

**Lee's Summit Wastewater Master Plan
Scope and Fee**

Rate Schedule Code	Young, Patrick R	Carter, Michelle	Eisele, Ryan L	Bresette, Aaron J	Christmas/Sandbothe/Lewis	English, Jeremy H	Bagwell, Amanda B	Humphrey, Scott F	Leipard, Amanda R	Maynard-Moody, Peter N	Janke, Jewel	Tomic, Sasa	Yakle, Johnny R	Meyer, Timothy C	Shields, Tyler	Rittershaus, Stephanie Gwen	Veldhouse, Kristen Lynn	Shannon, Alexander	Davies, Anne E	Mynatt, Andrea B	HDR Expenses	Subconsultants	Total
	Senior Technical Specialist	Senior Project Engineer	Senior Project Manager	Senior Project Manager	Project Engineer	Project Engineer	Project Engineer	Senior Project Manager	Project Engineer	Senior Technician	Project Engineer	Quality Control	Survey Manager	Field Technician II	Field Technician II	Project Engineer	Project Engineer	Senior Project Engineer	Senior Support Staff	Senior Support Staff			
Project Role	PM	Asst PM	Sr. Project Lead	Sr. Project Lead	Hydraulic Modeler/Project Engineer	Sr. Hydraulic Modeler/Project Engineer	Sr. Project Engineer	Hydraulic Modeling Lead	Project Engineer	Sr. Tech	EIT	Hydraulic Modeling QC	Surveyor	Field Crew	Field Crew	Public Engagement Lead	Public Engagement	Financial Analyst	Accountant	Coordinator			
Billing Rate	\$275.00	\$195.00	\$225.00	\$225.00	\$140.00	\$160.00	\$160.00	\$225.00	\$135.00	\$140.00	\$110.00	\$250.00	\$160.00	\$80.00	\$80.00	\$160.00	\$110.00	\$185.00	\$110.00	\$95.00		TREKK	
TASKS																							
A. Task 1 - Field Data Collection																							
1	Flow data processing and data delivery																						
2	Move City-owned meters																						
3	Field Survey SS Manholes																						
	0	8	0	0	8	0	0	0	0	0	0	0	40	225	225	0	0	0	0	0			
	0	1560	0	0	1120	0	0	0	0	0	0	0	6400	18000	18000	0	0	0	0	0	0	10575	\$55,655
	Total Task 1																						\$55,655
B. Task 2 - Hydraulic Models Development																							
1	Model network updates (4 models)																						
2	Flow and rainfall data analysis																						
3	Existing conditions models (4) calibration and verification																						
4	Prepare materials for Model Calibration Workshop																						
	3	27	7	0	252	198	2	14	20	4	16	4	0	0	0	0	0	0	0	0	0	0	
	825	5265	1575	0	35280	31680	320	3150	2700	560	1760	1000	0	0	0	0	0	0	0	0	0	0	\$84,115
	Total Task 2																						\$84,115
C. Task 3 - Existing System Capacity Evaluation																							
1	Add near term improvements for current and committed projects																						
2	Establish downstream boundary condition constraints for LBVSD and MBC systems and incorporate into model.																						
3	Complete capacity assessment model runs for each basin. Assume up to four (4) design storm events to be evaluated per basin.																						
4	Develop mapping and characterization of existing condition performance.																						
5	Identify modeled capacity bottlenecks, and define design flows at key locations (e.g. connection point to downstream facilities, major pump stations, other key points). Compare bottlenecks to known capacity constraints and identify key findings.																						
6	Identify areas of high I/I that will be focus areas for evaluating I/I reduction measures during the alternatives analysis.																						
7	Prepare for and facilitate Existing Capacity Evaluation Workshop with City staff to review results of task. Prepare meetings minutes and address City comments.																						
8	Complete field investigation to confirm model results in key areas. Investigate issues and determine any updates needed to model.																						
9	Update and refine model calibration in specific areas if needed to improve model accuracy.																						
	2	21	4	1	60	44	0	6	0	0	8	0	0	0	0	0	0	0	0	0	0	0	
	550	4095	900	225	8400	7040	0	1350	0	0	880	0	0	0	0	0	0	0	0	0	0	0	\$23,440
	Total Task 3																						\$23,440

