

 	Month																								Revised 9/26/2016				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total Hours	Total Labor	ODC	Total Cost	
1 Project Management and Stakeholder Involvement	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	3,358	\$523,900	\$12,000	\$535,900
2 Population, Water Demand and Wastewater Flow Projections	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1,532	\$211,900	\$4,000	\$215,900
3 Development of Service Concepts and Decision Making Process	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	1,474	\$231,100	\$4,000	\$235,100
4 Water System Evaluation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	5,456	\$823,100	\$5,000	\$828,100
5 Wastewater System Evaluation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	7,310	\$1,078,000	\$6,500	\$1,084,500
6 Recycled Water System Evaluation	Removed																								-	-	-	\$0	
7 Support Facilities Evaluation	Removed																								-	-	-	\$0	
8 Operational Efficiencies	Removed																								-	-	-	\$0	
9 Program Optimization	Removed																								-	-	-	\$0	
10 Master Plan Report	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	927	\$145,500	\$7,000	\$152,500
Total																									20,057	\$3,013,500	\$38,500	\$3,052,000	

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	Project Director/Principal	Supervising Eng. Program Mgr	Supervising Eng. QA/QC	Proj. Coordinator/Senior Eng	Project Manager/Eng	Engineer I	Supervising Modeler	Senior PM, Water Process	Senior PM, WW Process	Supervising Engineer (WW)	Project Manager/Eng (WW)	Engineer II (WW)	Supervising Modeler (WW)	Orig Mgr, Cost Estimates QA/QC	Eng II, Process + Cost Estimates	Technician III, Env Planner	Sr Engineer, TBL Analysis	Proj. Mgr Biosolids	Sr Eng -Structural	Proj Mgr - Mechanical/Process	Sr Eng - Electrical/ SCADA	Sr Proj Mgr - Asset Mgmt /Architect	Technician III - CAD Support	Public Outreach Specialist II, Document Support	Contract Administrator	Total Hours	Total Labor	ODC	Total Cost
MASTER PLAN																													
1 Task Management and Stakeholder Involvement	50	174	50	744	494	508	192		112	72	446	80	160										164	112	3358	\$ 523,944	\$ 12,000	\$ 535,944	
1.1 Task Management																													
Project Initiation & Kick-off Meeting, Project Plan (QA/QC Plan, Health and Safety Plans, etc.)	8	16	2	48	24	8	8		8	16	16	8	12										16	40	230	\$ 37,104		\$ 37,104	
Internal Bi-weekly Team Calls & Coordination - 48 calls + Subcontractor Mgmt, project mgmt	4	48	48	84	48	48	48		24	8	48	8	48										4	24	492	\$ 85,164		\$ 85,164	
Monthly Progress Report, Schedule, Budget, Engineering Agreement Preparation		24		84	48						48	24											2	48	278	\$ 43,044		\$ 43,044	
Monthly Progress Meetings w DWM (24) & Minutes	8	48		96		60	60		48	48	48		48												464	\$ 83,164	\$ 2,000	\$ 85,164	
1.2 Stakeholder Involvement																										0			\$ -
Develop Stakeholder Lists (update as needed)	8			8	8	16	2				2		2													46	\$ 7,412		\$ 7,412
Develop Stakeholder Communication Plan (including Stakeholder List in the appendix)	2	2		24	24	24	2		8		8		2										16		112	\$ 15,784		\$ 15,784	
Facilitate Stakeholder Meetings (Incorporated cities, Decide DeKalb, etc.) - 15 2-hr meetings + 1-hr travel + 2-hr prep + 1-hr coordination + 2-hr post activities		8		120	120	120					60	40											16		484	\$ 67,048	\$ 3,000	\$ 70,048	
Steering Committee Meetings - quarterly for a total of 8 mtgs (4 hr mtg + 8 hr prep & post)	8	16		96	96	48	48		24		96		48										16		496	\$ 79,984	\$ 3,000	\$ 82,984	
BOC Meetings - 6 mtgs (support + mtg participation)	8	8		48		48	24				24												24		184	\$ 26,848	\$ 250	\$ 27,098	
Other Agency Meetings (4) + Coordination	2			40	30	40																	10		122	\$ 16,438	\$ 250	\$ 16,688	
Support for Public Outreach Activities	2	4		96	96	96					96												60		450	\$ 61,954		\$ 61,954	

