

VALVE LOCATION AND CONDITION ASSESSMENT EXHIBIT A – SCOPE OF SERVICES

**13069.00
July 1, 2015**

This project will include the location and condition assessment of water system valves (1732 in the City of Griffin and 1700) in Unincorporated Spalding County, which in general includes data collection and developing a Location and Assessment Plan, field locating valves, assessing valve condition, and GPS surveying of valve locations; 410 City of Griffin valves and 390 Unincorporated Spalding County valves are assumed to be surveyable only through conventional means. PCG will prepare data for input into the OWNER'S GIS System. The work will consist of the following major components:

- Data Collection and Analysis
- Development of a Location and Assessment Plan
- Valve Location
- Valve Condition Assessment
- Field Survey of Valve Location

Phase 1 - Preliminary:

PCG will review the existing information, provided by the OWNER, for abnormalities and incompleteness. PCG will develop a Location and Assessment Plan which breaks the data gathering into phases. This plan and the findings from the preliminary review will be shared with the OWNER for input and approximate scheduling purposes. An "approximate schedule" is needed because this project requires flexibility for inclement weather as survey and assessment data is dependent on weather, water system, and other field condition requirements which are not controlled by PCG.

PCG will conduct QA/QC of the plan, collected data, and data input into OWNER's GIS and HiperWeb.

Phase 2 – Data Collection

PCG will conduct a valve assessment of valves on OWNER's water system, including City of Griffin and Spalding County valves, and provide the data to OWNER through OWNER provided HiperWeb portal. City of Griffin water distribution valves are those valves located within the City of Griffin city boundaries on the water distribution system. Spalding County valves are those valves that are located in Spalding County outside of the City of Griffin boundaries on the water distribution system. The valve assessment assumes 1732 valves will be assessed in the City of Griffin and 1700 valves will be assessed in Unincorporated Spalding County; valves in addition to the assumed value will constitute additional scope and fees.

PCG will apply reasonable hand-torque to each valve. If reasonable torque will not be sufficient to operate valve, the valve will be noted as such. Valves deemed as “not locatable”, “under pavement”, “buried”, or inaccessible for assessment will not be further evaluated. Prior to the survey portion, PCG will provide OWNER a list of “not locatable” or “inaccessible” and request that the OWNER make the valves locatable/accessible for survey purposes by two weeks prior to the commencement of the survey. Valves not made locatable/accessible in this time period will require additional fees to survey.

PCG will coordinate the survey of valves and prepare electronic survey results for input into the OWNER’s GIS System.

Phase 3 – Data Analysis

PCG will analyze data to ensure accuracy. PCG will prepare data for transfer to OWNER.

Phase 4 – Final Documentation and Distribution

PCG will prepare final documentation of the valve assessment in an electronic format. Results will be discussed with OWNER in a final meeting. PCG will incorporate comments, assemble the final documents, and distribute to OWNER.

Not locatable valves:

PCG will spend approximately 10 minutes locating a valve through a visual, ground penetrating radar (GPR), and metal detector approach. If a valve cannot be located in this time period, it will be marked as “not locatable”. A list of not locatable valves will be provided to the OWNER for each zone. It will then be necessary for the OWNER to locate and make these valves accessible for surveying purposes; alternatively, PCG has provided additionally scope and fee for these services.

Inaccessible valves:

PCG will spend no more than 10 minutes accessing a valve. If a valve cannot be accessed in this time period, it will be marked as “no” under “Is the valve accessible?” A list of not accessible valves will be provided to the OWNER for each zone. It will then be necessary for the OWNER to make these valves accessible; alternatively, PCG has provided additional scope and fee for these services.

Survey of valves:

The surveying of valves using GPS equipment, while accurate and rapid, is not always possible due to the positioning of satellites and blockage due to weather, trees, plants, buildings, and other inhibitors. An excess of 121 City of Griffin valves and 45 Unincorporated Spalding County valves that require hand surveying will require an additional fee and scope; PCG has provided additional scope and fee for these services.

Broken and Leaking Valves:

PCG will notify OWNER of any leaking or broken valves immediately. It is the responsibility of the OWNER to repair any broken, leaking, or otherwise non-operational valves.

OWNER Provided:

Access to HiperWeb portal for transfer of assessment data.
Most recent version of GIS of OWNER's water distribution system.
Access to OWNER's Base Station for surveying purposes.
Valve identification numbers.

Progress updates by zone during the data collection phase will be provided to OWNER by PCG electronically.

Deliverables will be provided in digital format including Word, Excel, PDF and any other electronic formats. These include all calculations, processes and engineering documents which become the property of the OWNER for use on this project. Reuse of these documents on other projects is solely at the risk of the OWNER.

