

AGREEMENT No. 11-1569BG

ENGINEERING SERVICES FOR UTILITIES ENGINEER OF RECORD

WORK ASSIGNMENT NO.: 27
CHANGE ORDER NO. 2 (INCORPORATE PARTIAL SIPHON DESIGN)

Pursuant to the Manatee County, Florida, Agreement No. 11-1569BG for Engineering Services For Utilities Engineer Of Record entered into by and between the COUNTY OF MANATEE, hereinafter referred to as the "County" and CAROLLO ENGINEERS, INC., hereinafter referred to as the "Consultant", a determination has been made by the County that there is a need for the performance of or rendering of services by the Consultant of a certain "Work Assignment" under the purview of said Agreement, and the Consultant is hereby authorized to perform or render the particular services of work described as follows:

TITLE OF THE PROJECT: PRELIMINARY DESIGN, DESIGN, AND CONSTRUCTION PHASE SERVICES FOR THE LAKE MANATEE WTP FILTER UPGRADE

PHASES AND/OR TASKS OF PROFESSIONAL SERVICES AUTHORIZED:

Consultant shall perform tasks as more specifically detailed in Attachments A thru B as follows:

<u>TITLE</u>	<u>COMPENSATION</u>
Original Work Assignment No. 27	\$4,885,785
Change Order No. 1	\$0
Change Order No. 2	\$137,442

Compensation to the Consultant for rendering all of the above identified services and products shall not exceed \$5,023,227. Compensation for the tasks shall not exceed the amounts shown.

Any modification to the project resulting in increases to prior cost estimate or potential overruns shall be communicated to the County in writing, prior to initiation of work, for approval.

County may authorize in writing, in advance, adjustments in the compensation for particular tasks established above, provided such adjustments do not exceed the maximum compensation authorized for this Work Assignment.

Partial compensation may be requested on a monthly basis for unit prices and actual hours incurred, but not to exceed the percentage of the task completed.

AGREEMENT No. 11-1569BG

ENGINEERING SERVICES FOR UTILITIES ENGINEER OF RECORD

WORK ASSIGNMENT NO.: 27
CHANGE ORDER NO. 2 (INCORPORATE PARTIAL SIPHON DESIGN)

The CONTRACTOR agrees to perform or render services in accordance with the Agreement for Engineering Services For Utilities Engineer Of Record and this Work Assignment.

CAROLLO ENGINEERS, INC.
401 North Cattlemen Road, Suite 306
Sarasota, Florida 34232

By: 

Robert S. Cushing, Senior Vice President
Print name & title of above signer

Date: June 20, 2017

MANATEE COUNTY

By: _____

Melissa Wendel, CPPO
Purchasing Official

Date: _____

ATTACHMENT A

**MANATEE COUNTY GOVERNMENT
WORK ASSIGNMENT NO: 27**

CHANGE ORDER NO. 2 (INCORPORATE PARTIAL SIPHON DESIGN)

**PRELIMINARY DESIGN, DESIGN, AND CONSTRUCTION PHASE SERVICES FOR
THE LAKE MANATEE WTP FILTER UPGRADE**

**SCOPE OF SERVICES
CAROLLO ENGINEERS
June 20, 2017**

CHANGE ORDER DESCRIPTION

The Consultant and its subconsultants shall perform engineering services for Manatee County associated with the Preliminary Design, Design, and Construction Phase Services for The Lake Manatee WTP Filter Upgrade.

The Lake Manatee WTP includes a conventional surface water treatment train comprising coagulation, flocculation, sedimentation, and filtration. The multi-media filters are approaching the end of their useful life and need to be refurbished or replaced with another treatment process. In 2008, the COUNTY undertook pilot tests that included evaluation of several treatment alternatives, and based on the results of the treatment and economic evaluations an ultrafiltration (UF) system was proposed to retrofit the existing media filters. In 2010, the Consultant provided a peer review of a basis of design report (BODR) for the UF system prepared by McKim & Creed and Reiss Engineering. The peer review included evaluating the BODR in detail with respect to technical requirements, costs aspects, facility layouts, and project delivery methods. Currently the Consultant is working with the COUNTY to select a hydraulic configuration (submerged or pressure) of the UF membranes that is best suited for retrofit of the existing facilities.