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MASTER PLAN																															
2 Population, Water Demand and Wastewater Flow Projections	16	32	8	160	148	468	120		84	4	200	180	88											20	4	1532	\$ 211,872	\$ 4,000	\$ 215,872		
2.1 Population and Employment Projections																															
Extrapolate residential and employment population projections from 2050 to 2065 for TAZ's for 2065 Long-term planning horizon based on ARC Projections		4		16	8	40	8		2	2	4	4														88	\$ 11,750		\$ 11,750		
Meet with incorporated cities within the County and collect growth and planning feedbacks and reconcile into overall estimate (1.5 days at AECOM or DWM)				24		24	24		24		20															116	\$ 18,392	\$ 1,000	\$ 19,392		
Finalize population and employment projections and prepare PowerPoint presentation for County stakeholders (steering committee meeting #1)		4		12	8	24	4				4	4														60	\$ 8,084	\$ 500	\$ 8,584		
2.2 Water Demand Projections																															
Review and evaluate anticipated impact of future District water conservation programs and key assumptions				8	40	16	4		4																		72	\$ 10,396		\$ 10,396	
Water demand projections		4		8	16	80	16		4			8															136	\$ 16,024		\$ 16,024	
2.3 Wastewater Flow Projections																															
Review of District Forecast and Key Assumptions				4		8	4		4		16																36	\$ 5,508		\$ 5,508	
Determine per capita wastewater flow generation and service population; review septic tank elimination program goal and feasibility		2		4		40	8		8		40		20														122	\$ 17,450		\$ 17,450	
Estimate Base Sanitary Flow and Groundwater Infiltration		2		8		80			8		40	80	40														258	\$ 31,930		\$ 31,930	
Summarize WW flow projections and review effluent and IBT discharge limitations and evaluate magnitude of IBT and Recycled Water Programs needed to remain in compliance beyond 2050		2		4		4	4		8		4	4															30	\$ 4,806		\$ 4,806	
Draft Tech Memo: Population, Water Demand and Wastewater Flow Projections	4	8	4	40	40	80	16		12		40	24	16													8	292	\$ 41,600	\$ 1,000	\$ 42,600	
DWM Review																															
Workshop to review all projections above - Steering Committee	8			8	8	8	8		8		8	8	8														72	\$ 12,152	\$ 1,000	\$ 13,152	
Tech Memo: Population, Water Demand and Wastewater Flow Projections	2	4	2	8	8	24	8		2	2	8	16	4													4	94	\$ 13,204	\$ 500	\$ 13,704	
Incorporate Results and Compile with Master Plan Report	2	2	2	16	20	40	16				16	32														8	2	156	\$ 20,576		\$ 20,576

