
2120	02599		FABRIC-GEOTEXTILE TYPE IV	73,600.00	SQYD		\$	
2130	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	64,399.00	SQYD	\$2.00	\$	\$128,798.00
2140	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
2150	02651		DIVERSIONS (BY-PASS DETOURS)	1.00	LS		\$	
2160	02651		DIVERSIONS (BY-PASS DETOURS) NO. 2	1.00	LS		\$	
2170	02651		DIVERSIONS (BY-PASS DETOURS) NO. 3	1.00	LS		\$	
2180	02651		DIVERSIONS (BY-PASS DETOURS) NO. 4	1.00	LS		\$	
2190	02653		LANE CLOSURE	11.00	EACH		\$	
2200	02654		TRUCK MOUNTED ATTENUATOR	2.00	EACH		\$	
2210	02671		PORTABLE CHANGEABLE MESSAGE SIGN	5.00	EACH		\$	
2220	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
2230	02690		SAFELoading	45.00	CUYD		\$	
2240	02696		SHOULDER RUMBLE STRIPS-SAWED	3,080.00	LF		\$	
2250	02701		TEMP SILT FENCE	30,129.00	LF		\$	
2260	02703		SILT TRAP TYPE A	127.00	EACH		\$	
2270	02704		SILT TRAP TYPE B	127.00	EACH		\$	
2280	02705		SILT TRAP TYPE C	127.00	EACH		\$	
2290	02706		CLEAN SILT TRAP TYPE A	127.00	EACH		\$	
2300	02707		CLEAN SILT TRAP TYPE B	127.00	EACH		\$	

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2310	02708		CLEAN SILT TRAP TYPE C	127.00	EACH		\$	
2320	02711		SEDIMENTATION BASIN	3,215.00	CUYD		\$	
2330	02712		CLEAN SEDIMENTATION BASIN	3,215.00	CUYD		\$	
2340	02720		SIDEWALK-4 IN CONCRETE	3,102.00	SQYD		\$	
2350	02726		STAKING	1.00	LS		\$	
2360	02731		REMOVE STRUCTURE BILLBOARD-P147	1.00	LS		\$	
2370	02731		REMOVE STRUCTURE BILLBOARD-P176	1.00	LS		\$	
2380	02731		REMOVE STRUCTURE BILLBOARD-P178	1.00	LS		\$	
2390	02731		REMOVE STRUCTURE BILLBOARD-P181	1.00	LS		\$	
2400	02731		REMOVE STRUCTURE BILLBOARD-P186	1.00	LS		\$	
2410	02731		REMOVE STRUCTURE BILLBOARD-P197	1.00	LS		\$	
2420	02731		REMOVE STRUCTURE BILLBOARD-P205	1.00	LS		\$	
2430	02731		REMOVE STRUCTURE BRIDGE STA. 3935+25	1.00	LS		\$	
2440	02731		REMOVE STRUCTURE CULVERT@STA. 3964+13 (REVISED: 6-17-16)	1.00	LS		\$	
2450	02731		REMOVE STRUCTURE CULVERT @ STA. 3996+59 (REVISED: 6-17-16)	1.00	LS		\$	
2460	02731		REMOVE STRUCTURE CULVERT @ STA. 4024+54 (REVISED: 6-17-16)	1.00	LS		\$	
2470	02731		REMOVE STRUCTURE CULVERT @ STA. 217+14 FRONTAGE ROAD (REVISED: 6-17-16)	1.00	LS		\$	
2480	02731		REMOVE STRUCTURE P174 (REVISED: 6-17-16)	1.00	LS		\$	
2490	02731		REMOVE STRUCTURE P179 (REVISED: 6-17-16)	1.00	LS		\$	
2500	02731		REMOVE STRUCTURE P182 (REVISED: 6-17-16)	1.00	LS		\$	
2510	02731		REMOVE STRUCTURE P200 (REVISED: 6-17-16)	1.00	LS		\$	
2520	02775		ARROW PANEL	5.00	EACH		\$	
2530	02898		RELOCATE CRASH CUSHION	20.00	EACH		\$	
2540	03171		CONCRETE BARRIER WALL TYPE 9T	3,465.00	LF		\$	
2550	04741		POLE BASE IN MEDIAN WALL	7.00	EACH		\$	
2560	04810		ELECTRICAL JUNCTION BOX	7.00	EACH		\$	
2570	04935		TEMP SIGNAL	1.00	LS		\$	
2580	04953		TEMP RELOCATION OF SIGNAL HEAD	82.00	EACH		\$	
2590	05950		EROSION CONTROL BLANKET	11,307.00	SQYD		\$	
2600	05952		TEMP MULCH	412,679.00	SQYD		\$	
2610	05953		TEMP SEEDING AND PROTECTION	307,969.00	SQYD		\$	
2620	05963		INITIAL FERTILIZER	19.00	TON		\$	

