

J-U-B ENGINEERS, Inc.

Scope of Services, Basis of Fee, and Schedule

PROJECT NAME: <u>2022 Sewer Master Plan Update</u> DATE: April 19, 2022 CLIENT: Santaquin City J-U-B PROJECT NUMBER: XX-XX-XXX

PART 1 - PROJECT UNDERSTANDING

J-U-B's understanding of this project's history and Santaquin City's (CLIENT's) general intent and scope of the project are described as follows:

CLIENT desires to update the city-wide sewer collection master plan that was completed in 2016 and identify upgrades to the existing Water Reclamation Facility (WRF) to serve future growth. This update will allow CLIENT to verify the capacity of the existing collection system to convey the current flows and prepare a capital facilities plan (CFP) that prioritizes capacity improvements that are needed now, at the horizon year (ie. 10 years into the future), and through buildout. WRF related improvements will be evaluated for the current, 10 year, and 20 year time frames. This project will include an Impact Fee Facilities Plan (IFFP) and an Impact Fee Assessment (IFA) for the growth related collection and WRF upgrades.

PART 2 - SCOPE OF SERVICES BY J-U-B

J-U-B's Services under this Agreement are limited to the following tasks. Any other items necessary to plan and implement the project, including but not limited to those specifically listed in PART 3, are the responsibility of CLIENT.

A. Task 010: Project Management

- 1. Set up Project Set up project into J-U-B's financial and record keeping systems for document retention and project controls
- 2. Project Planning Plan and carry out project workflow activities
- 3. Quality Control Set up and coordinate quality control processes
- 4. Periodic Team Meetings Coordinate work internally
- 5. Monitor Project Regularly monitor project status, budget, and schedule
- 6. Project Reporting Regularly update CLIENT on project status, budget, and schedule
- 7. Prepare Invoices Provide a monthly invoice
- 8. **Close Project** Close financial billing and accounting records in J-U-B's financial and recordkeeping systems; archive paper and electronic files

B. Task 020: Water Reclamation Facility – Master Plan Update

- 1. For this task, J-U-B will:
 - a. Update the 2020 Existing System Capacity Analysis Technical Memorandum based on new information and provide supplemental information to complete the Master Plan Update.
 - i. Utilize flowrate and ERU projections from the 2022 Collection System Master Plan
 - ii. Update cost opinions based on 2022 market conditions
 - ili. Work with city staff to understand system deficiencies and treatment priorities
 - iv. Identify capacity of existing treatment unit processes and timeline for required upgrades
 - v. The existing site will be Master Planned to show footprint and new structures required to accommodate 20-year flow rates (build out flow rates are not feasible within the existing site footprint).

- vi. A cursory overview of effluent disposal alternatives was included in the 2020 Capacity Analysis Technical Memorandum, and this analysis will be refined and updated with detailed information as part of this study. This task includes an evaluation of feasible effluent disposal alternatives, preliminarily assumed to be winter storage / PI reuse and groundwater recharge. J-U-B will coordinate with entities as directed by the city to inform detailed analysis and provide a recommended solution(s).
- vii. The Water Reclamation Facility Treatment Master Plan Update will be organized in the following manner:
 - (a) Chapter 1 Background and Information
 - 1. Flow and Load conditions including peaking factors
 - a. Existing, 20-year, and Buildout
 - 2. Regulatory Background and Permitting Requirements
 - a. Existing and Anticipated Future Permitting Requirements
 - (b) Chapter 2 Existing Water Reclamation Facility Evaluation (update 2020 Capacity Analysis Technical Memorandum)
 - 1. Facility Overview
 - 2. Hydraulic capacity analysis of each treatment process existing and future
 - 3. Overall condition assessment
 - 4. Overall treatment performance
 - (c) Chapter 3 Alternatives Analysis and Evaluation
 - 1. Evaluate alternatives and provide opinions of probable costs to address existing and future performance / capacity deficiencies
 - a. This chapter includes an evaluation of effluent disposal alternatives including regulatory / non-monetary considerations.
 - b. Evaluate a retrofit of the existing sludge holding tank to a 3rd biological process train, including considerations for a new sludge holding tank and potential dewatering building conveyance improvements.
 - c. This analysis evaluates the construction of a 4th process train within the 20-year planning horizon, including additional membrane capacity as needed. The 4th train will be located outside of the existing building footprint but within the existing treatment site and will tie into the existing splitter box.
 - (d) Chapter 4 Recommended Improvements and Proposed Implementation Timeline
 - This chapter will recommend a path forward for the 20-year planning horizon (2022-2042). All analysis will assume treatment at the existing site. Recommended improvements and associated costs will be organized by proposed project timeline:
 - a. Immediate needs to address existing deficiencies
 - b. Medium-term upgrades within 10-yr planning horizon (prior to 2032)
 - c. Longer term upgrades within 20-yr planning horizon (2032-2042)
 - d. Future considerations (past 20-yr planning horizon)
- 2. Assumptions:
 - a. The costs and timing of improvements included in this technical memorandum will be incorporated in the Impact Fee Facilities Plan
 - b. This task assumes a single Water Reclamation Facility at the current location to full buildout. The feasibility and optimal location of a second WRF is pending future development considerations and cannot be accurately assessed at this time. As such, a second location will only be addressed with future considerations. No detailed analysis to determine the costs and impacts of a second WRF is not included in this scope and fee.
 - c. Hydraulic modeling of the existing pressure irrigation distribution system is not included in this scope of work.
 - d. This document will be incorporated into the updated Master Plan Document in Task 050.