The following Scope of Work to be provided by the Consultant describes the professional services associated with the incorporation of the partial siphon design as agreed with the COUNTY during the final design kickoff meeting held on March 21, 2017.

SCOPE OF WORK

GENERAL

The work to be performed by the Consultant may include but is not limited to the following tasks.

TASKS – 1, 3, 4, 5, 7, 8, 9, 10, 11

There are no requested changes to these tasks.

TASK 2 – QUALITY MANAGEMENT

This task is being modified to include Quality Management for modifications and additions to design due to incorporation of partial siphon.

TASK 6 – FINAL DESIGN

This task is being modified to include the design related to the partial siphon mode of operation and related equipment. The partial siphon uses gravity when possible to permeate water through the membranes, rather than permeate pumps, which results in net reduction in energy use. This was based on a value engineering proposal by the membrane system supplier (MSS), GE-Zenon, as part of their proposal submitted in response to the Invitation to Negotiate (ITN No. 16-0470MD). Although additional and modified equipment and additional design services are required, there are energy savings due to reduced pumping operation, which result in net savings in the life-cycle costs. GE-Zenon provided the estimated net life-cycle cost savings to County as part of their proposal and in subsequent discussions. The COUNTY approved the decision to incorporate the partial siphon at the design kickoff meeting held on March 21, 2017.

The changes to the scope of equipment (additions/modifications) due to the incorporation of partial siphon are outlined as follows:

- Changes to GE's equipment scope associated with the partial siphon design.
 - Addition of flow control valve on each membrane train.
 - Addition of shut-off valve on each membrane train.
 - Additional ejectors on each membrane train.
 - Addition of turbidity sample pumps on each membrane train.
 - Modification of the permeate pumps (sizing, materials).
 - Modification to fill pumps and/or tanks for backwash supply and CIP supply water.
 - Changes to controls/programming/start-up testing.
- Changes to the General Contractor's equipment scope associated with the partial siphon design.
 - Smaller VFDs/MCC/wiring associated with the permeate pumps.
 - Piping modifications associated with permeate
 - Piping modifications associated with modifications to fill pumps and/or tanks for backwash supply and CIP supply water.

The scope of services for this work consists of the following activities and tasks:

- Process and Hydraulics Evaluation:

- General evaluation of feasibility analysis in discussion with GE-Zenon and review of potential net cost saving based on GE-Zenon's initial assumptions on available TMP.
 - Modeling, analysis, discussion, and hydraulics reviews of alternative scenarios and modified piping/equipment layouts for partial siphon concept to confirm feasibility and minimize headloss
 - Flow control valve options modeling and analysis for headloss and cavitation:
 - 12" butterfly flow control valve
 - 14" butterfly flow control valve
 - 14" v-notch ball flow control ball valve
 - Analysis and review of 6 alternative piping/equipment layout options for partial siphon permeate piping to minimize headloss and maximize ease of O&M.
 - Modeling, analysis, discussion, and hydraulics reviews of fill pumps and/or tank modifications for backwash supply and CIP supply water.
 - Structural Evaluation: Review and analysis of modified permeate piping configuration, associated pipe penetrations, and any other structural changes due to partial siphon.
 - Mechanical Design: Mechanical design and layout of new equipment and modifications required due to incorporation of partial siphon (see changes to the scope of equipment listed above).
 - Electrical & IC Evaluation: Review and modification of E&IC requirements for the partial siphon.
 - P&ID Drawings: Reviews and comments on draft and final modified P&ID drawings submitted by GE-Zenon for the partial siphon.
 - Modifications to pertinent Technical Specifications to incorporate partial siphon.
 - Incorporate partial siphon to Drawings:
 - General Drawings: Revisions and addition of pertinent general drawings.
 - Mechanical Drawings: Revisions and addition of pertinent mechanical drawings.
 - E&IC Drawings: Revisions and addition of pertinent E&IC drawings.
 - Modifications (via addendum) to PDR to incorporate partial siphon and communication with FDEP.
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- Modifications to Cost Estimate to incorporate partial siphon.

COMPENSATION

The table below summarizes the original authorized compensation and the requested revision for the individual tasks.