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MASTER PLAN																														
3 Development of Service Concepts and Decision Making Process	10	54	10	160	140	178	144	58	88	46	120	152	80	32			72	86						42	4	1474	\$ 231,124	\$ 4,000	\$ 235,124	
3.1 Developing and Screening Servicing Concepts																														
Prepare List of Servicing Concepts - water, wastewater, recycled water and support facilities		4		12	8	24	16	4	8	6	16		12	4			4	20									138	\$ 22,008		\$ 22,008
Evaluate and Screen Servicing Concepts - water, wastewater, recycled water and support facilities (high level qualitative analysis based on advantages and disadvantages)		8		16	8	24	24	4	4	16	24	24	24					24									200	\$ 32,000		\$ 32,000
Facilitate Workshop with County Staff (Steering Committee) to Screen Servicing Concepts		12		12	4	8	16	4	4	8	16		12	4				4									104	\$ 18,404	\$ 500	\$ 18,904
Select Preferred Servicing Concept - water, wastewater, recycled water and support facilities		8		8	8	16	2	2	4	16	20	16	2					12									114	\$ 18,118		\$ 18,118
Draft Tech Memo - Development and Screening of Water, Wastewater and Recycled Water Servicing Concepts (compilation of the above)	2	4	2	16	8	24	24	8	8	8	24	60	12	2				12						4			218	\$ 32,260	\$ 1,000	\$ 33,260
DWM Review																														
Final Tech Memo - Development and Screening of Water, Wastewater and Recycled Water Servicing Concepts (compilation of the above)		4	2	4	4	4	4	4	4	4	8	16	4	4				10						2			78	\$ 12,334	\$ 1,000	\$ 13,334
3.2 Alternatives Evaluation Decision Making (Triple Bottom Line) Process																														
TBL Criteria Development and Ranking Methodology																														
Develop draft TBL evaluation criteria and ranking methodology for servicing alternatives for all systems (W, WW, recycled and support facilities)	2	4	2	16	8	8	8	8	8					4			16	4									88	\$ 15,242		\$ 15,242
Develop draft TBL evaluation graphic templates for DeKalb for servicing alternatives				8	24	24	8	8										16						12			100	\$ 13,832		\$ 13,832
Facilitate one workshop to establish TBL evaluation criteria for alternatives evaluation - water, wastewater, recycled water and support facilities	2	4		16	8	4	8	8	8					2			16							4			80	\$ 13,772	\$ 500	\$ 14,272
Draft Tech Memo - Process for Evaluation of Servicing Alternatives, Sites and Alignments	2	2	2	8	24	8	4	4	8					8			16							8			94	\$ 15,004	\$ 500	\$ 15,504
DWM Review																														
Final Tech Memo - Process for Evaluation of Servicing Alternatives, Sites and Alignments	2	2	2	4	4	2		2	2					2			4							4	2		32	\$ 5,332	\$ 500	\$ 5,832
Incorporate Results and Compile with Master Plan Report		2		40	40	40	16		32		16	32												8	2	228	\$ 32,818		\$ 32,818	

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MASTER PLAN																															
4 Water System Evaluation	30	162	128	606	668	1232	1462	296	20					120	270	82	88		40	40	40	40	40	84	8	5456	\$ 823,120	\$ 5,000	\$ 828,120		
4.1 Water System Data Review																															
Collect missing background data				4	4		4							2	2												16	\$ 2,554	\$ 2,554		
Summarize WTP production data				16		40	16	8																			80	\$ 10,576	\$ 10,576		
Define Critical and SHORT-TERM projects with DWM staff, including existing CIP projects; verify scope and schedule		4		16		4	16	16																			56	\$ 9,928	\$ 9,928		
Develop unit cost- review of County's project cost database and establish unit prices for water infrastructure		2		8			8							8	24												50	\$ 7,066	\$ 7,066		
Review Level of Service (LOS), Design and Performance Criteria		2		8		8	8	8						4	4												42	\$ 6,518	\$ 6,518		
Draft Tech Memo - Design Criteria and Unit Costs for Water System Planning	2	4	2	8	4	8	24	8						4	4									8		76	\$ 12,166	\$ 500	\$ 12,666		
