

WALLIS ENGINEERING
EXHIBIT A-SCOPE OF WORK
CITY OF CAMAS
CROWN VIEW PLAZA PUMP STATION IMPROVEMENTS
December 12, 2017
WE#1444A

PROJECT DESCRIPTION AND GENERAL SCOPE

The City of Camas has requested that Wallis Engineering (Wallis) assist them with upgrades to an existing pump station known as the Crown View Pump Station. The pump station is located adjacent to the property of 3228 NW Ivy Lane and was originally constructed in 1979 with a major rehabilitation/reconstruction effort taking place in 1997. The City's primary concern for this station is capacity and reliability. Currently, during storm events the pump station is operating past its firm capacity. A list of some of the issues the City would like to address is as follows:

- Pumps are likely undersized and require evaluation.
- Runoff has eroded soil along the east side of the pump station, flooded the neighboring property's garage, and is likely flowing into the wetwell. The City would like to address stormwater issues in and around the pump station.
- The driveway approach, site paving, fencing, and landscaping are deficient.
- There is currently water service stubbed out on the site, the City would like to add a meter, backflow prevention device, and yard hydrant.
- Wet wells need to be coated and groundwater leaks fixed.
- A safety grate is needed for worker protection when the vault lid is open.
- The City would like to install a flow meter.
- The City would like the rehabilitated pump station to be able to transmit data (such as pump status and wetwell levels) back to the wastewater treatment plant via a cellular modem telemetry system.
- The City would like to evaluate the existing generator which may be undersized and has little sound attenuation.
- The City would like to replace the primary wetwell level sensor with an ultrasonic level transducer, as well as install backup level sensors.
- The control panel needs to be upgraded so that it operates in a sensible manner and unnecessary parts are removed. The City would like the rehabilitated control panel to include a PLC-based controller which will be compatible with the new telemetry system.
- The influent pipe into the wetwell causes unnecessary turbulence and needs to be evaluated.
- The City would like the bypass pumping setup to be modified to be less cumbersome for operators.

This scope of work addresses the professional services necessary to assist the City with the identification of options to correct the aforementioned deficiencies, assessment of those options, and selection of a preferred upgrade plan. Work will include a brief memorandum, the design of the preferred upgrades, and assistance with construction phase services.

CONTRACT DURATION: Contract term shall be from the date contract is fully executed until December 31, 2018

SPECIFIC SCOPE OF WORK

Task 1 Project Management and Administration

This task includes providing comprehensive project management to ensure the project scope, schedule, and budget are satisfied. Project management tasks shall include preparation and ongoing maintenance of a project schedule to satisfy deadlines established with the City, as well as preparation of monthly invoices and status reports. City staff will be kept informed of work status as deadlines approach.

Task 1 Deliverables:

- Final scope and schedule
- Monthly status and pay requests

Task 2 Pre-Design

This task includes meeting with the City to define project goals, reviewing existing data, performing a survey, performing a hydraulic analysis of the existing pump station, and completing a pre-design memorandum, which will include proposed rehabilitation alternatives.

- 2.1 Define Project Objectives and Design Criteria.** This subtask includes Wallis and R&W Engineering (R&W) meeting with City Staff to review project objectives, identify design criteria, and visit the site (primarily for R&W since Wallis has already visited the site).
- 2.2 Review Existing Data.** Review as-built drawings, pumping records, system maps, and other background information provided by the City.
- 2.3 Field Survey and Base Drawings.** Minister and Glaeser Surveying will conduct a topographic survey of the area, including surrounding stormwater facilities, which will be drafted into CAD base drawings to be utilized for project design.
- 2.4 Hydraulic Analysis.** Wallis will evaluate pump run-time data, estimate pump flow rates based upon draw-down tests, and evaluate rainfall data to estimate average dry weather, average wet weather, and peak wet weather flow conditions. That information will be used to estimate future design flows assuming infiltration and inflow (I&I) will remain constant. We will also review the I&I report for the basin and assess whether or not our assumptions regarding I&I are correct.
- 2.5 Pre-Design Memorandum.** A pre-design memorandum will be prepared summarizing the alternatives and identifying a preferred alternative. The draft memorandum will be discussed at a meeting with City staff and will be finalized following City review and comment.

Task 2 Deliverable:

- Meeting minutes from Subtask 2.1
- Electronic copy of pre-design memo discussed in Subtask 2.5

Task 2 Assumptions:

- Pre-design cost estimates will be prepared for only two design alternatives
- One meeting will be held at City offices for Subtask 2.1, as well as for Subtask 2.5
- One site visit will be made by R&W
- Pump station data such as run times and flows will be provided by the City
- The sizing of pumps and related electrical equipment will be based on most recent flow data, which include I&I
- The pre-design memo will outline criteria that will form the basis of detailed design
- It is assumed that no more than two design alternatives will be presented in the pre-design memo

Task 3 Design

This task includes developing contract documents for procurement/bidding of the project based on the design criteria established during pre-design.

- 3.1 50% Design Package.** Design plans at the 50% design level will be prepared and submitted for City review. A 50% construction cost estimate will also be submitted. A meeting will be held with City staff to discuss review comments.
- 3.2 90% Design Package.** Based on City input from the 50% design package, a design package at the 90% design level will be prepared and submitted for City review. The package will include 90% plans and specifications. A 90% construction cost estimate will also be submitted. A meeting will be held with City staff to discuss review comments.
- 3.3 Final Design Package.** Based on City input from the 90% design package, final plans, specifications, and a master set of signed contract documents including the City's front end documents will be provided to the City in PDF format. A final engineer's opinion of cost will also be submitted.