C. Task 030: Temporary Flow Metering

- 1. For this task, J-U-B will:
 - a. **Identify Meter Installation Locations** Check manholes in the field with City personnel to identify the manholes that will be used to meter flows. Verify that manhole and pipe conditions are suitable for the installation of a meter. Identify which manholes are equipped with ladders and/or vented manhole lids to determine if data logger hangers will be required.
 - b. Order Meter Equipment Rent five ISCO 2150 area velocity meters and bands needed to mount flow sensors and hangers for data collectors as needed.
 - c. **Program and Install 5 Flow Meters** Assemble and program flow meters and install area velocity probes and spring bands on meters. The flow meters will be installed for a two-week period.
 - d. **Check Flow Meters** Check each flow meter in field several days after installation to verify data is being collected and meters are functioning properly.
 - e. **Remove Flow Meters** Check level calibration of the flow meters. Download collected flow data from each of the three flow meters. Remove flow meters from manholes, clean meter equipment, and ship rented meter equipment back to supplier.
 - f. **Create Flow Graphs from Collected Data** Create and share flow graphs with CLIENT to be utilized in the calibration of the sewer model.
- 2. Assumptions:
 - a. Five meters will be installed. The fee will be adjusted accordingly if more or fewer meters are actually installed by J-U-B.
 - b. J-U-B cannot guarantee that a precipitation event will occur during the meter period and will only gather data for the two-week period.
 - c. J-U-B will check each flow meter only once during the two-week period, several days after initial installation.
 - d. CLIENT will provide traffic control support during meter installation and removal if needed.
- 3. Deliverables:
 - a. Flow versus time graphs to be used for model calibration

D. Task 040: Collection System Modeling and Master Planning

- 1. For this task, J-U-B will:
 - a. Hold Project Kickoff Meeting Meet with CLIENT to review project scope, schedule, model data, existing system routing and geometry, and coordinate J-U-B and CLIENT tasks.
 i. Contact CLIENT prior to the kickoff meeting
 - b. **Update Existing Conditions Model** This model will be built upon the 2016 model and will be updated to represent current existing conditions. It will be the basis of identifying existing deficiencies; existing flows will be a key part of identifying reserve capacity for which impact fees can be collected. Modeling existing conditions includes the following steps:
 - i. Add new pipes to the system mapping to be used in report figures. Add new homes to existing service areas using latest aerial imagery and plat maps that the CLIENT can provide for developments still being built.
 - ii. Perform a quality control review of existing system and land use.
 - iii. Review current water meter use data information to be provided by CLIENT in a parcel database.
 - iv. Evaluate the average sanitary flow per ERU based on the water meter data for residential users and census data for people per dwelling unit.
 - v. Assign daily sanitary flow from non-residential units based on winter water usage.
 - vi. Sum the flows from each parcel within each of the existing model service areas and assign those flows to the manhole that was used for each service area in the model from the previous master plan.

- vii. Estimate infiltration throughout the model system based on temporary flow meter data gathered as part of this plan update.
- vili. Perform quality control review of demand and infiltration estimates and aggregation.
- ix. Run and debug the existing conditions model.
- **x.** Calibrate the model by comparing modeled flows to the flows from the temporary flow meters and making model flow input adjustments.
- xi. Perform quality control review of existing conditions model flows and calibration.
- c. Review and Finalize Existing Conditions Model
 - i. Meet with CLIENT to review existing conditions model results and existing deficiencies and discuss assumptions for future models such as future growth rates and locations.
 - ii. Make needed adjustments to the existing conditions model based on feedback received from the review with CLIENT and finalize the existing conditions model.
- d. **Develop Build-Out Model** The purpose of the build-out conditions model is to identify future deficiencies and to provide a general layout for a trunk sewer system to serve the future growth areas. This model will identify the required pipe sizes for any pipes that need to be upsized to serve the City when the area within the planning boundary is fully developed. Build-out for this study will be defined as the condition when the areas that are zoned on the general plan land use map (or other land use map provided at the beginning of the project) have been fully developed to their planned densities.