VALVE LOCATION AND CONDITION ASSESSMENT

EXHIBIT B – BASIS OF COMPENSATION

The compensation limits are based on the scope of services described in Attachment A and include assessment of valves, surveyed location of valves, collection and assimilation of data, coordination with surveyor, and preparation of final documents.

While PCG anticipates the stated number of valves in EXHIBIT A, there is a high probability that these numbers do not reflect true field conditions. Compensation will be based on the actual number of valves assessed and surveyed in accordance with this Basis of Compensation.

Schedule will be based on start date and field conditions and will be determined closer to the anticipated start date.

Phase 1 - Preliminary:

Professional Services Fee: Not to Exceed \$21,425 (reference attached man-hour and budget worksheet) Scope of Work: Included in EXHIBIT A

Phase 2 – Data Collection:

Professional Services Fee: Not to Exceed \$251,265 (reference attached man-hour and budget worksheet) Scope of Work: Included in EXHIBIT A

Phase 3 – Data Analysis:

Professional Services Fee: Not to Exceed \$14,220 (reference attached man-hour and budget worksheet) Scope of Work: Included in EXHIBIT A

Phase 4 – Final Document Preparation and Distribution:

Professional Services Fee: Not to Exceed \$6,420 (reference attached man-hour and budget worksheet) Scope of Work: Included in EXHIBIT A

Sub-Total of the estimated fees from Phases 1 through 4 is \$293,330.

Additional Scope (described in EXHIBIT A) and Fees:

Definitions: City of Griffin valves are those water distribution valves located within the City of Griffin city boundaries. Unincorporated Spalding County valves are those water distribution valves that are located in Spalding County outside of the City of Griffin boundaries.

Valve located and made accessible after deemed not locatable and/or inaccessible – these valves assumed to be buried and /or paved over will be exposed and casings will be brought to grade, properly graded and/or paved around valve box. Professional Services Fee: Not to Exceed \$518 per valve (This cost is based on one quote for one valve and will most likely be reduced based on quantity of valve repairs and bidding to local acceptable contractors. It is recommended that this portion of the Scope be re-examined on an “as-needed” basis.

Conventionally surveyed valves in excess of 410 City of Griffin valves and 390 Unincorporated Spalding County valves – these valves not included in the original Scope and Services and not able to be surveyed by GPS means will be conventionally surveyed and included in the data submitted to the OWNER. Professional Services Fee: Not to Exceed \$45 per City of Griffin valve and \$55 per Spalding County valve.

City of Griffin valves in excess of estimated 1732 valves which are surveyable by GPS means – these additional valves not included in the original Scope and Services, deemed locatable and accessible, will be assessed and surveyed and included in the data submitted to the OWNER. Professional Services Fee: Not to Exceed \$59 per valve.

Unincorporated Spalding County valves in excess of estimated 1700 valves which are surveyable by GPS means – these additional valves not included in the original Scope and Services, deemed locatable and accessible, will be assessed and surveyed and included in the data submitted to the OWNER. Professional Services Fee: Not to Exceed \$74 per valve.

Exposed valves after initial Scope and Fee which are surveyable by GPS means – these additional valves deemed not locatable and/or inaccessible in original Scope and Services, after being exposed, will be assessed and surveyed and included in the data submitted to the OWNER. Professional Services Fee: Not to Exceed \$59 per valve located in the City of Griffin and \$74 per valve located in Unincorporated Spalding County.

Assessment and Field Surveying – valves found to be not accessible and not locatable by means of GPS, once exposed, will be assessed and surveyed by conventional survey methods. Professional Services Fee: Not to Exceed \$89 per valve located in the City of Griffin and \$104 per valve located in Spalding County.

**SUPPLEMENT TO
MASTER SERVICES AGREEMENT**

**CITY OF GRIFFIN, GEORGIA
AND
PARAGON CONSULTING GROUP, INC.**

THIS SUPPLEMENTAL AGREEMENT is made as of July 1, 2015

Between City of Griffin, GA, Owner, and Paragon Consulting Group, Inc., Engineer (PCG).