Meet with DWM staff to Review LOS and Performance Criteria		4		4		0	4	4																			16	\$ 3,072	\$ 3,072		
Final Tech Memo - Design Criteria and Unit Costs for Water System Planning		2	2	2		4	8	2																4		24	\$ 3,768	\$ 500	\$ 4,268		
4.2 Water Supply Source Evaluation																															
Evaluate District Plan recommendations; define water supply gap for 2065 and implications		4	4	8	8	8	2																				34	\$ 5,600	\$ 5,600		
Evaluate District Plan recommendations; water conservation program implementation				16	24	16																					56	\$ 7,872	\$ 7,872		
Develop county-level water conservation/efficiency measures and implementation programs based on the 2016 District Plans Update recommendations and requirements (including commercial audits, leak reduction, NRW reduction etc)		8	24	40	40	40	40									40	40							4		276	\$ 43,496	\$ 500	\$ 43,996		
Develop up to 3 raw water withdrawal locations for second water supply sources		4		8	16	40	40	2																			110	\$ 15,670	\$ 15,670		
Estimate streamflow availability at selected withdrawal locations				16	24	40	40	2																			122	\$ 17,410	\$ 17,410		
Define regulatory implication of second supply source		2		24	8		8	4																			46	\$ 8,086	\$ 8,086		
Compare planning level cost for existing (one source) vs (two sources)		4		8	8		8	2						24	24												78	\$ 11,606	\$ 11,606		
Develop and Evaluate Water System Servicing Alternatives																															
Draft List of Servicing Alternatives Based on Preferred Servicing Concept - Water Supply, Treatment and Distribution	2	8	4	32	32	16	16	4						4	8												126	\$ 20,414	\$ 500	\$ 20,914	
DWM Review																															
4.3 Water Treatment Evaluation																															
Process loading desk-top analysis and CT compliance evaluation for 2065 projected demand (existing WTP scenario)				4	40	8	4	24																			80	\$ 12,792	\$ 12,792		
Conduct 1-day site visit at SCWTP- structural, mechanical and electrical/SCADA evaluation				8	8			8										8	8	8	8						56	\$ 9,552	\$ 9,552		
Prepare summary of structural, mechanical, and electrical/SCADA evaluation (SCWTP)				2	8			16										24	24	24	24	16	8				146	\$ 23,224	\$ 23,224		
Define potential unit process needs based on the above-analysis (SCWTP)				8	40			24										4	4	4	4	16	4				108	\$ 16,908	\$ 16,908		
Review water quality data for potential 2nd water supply source and define required treatment processes and loadings (w/o reuse and w/ reuse)		2		8	40	40	8	24	4																		126	\$ 18,134	\$ 18,134		
4.4 Water Distribution System Evaluation																															
Allocate future water demand to hydraulic model for analyzing Servicing Alternatives (2020, 2030, 2040 & 2065)		4	4	4	8	60	40																					120	\$ 16,080	\$ 16,080	
SHORT-TERM Projects and Servicing Alternatives Evaluation																															
Perform hydraulic modeling of SHORT TERM projects (assuming existing WTP configuration)				8		40	80																					128	\$ 19,688	\$ 19,688	
Evaluate modeling results of SHORT TERM projects and Servicing Alternatives in accordance with Defined Process- update current CIP project scope (size, capacity, location, length etc.) and implementation schedule		4	16	16	40	24	100	8						8	40													256	\$ 40,804	\$ 40,804	
Draft Tech Memo - Evaluation of Short Term Water Capital Projects to Support CIP	2	8	8	8	16	80	80	16											4	4	4	4	4	8	2		248	\$ 36,354	\$ 500	\$ 36,854	
DWM Review																															
Facilitate Workshop with Stakeholders - Short Term Projects		2	4	4	8	4	16	16	8																			62	\$ 10,266	\$ 500	\$ 10,766
Final Tech Memo - Evaluation of Short Term Water Capital Projects to Support CIP		2	2	2		16	32	2																			64	\$ 9,372	\$ 500	\$ 9,872	
ALL Projects and Servicing Alternatives Evaluation																															