Modeling the build-out conditions includes the following steps:

- i. Assign projected annual population growth through buildout based on projected growth rates and locations provided by CLIENT
- ii. Add development per the land use map to the buildout conditions model.
- iii. Add and size future trunk lines in the areas that are currently undeveloped based on the build-out plan developed in the 2016 Sewer Master Plan.
- iv. Quantify flows from buildout developments and add them to nodes in the buildout conditions model.
- v. Identify areas of future development that will require lift stations.
- vi. Perform quality control review of the buildout conditions demands.
- viî. Identify deficiencies in the build-out conditions system from the 2016 Master Plan using updated build-out conditions demands.
- viii. Identify and model pipe upgrades or additions needed to convey build-out flows. Also identify any pipes whose planned size in the 2016 Master Plan might be larger than necessary.
- ix. Perform quality control review of the build-out conditions system.
- x. Estimate the total flow volumes to treat at build out.
- xi. Provide a planning-level opinion of probable construction cost of build-out infrastructure.

e. Review and Finalize Buildout Conditions Model and Recommended Infrastructure

- i. Meet with CLIENT to review the build-out conditions model results, areas of inadequate capacity, and recommended infrastructure to meet build-out needs. Discuss any the reasons for any recommended changes to planned infrastructure from the 2016 Master Plan.
- ii. Make needed adjustments to the infrastructure in the build-out conditions model based on feedback received from the review with CLIENT.
- iii. Provide updated information to CLIENT resulting from edits to the buildout conditions model. After CLIENT review and concurrence, the buildout conditions model and infrastructure plan will be finalized.
- f. **Develop Horizon Year Model** The horizon-year model will be created by copying the existing conditions model and completing the following steps:

- i. Add to the model projected horizon-year development according to the projected amount and distribution of growth.
- ii. Quantify demand from horizon-year development and add it to nodes in the buildout conditions model.
- iii. Identify areas of horizon-year development that will require lift stations.
- iv. Perform quality control review of the horizon-year conditions demands.
- v. Identify pipes in the existing collection system which the model indicates will have inadequate capacity at the horizon year.
- vi. Add pipes from the build-out plan to provide needed capacity at the horizon year.
- vii. Perform quality control review of the horizon-year system.
- viii. Estimate the total flow volumes to treat at the horizon year.
- ix. Provide a planning-level opinion of probable construction cost of horizon-year improvements.
- g. Meet with CLIENT to Review and Finalize Horizon Year Model and Infrastructure Plan
 - i. Meet with CLIENT to review the horizon year model results, areas of inadequate capacity, and infrastructure required to meet demands. At the conclusion of this meeting the horizon-year model and infrastructure plan will be finalized.
- 2. Assumptions:
 - a. The project is an update to the 2016 Master Plan and Capital Facilities Plan and the 2016 Impact Fee Facilities Plan. The updated documents will be patterned after the organization, format, tables and figures in the 2016 documents.
 - b. The level of service criteria documented in the 2016 Master Plan will be used.
 - c. No survey will be done to locate new collection system pipes. The pipes that will be modeled are assumed to be the same trunk lines that were modeled for the 2016 Sewer Master Plan. New pipes that have been added to the collection system since 2016 will be shown at their approximate locations based on the GIS data provided by CLIENT.
 - d. CLIENT will provide updated sewer system layer data in GIS file format, including pipe size. If CLIENT provides updated pipe elevations and slopes, J-U-B will use them; otherwise, pipe elevations and slopes from the 2016 model will be used.
 - e. CLIENT will provide updated land use data in GIS format, consisting of the following:
 - i. Study area boundary
 - ii. Current zoning and general plan zoning (or something other than the General Plan if it isn't to be used for buildout conditions)
 - iii. Densities associated with zoning
 - iv. Development status of existing parcels to be considered in the modeling
 - v. Any known specific future subdivisions and parcels that are to be considered in the modeling
 - f. CLIENT will provide updated information in a parcel database that includes residential and non-residential monthly water meter usage data for each parcel for the previous 12 months in electronic format, including information that allows it to be linked to GIS data.
 - g. Conditions deemed "existing" will be determined by CLIENT and J-U-B at the beginning of the project, based on the date of available land use data and flow data.
 - h. The horizon year will be determined by CLIENT and J-U-B at the beginning of the project (likely 10 years after the existing conditions or 10 years from the time the project is expected to be concluded).
 - i. CLIENT will provide projected annual residential and non-residential growth rates through buildout.
 - j. CLIENT will provide a breakdown of amount and location of growth projected to occur at the horizon year.
 - k. Improvements needed in the horizon year will be sized to match that required at buildout.
 - I. Unit flows for new and future units will be based on the average flows of existing units in given land use designations.