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2630	05964		20-10-10 FERTILIZER	31.90	TON		\$	
2640	05985		SEEDING AND PROTECTION	615,938.00	SQYD		\$	
2650	05990		SODDING	18,202.00	SQYD		\$	
2660	05992		AGRICULTURAL LIMESTONE	381.80	TON		\$	
2670	05997		TOPSOIL FURNISHED AND PLACED	58.00	CUYD		\$	
2680	06510		PAVE STRIPING-TEMP PAINT-4 IN	158,570.00	LF		\$	
2690	06513		PAVE STRIPING-TEMP PAINT-12 IN	840.00	LF		\$	
2700	06514		PAVE STRIPING-PERM PAINT-4 IN	114,627.00	LF		\$	
2710	06515		PAVE STRIPING-PERM PAINT-6 IN	9,649.00	LF		\$	
2720	06565		PAVE MARKING-THERMO X-WALK-6 IN	1,491.00	LF		\$	
2730	06568		PAVE MARKING-THERMO STOP BAR-24IN	856.00	LF		\$	
2740	06569		PAVE MARKING-THERMO CROSS-HATCH	18,883.00	SQFT		\$	
2750	06573		PAVE MARKING-THERMO STR ARROW	3.00	EACH		\$	
2760	06574		PAVE MARKING-THERMO CURV ARROW	67.00	EACH		\$	
2770	06575		PAVE MARKING-THERMO COMB ARROW	21.00	EACH		\$	
2780	06588		PAVEMENT MARKER TY IVA-BY TEMP	1,338.00	EACH		\$	
2790	06600		REMOVE PAVEMENT MARKER TYPE V	415.00	EACH		\$	
2800	08100		CONCRETE-CLASS A	3.51	CUYD		\$	
2810	08150		STEEL REINFORCEMENT	163.00	LB		\$	
2820	08257		HANDRAIL-PEDESTRIAN ALUMINUM	622.00	LF		\$	
2830	08901		CRASH CUSHION TY VI CLASS BT TL2	20.00	EACH		\$	
2840	08902		CRASH CUSHION TY VI CLASS B TL3	1.00	EACH		\$	
2850	10020NS		FUEL ADJUSTMENT	173,665.00	DOLL	\$1.00	\$	\$173,665.00
2860	10030NS		ASPHALT ADJUSTMENT	281,175.00	DOLL	\$1.00	\$	\$281,175.00
2870	20191ED		OBJECT MARKER TY 3	5.00	EACH		\$	
2880	20210EP69		COHESIVE PILE CORE	1,280.00	CUYD		\$	
2890	20211ES706		BORE & JACK PIPE	380.00	LF		\$	
2900	20327ES212		EROSION CONTROL BLANKET (SPECIAL)	363.00	SQYD		\$	
2910	20394ES835		PVC CONDUIT-3 IN- IN MEDIAN BARRIER WALL	1,383.00	LF		\$	
2920	20432ES112		REMOVE CRASH CUSHION	3.00	EACH		\$	
2930	20465EC		CLEAN CULVERT	1.00	LS		\$	
2940	21289ED		LONGITUDINAL EDGE KEY	27,300.00	LF		\$	
2950	22520EN		PAVE MARKING-THERMO YIELD BAR-36 IN	30.00	LF		\$	
2960	22664EN		WATER BLASTING EXISTING STRIPE	159,410.00	LF		\$	
2970	22884EN		CONC MED BARRIER TY 14E	1,365.00	LF		\$	
2980	23026ED		ARCHITECTURAL TREATMENT	191.00	SQYD		\$	
2990	23086EN		CONCRETE MEDIAN BARRIER TY 9C	350.00	LF		\$	
3000	23158ES505		DETECTABLE WARNINGS	550.00	SQFT		\$	
3010	23274EN11F		TURF REINFORCEMENT MAT 1	956.00	SQYD		\$	
3020	24489EC		INLAID PAVEMENT MARKER	428.00	EACH		\$	
3030	24668EC		STEEL ENCASMENT PIPE 8 INCH	380.00	LF		\$	
3040	24814EC		PIPELINE INSPECTION	11,736.00	LF		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3740	00078		CRUSHED AGGREGATE SIZE NO 2	62.00	TON		\$	