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TASKS																							
D. Task 4 - Develop Future Growth Projections																							
1	Review and compile Comprehensive Plan growth projection information including locations and types of developments, and assumed population projection standards. Develop list of questions.	1	4						8														\$2,135
2	Facilitate meeting with City Comprehensive Plan team leads to review projections from plan and confirm understanding of projections.	2	4						4														\$1,870
3	Develop initial growth projection mapping in GIS for 20-year, and Ultimate Conditions.		2						16	8													\$3,670
4	Develop initial timing projections for developments for 10-year, 20-year, and ultimate planning horizons.		2						8														\$1,470
5	Facilitate up to three (3) meetings with City and other stakeholders to help confirm characteristics and timing of future developments.	4	12						12														\$5,060
6	Provide mapping and documentation of growth projections to City for review and comments. Update per comments.		8						8														\$2,640
7	Facilitate workshop with City and Comprehensive Plan team to review projections, incorporate final comments and and finalize projections used for Master Plan.	2	8	4					8														\$4,090
Subtotal Hours		9	40	4	0	0	0	0	64	8	0	0	0	0	0	0	0	0	0	0	0	0	
Subtotal Dollars		2475	7800	900	0	0	0	0	8640	1120	0	0	0	0	0	0	0	0	0	0	0	0	\$20,935
Total Task 4																							\$20,935
E. Task 5 - Flow Planning Criteria for Future Growth																							
1	Compile flow data set to utilize for evaluation of wet weather flows produced by developments in the metro area with modern sewer construction standards and building codes. Characterize each basin in the study based on size, system age, and other relevant factors.		2	2		4			8	8													\$3,600
2	Compile planning criteria utilized by similar regional utilities.		2	1																			\$615
3	Evaluate flows produced in the study areas		4	2		40																	\$6,830
4	Characterize data from relevant City basins and comparable regional areas and identify key findings.		4	4		8																	\$2,800
5	Develop recommended alternative design criteria.	2	8	4		4		2															\$4,020
6	Complete comparative projections identifying projected planning flows produced by alternative design criteria. Compare to City's current criteria and best regional comparable criteria.	1	4	2		12	8		2														\$4,915
7	Facilitate Workshop to review results of design criteria evaluation and recommendations. Prepare meetings minutes and address City comments.	2	4	2		12			2														\$3,910
8	Update criteria per comments and document recommended criteria to be used for Master Plan.	1	2	2			2		2														\$1,885
Subtotal Hours		6	30	19	0	80	10	0	8	8	0	0	0	0	0	0	0	0	0	0	0	0	
Subtotal Dollars		1650	5850	4275	0	11200	1600	0	1800	1080	0	0	0	0	0	0	0	0	0	0	0	0	\$28,575
Total Task 5																							\$28,575