- m. Only one horizon year scenario and one build-out model scenario will be created.
- n. J-U-B will provide documents for review one week in advance of review meetings, and CLIENT will provide timely reviews and feedback.

3. Deliverables:

a. Materials showing modeled demands, capacities, and recommended infrastructure needed for City review of the existing conditions model, the build-out model and plan, and the horizon year model and plan.

E. Task 050: Update Master Plan and Capital Facilities Plan (MP & CFP)

- 1. For this task, J-U-B will:
 - a. **Prepare Draft MP & CFP** Update the text, tables, and figures of the 2016 MP & CFP to reflect updated conditions and infrastructure plans.
 - b. **Perform Quality Control Review of Draft MP & CFP** perform quality control review of the text, tables and figures in the draft MP & CFP
 - c. **Provide Draft MP & CFP** Provide draft MP & CFP to CLIENT for review
 - d. Draft MP & CFP Review Meeting Meet with CLIENT to discuss any comments from CLIENT
 - e. Update Draft MP & CFP Update the draft MP & CFP based on CLIENT comments and send it back to CLIENT for final review.
- f. **Finalize MP & CFP** After CLIENT review, make any final edits and finalize the MP & CFP 2. Assumptions:
 - a. The updated MP & CFP will follow the outline and organization of the text, tables, and figures of the 2016 Master Plan and Capital Facilities Plan.
 - b. J-U-B will provide documents for review one week in advance of review meetings, and CLIENT will provide timely reviews and feedback.
- 3. Deliverables:
 - a. Draft MP & CFP in pdf format
 - b. Finalized MP & CFP in pdf format

F. Task 060: Update Impact Fee Facilities Plan (IFFP)

- 1. For this task, J-U-B will:
 - a. **Perform Proportionate Share Calculations for Future Infrastructure** calculate the proportionate share of horizon-year improvements costs to be borne by growth.
 - b. Perform Proportionate Share Calculations for Existing Infrastructure with Excess Capacity calculate the proportionate share of existing infrastructure costs to be borne by growth.
 - c. **Prepare Draft IFFP** Update the text, tables, and figures of the 2016 IFFP to reflect updated conditions and infrastructure plans.
 - d. **Perform Quality Control Review of Draft IFFP** perform quality control review of the text, tables and figures in the draft IFFP.
 - e. **Provide Draft IFFP** Provide draft IFFP to CLIENT and CLIENT's financial consultant for review.
 - f. **Draft IFFP Review Meeting** Meet with CLIENT and CLIENT's financial consultant to discuss any comments from them.
 - g. **Update Draft IFFP** Update the draft IFFP based on comments and send it back to CLIENT and CLIENT's financial consultant for final review.
 - h. **Finalize IFFP -** After CLIENT and CLIENT's financial consultant's review, make any final edits and finalize the IFFP.
 - Coordinate with CLIENT's Impact Fee Consultant Coordinate with, provide assistance to, and answer questions from CLIENT's independent financial consultant, who will perform the Impact Fee Analysis. The independent impact fee consultant fee is not included in this proposal.
- 2. Assumptions:
 - a. The updated Impact Fee Facilities Plan will follow the outline and organization of the text, tables, and figures of the 2016 Impact Fee Facilities Plan.

- b. CLIENT will provide the timing, cost, and funding source of system improvements not existing in the 2016 IFFP that have since been constructed.
- c. J-U-B will provide documents for review one week in advance of review meetings, and CLIENT and CLIENT's financial consultant will provide timely reviews and feedback.

3. Deliverables:

- a. Draft IFFP in pdf format
- b. Finalized IFFP in pdf formats

G. Task 070: Impact Fee Assessment (IFA)

1. For this task, Zion Financial (consultants) will do the following:

a. Kickoff Meeting and Information Gathering

i. The kickoff meeting will be held with the City and the consulting team to ensure close coordination with the IFFP and IFA, to identify data needs, to request necessary data that is not included in the IFFP (such as fund balance, outstanding debt), and establish a timeline for deliverables.

b. Existing Facility Inventory and Demand

i. The consultants will identify through City financial records (Asset List) the existing system facilities and determine their historic ("actual") costs (if excess capacity remains) and manner of funding. The City may have to assist in the process if financial records are unclear or lacking needed information. It will also be necessary to assess whether any of these facilities were paid for through grants or means other than City revenues and therefore cannot be included in the calculation of impact fees.