Task No.	Task Description	Original Contract Amount	Revised Contract Amount	Net Change
1	Project Management Services	\$301,095	\$301,095	-
2	Quality Management	\$115,852	\$120,212	\$4,360
3	Preliminary Design	\$804,576	\$804,576	-
4	Membrane Procurement Documents	\$285,724	\$285,724	-
5	Membrane Supplier Bid Evaluation and Pilot Testing	\$187,985	\$187,985	-
6	Final Design	\$1,380,774	\$1,513,856	\$133,082
7	Permitting Services	\$126,756	\$126,756	-
8	Selecting a General Contractor	\$48,170	\$48,170	-
9	Bidding Services	\$51,324	\$51,324	-
10	Construction Services	\$1,562,922	\$1,562,922	-
11	Warranty Phase Assistance	\$20,608	\$20,608	-
	Totals	\$4,885,785	\$5,023,227	\$137,442

PROJECT SCHEDULE

Work will begin upon completion of the design kickoff meeting. Siphon preliminary design submittal will be completed in six weeks following the final design kickoff meeting, and final design submittals will be completed to match the schedule of the overall final design tasks.

CHANGE ORDER NO 1. - INCORPORATE PARTIAL SIPHON DESIGN
 WORK ASSIGNMENT NO. 27
 PRELIMINARY DESIGN, DESIGN, AND CONSTRUCTION PHASE SERVICES FOR THE LAKE MANATEE WTP FILTER UPGRADE

Task No.	Task and Sub-Task Description Hourly Rates (RFP 11-1569BG)	CAROLLO ENGINEERS											SUBCONSULTANT				TOTAL PROJECT COSTS	
		Personnel	Principal	Senior Project Manager	Senior Engineer	Project Manager	Senior Project Engineer	Discipline Engineer	CADD Supervisor	Resident Inspector	Administrative Assistant	Client	Carollo Labor Hours	Carollo Labor Cost	Computer Modeling @ \$12/hr	Hillars Electrical (Electrical&C)		Subconsultant Administration (10%)
			\$190	\$165	\$159	\$140	\$130	\$119	\$81	\$97	\$69	\$88						
	Total:	242	8	0	227	215	0	80	0	16	0	764	\$114,614	\$ 960	\$ 19,888	\$ 1,988	\$ 137,442	
2.0	Quality Management		15	8	0	0	0	0	0	0	0	24	\$4,360				\$4,360	
5.0	Final Design																	
6.5	Incorporate Partial Siphon Design		226	0	0	227	215	0	80	0	16	764	\$110,254	\$960	\$19,888	\$1,988	\$133,082	
6.5.1	Structural		8			12						20	\$3,200				\$3,200	
6.5.2	Process and Hydraulics		40			48	48					136	\$20,560				\$20,560	
6.5.3	Mechanical		88			108	108					304	\$45,880				\$45,880	
6.5.4	Electrical		8			2	2					12	\$2,080				\$2,080	
6.5.5	Instrumentation and Controls System		8			2	2					12	\$2,080				\$2,080	
6.5.6	Technical Specification Modifications		16			16	16					64	\$8,464				\$8,464	
6.5.7	Incorporate Siphon to Drawings		12			16	16			80	16	124	\$13,080	\$960			\$14,040	
6.5.8	Review GE Siphon P&IDs Draft		24			12	12					48	\$7,800				\$7,800	
6.5.9	Review GE Siphon P&IDs Final		2			3	3					20	\$3,360				\$3,360	
6.5.10	Addendum to Preliminary Design Report		2			3	3					8	\$1,190				\$1,190	
6.5.11	Cost Estimates (Prelim. and Final)		8			4	4					16	\$2,600				\$2,600	