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MASTER PLAN																													
	Perform hydraulic modeling to identify water transmission, storage and distribution system improvements to meet future demands (beyond short term)			16	40	120	300																			476	\$ 72,576		\$ 72,576
	Evaluate Servicing Alternatives in accordance with Defined Process - ALL PROJECTS: water	4	2	2	40	40	80	16																		224	\$ 36,022		\$ 36,022
	Analyze interim planning horizons (2040 & 2065) to establish required in-service dates and triggers			24	16	120	100	8																		268	\$ 36,200		\$ 36,200
	Draft Tech Memo - Evaluation of Water Servicing Alternatives	2	16	8	40	24	80	100	8																	278	\$ 43,094	\$ 500	\$ 43,594
	DWM Review																												
	Facilitate Workshop with Stakeholders - water	4	16	4	16	4	16	16	8																	84	\$ 14,972	\$ 500	\$ 15,472
	Final Tech Memo and Select Preferred Servicing Alternative - Evaluation of Water Servicing Alternatives	2	4	2	16	8	16	32	4																	84	\$ 13,870		\$ 13,870
4.4	CIP Development - All Short-term and Long-term Projects																												
	Prepare list of required capital projects (including updated requirement for current CIP projects) and project timing - supply, treatment and distribution		8	2	16		40	24	8																2	100	\$ 14,512		\$ 14,512
	Prepare preliminary cost estimate of each Servicing Alternative		2	2	8		40	40	2					40	80											214	\$ 27,948		\$ 27,948
	Evaluate Servicing Alternatives in accordance with approach set out in Section 3.2		2	2	40	80	80	40						24	80	40	40									428	\$ 57,962		\$ 57,962
	Draft Tech Memo: Water System Capital Improvement Plan (CIP) Recommendations, including Project File with individual project cost estimates, life cycle and TBL analyses	2	8	8	32	24	100	32	8							2	8						4	16	244	\$ 32,810	\$ 500	\$ 33,310	
	Prepare consolidated list of water system capital improvements		16	4	16	16	8	16	2																	78	\$ 13,810		\$ 13,810
	DWM Review																												
	Facilitate workshop with County Stakeholders (steering committee) to review recommended water system capital improvements		8	8	8		8	16	8																	56	\$ 10,296		\$ 10,296
	Final Tech Memo: Water System Capital Improvement Plan (CIP) Recommendations	4	4	4	8	4	16	32	2					2	4									8	2	90	\$ 14,136		\$ 14,136
	Incorporate Results and Compile with Master Plan Report	4	4	4	40	40	40	32	32	16														16	2	230	\$ 35,936		\$ 35,936