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3750	00440		ENTRANCE PIPE-15 IN	181.00	LF		\$	
3760	00443		ENTRANCE PIPE-24 IN	49.00	LF		\$	
3770	00460		CULVERT PIPE-12 IN	4.00	LF		\$	
3780	00462		CULVERT PIPE-18 IN	360.00	LF		\$	
3790	00464		CULVERT PIPE-24 IN	134.00	LF		\$	
3800	00466		CULVERT PIPE-30 IN	247.00	LF		\$	
3810	00468		CULVERT PIPE-36 IN	4.00	LF		\$	
3820	00469		CULVERT PIPE-42 IN	162.00	LF		\$	
3830	00472		CULVERT PIPE-60 IN	16.00	LF		\$	
3840	00472		CULVERT PIPE-60 IN CMP	12.00	LF		\$	
3850	00520		STORM SEWER PIPE-12 IN	45.00	LF		\$	
3860	00521		STORM SEWER PIPE-15 IN	399.00	LF		\$	
3870	00522		STORM SEWER PIPE-18 IN	12,415.00	LF		\$	
3880	00524		STORM SEWER PIPE-24 IN	2,643.00	LF		\$	
3890	00526		STORM SEWER PIPE-30 IN	1,957.00	LF		\$	
3900	00528		STORM SEWER PIPE-36 IN	454.00	LF		\$	
3910	00529		STORM SEWER PIPE-42 IN	318.00	LF		\$	
3920	00532		STORM SEWER PIPE-60 IN	71.00	LF		\$	
3930	01000		PERFORATED PIPE-4 IN	1,506.00	LF		\$	
3940	01002		PERFORATED PIPE-8 IN	530.00	LF		\$	
3950	01005		PERFORATED PIPE EDGE DRAIN-4 IN	33,616.00	LF		\$	
3960	01010		NON-PERFORATED PIPE-4 IN	1,471.00	LF		\$	
3970	01020		PERF PIPE HEADWALL TY 1-4 IN	19.00	EACH		\$	
3980	01022		PERF PIPE HEADWALL TY 1-8 IN	9.00	EACH		\$	
3990	01024		PERF PIPE HEADWALL TY 2-4 IN	3.00	EACH		\$	
4000	01028		PERF PIPE HEADWALL TY 3-4 IN	29.00	EACH		\$	
4010	01032		PERF PIPE HEADWALL TY 4-4 IN	11.00	EACH		\$	
4020	01204		PIPE CULVERT HEADWALL-18 IN	16.00	EACH		\$	
4030	01208		PIPE CULVERT HEADWALL-24 IN	13.00	EACH		\$	
4040	01210		PIPE CULVERT HEADWALL-30 IN	3.00	EACH		\$	
4050	01212		PIPE CULVERT HEADWALL-36 IN	3.00	EACH		\$	
4060	01214		PIPE CULVERT HEADWALL-42 IN	4.00	EACH		\$	
4070	01220		PIPE CULVERT HEADWALL-60 IN	1.00	EACH		\$	
4080	01433		SLOPED BOX OUTLET TYPE 1-18 IN	1.00	EACH		\$	
4090	01442		SLOPED AND PARALLEL HEADWALL-12 IN	1.00	EACH		\$	
4100	01450		S & F BOX INLET-OUTLET-18 IN	2.00	EACH		\$	
4110	01452		S & F BOX INLET-OUTLET-30 IN	2.00	EACH		\$	
4120	01456		CURB BOX INLET TYPE A	132.00	EACH		\$	
4130	01480		CURB BOX INLET TYPE B	3.00	EACH		\$	
4140	01496		DROP BOX INLET TYPE 3	29.00	EACH		\$	
4150	01499		DROP BOX INLET TYPE 4	2.00	EACH		\$	
4160	01517		DROP BOX INLET TYPE 5F	1.00	EACH		\$	
4170	01529		DROP BOX INLET TYPE 6D	2.00	EACH		\$	
4180	01544		DROP BOX INLET TYPE 11	9.00	EACH		\$	
4190	01550		DROP BOX INLET TYPE 12A	12.00	LF		\$	
4200	01559		DROP BOX INLET TYPE 13G	7.00	EACH		\$	
4210	01568		DROP BOX INLET TYPE 13S	1.00	EACH		\$	
4220	01577		DROP BOX INLET TYPE 14	7.00	EACH		\$	
4230	01650		JUNCTION BOX	6.00	EACH		\$	
4240	01691		FLUME INLET TYPE 2	2.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4250	01740		CORED HOLE DRAINAGE BOX CON-4 IN	85.00	EACH		\$	
4260	01756		MANHOLE TYPE A	14.00	EACH		\$	
4270	01767		MANHOLE TYPE C	4.00	EACH		\$	
4280	02200		ROADWAY EXCAVATION	1,366.00	CUYD		\$	
4290	01616		CONC MED BARR BOX INLET TY 14B1 (REVISED: 6-17-16)	5.00	EACH		\$	
4300	20932ND		CONC MEDIAN BARRIER BOX INLET TY 14A1 (REVISED: 6-17-16)	1.00	EACH		\$	