c. Identify Facilities Needed to Meet Future Demand

i. The IFFP will clearly identify facilities needed within the next 6-10 years in order to maintain existing service levels and meet the demand from new growth. Based on information provided in the IFFP regarding percent of excess capacity consumed within the next 10 years, percent of capacity to cure existing deficiencies, etc., we will identify the eligible costs for consideration in the calculation of the impact fee.

d. Proportionate Share Analysis

- i. The next step in the process is to prepare a proportionate share analysis. The proportionate share analysis has two key components:
 - 1. Determine excess "buy-in" capacity
 - 2. Calculate new development's fair share of new improvements

Costs are fairly allocated to residential and non-residential uses based on their demand, or usage, of the various facilities.

e. Financing Structure and Credits

i. Credits must be made in cases where new development would pay twice if such credits are not made. Credits are most generally made when there is debt outstanding, or when a portion of future facilities are necessary in order to cure existing deficiencies.

f. Impact Fees Analysis (IFA)

ii. The IFA will be prepared in accordance with all legal requirements as set forth in Utah Code 11-36a. The IFA will be organized with section headings that follow the legal requirements as set forth in the Code.

2. Assumptions:

- a. Includes preparation of the IFA, Excel spreadsheet with fee calculations, and PowerPoint summary presentation and includes attendance at virtual meetings as needed, as well as coordination with the engineers in preparation of the IFFP.
- b. Any in-person meetings in addition to the included fee will be billed at hourly rates.
- 3. Deliverables:
 - a. IFA report.

H. Task 080: Present Report and Deliver Work Product

- 1. For this task, J-U-B will:
 - a. **City Council Work Session Presentation** Present the updated Sewer Master Plan and Capital Facilities Plan reports to the Santaquin City Council in a work session.
 - b. **City Council Meeting Presentation** Present the updated Sewer Master Plan and Capital Facilities Plan reports to the Santaquin City Council in a City Council meeting
- 2. Assumptions:
 - a. J-U-B will attend one City Council work session and one City Council meeting.
- 3. Deliverables:
 - a. Four hard copies of the MP & CFP IFFP and IFA reports.
 - b. MP & CPF IFFP and IFA reports in MS Word format
 - c. Tables from MP & CFP and IFFP reports in MS Excel format
 - d. GIS data and map files

PART 3 - CLIENT-PROVIDED WORK AND ADDITIONAL SERVICES

A. CLIENT-Provided Work - CLIENT is responsible for completing, or authorizing others to complete, all tasks not specifically included above in PART 2 that may be required for the project including, but not limited to:

1.

- B. Additional Services CLIENT reserves the right to add future tasks for subsequent phases or related work to the scope of services upon mutual agreement of scope, additional fees, and schedule. These future tasks, to be added by amendment at a later date as Additional Services, may include:
 - 1. Evaluation of the feasibility of a second WRF and alternatives related to a second WRF.
 - 2. Hydraulic modeling of the existing pressure irrigation distribution system
 - 3. Evaluation of additional future collection scenarios.
 - 4. Rate study

PART 4 - BASIS OF FEE AND SCHEDULE OF SERVICES

- A. CLIENT shall pay J-U-B for the identified Services in PART 2 on a lump sum basis as follows:
 - 1. The portion of the Lump Sum amount billed for J-U-B's services will be based upon J-U-B's estimate of the percentage of the total services actually completed during the billing period.
 - 2. J-U-B may alter the distribution of compensation between individual tasks to be consistent with services actually rendered while not exceeding the total project amount.
- B. Period of Service: If the period of service for the task identified above is extended beyond 12 months, the compensation amount for J-U-B's services may be appropriately adjusted to account for salary adjustments and extended duration of project management and administrative services.
- C. CLIENT acknowledges that J-U-B will not be responsible for impacts to the schedule by actions of others over which J-U-B has no control.
- D. The following table summarizes the fees and anticipated schedule for the services identified in PART

Sub- Task Number	Task Name	Fee Type	Amount	Anticipated Schedule
010	Project Management	Lump Sum	\$5,800	Concurrent with work progress
020	WRF Master Plan Update	Lump Sum	\$29,600	Weeks 4-34

030	Temporary Flow Metering	Lump Sum	\$15,000	Weeks 2-6
040	Collection System Modeling & Master Planning	Lump Sum	\$42,700	Weeks 1-16
050	Update Master Plan & Capital Facilities Plan	Lump Sum	\$11,500	Weeks 17-22
060	Update Impact Fee Facilities Plan	Lump Sum	\$7,200	Weeks 22-28
070	Impact Fee Assessment	Lump Sum	\$7,200	Weeks 26-34
080	Present Report and Deliver Work Product	\$5,300	Weeks 32-34	
		\$124,300		

NOTE on Coronavirus and Schedule: J-U-B is committed to meeting your project schedule commitments as delineated above. As our response to the COVID-19 pandemic, J-U-B is engaging in safety procedures in help to protect clients, staff, their families, and the public. Our staff or offices may be subject to quarantine or other interruptions. Since COVID-19 impacts are beyond J-U-B's control, we are not responsible for the force majeure impacts to delivery timelines, or subsequent project delays and related claims, costs, or damages. Should circumstances related to the COVID-19 issue arise with J-U-B staff or in a J-U-B office that will impact our delivery schedule, we will notify you of the circumstances and mutually agree to a schedule adjustment.