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MASTER PLAN																														
5 Wastewater System Evaluation	30	136	40	670	220	624	8		784	280	764	1652	608	112	308	194	50	316	96	96	96	24	76	118	8	7310	\$ 1,078,018	\$ 6,500	\$ 1,084,500	
5.1 Wastewater System Data Review																														
Collect and review missing background data		8		16		40			8		40	24														136	\$ 18,712		\$ 18,712	
Summarize WWTP data				4		40			4		4	80														132	\$ 14,004		\$ 14,004	
Define Critical and SHORT-TERM projects with DWM staff, including existing CIP and CD projects; verify scope and schedule		4		16		8			8	4	8		8													56	\$ 9,588		\$ 9,588	
Develop unit cost - review of County's project cost database and establish unit prices for water infrastructure		2		8					8		8			40	40			16								122	\$ 17,618		\$ 17,618	
Review Level of Service (LOS), Design and Performance Criteria				4					8		24		8	16				8								68	\$ 11,248		\$ 11,248	
Draft Tech Memo - Design Criteria and Unit Costs for Wastewater System	2	8	4	8					40	8	16	40	8		8			16					4	8		170	\$ 27,062	\$ 500	\$ 27,562	
Meet with DWM staff to Review LOS and Performance Criteria		4		8					8	2	8															30	\$ 5,660		\$ 5,660	
Final Tech Memo - Design Criteria and Unit Costs for Wastewater System	2	2	4						8	2	8	8	4	8										4		50	\$ 8,082		\$ 8,082	
5.2 Decentralized Reuse Feasibility Analysis																														
Define potential end use for reuse water (types and quantity) and larger user locations		8		40		80			40	8					8											184	\$ 26,096		\$ 26,096	
Regulatory and treatment technology review, agency (EPD) coordination		4		40					40																	84	\$ 15,500		\$ 15,500	
Infrastructure need and cost estimates & TBL analysis		12		16		60			2	2				80	40	40										252	\$ 31,506	\$ 1,000	\$ 32,506	
Prepare Draft Tech Memo - Decentralized Reuse Feasibility Study	2	4	4	24		40			16	4				4	8	8								8	4	126	\$ 17,946		\$ 17,946	
DWM Review																														
Finalize Tech Memo - Decentralized Reuse Feasibility Study		4	2	12		8				8					4	2	2									42	\$ 7,252		\$ 7,252	
5.2 IGA Wastewater Treatment Feasibility Analysis																														
Evaluate District Plan recommendations; define wastewater treatment gap for 2065				24					8	24	8	8														72	\$ 14,056		\$ 14,056	
Define up to 3 ww treatment and discharge concepts including locations		8		40		40			40	24	8							24								184	\$ 30,992		\$ 30,992	
Estimate streamflow availability at selected discharge locations				8	80		8											8								104	\$ 16,392		\$ 16,392	
Define regulatory permitting implications and requirements		4		24	8				24	24	8		4					8								104	\$ 20,268		\$ 20,268	
Compare planning level cost for existing RM Clayton WRC vs new AWWTF				16		16			40	8	8			8	40			8								144	\$ 21,832		\$ 21,832	
Prepare Draft Tech Memo - IGA Wastewater Treatment Feasibility Analysis	2	2	2	40	24	24			60	8	8		2	8										8		188	\$ 31,248		\$ 31,248	
DWM Review																														
Finalize Tech Memo - IGA Wastewater Treatment Feasibility Analysis	2	2	2	8		4			16	2	4		2											8		50	\$ 8,464		\$ 8,464	
5.3 Develop and Evaluate Wastewater System Servicing Alternatives																											0	\$ -		\$ -
Draft List of Servicing Alternatives Based on Preferred Servicing Concept - Wastewater Collection, Treatment, and Disposal				8		40			40	4	40		8	8												148	\$ 22,600	\$ 500	\$ 23,100	
DWM Review																														
Final List of Servicing Alternatives Based on Preferred Servicing Concept - Wastewater Collection, Treatment, and Disposal				4		8			4		8															24	\$ 3,468	\$ 500	\$ 3,968	
5.4 Wastewater Treatment Evaluation - Existing AWWTFs																			24	24	24	24	16	8		120	\$ 18,616	\$ 500	\$ 19,116	
Process loading desk-top analysis for existing AWWTFs and for potential new AWWTF				16		40			24	4				8	40			24								156	\$ 20,976		\$ 20,976	
Conduct 1-day site visit at existing (2) AWWTFs - structural, mechanical, and electrical/SCADA evaluation				8					16	4								16	16	16	16					92	\$ 15,712		\$ 15,712	
Prepare summary of structural, mechanical and electrical/SCADA evaluation				8					16	4								40	40	40	40			24		212	\$ 33,784		\$ 33,784	
Define potential unit process modifications and needs based on the above-analysis				8					40	16				8	16	56		32	16	16	16					224	\$ 35,544		\$ 35,544	
5.5 Wastewater Collection System Evaluation																														
Base year model - Allocate future wastewater flow to hydraulic model for analyzing Servicing Alternatives (2020, 2030, 2040 & 2065)		4							2			100	60													166	\$ 21,838		\$ 21,838	
SHORT-TERM Projects and Servicing Alternatives Evaluation																														
Perform hydraulic modeling of SHORT TERM projects (assuming existing AWWTF configuration)									16	4	80	100	80													280	\$ 41,208		\$ 41,208	
Evaluate modeling results of SHORT TERM projects - update scope (size, capacity, location, length etc.) and implementation schedule - Evaluate in accordance with Defined Process		4		40					8	8	80	140	80													360	\$ 52,900		\$ 52,900	
Draft TM - Evaluation of Short Term Wastewater Capital Projects to Support CIP and CD	2	4	2	24					40		40	40	80													242	\$ 38,734	\$ 1,000	\$ 39,734	