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TASKS																							
F. Task 6 - Future Conditions Model Development and Capacity Evaluation																							
1 Identify conceptual locations of major gravity interceptor and trunk sewer extensions, and potential pump station locations to serve anticipated future growth areas that cannot be served with the existing collection system.	1	8			8	8	24																\$8,075
2 Develop dry weather flow response contributions for future developments and incorporate into model.					16	16		2															\$5,250
3 Develop wet weather flow response contributions for future developments and incorporate into model.					24	24		8															\$9,000
4 Develop 2030 Condition Models.					20	20		4															\$6,900
5 Develop 2040 Conditions Models.					40	40		4															\$12,900
6 Complete capacity assessment model runs for each basin, for each planning period. Assume up to three (3) design storm events to be evaluated per basin.		2			12	12		2															\$4,440
7 Develop mapping and characterization of future conditions performance for each planning period.		2			8	8		2															\$3,240
8 Identify modeled capacity bottlenecks, and define design flows at key locations (e.g. connection point to downstream facilities, major pump stations, other key points). Document key findings.	1	4	2		8			2															\$3,075
9 In areas where Ultimate Conditions may have significant impact on improvements needed for 10-year and 20-year planning period, complete abbreviated modeling and or/flow projections to estimate ultimate design flows.	1	2	2		12	8	4																\$4,715
10 Develop initial recommendations for Level of Service goals to evaluate in each basin.	2	2	2					2															\$1,840
11 Prepare for and Facilitate Workshop Future Conditions Capacity Evaluation and Alternatives Development Workshop to review findings, and review alternatives to be evaluated for future conditions (alternatives identified in Task 8).	2	8	4		8	8		2															\$5,860
Subtotal Hours	7	28	10	0	156	144	28	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$65,295
Subtotal Dollars	1925	5460	2250	0	21840	23040	4480	6300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$65,295
Total Task 6																							\$65,295
G. Task 7 - System Renewal and I/I Reduction Strategies and Needs Forecasting																							
1 Compile past City historical records:			2					4	2														\$1,270
2 Work with City to develop assumptions for areas without age information in GIS (<~80% do not have age in our current GIS>. Discuss best way to populate can City provide support?			1					4	4														\$1,325
3 Compile planned near term renewal work and schedule, and estimated unit costs for current and future work.			1					4															\$765
4 Compile available PACP coded CCTV observation data and format for condition/risk evaluation:								8	2														\$1,360
5 Utilize HDR Automated Risk and Prioritization Decision Model to characterize results of past condition assessment work and characterize findings by age and condition. Document any key trends that different in comparison to other regional utilities.		2	4					20	12														\$5,670
6 Facilitate Workshop with City to review:		2	4					12	4														\$3,470
7 Work with City to establish preferred inspection and renewal strategies for 20-Year planning period.		2	2					8															\$1,920
8 Utilizing past inspection findings, future plan for condition assessments, age and material of system, and engineering judgment, estimate quantity of system renewal work to completed during planning period and planning level costs and corresponding programmatic costs:		2	4					20	8														\$5,110
9 Extrapolate results of public sector condition and renewal plan to estimate % I/I reduction for baseline public sector renewal in areas of focus.		2	4					24	12														\$6,210
10 Develop private sector I/I reduction approach alternatives, and characterize benefits and challenges of each.	4	12	2		16	0	0	0	104	44	0	0	0	0	0	0	0	0	0	0	0	0	\$6,130
Subtotal Hours	4	22	24	0	16	0	0	0	104	44	0	0	0	0	0	0	0	0	0	0	0	0	\$33,230
Subtotal Dollars	1100	4290	5400	0	2240	0	0	0	14040	6160	0	0	0	0	0	0	0	0	0	0	0	0	\$33,230
Total Task 7																							\$33,230