For internal J-U-B use only: PROJECT LOCATION (STATE): <u>Santaquin, Utah</u> TYPE OF WORK: <u>City</u> R&D: <u>Yes</u> GROUP: Choose an item. PROJECT DESCRIPTION(S):

1. Sewer/Wastewater Collection/Treatment/Disposal (S04)

EXHIBIT 1-X: WORK BREAKDOWN STRUCTURE BASIS OF FEE ESTIMATE

Project Title, Client:

Project Number:

Prepared By:



J-U-B FAMILY OF COMPANIES

2022 Sanitary Sewer Master Plan and IFFP Update, Santaquin City

XX-XX-XXX

Chris Slater

			Slater, Christopher	Cope, Michael	Christensen, Mark	Vance, Gary	Barrus, Seth	McArthur, Kristi	Goodley, James	McCullock, Christina	Schmidt, Lauren			
Task Number	Subtask Number	Task/Subtask Name / Activity Description	Project Manager	Project Engineer I	Project Engineer - Discipline Lead	Project Engineer - Senior	Project Designer	PFA - Senior	Project Engineer - Discipline Lead	Senior GIS Analyst	Project Designer	J-U-B Expenses	Subconsultant Expenses	Total Compensation
010		Project Management	28	0	0	0	0	6	0	0	0	ŚŊ	Śŋ	\$5,800
010	001	Project Management	28	0	0	0	0	6	0	0	0	\$0	\$0	\$5,800
		Set I In Project	1	-	-	-	-	1			-	\$0	\$0	\$300
			4					-				\$0 \$0	\$0 \$0	\$700
			2									\$0 \$0	\$0 \$0	\$400
		Team Meetings - coordinate work internally	6									\$0	\$0	\$1.100
		Monitor Project	2									\$0	\$0	\$400
		Project Renorting	6									\$0	\$0	\$1,100
		Prepare Invoices	6					4				\$0	\$0	\$1,500
		IClose Project	1					1				\$0	\$0	\$300
												\$0	\$0	\$0
020		WRF Master Plan Update	0	0	0	76	0	0	42	6	28	\$0	\$0	\$29.600
020	001	WRF Master Plan Update	0	0	0	76	0	0	42	6	28	\$0	\$0	\$29,600
		Chapter 1 - Background and Information: Flows/loads and permitting				4			2		4	\$0	\$0	\$1,800
		Chapter 2 - Existing WRF Evaluation: Capacity and condition assessment, performance												
		evaluation				16			8		4	\$0	\$0	\$5,600
		Chapter 3 - Alternatives Analysis and Evaluation: Detailed evaluation and cost opinions for												1
		coordination with DWQ and stakeholders as required				40			24	4	16	\$0	\$0	\$16.300
		Chapter 4 - Recommended alternatives and proposed implementation timeline				16			8	2	4	\$0	\$0	\$5.900
												\$0	\$0	\$0
030		Temporary Flow Metering	2	35	0	0	23	0	0	0	0	\$6,200	\$0	\$15,000
030	001	Temporary Flow Metering	2	35	0	0	23	0	0	0	0	\$6,200	\$0	\$15,000
		Identify Meter Installation Locations	1	4								\$0	\$0	\$800
		Order Meter Equipment		2								\$6,200	\$0	\$6,500
		Program and Install Five Flow Meters for Two Week Period		10			8					\$0	\$0	\$2,600
		Check Flow Meters		6			6					\$0	\$0	\$1,700
		Remove Flow Meters		9			9					\$0	\$0	\$2,600
		Create Flow Graphs from Collected Data	1	4								\$0	\$0	\$800
												\$0	\$0	\$0
												\$0	\$0	\$0
040		Collection System Modeling and Master Planning	29	167	32	2	8	0	0	12	0	\$200	\$0	\$42,700
040	001	Hold Project Kickoff Meeting	2	4	3	2	0	0	0	0	0	\$100	\$0	\$2,200
		Hold meeting and contact client before meeting	2	4	3	2						\$100	\$0	\$2,200
040	002	Update Existing Conditions Model	7	63	10	0	8	0	0	12	0	\$0	\$0	\$16,500
		Add Recent Developments/new pipes to Model	1	15								\$0	\$0	\$2,600
		QC existing system and Landuse			2					3		\$0	\$0	\$900
		Review Water Meter Data from CLIENT		4						3		\$0	\$0	\$1,100
		Evaluate average flow per ERU	1	4			8					\$0	\$0	\$1,800
		Assign Non-Residential Flows from Water meter Data	1	4						6		\$0	\$0	\$1,800