ID	Task Name	Duration	Start	Finish	Predecessors	2015	2016	2017	2018	2019	20
1	✓ Notice to Proceed	1 day	Thu 5/8/14	Thu 5/8/14							
2	1 - Project Management Services	1102 days	Fri 5/9/14	Mon 7/30/18							
3	1.1 Project Administration	1102 days	Fri 5/9/14	Mon 7/30/18							
4	✓ Project Development Plan	12 days	Fri 5/9/14	Mon 5/28/14 1							
5	Maintain and Update Project Schedule	1102 days	Fri 5/9/14	Mon 7/30/18 1							
6	Project Control and Reporting	1102 days	Fri 5/9/14	Mon 7/30/18 1							
7	✓ Project Initiation Meeting - Schedule & PM/QM Plan	1 day	Thu 5/29/14	Thu 5/29/14 4FS+2 days							
8	1.2 Project Progress Meetings	1066 days	Wed 6/25/14	Wed 7/25/18							
9	Progress Mtg.	1066 days	Wed 6/25/14	Wed 7/25/18							
80	2 - Quality Management	1102 days	Fri 5/9/14	Mon 7/30/18							
81	QA/QC Reviews	1102 days	Fri 5/9/14	Mon 7/30/18 1							
82	3 - Preliminary Design	445 days	Fri 5/30/14	Thu 2/11/16							
83	3.1 Pretreatment Evaluation	86 days	Fri 5/30/14	Fri 10/10/14							
84	✓ Data from County	5 days	Fri 5/30/14	Thu 6/5/14 7							
85	✓ Existing Treatment Process Review	10 days	Fri 6/6/14	Thu 6/19/14 64							
86	✓ Bench-Scale Study Protocol	20 days	Fri 6/6/14	Thu 7/3/14							
87	✓ Draft Protocol	10 days	Fri 6/6/14	Thu 6/19/14 64,65FF							
88	✓ County Review Draft Protocol	5 days	Fri 6/20/14	Thu 6/26/14 67							
89	✓ Final Protocol	5 days	Fri 6/27/14	Thu 7/3/14 68							
90	✓ Bench-Scale Study- Phase I	2 days	Mon 7/7/14	Tue 7/8/14 69FS+1 day							
91	✓ Wait Period to Accommodate BRF Pilot (Dam Repair)	24 days	Wed 7/9/14	Mon 8/11/14 70							
92	✓ Bench-Scale Study - Phase II	8 days	Tue 8/12/14	Thu 8/21/14 71							
93	✓ Lab Analysis - Phase I	5 days	Fri 8/22/14	Thu 8/28/14 72							
94	✓ Pretreatment Evaluation TM	31 days	Fri 8/29/14	Fri 10/10/14							
95	✓ Draft TM	11 days	Fri 8/29/14	Fri 9/12/14 73							
96	✓ County Review Draft TM	5 days	Mon 9/15/14	Fri 9/19/14 75							
97	✓ Lab Analysis - Phase II	10 days	Mon 9/22/14	Fri 10/3/14 76							
98	✓ Final TM	5 days	Mon 10/6/14	Fri 10/10/14 77,84							
99	✓ 3.2 Surveying	80 days	Wed 7/9/14	Tue 9/30/14 89FF-10 days							
100	✓ 3.3 Subsurface Investigations	60 days	Mon 9/9/14	Fri 11/21/14 89FF-10 days							
101	✓ 3.4 Materials Testing - (Not Required)	80 days	Fri 10/23/15	Thu 2/11/16 7,109FF							
102	✓ 3.5 Preliminary Design Documents	394 days	Mon 8/11/14	Thu 2/11/16							
103	✓ Project Workshops	94 days	Wed 9/17/14	Mon 1/26/15							
104	✓ Workshop - Treatment Approach	1 day	Wed 9/17/14	Wed 9/17/14 75FS+3 days,90SS							
105	✓ Meeting - Phasing Plan	1 day	Mon 1/26/15	Mon 1/26/15							
106	✓ Conceptual Design Development	85 days	Mon 8/11/14	Fri 12/19/14							
107	✓ Internal QA/QC Review	12 days	Mon 12/22/14	Tue 1/6/15 93,94,60							