Color Key
 Purple - Year 1 Early Delivery
 Brick - Year 2 Delivery
 Blue - DWM Review
 Black - Task Description



	Project Director/ Principal	Supervising Eng. Program Mgr	Supervising Eng. QA/QC	Proj. Coordinator /Senior Eng	Project Manager/ Eng	Eng I	Supervising Modeler (W)	Senior PM, Water Process	Senior PM, WW Process	Supervising Engineer (WW)	Project Manager/Eng (WW)	Engineer II (WW)	Supervising Modeler (WW)	Orig Mgr. Cost Estimates QA/QC	Eng II, Process + Cost Estimates	Technician III, Env Planner	Sr Engineer, TBL Analysis	Proj. Mgr Biosolids	Sr Eng -Structural	Proj Mgr - Mechanical/Process	Sr Eng - Electrical/ SCADA	Sr Proj Mgr - Asset Mgmt /Architect	Technician III - CAD Support	Public Outreach Specialist II, Document Support	Contract Administrator	Total Hours	Total Labor	ODC	Total Cost
MASTER PLAN																													
DWM Review																													
Facilitate Workshop with Stakeholders - Short Term Projects	2			8					8																	18	\$ 3,518	\$ 500	\$ 4,018
Final TM - Evaluation of Short Term Wastewater Capital Projects to Support CIP and CD		2	2	8					8														4			24	\$ 4,194		\$ 4,194
ALL Projects and Servicing Alternatives Evaluation																													
Planning year model - Evaluate Servicing Alternatives in accordance with Defined Process - ALL PROJECTS: wastewater (and potentially recycled water as 2nd source)	4			8					40														24			76	\$ 12,852		\$ 12,852
Perform hydraulic modeling to identify wastewater (collection, storage and pumping) system improvements to meet future flow conditions (beyond short term)				16						4	20	80	20													140	\$ 18,960		\$ 18,960
Analyze interim planning horizons (2040 & 2065) to establish required in-service dates and triggers				8						4	40	300	60													412	\$ 50,832		\$ 50,832
Conduct field investigation - DWM approval required						120						120			120											360	\$ 36,360		\$ 36,360
Draft Tech Memo - Evaluation of Wastewater Servicing Alternatives	2	8	8	8						4	40	80	16											16		182	\$ 25,902	\$ 500	\$ 26,402
DWM Review																													
Facilitate Workshop with Stakeholders - water, wastewater, recycled water, support facilities)	4	4		8					4	4	16	20	16													76	\$ 12,716		\$ 12,716
Final Tech Memo and Select Preferred Servicing Alternative - Evaluation of Wastewater Servicing Alternatives		2	4	2					8	4	20	28	16										8			92	\$ 13,930	\$ 500	\$ 14,430
5.6 CIP Development - All Short-term and Long-term Projects																													
Prepare list of required capital projects (including updated requirement for current CIP projects) and project timing - supply, treatment and distribution		2		8					4																	14	\$ 2,614		\$ 2,614
Develop county-level wastewater and watershed management implementation programs based on 2016 District Plan Update		8	4	40	80				40	40					24								4			240	\$ 42,984		\$ 42,984
Prepare preliminary cost estimate of each Servicing Alternative		2		8					4	60	240	24						40								378	\$ 48,198		\$ 48,198
Evaluate Servicing Alternatives in accordance with approach set out in Section 3.2		2		8					8	8	32	40	8													106	\$ 16,298		\$ 16,298
Draft Tech Memo: Wastewater System CIP Recommendations, including Project File with Individual project cost estimates, life cycle and TBL analyses		8	2	4		16			16	8	32	80	24		12			32					8	16		258	\$ 35,600	\$ 500	\$ 36,100
Prepare consolidated list of wastewater system capital improvements		2		4					4	4	16	16														46	\$ 7,286		\$ 7,286
DWM Review																													
Facilitate workshop with County Stakeholders (steering committee) to review recommended wastewater system capital improvements				8					8	8	16	32	16		8			12								108	\$ 16,380		\$ 16,380
Final Tech Memo: Wastewater System CIP Recommendations	4	4	2	8	4				8	4	24	60	16		8			32					8	2		184	\$ 26,800	\$ 500	\$ 27,300
Incorporate Results and Compile with Master Plan Report	4	4		40	24	40			40	16	40	16	40										8	2		274	\$ 43,688		\$ 43,688

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	Project Director/Principal	Supervising Eng. Program Mgr	Supervising Eng. QA/QC	Proj. Coordinator /Senior Eng	Project Manager/Eng	Eng I	Supervising Modeler	Senior PM, Water Process	Senior PM, WW Process	Supervising Engineer (WW)	Project Manager/Eng (WW)	Engineer II (WW)	Supervising Modeler (WW)	Dirg Mgr. Cost Estimates QA/QC	Eng II, Process + Cost Estimates	Technician III, Env Planner	Sr Engineer, TBL Analysis	Proj. Mgr Biosolids	Sr Eng -Structural	Proj Mgr - Mechanical/Process	Sr Eng - Electrical/ SCADA	Sr Proj Mgr - Asset Mgmt /Architect	Technician III - CAD Support	Public Outreach Specialist II, Document Support	Contract Administrator	Total Hours	Total Labor	ODC	Total Cost
MASTER PLAN																													
10 Capacity Plan Report	22	30	30	116	84	140	74	34	54	14	109	46	68									28	70	8	927	\$ 145,458	\$ 7,000	\$ 152,458	
10.1 Preliminary Draft Master Plan Report	8	8	8	40	40	40	40	8	20	8	40	20	20									16	24	4	344	\$ 54,676	\$ 2,000	\$ 56,676	
Appendices (Tech Memorandum and other support data)				8	16	24	4	4	4		12	8	4										16		100	\$ 12,888		\$ 12,888	
Develop draft summary presentation to review with DWM	2	4	2	8		8	8	4	4	4	4	4	4												56	\$ 9,810		\$ 9,810	
DWM Review																													
10.2 Draft Master Plan Report	4	4	8	20	20	20	8	8	8	2	24	4	4									8	16	2	160	\$ 25,436	\$ 2,500	\$ 27,936	
Appendices (Tech Memorandum and other support data)				8		16	4	4	4		15		20											4		75	\$ 11,114		\$ 11,114
Develop draft presentation for Steering Committee	2	4	2	8		4	4		4		4		8													40	\$ 7,218		\$ 7,218
10.3 Final Master Plan Report	4	8	8	8	8	12	4		4		8	4	2									4	4	2	80	\$ 13,524	\$ 2,500	\$ 16,024	
Appendices (Tech Memorandum and other support data)				8		8		4	4			4	4											4		36	\$ 5,000		\$ 5,000
Develop draft BOC presentation for DWM Review	2	2	2	8		8	2	2	2		2	2	2										2		36	\$ 5,792		\$ 5,792	