EXHIBIT 1-X: WORK BREAKDOWN STRUCTURE BASIS OF FEE ESTIMATE

Project Title, Client:

Project Number:

Prepared By:



J-U-B FAMILY OF COMPANIES

2022 Sanitary Sewer Master Plan and IFFP Update, Santaquin City

XX-XX-XXX

Chris Slater

			Slater, Christopher	Cope, Michael	Christensen, Mark	Vance, Gary	Barrus, Seth	McArthur, Kristi	Goodley, James	McCullock, Christina	Schmidt, Lauren			
Task Number	Subtask Number	Task/Subtask Name / Activity Description	Project Manager	Project Engineer I	Project Engineer - Discipline Lead	Project Engineer - Senior	Project Designer	PFA - Senior	Project Engineer - Discipline Lead	Senior GIS Analyst	Project Designer	J-U-B Expenses	Subconsultant Expenses	Total Compensation
		Sum the flows from each parcel within each service area and assign to manhole that is												
		arelaedy being used in the model		8								\$0	\$0	\$1,300
		Evaluate Existing Infiltration from flow data	1	6								\$0	\$0	\$1,100
		Perform Internal QC Review of infiltration estimates		42	4							\$0	\$0	\$900
		Run and debug the existing model	1	12								\$0 t -	\$0 t -	\$2,100
		Calibrate the model	2	10								\$0	\$0	\$2,000
		Perform Internal QC Review of existing model calibration		40	4			•	•			\$0	\$0	\$900
040	003	Review and Finalize Existing Conditions Model	1	10	3	U	U	U	U	U	U	\$0	\$0	\$2,400
		Meet with Client to Review Exisiting Model Scenario	1	4	3							\$0	\$0	\$1,500
		Make model adjustments based on client feedback		6		-		-	-	-	-	\$0 \$0	\$0	\$1,000
040	004	Develop Build-Out Model	12	49	3	0	0	0	0	0	0	\$0	\$0	\$10,700
		Project Population Growth	1	2								\$0	\$0	\$500
		Add development per landuse map		6								\$0	\$0	\$1,000
		Add and size future trunk lines	1	10								\$0 t -	\$0 t -	\$1,800
		Quantify flows from the buildout developments and add them to the model		2								\$0 t -	\$0 t -	\$300
		Identify Areas that will need future lift stations	2	2								\$0	\$0	\$700
		QC review of of build-out condition demands			3							\$0	\$0	\$700
		updated build-out conditions demands	1	5								\$0	\$0	\$1,000
		Identify and model pipe upgrades or additions needed to convey build-out flows. Also identify any pipes whose planned size in the 2016 Master Plan might be larger than necessary	2	10								\$0	\$0	\$2.000
		OC review of of build-out condition system	2	2								\$0	\$0	\$700
		Estimate total flow to treat at buildout	2	2								\$0	\$0	\$700
		Buildout System OPC	1	8								\$0	\$0	\$1 500
040	005	Beview and Finalize Buildout Conditions Model and Recommended Infrastructure	2	12	3	0	0	0	0	0	0	\$0	\$0	\$3,000
		Meet with client to review buildout model	1	4	3	-	-	-	-	-		\$0	\$0	\$1,500
		Make adjustments to buildout model based on client feedback	1	6	3							\$0 \$0	\$0 \$0	\$1,500
		Provide updated information to CLIENT resulting from edits to the buildout conditions	-										γo	<i>\$1,100</i>
		model. After CLIENT review and concurrence, the buildout conditions model and												
		infrastructure plan will be finalized		2								\$0	\$0	\$300
040	006	Develop Horizon Year Model	4	26	7	0	0	0	0	0	0	\$0	\$0	\$6,400
		distribution of growth.	1	6								\$0	\$0	\$1.100
		Quantify demand from horizon-year development and add it to nodes in the buildout conditions model.		2								\$0	\$0	\$300
		Identify areas of horizon-year development that will require lift stations.	1	2								\$0	\$0	\$500
		Perform quality control review of the horizon-year conditions demands.			3							\$0	\$0	\$700
		Identify pipes in the existing collection system which the model indicates will have inadequate capacity at the horizon year.		6	-							\$0	\$0	\$1,000
		Add pipes from the build-out plan to provide needed capacity at the horizon year.	1	2								\$0	\$0	\$500
		Perform quality control review of the horizon-year system.			4							\$0	\$0	\$900
		Estimate the total flow volumes to treat at the horizon year.	1	2	l							\$0	\$0	\$500
		Provide a planning-level opinion of probable construction cost of horizon-year improvements.		6								\$0	\$0	\$1,000