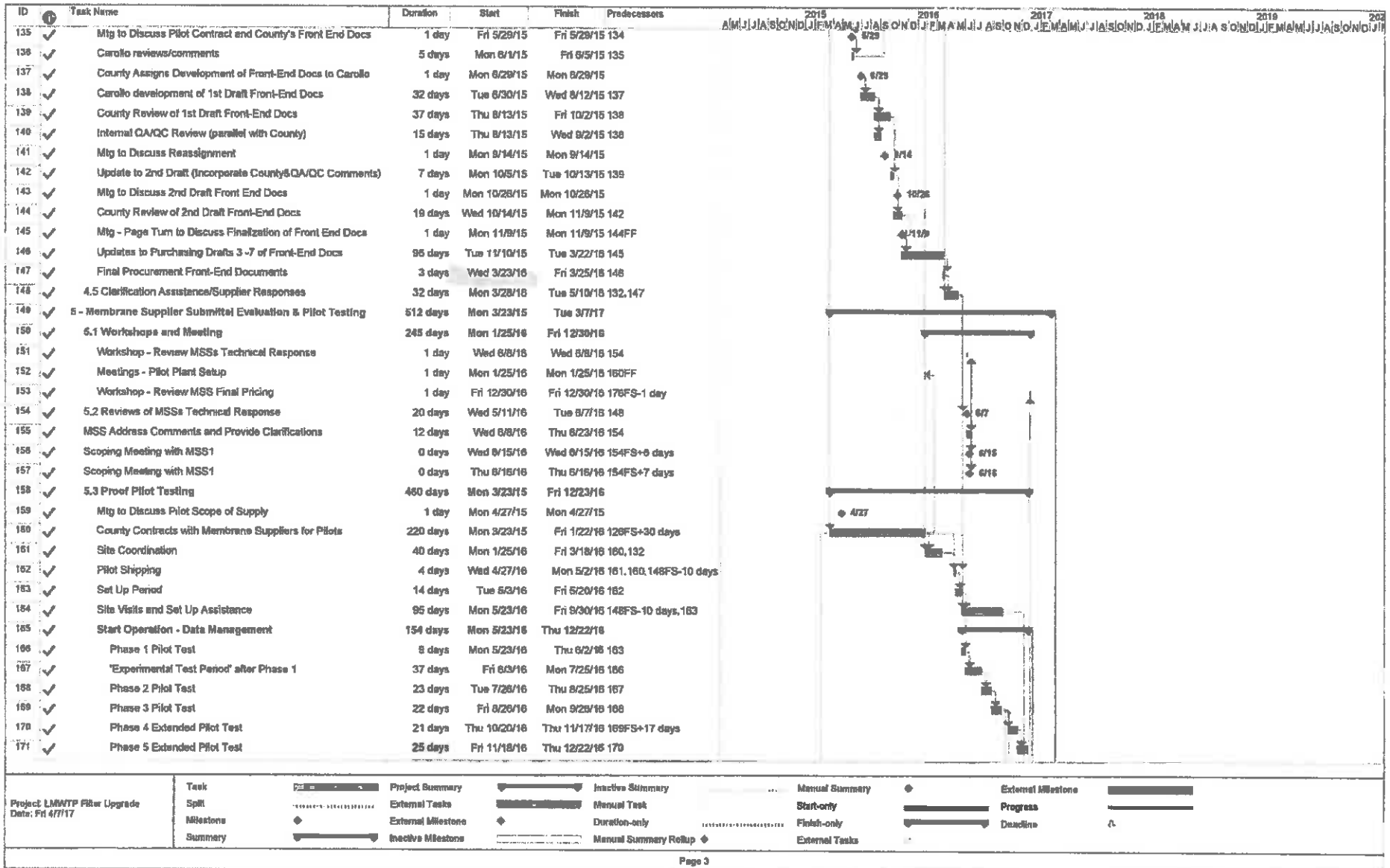
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Task	Project Summary	Inactive Summary	Manual Summary	External Milestone
SpR	External Tasks	Manual Task	Start-only	Progress
Milestone	External Milestone	Duration-only	Finish-only	Deadline
Summary	Inactive Milestone	Manual Summary Rollup	External Tasks	