Section: 0004 - BRIDGE-RETAINING WALL 27557

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4310	01000		PERFORATED PIPE-4 IN	320.00	LF		\$	
4320	02223		GRANULAR EMBANKMENT	1,101.00	CUYD		\$	
4330	02998		MASONRY COATING	428.00	SQYD		\$	
4340	08003		FOUNDATION PREPARATION	1.00	LS		\$	
4350	08100		CONCRETE-CLASS A	246.00	CUYD		\$	
4360	08150		STEEL REINFORCEMENT	27,660.00	LB		\$	
4370	21532ED		RAIL SYSTEM TYPE III	218.00	LF		\$	
4380	23026ED		ARCHITECTURAL TREATMENT	200.00	SQYD		\$	

Section: 0005 - BRIDGE-27550

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4390	02231		STRUCTURE GRANULAR BACKFILL	348.00	CUYD		\$	
4400	02998		MASONRY COATING	936.00	SQYD		\$	
4410	03299		ARMORED EDGE FOR CONCRETE	175.00	LF		\$	
4420	08001		STRUCTURE EXCAVATION-COMMON	40.00	CUYD		\$	
4430	08019		CYCLOPEAN STONE RIP RAP	2,930.00	TON		\$	
4440	08033		TEST PILES	57.00	LF		\$	
4450	08046		PILES-STEEL HP12X53	930.00	LF		\$	
4460	08094		PILE POINTS-12 IN	28.00	EACH		\$	
4470	08100		CONCRETE-CLASS A	313.60	CUYD		\$	
4480	08104		CONCRETE-CLASS AA	654.60	CUYD		\$	
4490	08130		MECHANICAL REINF COUPLER #5	8.00	EACH		\$	
4500	08133		MECHANICAL REINF COUPLER #8	16.00	EACH		\$	
4510	08135		MECHANICAL REINF COUPLER #10	32.00	EACH		\$	
4520	08140		MECHANICAL REINF COUPLER #5 EPOXY COATED	40.00	EACH		\$	
4530	08150		STEEL REINFORCEMENT	59,004.00	LB		\$	
4540	08151		STEEL REINFORCEMENT-EPOXY COATED	170,930.00	LB		\$	
4550	08633		PRECAST PC I BEAM TYPE 3	1,605.00	LF		\$	
4560	20637ED		DRILLED SHAFT-ROCK 48 IN	133.90	LF		\$	
4570	21532ED		RAIL SYSTEM TYPE III	363.00	LF		\$	
4580	21777EN		DRILLED SHAFT COMMON-54 IN	215.90	LF		\$	
4590	24404EC		MECHANICAL REINF COUPLER-#7 EPOXY COATED	626.00	EACH		\$	

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Section: 0006 - BRIDGE-CULVERT 27551

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4600	02223		GRANULAR EMBANKMENT	155.00	CUYD		\$	
4610	08003		FOUNDATION PREPARATION	1.00	LS		\$	
4620	08100		CONCRETE-CLASS A	132.00	CUYD		\$	
4630	08150		STEEL REINFORCEMENT	12,390.00	LB		\$	

Section: 0007 - BRIDGE-CULVERT 27552

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4640	02223		GRANULAR EMBANKMENT	675.00	CUYD		\$	
4650	08001		STRUCTURE EXCAVATION-COMMON	410.00	CUYD		\$	
4660	08003		FOUNDATION PREPARATION	1.00	LS		\$	
4670	08100		CONCRETE-CLASS A	180.00	CUYD		\$	
4680	08150		STEEL REINFORCEMENT	18,550.00	LB		\$	

Section: 0008 - BRIDGE-CULVERT 27553

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4690	02223		GRANULAR EMBANKMENT	220.00	CUYD		\$	
4700	08003		FOUNDATION PREPARATION	1.00	LS		\$	
4710	08100		CONCRETE-CLASS A	198.00	CUYD		\$	
4720	08150		STEEL REINFORCEMENT	15,120.00	LB		\$	

Section: 0009 - BRIDGE-CULVERT 27554

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
4730	02223		GRANULAR EMBANKMENT	235.00	CUYD		\$	
4740	08003		FOUNDATION PREPARATION	1.00	LS		\$	
4750	08100		CONCRETE-CLASS A	240.00	CUYD		\$	
4760	08150		STEEL REINFORCEMENT	20,890.00	LB		\$	

Section: 0010 - BRIDGE-CULVERT 27556

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0170	02223		GRANULAR EMBANKMENT	485.00	CUYD		\$	
0180	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0190	08100		CONCRETE-CLASS A	516.00	CUYD		\$	
0200	08150		STEEL REINFORCEMENT	74,580.00	LB		\$	

Section: 0011 - BRIDGE-RETAINING WALL 27558

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0210	01000		PERFORATED PIPE-4 IN	550.00	LF		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0220	02223		GRANULAR EMBANKMENT	793.00	CUYD		\$	
0230	02998		MASONRY COATING	408.00	SQYD		\$	
0240	08002		STRUCTURE EXCAV-SOLID ROCK	736.00	CUYD		\$	
0250	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0260	08100		CONCRETE-CLASS A	273.00	CUYD		\$	
0270	08150		STEEL REINFORCEMENT	31,200.00	LB		\$	
0280	08257		HANDRAIL-PEDESTRIAN ALUMINUM	380.00	LF		\$	
0290	23026ED		ARCHITECTURAL TREATMENT	282.00	SQYD		\$	