OWNER AND ENGINEER have previously executed a Master Services Agreement dated April 3, 2003 ("Original Agreement") that defines general terms under which ENGINEER will furnish General Consulting Services and Project Engineering Services to OWNER. OWNER now wishes to engage ENGINEER to provide services in connection with a Project known as:

VALVE LOCATION AND CONDITION ASSESSMENT

This project will encompass the following:

This project will include the location and condition assessment of water system valves – 1732 in the City of Griffin and 1700 in Unincorporated Spalding County - which in general includes data collection and development of a Location and Assessment Plan, field location of valves, assessment of valve condition, and GPS surveys of valve locations; 410 City of Griffin valves and 390 Unincorporated Spalding County valves are assumed to be surveyable only through conventional means. PCG will prepare data for input into the OWNER'S GIS System. The work will consist of the following major components:

- Data Collection and Analysis
- Development of a Location and Assessment Plan
- Valve Location
- Valve Condition Assessment
- Field Survey of Valve Location

ENGINEER has prepared a Scope of Work for each project, attached herein as EXHIBIT A, and Basis of Compensation, attached herein as EXHIBIT B, to provide the services contemplated in this Supplemental Agreement.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first above written.

OWNER:

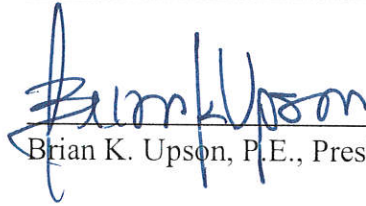
CITY OF GRIFFIN

Attest:

Manager

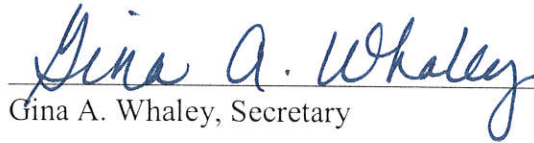
ENGINEER:

PARAGON CONSULTING GROUP, INC.



Brian K. Upson, P.E., President

Attest:



Gina A. Whaley, Secretary

MAN-HOUR AND BUDGET WORKSHEET

PHASE	DESCRIPTION	MANHOURS										TOTAL HOURS	DIRECT LABOR COST	TOTAL LABOR COST
		MANHOURS		MANHOURS										
		PR	SE	WWSM	SLA/PLAN	INSP/ENG TECH	DRAFT	SUB						
		135	135	135	125	75	50	75	75					
1	PRELIMINARY	0	24	32	0	28	0	0	0	84	\$9,660	\$9,660		
	Review of Existing Information		8	8		4				20	\$2,460	\$2,460		
	Initial Planning		8	20		16				44	\$4,980	\$4,980		
	Location and Assessment Plan		4	4		8				16	\$1,680	\$1,680		
	QAQC		4							4	\$540	\$540		
	Review Discussion and Incorporation of Comments										\$0	\$0		
2	Data Collection	2	0	100	0	797	378	0	583	1860	\$136,170	\$136,170		
	Valve Location and Survey			12		314	254		583	1163	\$81,595	\$81,595		
	Field Condition Assessment			24		411	120			555	\$40,065	\$40,065		
	Assimilation of Data			24		60				84	\$7,740	\$7,740		
	Coordination with Team and Data Review			28						28	\$3,780	\$3,780		
	Meeting Preparation, and Client Meetings			8		8				16	\$1,680	\$1,680		
	QAQC			2		2				4	\$420	\$420		
	Review Discussion and Incorporation of Comments	2		2		2	4			10	\$890	\$890		
3	Data Analysis	0	0	16	0	20	2	0	0	38	\$3,760	\$3,760		
	Analysis of Data			8		16				24	\$2,280	\$2,280		
	Pre Final Document Preparation			4		4	2			10	\$940	\$940		
	QAQC			2						2	\$270	\$270		
	Review Discussion			2						2	\$270	\$270		
4	FINAL DOCUMENT PREPARATION AND DISTRIBUTION	0	0	0	0	0	0	0	0	0	\$0	\$0		
	Coordinate with COG										\$0	\$0		
	Incorporation of Final Comments and Assembly										\$0	\$0		
	QAQC										\$0	\$0		
													Spalding County Valve Subtotal	\$149,590
													Average cost per valve	\$87.99

1,732
410
1,700
390

MAN-HOUR AND BUDGET WORKSHEET
VALVE LOCATION AND CONDITION ASSESSMENT
Valves located in City of Griffin
GRIFFIN, GA

