



**Challenging today.
Reinventing tomorrow.**

2705 Bee Cave Road
Suite 300
Austin, TX 78746-5688
United States

T +1.512.314.3100
F +1.512.314.3135
www.jacobs.com

December 4, 2024

Attn: Paul Kite
Assistant Director
W/WW Utility
City of San Marcos
2217 McCarty Lane
San Marcos, Tx 78666

Subject: San Marcos WWTP Facility Plan Proposal

Dear Paul:

Please find attached the Scope and Fee for the Engineering efforts for the Facility Plan for the City of San Marcos Wastewater Treatment Plant Project. The scope of services includes an assessment of the process units, flow data and capacity considerations for expansion of the wastewater treatment plant (WWTP). The overall goal would be to provide the City of San Marcos with options for treatment technologies available as well as a cost model to present cost projections for various sizes and flow alternatives, as well as an overall expansion limit for the existing site. The cost for the facility plan services is \$106,250 based on the attached Scope of Work and level of effort.

We are pleased to provide continued engineering and operations services for the San Marcos Wastewater Treatment Plant and look forward to getting this project started to begin the evaluation process and meet future goals for the City's wastewater treatment system.

Fred Ramirez, P.E.

512.314.3181
Fred.Ramirez@Jacobs.com

Jason Roberts, P.E.

512.850.1910
Jason.Roberts@Jacobs.com

SCOPE OF WORK

SAN MARCOS WWTP FACILITY PLAN

PROJECT DESCRIPTION

Due to the rapid development in the City of San Marcos (City), and the increase in incoming flows, the City has requested an assessment of the existing 9 MGD wastewater treatment plant (WWTP) currently operated by Jacobs. The Texas Commission on Environmental Quality (TCEQ) requires the Owner of the wastewater treatment plant to begin engineering and financial planning for expansion and/or upgrading once the existing facility exceeds 75% of the average annual daily permitted flow. The existing treatment plant is nearing the 75%, therefore, this proposal will be used as part of the engineering efforts to evaluate and justify the planning efforts are proceeding. The objective of the evaluation is to provide the City with an assessment of the existing conditions, process & capacity considerations, options for treatment technologies and sizing alternatives for the potential capacity expansion of the wastewater treatment facility.

This scope of work describes the services to be rendered by Jacobs Engineering Group Inc. ("Jacobs" or "Engineer") to provide professional services to evaluate the existing 9 MGD WWTP for expansion based on flow data and projections provided by the City from the collection system.

The following project tasks are proposed for this project:

1. Project management and coordination
2. Preliminary process design with update to existing process model using updated influent characteristics.
3. Special sampling study designed to reduce uncertainty in existing historical data, particularly related to dilute raw sewage characteristics that do not match plant performance data.
4. Existing plant capacity evaluation based on information provided for the collection system planned flows and load determinations derived from historical data and special sampling.
5. Development of two technology treatment train options for expansion of facilities, maximizing use of the existing facilities when feasible and producing effluent in compliance with current and any anticipated future TCEQ permit requirements. Evaluate feasibility of nitrogen removal to optimize plant operations.
6. Evaluate solids treatment options for dewatering, landfill disposal or other alternatives.
7. Development of cost model for cost projections on various technologies and flow alternatives.

WORK APPROACH AND PROJECT OBJECTIVES

Miscellaneous improvements have been ongoing for odor control, solids building and headworks screening. This scope of work will utilize existing data, process model and future improvements with new influent flow characteristics and data to build onto the comprehensive process model for sizing and expansion of the wastewater treatment system.

Upon Notice to Proceed, Jacobs will assemble the project team for an initial phase during which basic assumptions as to flow and population growth are established. The study will present an economic comparison of different technologies available for expansion of the needed wastewater treatment capacity to support the short and long-term growth.

Upon final completion of the Facility Plan, Jacobs will assist in providing three (3) updates to the cost model utilizing Jacobs' Replica Parametric Design software for construction cost estimates to provide the information to align with CIP budgets.

The scope of services to be performed by Jacobs for this proposal is detailed in Attachment A.

Objectives of the project include:

1. Provide updated process model(s) for plant sizing with flow and load projections.
2. Provide a plan for buildout that meets the needs of the City for a phased approach to expansion.
3. Complete a dynamic model to allow flow updates, expansion sizes and phase changes for updated cost projections.
4. Coordinate with the City's Engineering staff for collaboration workshops to discuss expansion alternatives.

San Marcos Facility Plan Level of Effort



			Name	Ramirez	Daniel Leontieff	Joel Rife		Bruce Honnol	Jose Guzman	Randy Boe			Berhorst							
			Role	PM	Mech EIT	Process Engineer	Civil	Electrical	I&C	Senior QC	Electrical QC	I&C QC	Tech	Cost Estimator	Admin/ Specs	Total Labor	Total Labor Cost	Travel	Total Task	
			Rate	\$262.38	\$105.77	\$247.50	\$146.22	\$229.79	\$214.50	\$302.50	\$247.50	\$206.25	\$201.30	\$130.65	\$96.25					
			Total Hours	91	114	214	6	4	4	10	1	1	36	20	0					
			Total Cost	\$23,876	\$12,057	\$52,965	\$877	\$919	\$858	\$3,025	\$248	\$206	\$7,247	\$2,613	\$0					
Task 1	Task Name	Subtask Name																		
	Project Management																			
1.1		PM, meetings, invoicing		24												24	\$6,297.06	\$60.00	\$6,357.06	
Project Management Total (Hours)				24	0	0	0	0	0	0	0	0	0	0	0	24				
Project Management Total (Cost)				\$6,297.06	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$6,297.06	\$6,297.06	\$60.00	\$6,357.06	
2	Revise Solids Dewatering System																			
2.1		Data collection		4	40	12										56	\$8,250.11	\$800.00	\$9,050.11	
2.2		Preliminary Eval of Technologies		12	4	12			2							30	\$7,146.59		\$7,146.59	
2.3		Develop the Process Model		4	8	40			2							54	\$12,400.63		\$12,400.63	
2.4		Phase Layout		20	2	40	2					24				88	\$20,482.72		\$20,482.72	
2.5		E,I&C Evaluation		1			4	4		1	1					11	\$2,493.29		\$2,493.29	
2.6		Tech Memo/Workshop		20	8	40			6			12				86	\$20,224.27	\$500.00	\$20,724.27	
2.7		TCEQ Permit Evaluation		2	12											14	\$1,793.94		\$1,793.94	
2.8		Develop Cost Model		4	40	70	4							20		138	\$25,803.03		\$25,803.03	
Project Task 2 Total (Hours)				67	114	214	6	4	4	10	1	1	36	20	0	477				
Project Task 2 Total (Cost)				\$17,579.29	\$12,057.21	\$52,965.00	\$877.31	\$919.16	\$858.00	\$3,025.00	\$247.50	\$206.25	\$7,246.80	\$2,613.05	\$0.00	\$98,594.57	\$98,594.57	\$1,300.00	\$99,894.57	
															Total Hours	501				
															Total Cost	\$104,891.63	\$104,891.63	\$1,360.00	\$106,251.63	
																				\$106,250.00