**Phase 1 Water and Wastewater Master Plan - Capacity Plan
Subconsultants & Expense Breakdown**

Midtown Atlanta office to DWM Roadhaven = 20 miles
Closest Airport = ATL

DIRECT EXPENSES		Unit	Quantity	Unit Cost	Subtotals
TRAVEL					
Airfare	Trips	1	10	\$500.00	\$5,000.00
Transportation	Trips	1	10	\$35.00	\$350.00
Accommodations	Days	1	15	\$150.00	\$2,250.00
Mileage (office to DWM @ 20 mi one-way trip)	Days	20	336	\$0.58	\$3,900.00
Daily Cost for Meals, etc. during Scoping Work	Meals	3	10	25	\$750.00
Refreshment/Meal for public or agency meetings	mtg	1	24	250	\$6,000.00
Security, public mtg	mtg	1	6	500	\$3,000.00

Subtotal Wetlands Verification and Field Trips \$21,250.00

	EA	Unit	Quantity	Unit Cost	Subtotals
DELIVERABLES PRODUCTION EXPENSES					
Cardstock 8.5 x 11 page size copies	No.		200	\$0.81	\$162.00
B&W 8.5 x 11 page size copies (draft memo etc)	No.		10,000	\$0.05	\$480.00
Color 8.5 x 11 page size copies (draft memo etc)	No.		26,500	\$0.165	\$4,372.50
Fact Sheets	No.		3,000	\$0.450	\$1,350.00
Tabs die cut & lam clear	No.		720	\$0.350	\$252.00
3-ring binders, 4"	No.		30	\$6.990	\$209.70
3-ring binders, 2"	No.		30	\$2.790	\$83.70
Miscellaneous printing or copying for project meetings/review	No.		10,000	\$0.165	\$1,650.00
Large maps (both working map and for meetings)	No.		60	\$36.00	\$2,160.00
Display Boards/Large Maps (scoping mtg, public hearing)	No.		48	\$84.00	\$4,032.00
Subtotal Deliverables Production Expenses					\$14,751.90

PUBLIC SCOPING EXPENSES

DELIVERY CHARGES	Unit	Quantity	Unit Cost	Subtotals
ARC to midtown + Courier to DWM	Boxes	20	\$25	\$500
Subtotal Delivery Charges				\$500

Miscellaneous \$2,000.00

TOTAL DIRECT EXPENSES \$38,500

Assumptions

once a quarter for 1.5 years (6 trips for DT + 4 trips for RH or other practice leader)
avg taxi \$60 & Marta fare \$5, assume 50/50
50% one night + 50% 2 nights
assume 3 person-day/week, round-trip, from midtown to DWM for 48 weeks per year
3 meals/day
for large mtgs only: 6 public mtg, 16 steering, 2 joint-city briefing = 24 total large mtgs
security officer for public mtg

meeting signs & small display

2-page fact sheet for 6 mtgs, 250 copies for each mtg
tabs for draft and final report
12 copies of final and draft report + 6 additional for public or stakeholder meeting display

Unit Cost - large map or display board

size	gator	satin paper	foamcore	heavy bond prints
24x36	\$42	\$48	\$36	\$18
36x48	\$84	\$96	\$72	\$36

total for 6 tasks

avg per task