ID	Task Name	Duration	Start	Finish	Predecessors
98	Preliminary Design Report	284 days	Mon 2/9/15	Thu 2/11/16	
99	Preliminary Design Development	100 days	Mon 2/9/15	Fri 6/25/15 97.125	
100	Draft PDR (start near final procurement technical specs)	20 days	Mon 9/28/15	Fri 10/23/15 132FF-10 days	
101	Pre-application meeting with FDEP	1 day	Thu 10/28/15	Thu 10/29/15 100	
102	Internal QA/QC Review	15 days	Mon 10/28/15	Fri 11/13/15 100	
103	County Review Draft PDR	30 days	Mon 11/16/15	Fri 12/25/15 102	
104	Updates to Draft PDR	20 days	Mon 12/28/15	Fri 1/22/16 103	
105	County Review Draft PDR	10 days	Mon 1/25/16	Fri 2/5/16 104	
106	Final PDR	4 days	Mon 2/8/16	Thu 2/11/16 105	
107	Updated Cost Estimate from MSS	10 days	Mon 1/25/16	Fri 2/5/16 104	
108	Preliminary Cost Estimate	20 days	Fri 1/15/16	Thu 2/11/16 106FF	
109	LMWTP Preliminary Design Decision Log	114 days	Mon 9/7/15	Thu 2/11/16 98FF.7	
110	4 - Membrane Procurement Documents	482 days	Mon 7/7/14	Tue 5/19/16	
111	4.1 Procurement Workshops	319 days	Mon 7/7/14	Thu 9/24/15	
112	Workshop - Discuss MSS Prequalification Approach	1 day	Mon 7/7/14	Mon 7/7/14 7FS+28 days	
113	Multiple Meetings - Coord. with County Policies and Laws	80 days	Fri 8/5/15	Thu 9/24/15 134FS+4 days	
114	4.2 Membrane Supplier Prequalification	154 days	Tue 7/8/14	Fri 2/6/15	
115	Address County Comments on Membrane Procurement	24 days	Tue 7/8/14	Fri 8/8/14 112	
116	Draft Request for Quails	10 days	Mon 8/11/14	Fri 8/22/14 115	
117	County Review Draft Request for Quails	14 days	Mon 8/25/14	Thu 9/11/14 116	
118	Meeting to Discuss Draft Request for Quails	1 day	Thu 9/11/14	Thu 9/11/14 117FF	
119	Updated Draft Request for Quails	11 days	Fri 9/12/14	Fri 9/26/14 118	
120	County Review/Approval of Updated Request for Quails	14 days	Mon 9/29/14	Thu 10/16/14 119	
121	County Finalize Request for Quails	14 days	Fri 10/17/14	Wed 11/5/14 120	
122	Issue Request for Qualifications	1 day	Thu 11/6/14	Thu 11/6/14 121	
123	MSS Prepare & Submit SOQs	23 days	Fri 11/7/14	Tue 12/9/14 122	
124	Review of MSS SOQs	15 days	Wed 12/10/14	Tue 12/30/14 123	
125	County Review of Request for Additional Information (RAI)	25 days	Wed 12/31/14	Tue 2/3/15 124	
126	County Notify Suppliers	3 days	Wed 2/4/15	Fri 2/6/15 125	
127	4.3 Procurement Package Technical Specifications	85 days	Mon 8/25/15	Fri 10/23/16	
128	Draft Technical Specifications & Pilot Protocol	40 days	Mon 8/25/15	Fri 9/21/15 128.97.99	
129	Review with MSS	15 days	Mon 8/24/15	Fri 9/11/15 128	
130	Internal QA/QC Review	10 days	Mon 9/14/15	Fri 9/25/15 130.129	
131	County Review	10 days	Mon 9/28/15	Fri 10/9/15 130	
132	Final Technical Specifications & Pilot Protocol	10 days	Mon 10/12/15	Fri 10/23/15 131	
133	4.4 Procurement Package Front End Documents	295 days	Mon 2/9/16	Fri 3/25/16	
134	Receive County's Standard Front-End Documents	80 days	Mon 2/9/16	Fri 5/29/15 128	

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Task	Project Summary	Inactive Summary	Manual Summary	External Milestone
Split	External Tasks	Manual Task	Start-only	Progress
Milestone	External Milestone	Duration-only	Finish-only	Deadline
Summary	Inactive Milestone	Manual Summary Rollup	External Tasks	



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Task	Project Summary	Inactive Summary	Manual Summary	External Milestone
Split	External Tasks	Manual Task	Start-only	Progress
Milestones	External Milestone	Duration-only	Finish-only	Deadline
Summary	Inactive Milestones	Manual Summary Rollup	External Tasks	