EXHIBIT 1-X: WORK BREAKDOWN STRUCTURE BASIS OF FEE ESTIMATE

Project Title, Client:

Project Number:

Prepared By:



J-U-B FAMILY OF COMPANIES

2022 Sanitary Sewer Master Plan and IFFP Update, Santaquin City

XX-XX-XXX

Chris Slater

			Slater, Christopher	Cope, Michael	Christensen, Mark	Vance, Gary	Barrus, Seth	McArthur, Kristi	Goodley, James	McCullock, Christina	Schmidt, Lauren			
Task Number	Subtask Number	Task/Subtask Name / Activity Description	Project Manager	Project Engineer I	Project Engineer - Discipline Lead	Project Engineer - Senior	Project Designer	PFA - Senior	Project Engineer - Discipline Lead	Senior GIS Analyst	Project Designer	J-U-B Expenses	Subconsultant Expenses	Total Compensation
040	007	Review and Finalize Horizon Year Model and Infrastructure Plan	1	3	3	0	0	0	0	0	0	\$0	\$0	\$1,300
		Meet with CLIENT to review the horizon year model results, areas of inadequate capacity,												
		and infrastructure required to meet demands.	1	3	3		-					\$0	\$0	\$1,300
050		Update Master Plan and CFP	5	38	9	0	0	0	0	16	0	\$0	\$0 \$5	\$11,500
050	001	Update Master Plan and CFP	5	38	9	0	0	0	0	16	0	\$0 \$5	\$0 \$5	\$11,500
		Prepare Draft MP & CFP	2	20						10		\$0	\$0	\$5,200
		Perform Quality Control Review of Draft MP & CPP			6							\$0	\$0 \$0	\$1,300
		Provide Draft MP & CFP		2								\$0	\$0	\$300
			1	4	3							\$0	\$0	\$1,500
			1	8						4		\$0	\$0 \$0	\$2,100
000			1	4	-			<u> </u>		2		\$0 60	\$0 60	\$1,100
060	001	Update impact Fee Facilities Plan	6	31	5	0	0	0	0	0	0	\$0	şu	\$7,200
060	001	Opdate Impact Fee Facilities Flan	0	31	5	0	U	U	U	U	U	\$0	\$0	\$7,200
			L	4								ŞU	ŞŪ	\$800
		Perform Proportionate Share Calculations for Existing Infrastructure with Excess Capacity	1	6								\$0	\$0	\$1,100
		Prepare Draft IFFP	1	8								\$0	\$0	\$1,500
		Perform Quality Control Review of Draft IFFP			2							\$0	\$0	\$400
		Provide Draft IFFP		1								\$0	\$0	\$200
		Draft IFFP Review Meeting	1	4	3							\$0	\$0	\$1,500
		Update Draft IFFP	1	4								\$0	\$0	\$800
		Finalize IFFP	1	2								\$0	\$0	\$500
		Coordinate with CLIENT's Impact Fee Consultant		2								\$0	\$0	\$300
												\$0	\$0	\$0
070		Impact Fee Assessment	0	0	0	0	0	0	0	0	0	\$0	\$7,200	\$7,200
070	001	Impact Fee Assesement	0	0	0	0	0	0	0	0	0	\$0	\$7,200	\$7,200
		Kickoff Meeting										\$0	\$0	\$0
		Exisitnig Facility Inventory and Demand										\$0	\$0	\$0
		Identify Facilities Needed to Meet Future Demand										\$0	\$0	\$0
		Proportionate Share Analysis										\$0	\$0	\$0
		Financing Structure and Credits										\$0	\$0	\$0
		Impact Fees Analysis (IFA)										\$0	\$7,200	\$7,200
080		Present Report and Deliver Work Product	3	12	6	6	0	0	0	0	0	\$200	\$0	\$5,300
080	001	Update Report	3	12	6	6	0	0	0	0	0	\$200	\$0	\$5,300
		City Council Work Session Presentation	2	8	3	6						\$100	\$0	\$3,700
		City Council Meeting Presentation	1	4	3							\$100	\$0	\$1,600
1	Fotal Hours		73	283	52	84	31	6	42	34	28			
	Total Costs		\$13,500	\$45,300	\$11,400	\$17,600	\$3,800	\$600	\$9,200	\$5,400	\$3,500	\$6,600	\$7,200	\$124,300