Section: 0012 - BRIDGE-RETAINING WALL 27559

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0300	01000		PERFORATED PIPE-4 IN	502.00	LF		\$	
0310	02223		GRANULAR EMBANKMENT	1,056.00	CUYD		\$	
0320	02998		MASONRY COATING	403.00	SQYD		\$	
0330	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0340	08100		CONCRETE-CLASS A	265.00	CUYD		\$	
0350	08150		STEEL REINFORCEMENT	29,200.00	LB		\$	
0360	08257		HANDRAIL-PEDESTRIAN ALUMINUM	400.00	LF		\$	
0370	21532ED		RAIL SYSTEM TYPE III	400.00	LF		\$	
0380	23026ED		ARCHITECTURAL TREATMENT	110.00	SQYD		\$	

Section: 0013 - BRIDGE-RETAINING WALL 27560

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0390	01000		PERFORATED PIPE-4 IN	292.00	LF		\$	
0400	02223		GRANULAR EMBANKMENT	346.00	CUYD		\$	
0410	02998		MASONRY COATING	172.00	SQYD		\$	
0420	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0430	08100		CONCRETE-CLASS A	113.00	CUYD		\$	
0440	08150		STEEL REINFORCEMENT	13,600.00	LB		\$	
0450	08257		HANDRAIL-PEDESTRIAN ALUMINUM	204.00	LF		\$	
0460	21532ED		RAIL SYSTEM TYPE III	204.00	LF		\$	

Section: 0014 - BRIDGE-CULVERT 27555

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0470	02223		GRANULAR EMBANKMENT	330.00	CUYD		\$	
0480	08003		FOUNDATION PREPARATION	1.00	LS		\$	
0490	08100		CONCRETE-CLASS A	273.00	CUYD		\$	
0500	08150		STEEL REINFORCEMENT	27,260.00	LB		\$	

Section: 0015 - UTILITY-GAS

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0510	16003		G ENCASMENT STEEL BORED RANGE 2	446.00	LF		\$	
0520	16009		G ENCASMENT STEEL OPEN CUT RANGE 2	899.70	LF		\$	
0530	16010		G ENCASMENT STEEL OPEN CUT RANGE 3	152.50	LF		\$	
0540	16015		G PIPE POLYETHYLENE/PLASTIC 02 INCH	5,611.00	LF		\$	
0550	16017		G PIPE POLYETHYLENE/PLASTIC 04 INCH	8,963.00	LF		\$	
0560	16018		G PIPE POLYETHYLENE/PLASTIC 06 INCH	1,135.00	LF		\$	
0570	16036		G SERVICE SHORT SIDE 1 OR 1-1/4 INCH	2.00	EACH		\$	
0580	16038		G SERVICE SHORT SIDE 2 INCH	8.00	EACH		\$	
0590	16039		G SERVICE SHORT SIDE 3/4 INCH	10.00	EACH		\$	
0600	16041		G TIE-IN POLYETHYLENE/PLASTIC 02 INCH	16.00	EACH		\$	
0610	16043		G TIE-IN POLYETHYLENE/PLASTIC 04 INCH	21.00	EACH		\$	
0620	16044		G TIE-IN POLYETHYLENE/PLASTIC 06 INCH	3.00	EACH		\$	
0630	16049		G VALVE POLYETHYLENE/PLASTIC 02 INCH	32.00	EACH		\$	
0640	16050		G VALVE POLYETHYLENE/PLASTIC 03 INCH	4.00	EACH		\$	
0650	16051		G VALVE POLYETHYLENE/PLASTIC 04 INCH	65.00	EACH		\$	
0660	16052		G VALVE POLYETHYLENE/PLASTIC 06 INCH	2.00	EACH		\$	
0670	16064		G VALVE BOX ADJUST	103.00	EACH		\$	
0680	16065		G LINE MARKER	173.00	EACH		\$	
0690	24573EN		GAS LINE RELOCATION (STA. 3933+09)	1.00	LS		\$	
0700	24573EN		GAS LINE RELOCATION (STA. 3935+75)	1.00	LS		\$	