ID	Task Name	Duration	Start	Finish	Predecessors
172	Membrane Module Autopsies	26 days	Fri 8/30/16	Fri 11/4/16 169FS+3 days	
173	Coordination with Suppliers for Pilot Equipment	460 days	Mon 3/23/15	Fri 12/23/16 160SS	
174	Complete Pilot Test	0 days	Thu 12/22/16	Thu 12/22/16 164,165,172	
175	5.4 Final MSS Proposal Evaluation	96 days	Tue 10/25/16	Tue 3/7/17	
176	Update NPV Life-Cycle Cost Based on Pilot Phase 3 & NPC	34 days	Tue 10/25/16	Fri 12/9/16 169FS+20 days	
177	Negotiations Meetings with Suppliers	1 day	Thu 12/15/16	Thu 12/15/16 176FS+3 days	
178	Receive Best and Final Offer (BAFO)	6 days	Fri 12/16/16	Fri 12/23/16 177	
179	Update NPV Life-Cycle Cost Based on BAFO	5 days	Mon 12/26/16	Fri 12/30/16 178	
180	Notice of Intent to Negotiate	6 days	Mon 1/2/17	Wed 1/11/17 179	
181	Complete Negotiations	12 days	Thu 1/12/17	Fri 1/27/17 180	
182	Intent to Award Contract	1 day	Mon 1/30/17	Mon 1/30/17 181	
183	Award Contract	28 days	Tue 1/31/17	Tue 3/7/17 182	
184	6 - Final Design	256 days	Tue 3/21/17	Tue 3/13/18 149	
185	6.1 Design Workshops	112 days	Tue 3/21/17	Wed 8/23/17	
186	Design Phase Kickoff Meeting (including MSS)	1 day	Tue 3/21/17	Tue 3/21/17 184FF	
187	Meeting #1 with MSS - Review Submittal #1 Comments	1 day	Mon 6/28/17	Mon 6/28/17 200FF	
188	Meeting #2 with MSS - Review Submittal #2 Comments	1 day	Tue 7/25/17	Tue 7/25/17 203FF	
189	Meeting #3 with MSS&FDEP - Cross Connection Review	1 day	Wed 7/26/17	Wed 7/26/17 204FF	
190	Meeting #4 with MSS - I&C Coordination	1 day	Thu 7/27/17	Thu 7/27/17 205FF	
191	Meeting #5 with MSS - Review Submittal #3 Comments	1 day	Tue 8/22/17	Tue 8/22/17 208FF	
192	Graphic Display Webex with MSS	1 day	Wed 8/23/17	Wed 8/23/17 208	
193	6.2 50% Design	145 days	Tue 3/21/17	Mon 10/9/17	
194	Design Phase Kickoff Meeting (including MSS)	1 day	Tue 3/21/17	Tue 3/21/17 183FS+9 days	
195	Incorporate Siphon Design	30 days	Wed 3/22/17	Tue 5/2/17 185	
196	Design Submittal	107 days	Thu 4/27/17	Fri 9/22/17	
197	GE Notice to Proceed with Engineering Design	1 day	Wed 5/3/17	Wed 5/3/17 195	
198	MSS Submittal #1	22 days	Thu 5/4/17	Fri 6/2/17 197	
199	Review of MSS Submittal #1	15 days	Mon 6/5/17	Fri 6/23/17 198	
200	Meeting #1 with MSS - Review Submittal #1 Comments	1 day	Mon 6/26/17	Mon 6/26/17 199	
201	MSS Submittal #2	5 days	Tue 6/27/17	Mon 7/3/17 200	
202	Review of MSS Submittal #2	15 days	Tue 7/4/17	Mon 7/24/17 201	
203	Meeting #2 with MSS - Review Submittal #2 Comments	1 day	Tue 7/25/17	Tue 7/25/17 202	
204	Meeting #3 with MSS&FDEP - Cross Connection Review	1 day	Wed 7/26/17	Wed 7/26/17 203	
205	Meeting #4 with MSS - I&C Coordination	1 day	Thu 7/27/17	Thu 7/27/17 204	
206	MSS Submittal #3	5 days	Wed 7/26/17	Tue 8/1/17 203	
207	Review of MSS Submittal #3	15 days	Wed 8/2/17	Tue 8/22/17 206	
208	Meeting #5 with MSS - Review Submittal #3 Comments	1 day	Tue 8/22/17	Tue 8/22/17 207FF	