Task 3 Deliverable:

- Meeting minutes from the 50% and 90% design review meetings
- Submittal packages at the 50%, 90% and final milestones in electronic format
- Final bid ready contract documents in electronic (PDF) format
- AutoCAD drawings in electronic format

Task 3 Assumptions:

- Correcting stormwater issues will not require the need for a detailed stormwater analysis
- No I&I mitigation will be incorporated into the design aside from that found at the pump station site
- Specifications will be in CSI format
- One meeting will be held at City offices for Subtask 3.1, as well as for Subtask 3.2

Task 4 Bidding Services

Wallis Engineering will provide bidding services to the City which shall include attending a pre-bid meeting in Camas, responding to bidder's questions, and preparing addenda, as required. The apparent low bidder's documents, bonds, and licenses will be reviewed prior to presenting a bid award recommendation to the City.

Task 4 Deliverable:

- Addenda if required (2 assumed)

Task 4 Assumptions:

- The City will be responsible for preparing bid tabs
- City will pay advertising fees directly

Task 5 Construction Services

Wallis Engineering will provide construction engineering support as requested by the City of Camas. It is assumed that the City will lead inspection efforts and Wallis will provide support services that include attending a pre-construction meeting, reviewing equipment submittals, and periodic inspection of the work.

Task 5 Assumptions:

- Wallis will attend one pre-bid meeting
- Wallis will attend up to two weekly construction meetings
- Wallis will make up to two site visits

- Electrical submittals shall be provided in one complete package. “Piece-meal” submittals may require additional time to review which may require additional fee.
- Scope of work excludes programming of PLC, OIT and/or SCADA modifications. R&W Engineering can provide these services, if desired. A separate proposal/fee can be provided, if requested.

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Agreement
Exhibit B- Fee Estimate
City of Camas - Crown View Pump Station Improvements
WE #1444A
December 2017

		Wallis Engineering Staff Estimated Hours															Subconsultants		Total
TASK		QC	SE	E1	E2	E3	E4	E5	E6	Insp.	T1	TW	C1	Staff Cost	Expenses		M&G	R&W	Cost
Task 1	Project Management and Administration	\$206	\$177	\$162	\$149	\$131	\$110	\$95	\$80	\$91	\$100	\$90	\$75						
				2		8							16	\$2,572					\$2,572
	TASK 1 SUBTOTAL	0		2	0	8	0	0	0		0	0	16	\$2,572	\$0	\$0	\$0	\$0	\$2,572
Task 2	Pre-Design																		
2.1	Define Project Objectives and Design Criteria			2		3							1	\$792	\$17	(M)		\$560	\$1,369
2.2	Review Existing Data					8		16					1	\$2,643					\$2,643
2.3	Field Survey and Base Drawings							2			4			\$590			\$4,800		\$5,390
2.4	Hydraulic Analysis			1		8		16						\$2,730					\$2,730
2.5	Pre-Design Memorandum			1		8		8					2	\$2,120				\$2,900	\$5,020
	TASK 2 SUBTOTAL	0		4	0	27	0	42	0		4	0	4	\$8,875	\$17		\$4,800	\$3,460	\$17,152
Task 3	Design																		
3.1	50% Design Package			2		20		28			34		2	\$9,154	\$17	(M)		\$6,750	\$15,921
3.2	90% Design Package			2		20		28			24		8	\$8,604	\$17	(M)		\$6,750	\$15,371
3.3	Final Design Package			2		16		24			16		16	\$7,500	\$50	(P)		\$2,000	\$9,550
	TASK 3 SUBTOTAL	0		6	0	56	0	80	0		74	0	26	\$25,258	\$84		\$0	\$15,500	\$40,842
Task 4	Bidding Services					4		8			2		2	\$1,634		(P)			\$1,634
	TASK 4 SUBTOTAL	0	0	0	0	4	0	8	0	0	2	0	2	\$1,634	\$0	\$0	\$0	\$0	\$1,634
Task 5	Construction Services			2		8		24					2	\$3,802		(P)		\$11,570	\$15,372
	TASK 5 SUBTOTAL	0	0	2	0	8	0	24	0	0	0	0	2	\$3,802	\$0	\$0	\$0	\$11,570	\$15,372
	GRAND TOTAL	0	0	14	0	103	0	154	0	0	80	0	50	\$42,141	\$101	\$0	\$4,800	\$30,530	\$77,572

Depending on availability, actual staff usage may not match the above estimated hours breakdown. Billing rates for all staff are listed in the Fee Summary.

FEE SUMMARY			
Staff	Hours	Rate	Fees
QC - Quality Control	0	\$206	\$0
SE - Senior Engineer	0	\$177	\$0
E1- Engineer 1(PM)	14	\$162	\$2,268
E2 - Engineer 2	0	\$149	\$0
E3 - Engineer 3	103	\$131	\$13,493
E4 - Engineer 4	0	\$110	\$0
E5- Engineer 5	154	\$95	\$14,630
E6 -Engineer 6	0	\$80	\$0
Inspector	0	\$91	\$0
T1 - Technician 1	80	\$100	\$8,000
TW- Technical Writer	0	\$90	\$0
C1 - Clerical 1	50	\$75	\$3,750
Total Fees from Staff			\$42,141
Subconsultant			Fees
M&G			\$4,800
R&W			\$30,530
Total Fees from Subconsultants			\$35,330
<i>NOTE: Fee includes 10% markup</i>			
Expenses			Cost
Printing (P)			\$50
Mileage (M)			\$51
Total Fees from Expenses			\$101
TOTAL BUDGET			\$77,572