Section: 0016 - SEWER

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0710	15015		S ENCASMENT STEEL BORED RANGE 2	61.00	LF		\$	
0720	15016		S ENCASMENT STEEL BORED RANGE 3	126.00	LF		\$	
0730	15017		S ENCASMENT STEEL BORED RANGE 4	100.00	LF		\$	
0740	15021		S ENCASMENT STEEL OPEN CUT RANGE 2	79.00	LF		\$	
0750	15022		S ENCASMENT STEEL OPEN CUT RANGE 3	504.00	LF		\$	
0760	15023		S ENCASMENT STEEL OPEN CUT RANGE 4	159.00	LF		\$	
0770	15032		S FORCE MAIN DUCTILE IRON 04 INCH	2,270.00	LF		\$	
0780	15033		S FORCE MAIN DUCTILE IRON 06 INCH	1,080.00	LF		\$	
0790	15050		S FORCE MAIN PE/PLASTIC 03 INCH	1,651.00	LF		\$	
0800	15051		S FORCE MAIN PE/PLASTIC 04 INCH	1,425.00	LF		\$	
0810	15052		S FORCE MAIN PE/PLASTIC 06 INCH	2,715.00	LF		\$	
0820	15069		S FORCE MAIN TAP SLEEVE/VALVE RNG 1	4.00	EACH		\$	
0830	15072		S FORCE MAIN TIE-IN 03 INCH	3.00	EACH		\$	
0840	15073		S FORCE MAIN TIE-IN 04 INCH	3.00	EACH		\$	
0850	15074		S FORCE MAIN TIE-IN 06 INCH	2.00	EACH		\$	
0860	15084		S FORCE MAIN VALVE GATE	5.00	EACH		\$	
0870	15090		S LATERAL SHORT SIDE 06 INCH	14.00	EACH		\$	
0880	15091		S LATERAL SPECIAL	14.00	EACH		\$	
0890	15092		S MANHOLE	6.00	EACH		\$	
0900	15092		S MANHOLE INSTALL ON EX LINE	3.00	EACH		\$	
0910	15093		S MANHOLE ABANDON/REMOVE	10.00	EACH		\$	
0920	15094		S MANHOLE ADJUST TO GRADE	16.00	EACH		\$	
0930	15101		S MANHOLE WITH DROP	7.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0940	15104		S PIPE DUCTILE IRON 08 INCH	1,751.00	LF		\$	
0950	15112		S PIPE PVC 08 INCH	1,626.00	LF		\$	
0960	15119		S PUMP STATION	1.00	EACH		\$	
0970	15120		S SPECIAL ITEM	2.00	EACH		\$	
0980	15121		S STRUCTURE ABANDON	1.00	EACH		\$	
0990	15121		S STRUCTURE ABANDON LIFT STATION	1.00	EACH		\$	
1000	15122		S STRUCTURE REMOVAL	1.00	EACH		\$	
1010	15122		S STRUCTURE REMOVAL LIFT STATION	1.00	EACH		\$	
1020	15123		S LINE MARKER	20.00	EACH		\$	

Section: 0017 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1030	06405		SBM ALUMINUM PANEL SIGNS	280.00	SQFT		\$	
1040	06406		SBM ALUM SHEET SIGNS .080 IN	612.00	SQFT		\$	
1050	06407		SBM ALUM SHEET SIGNS .125 IN	307.00	SQFT		\$	
1060	06411		STEEL POST TYPE 2	2,384.00	LF		\$	
1070	06412		STEEL POST MILE MARKERS	4.00	EACH		\$	
1080	06441		GMSS GALV STEEL TYPE C	1,958.00	LB		\$	
1090	06490		CLASS A CONCRETE FOR SIGNS	3.50	CUYD		\$	
1100	06491		STEEL REINFORCEMENT FOR SIGNS	684.00	LB		\$	
1110	20419ND		ROADWAY CROSS SECTION	6.00	EACH		\$	
1120	24631EC		BARCODE SIGN INVENTORY	158.00	EACH		\$	

Section: 0018 - SIGNALIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1130	04792		CONDUIT-1 IN	190.00	LF		\$	
1140	04793		CONDUIT-1 1/4 IN	1,980.00	LF		\$	
1150	04795		CONDUIT-2 IN	740.00	LF		\$	
1160	04811		ELECTRICAL JUNCTION BOX TYPE B	28.00	EACH		\$	
1170	04820		TRENCHING AND BACKFILLING	2,455.00	LF		\$	
1180	04830		LOOP WIRE	10,060.00	LF		\$	
1190	04844		CABLE-NO. 14/5C	12,570.00	LF		\$	
1200	04845		CABLE-NO. 14/7C	435.00	LF		\$	
1210	04850		CABLE-NO. 14/1 PAIR	10,110.00	LF		\$	
1220	04885		MESSENGER-10800 LB	1,025.00	LF		\$	
1230	04886		MESSENGER-15400 LB	1,395.00	LF		\$	
1240	04895		LOOP SAW SLOT AND FILL	3,565.00	LF		\$	
1250	04931		INSTALL CONTROLLER TYPE 170	4.00	EACH		\$	
1260	04932		INSTALL STEEL STRAIN POLE	22.00	EACH		\$	
1270	04950		REMOVE SIGNAL EQUIPMENT	2.00	EACH		\$	
1280	06472		INSTALL SPAN MOUNTED SIGN	10.00	EACH		\$	
1290	20093NS835		INSTALL PEDESTRIAN HEAD-LED	18.00	EACH		\$	
1300	20188NS835		INSTALL LED SIGNAL-3 SECTION	30.00	EACH		\$	
1310	20189NS835		INSTALL LED SIGNAL-5 SECTION	2.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1320	20266ES835		INSTALL LED SIGNAL- 4 SECTION	9.00	EACH		\$	
1330	20408ES835		INSTALL LED BEACON-12 IN	10.00	EACH		\$	
1340	21743NN		INSTALL PEDESTRIAN DETECTOR	18.00	EACH		\$	
1350	23157EN		TRAFFIC SIGNAL POLE BASE	105.60	CUYD		\$	
1360	23222EC		INSTALL SIGNAL PEDESTAL	4.00	EACH		\$	
1370	23982EC		INSTALL ANTENNA	4.00	EACH		\$	
1380	24525EC		ADVANCE WARNING FLASHER	1.00	EACH		\$	
1390	24526ED		INSTALL-BEACON CONTROLLER-2 CIRCUIT	1.00	EACH		\$	