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Task	Project Summary	Inactive Summary	Manual Summary	External Milestone
Split	External Tasks	Manual Task	Start-only	Progress
Milestone	External Milestone	Duration-only	Finish-only	Deadline
Summary	Inactive Milestone	Manual Summary Rollup	External Tasks	

ID	Task Name	Duration	Start	Finish	Predecessors
209	Graphic Display Webex with MSS	1 day	Wed 8/23/17	Wed 8/23/17 209	
210	MSS Complete Shop Package	16 days	Thu 8/24/17	Wed 9/13/17 209	
211	Constructability Analysis	10 days	Thu 8/31/17	Wed 9/13/17 210FF	
212	Estimate of Probable Construction Costs	100 days	Thu 4/27/17	Wed 9/13/17 210FF	
213	Carollo Complete 60% Design Submittal	23 days	Wed 8/23/17	Fri 9/22/17 207	
214	Quality Check 60% Design Submittal	10 days	Mon 9/25/17	Fri 10/6/17 213	
215	County Review 60% Design Submittal	10 days	Mon 9/25/17	Fri 10/6/17 213	
216	Design Review Workshop	1 day	Mon 10/9/17	Mon 10/9/17 215	
217	6.3 90% Design	61 days	Tue 10/10/17	Tue 1/30/18	
218	Design Submittal	70 days	Tue 10/10/17	Mon 1/15/18 216	
219	Detailed Quality Check	10 days	Tue 1/2/18	Mon 1/15/18 218FF	
220	Estimate of Probable Construction Costs	10 days	Tue 1/2/18	Mon 1/15/18 218FF	
221	County Review 90% Design Submittal	10 days	Tue 1/16/18	Mon 1/29/18 220	
222	Design Review Workshop	1 day	Tue 1/30/18	Tue 1/30/18 218,221	
223	6.4 100% Design	30 days	Wed 1/31/18	Tue 3/13/18	
224	Design Submittal	30 days	Wed 1/31/18	Tue 3/13/18 222	
225	Final Estimate of Probable Construction Costs	10 days	Wed 2/28/18	Tue 3/13/18 224FF	
226	7 - Permitting	480 days	Wed 5/11/16	Tue 3/13/18	
227	7.1 Florida Department of Environmental Protection	450 days	Wed 5/11/16	Tue 1/30/18 222FF	
228	7.2 Southwest Florida Water Management District	450 days	Wed 5/11/16	Tue 1/30/18 222FF	
229	7.3 Manatee County Site Development	450 days	Wed 6/22/16	Tue 3/13/18 225FF	
230	7.4 Manatee County Building Department	450 days	Wed 6/22/16	Tue 3/13/18 225FF	
231	8 - Bidding Services	101 days	Wed 3/14/18	Wed 8/1/18	
232	8.1 Pre-Bid Conference	1 day	Wed 3/14/18	Wed 3/14/18 225,230	
233	8.2 Respond to Bidders Questions	40 days	Thu 3/15/18	Wed 5/9/18 232	
234	8.3 Prepare Addenda	40 days	Thu 3/15/18	Wed 5/9/18 232	
235	8.4 Evaluate Bid Results and Documents	10 days	Thu 4/26/18	Wed 5/9/18 233FF	
236	County Contract with GC	60 days	Thu 5/10/18	Wed 8/1/18 235	
237	9 - Construction Phase Services	390 days	Thu 8/2/18	Wed 1/29/20 236	

Project: LMWTP FRer Upgrade
Date: Fri 4/7/17

Task	Project Summary	Inactive Summary	Manual Summary	External Milestone
Split	External Tasks	Manual Task	Start-only	Progress
Milestone	External Milestone	Duration-only	Finish-only	Deadline
Summary	Inactive Milestone	Manual Summary Rollup	External Tasks	