PHASE	DESCRIPTION	MANHOURS										SUB	DRAFT	TOTAL HOURS	DIRECT LABOR COST	TOTAL LABOR COST
		MANHOURS		SE	WWSM	SLA/PLAN	INSP/ENG TECH	AA								
		PR														
		135	135	135	125	75	50	75	75							
1	PRELIMINARY	7	0	52	0	48	4	0	0			111	\$11,765	\$11,765		
	Review of Existing Information	1		8		4						13	\$1,515	\$1,515		
	Initial Planning	2		20		16						38	\$4,170	\$4,170		
	Location and Assessment Plan			16		24						40	\$3,960	\$3,960		
	QAQC	2		4								6	\$810	\$810		
	Review Discussion and Incorporation of Comments	2		4		4	4					14	\$1,310	\$1,310		
2	Data Collection	6	0	66	0	654	654	0	315			1695	\$115,095	\$115,095		
	Valve Location and Survey			26		292	170		315			803	\$57,535	\$57,535		
	Field Condition Assessment					270	480					750	\$44,250	\$44,250		
	Assimilation of Data					72						72	\$5,400	\$5,400		
	Coordination with Team and Data Review			20								20	\$2,700	\$2,700		
	Meeting Preparation, and Client Meetings			12		12						24	\$2,520	\$2,520		
	QAQC	4		4		4						12	\$1,380	\$1,380		
	Review Discussion and Incorporation of Comments	2		4		4	4					14	\$1,310	\$1,310		
3	Data Analysis	4	0	52	0	32	10	0	0			98	\$10,460	\$10,460		
	Analysis of Data			32		16						48	\$5,520	\$5,520		
	Pre Final Document Preparation			16		16	10					42	\$3,860	\$3,860		
	QAQC	2		2								4	\$540	\$540		
	Review Discussion	2		2								4	\$540	\$540		
4	FINAL DOCUMENT PREPARATION AND DISTRIBUTION	8	0	24	0	24	6	0	0			62	\$6,420	\$6,420		
	Coordinate with COG			8		8						16	\$1,680	\$1,680		
	Incorporation of Final Comments and Assembly	4		8		8	6					26	\$2,520	\$2,520		
	QAQC	4		8		8						20	2220	\$2,220		
City of Griffin Valve Subtotal												\$143,740				
Average Cost per Valve												\$82.99				

Estimated City of Griffin Valves 1,732
Estimated Conventionally Surveyed City of Griffin 410
Estimated Spalding County Valves 1,700
Estimated Conventionally Surveyed Spalding County 390

MAN-HOUR AND BUDGET WORKSHEET
VALVE LOCATION AND CONDITION ASSESSMENT
Valves located in City of Griffin and Unincorporated Spalding County
GRIFFIN, GA

PHASE	DESCRIPTION	MANHOURS										TOTAL HOURS	DIRECT LABOR COST	TOTAL LABOR COST
		MANHOURS		PR	SE	WWSM	SLA/PLAN	INSP/ENG TECH	AA	DRAFT	SUB			
		135	135			135	125	75	50	75	75			
1	PRELIMINARY	7	24			84	0	76	4	0	0	195	\$21,425	\$21,425
	Review of Existing Information	1	8			16		8				33	\$3,975	\$3,975
	Initial Planning	2	8			40		32				82	\$9,150	\$9,150
	Location and Assessment Plan	0	4			20		32				56	\$5,640	\$5,640
	QAQC	2	4			4		0				10	\$1,350	\$1,350
	Review Discussion and Incorporation of Comments	2	0			4		4	4			14	\$1,310	\$1,310
2	Data Collection	8	0			166	0	1451	1032	0	898	3555	\$251,265	\$251,265
	Valve Location and Survey					38		606	424			1966	\$139,130	\$139,130
	Field Condition Assessment					24		681	600			1305	\$84,315	\$84,315
	Assimilation of Data					24		132				156	\$13,140	\$13,140
	Coordination with Team and Data Review					48						48	\$6,480	\$6,480
	Meeting Preparation, and Client Meetings					20		20				40	\$4,200	\$4,200
	QAQC	4				6		6				16	\$1,800	\$1,800
	Review Discussion and Incorporation of Comments	4				6		6	8			24	\$2,200	\$2,200
3	Data Analysis	4	0			68	0	52	12	0	0	136	\$14,220	\$14,220
	Analysis of Data					40		32				72	\$7,800	\$7,800
	Pre Final Document Preparation					20		20	12			52	\$4,800	\$4,800
	QAQC	2				4						6	\$810	\$810
	Review Discussion	2				4						6	\$810	\$810
4	FINAL DOCUMENT PREPARATION AND DISTRIBUTION	8	0			24	0	24	6	0	0	62	\$6,420	\$6,420
	Coordinate with COG					8		8				16	\$1,680	\$1,680
	Incorporation of Final Comments and Assembly	4				8		8	6			26	\$2,520	\$2,520
	QAQC	4				8		8				20	\$2,220	\$2,220
Project Total														\$293,330
Average cost per valve													\$85.47	\$85.47

Estimated City of Griffin Valves 1,732
Estimated Conventionally Surveyed City of Griffin 410
Estimated Spalding County Valves 1,700
Estimated Conventionally Surveyed Spalding County 390