Section: 0019 - LIGHTING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1400	04700		POLE 30 FT MTG HT	39.00	EACH		\$	
1410	04701		POLE 40 FT MTG HT	11.00	EACH		\$	
1420	04723		BRACKET 10 FT	32.00	EACH		\$	
1430	04724		BRACKET 12 FT	5.00	EACH		\$	
1440	04725		BRACKET 15 FT	6.00	EACH		\$	
1450	04730		BRACKET C	7.00	EACH		\$	
1460	04740		POLE BASE	43.00	EACH		\$	
1480	04750		TRANSFORMER BASE	43.00	EACH		\$	
1490	04761		LIGHTING CONTROL EQUIPMENT	2.00	EACH		\$	
1500	04773		HPS LUMINAIRE HIGH MAST	7.00	EACH		\$	
1510	04780		FUSED CONNECTOR KIT	100.00	EACH		\$	
1520	04797		CONDUIT-3 IN	760.00	LF		\$	
1530	04800		MARKER	3.00	EACH		\$	
1550	04820		TRENCHING AND BACKFILLING	4,800.00	LF		\$	
1560	04832		WIRE-NO. 12	6,450.00	LF		\$	
1570	04833		WIRE-NO. 8	4,320.00	LF		\$	
1580	04860		CABLE-NO. 8/3C DUCTED	630.00	LF		\$	
1590	04940		REMOVE LIGHTING	1.00	LS		\$	
1600	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	13.00	EACH		\$	
1620	20410ED		MAINTAIN LIGHTING	1.00	LS		\$	
1630	21543EN		BORE AND JACK CONDUIT	745.00	LF		\$	
1640	24589ED		LED LUMINAIRE	43.00	EACH		\$	
1650	24851EC		CABLE-NO. 10/3C DUCTED	5,440.00	LF		\$	

Section: 0020 - WATERLINE - MCWD

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3050	02220		FLOWABLE FILL	237.00	CUYD		\$	
3060	02289		DOUBLE VEHICULAR WOVEN WIRE GATE	1.00	EACH		\$	
3070	14003		W CAP EXISTING MAIN	8.00	EACH		\$	
3080	14007		W ENCASMENT STEEL BORED RANGE 2	165.00	LF		\$	
3090	14008		W ENCASMENT STEEL BORED RANGE 3	330.00	LF		\$	
3100	14013		W ENCASMENT STEEL OPEN CUT RANGE 2	250.00	LF		\$	
3110	14014		W ENCASMENT STEEL OPEN CUT RANGE 3	610.00	LF		\$	
3120	14019		W FIRE HYDRANT ASSEMBLY	1.00	EACH		\$	
3130	14023		W FLUSHING ASSEMBLY	6.00	EACH		\$	

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3140	14028		W METER 3/4 INCH	22.00	EACH		\$	
3150	14056		W PIPE PVC 02 INCH	55.00	LF		\$	
3160	14057		W PIPE PVC 03 INCH	1,185.00	LF		\$	
3170	14057		W PIPE PVC 03 INCH RSTRND JOINT	185.00	LF		\$	
3180	14058		W PIPE PVC 04 INCH	1,185.00	LF		\$	
3190	14058		W PIPE PVC 04 INCH RSTRND JOINT	185.00	LF		\$	
3200	14059		W PIPE PVC 06 INCH	4,730.00	LF		\$	
3210	14059		W PIPE PVC 06 INCH RSTRND JOINT	585.00	LF		\$	
3220	14060		W PIPE PVC 08 INCH	1,835.00	LF		\$	
3230	14085		W SERV PE/PLST SHORT SIDE 3/4 IN	22.00	EACH		\$	
3240	14089		W TAPPING SLEEVE AND VALVE SIZE 1	8.00	EACH		\$	
3250	14091		W TIE-IN 02 INCH	1.00	EACH		\$	
3260	14094		W TIE-IN 06 INCH	1.00	EACH		\$	
3270	14103		W VALVE 03 INCH	2.00	EACH		\$	
3280	14104		W VALVE 04 INCH	1.00	EACH		\$	
3290	14105		W VALVE 06 INCH	6.00	EACH		\$	
3300	14106		W VALVE 08 INCH	4.00	EACH		\$	
3310	14155		W TIE-IN 01 INCH	1.00	EACH		\$	