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TASKS																							
II. Task 8 - Alternatives Evaluation -Level of Service (LOS) Evaluation and Determination of Preferred Wet Weather Management Strategy for Each Basin																							
1 Alternative Development	4	33	6		56	56		4															\$26,585
2 Alternatives Evaluation – 20-Year Planning Period	2	16	2	8	16																		\$8,160
3 Prepare materials for and Facilitate Alternatives Evaluation workshop with City staff to review findings and recommendations. Prepare meetings minutes and address City comments.	2	8	4	2																			\$3,460
4 Update recommended improvements for 20-Year planning period based on City comments.	2	8	2		4	4																	\$3,760
5 Develop recommended improvements required to address growth for 10-Year planning period, and recommended phasing	1	8	2		4	4																	\$3,485
6 Develop recommended I/I reduction strategies and corresponding plan corresponding to preferred alternatives. Incorporate into programmatic R/R approach.	4	40	8		40	20																	\$19,500
7 Resiliency analysis for Tudor and Scruggs service areas	2	16	8		40	20																	\$14,270
																							\$0
Subtotal Hours	17	129	32	10	160	104	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$79,220
Subtotal Dollars	4675	25155	7200	2250	22400	16640	0	900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$79,220
Total Task 8																							\$79,220
I. Task 9 - Management Strategy Updates and Documentation																							
1 Coordinate Master Plan updates and strategies to be incorporated into Strategic Plan	4	24	4		20		8																\$10,760
2 Support the City in communication and engagements with external stakeholders. This support may include but not be limited to:	14	24	16		16			16							32	60							\$28,250
Subtotal Hours	18	48	20	0	36	0	8	0	16	0	0	0	0	0	32	60	0	0	0	0	0	0	\$39,010
Subtotal Dollars	4950	9360	4500	0	5040	0	1280	0	2160	0	0	0	0	0	5120	6600	0	0	0	0	0	0	\$39,010
Total Task 9																							\$39,010
J. Task 10 - CIP Development and Implementation Plan																							
1 Establish Preliminary 20-year CIP	1	6	2		4	4			4														\$3,635
2 Financial impacts analysis	4	20	10																				\$7,250
3 Establish Final CIP and Implementation Plan for improvements	1	4	2																				\$1,505
Subtotal Hours	6	30	14	0	4	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	\$12,390
Subtotal Dollars	1650	5850	3150	0	560	640	0	0	540	0	0	0	0	0	0	0	0	0	0	0	0	0	\$12,390
Total Task 10																							\$12,390
K. Task 11 - Tools Integration and Training																							
1 Facilitate up to three (3) workshops with City staff to support training on hydraulic model use.		2	2		16			16				12											\$9,680
2 Provide GIS data developed through project to City. Support City in integrating with GIS and CityWorks.					4				8														\$1,640
Subtotal Hours	0	2	2	0	20	0	0	16	8	0	0	12	0	0	0	0	0	0	0	0	0	0	\$11,320
Subtotal Dollars	0	390	450	0	2800	0	0	3600	1080	0	0	3000	0	0	0	0	0	0	0	0	0	0	\$11,320
Total Task 11																							\$11,320
L. Task 12 - Final Report																							
1 Document results of Master Plan in Draft report and submit to City for review and comment.	4	30	4		60				16														\$18,410
2 Facilitate review meeting to discuss City comments.	2	2	2																				\$1,390
3 Update report and submit final report.		8			8				4														\$4,020
Subtotal Hours	6	40	6	0	68	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	\$23,820
Subtotal Dollars	1650	7800	1350	0	9520	0	0	0	2700	0	0	0	0	0	0	0	0	0	0	0	800	0	\$23,820
Total Task 12																							\$23,820

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TASKS																								
M. Task 13 - Project Management																								
1	Project management and administration (project setup)	4																		8			\$1,540	
2	Budget and invoice management	8																	12	4			\$3,535	
3	Quality Control and Project Approach and Resource Review	4	2				4				2												\$2,950	
Subtotal Hours		5	12	2	0	0	0	4	0	0	0	2	0	0	0	0	0	0	12	12				
Subtotal Dollars		1375	2340	450	0	0	0	900	0	0	0	500	0	0	0	0	0	0	1320	1140	0	0	\$8,025	
Total Task 13																							\$8,025	
Total Base Hours		83	437	144	11	860	504	38	80	244	64	24	18	40	225	225	32	60	0	12	12		3,113	
Total Base Billing Amount		\$22,825	\$85,215	\$32,400	\$2,475	\$120,400	\$80,640	\$6,080	\$18,000	\$32,940	\$8,960	\$2,640	\$4,500	\$6,400	\$18,000	\$18,000	\$5,120	\$6,600	\$0	\$1,320	\$1,140	\$800	\$10,575	\$485,030

Estimated Project Fee **\$485,030**