Section: 0021 - WATERLINE-SAYLERSVILLE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3320	14003		W CAP EXISTING MAIN	6.00	EACH		\$	
3330	14008		W ENCASEMENT STEEL BORED RANGE 3	217.50	LF		\$	
3340	14009		W ENCASEMENT STEEL BORED RANGE 4	149.50	LF		\$	
3350	14014		W ENCASEMENT STEEL OPEN CUT RANGE 3	609.50	LF		\$	
3360	14015		W ENCASEMENT STEEL OPEN CUT RANGE 4	189.00	LF		\$	
3370	14019		W FIRE HYDRANT ASSEMBLY	5.00	EACH		\$	
3380	14021		W FIRE HYDRANT REMOVE	5.00	EACH		\$	
3390	14023		W FLUSHING ASSEMBLY	1.00	EACH		\$	
3400	14025		W METER 1 INCH	2.00	EACH		\$	
3410	14027		W METER 2 INCH	13.00	EACH		\$	
3420	14028		W METER 3/4 INCH	15.00	EACH		\$	
3430	14030		W METER RELOCATE	36.00	EACH		\$	
3440	14031		W METER VAULT	1.00	EACH		\$	
3450	14035		W PIPE DUCTILE IRON 04 INCH WITH NITRILE GASKETS	1,780.00	LF		\$	
3460	14036		W PIPE DUCTILE IRON 06 INCH	222.00	LF		\$	
3470	14036		W PIPE DUCTILE IRON 06 INCH WITH NITRILE GASKETS	3,295.00	LF		\$	
3480	14037		W PIPE DUCTILE IRON 08 INCH	280.00	LF		\$	
3490	14037		W PIPE DUCTILE IRON 08 INCH WITH NITRILE GASKETS	3,107.00	LF		\$	
3500	14056		W PIPE PVC 02 INCH	354.00	LF		\$	
3510	14058		W PIPE PVC 04 INCH	315.00	LF		\$	
3520	14059		W PIPE PVC 06 INCH	50.00	LF		\$	
3530	14060		W PIPE PVC 08 INCH	2,370.00	LF		\$	

PROPOSAL BID ITEMS

REVISED ADDENDUM #2: 6-17-16

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LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3540	14068		W PIPE POLYETHYLENE/PLASTIC 04 INCH	1,281.00	LF		\$	
3550	14069		W PIPE POLYETHYLENE/PLASTIC 06 INCH	3,230.00	LF		\$	
3560	14070		W PIPE POLYETHYLENE/PLASTIC 08 INCH	1,822.00	LF		\$	
3570	14080		W SERV PE/PLST LONG SIDE 3/4 IN	2.00	EACH		\$	
3580	14081		W SERVICE RELOCATE	30.00	EACH		\$	
3590	14082		W SERV PE/PLST SHORT SIDE 1 IN	2.00	EACH		\$	
3600	14084		W SERV PE/PLST SHORT SIDE 2 IN	16.00	EACH		\$	
3610	14085		W SERV PE/PLST SHORT SIDE 3/4 IN	27.00	EACH		\$	
3620	14089		W TAPPING SLEEVE AND VALVE SIZE 1	7.00	EACH		\$	
3630	14094		W TIE-IN 06 INCH	13.00	EACH		\$	
3640	14095		W TIE-IN 08 INCH	19.00	EACH		\$	
3650	14104		W VALVE 04 INCH	4.00	EACH		\$	
3660	14105		W VALVE 06 INCH	23.00	EACH		\$	
3670	14106		W VALVE 08 INCH	15.00	EACH		\$	
3680	14113		W VALVE BOX ADJUST	31.00	EACH		\$	
3690	14144		W LINE MARKER	22.00	EACH		\$	

Section: 0022 - TRAINEES

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3700	02742		TRAINEE PAYMENT REIMBURSEMENT 1-CEMENT MASON	1,200.00	HOUR		\$	
3710	02742		TRAINEE PAYMENT REIMBURSEMENT 1-GROUP 2, 3 OR 4 OPERATOR	1,400.00	HOUR		\$	

Section: 0023 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3720	02568		MOBILIZATION	1.00	LS		\$	
3730	02569		DEMOBILIZATION	1.00	LS		\$	