Action: ☒ Approved | ☐ Denied | ☐ Other
Date Action Taken: May 10, 2021
Verified By:
Clerk's Note: NA

City of Wasilla
Action Memorandum No. 21-24

Contract Award To CRW Engineering Group In The Amount Of $256,540 For The Richmond Hills Booster Station Upgrade Project Engineering Services.

Originator: Public Works Director
Date: 4/28/2021 Agenda of: 5/10/2021

Route to:	Department Head	Signature	Date
X	Public Works Director		4/28/21
X	Finance Director		4.28.21
X	Deputy Administrator		4/28/21
X	City Clerk		4/28/2021
X	Mayor		4/28/21

Fiscal Impact: ☒ yes or ☐ no **Funds Available:** ☒ yes $256,540

Account name/number: Richmond Hills B Station/320-4369-436.45-27
Attachments: CRW Engineering Group Proposal (26 pages)

Summary Statement: This contract award is in response the City's Request for Proposal No. 0114-0-2021/AG that was advertised on January 14, 2021. Three proposals were received and evaluated, and the CRW proposal was ranked number one by the evaluation committee. This project is proposed to construct a second booster station at the Richmond Hills site to provide 100 percent redundancy for this portion of the water system.

The Richmond Hills Booster Station serves the area shown in the CRW proposal Exhibit F and is the area of the future hotel within the Shoppes at Sun Mountain development. This is the only area of the city's water distribution system that has no redundancy. If the booster station goes down, then the area's water pressure drops to 20 psi and fire flow capacity is significantly reduced.

Staff Recommendation: Approve the Action Memorandum.

CRW ENGINEERING GROUP, LLC

CRW Engineering Group, LLC

Memorandum

from: Jon Hermon, P.E.

to: Mr. Archie Giddings,
City of Wasilla DPW Director

Date: April 13, 2021

RE: REVISED Fee Proposal for Richmond Hills Booster Station Design Services

Dear Mr. Giddings:

We are pleased to submit this fee proposal to provide engineering services for the Richmond Hills Booster Station design phase. This work will be provided directly to the City of Wasilla ("City") as part of a design-bid-build approach. We understand our scope of work is to design a new booster station to provide 100% operational redundancy of the existing booster station located on Enterprise Drive. This scope of work generally includes the following tasks, based on our understanding of the conversations we've had with City personnel in two previous meetings:

- Design of a new heated, ventilated building to house the new booster station equipment and be located adjacent to the existing facility.
- Design of a new booster pumping system, including associated piping, valves, instrumentation and controls, and sized with the use of hydraulic modeling and field measurements.
- Design of power and standby power supply to the new facility and coordination with MEA in the upgrade of the nearby power supply.
- Design of building site, including facility siting, site grading and layout of exterior water piping to connect the booster station with the existing distribution system.
- Permitting assistance for plan reviews by State of Alaska Dept. of Environmental Conservation (ADEC), Mat-Su Borough (MSB) Building Official and the City of Wasilla.
- Associated project management, coordination, meetings, design analysis, construction cost estimates, QA/QC reviews, and submittal compilation.
- Construction administration services is not currently included in the scope of work, but will be addressed prior to the construction phase.

Each of these scope areas and related general assumptions are further described below. Spreadsheets are attached to this proposal in Exhibit B, outlining in detail the hourly breakdown and specific assumptions that form the basis of our estimated effort and fee.

DESIGN PHASE:

General scope for all disciplines will include:

- Design submittals at 50%, 95% and 100% phases.
- Construction cost estimates provided with 50% and 95% submittals.
- In the form of a technical memorandum, a design analysis summarizing design concepts, design criteria, code analyses, results of hydraulic modelling and pumping configuration and controls recommendations.
- Bidding assistance services by way of answering bidder questions, producing any needed addenda and evaluating bids.

Site Design scope will include:

- Site layout and grading of the facility proper, including positioning and orientation of buildings and exterior water utilities.
    - It is assumed that the new facility will be located immediately west of the existing facility.
    - We anticipate that the new booster station facility will be supplied by the City distribution system in a piped configuration that is parallel to the existing facility. This parallel configuration will be aligned within the parcel boundaries to avoid impacting adjacent roadways.
- Topographic survey of the site will be provided by the Owner and provide the needed information listed in Exhibit D.
- No geotechnical investigation will be performed at the site. Instead, the building foundation design will be based on existing geotechnical information provided by the City.
- Design analysis narrative to describe the concepts and general site layout that will be pursued in the later design phases.
- Generation of an early site construction bid package in order to accommodate the autumn installation of the new exterior piping configuration, building slab and foundation, and site grading prior to the onset of winter.
- Permitting effort related to the site design, including:
    - Submission of an Approval to Construct permit application to ADEC for the early site package.

  - As part of the 95% pre-final construction document submittal, a site plan review by the City of Wasilla.

- Significant assumptions include the following:
  - Landscape design will not be required for the facility site.

Water-Process design scope will include:

- Hydraulic modeling of the City's water distribution system covering the served area identified in Exhibit F.
  - Modelling effort will include the approximate mapping of parcels and water distribution system using LiDAR-based topographic mapping available via the MSB website, City-provided record drawing information of water system construction, and City inputs on anticipated expansion of the distribution to serve future developments.
- Design analysis narrative to summarize hydraulic modeling results, recommendations for the pumping configuration and sizing, and design criteria for delivering domestic and fire protection pressure and flow to the distribution system in the served area.
- Design and floor layout of booster pumps and associated interior piping, valving, pressure tankage and hydraulic instrumentation.
- Selection of a manufactured, VFD-controlled booster pump package for meeting domestic and fire protection pressure and flow requirements of the served area.
  - Booster pump design will be based on design criteria summarized in design analysis consistent with accepted design practices for municipal water systems and City of Wasilla requirements. Design will not be based on NFPA code requirements for "fire pumps."
- Generation of an early pump bid package by way of a procurement specification in order to accommodate the construction schedule.
  - Pump package is assumed to be an Owner-provided item to be installed by Contractor.
- Permitting effort related to the water supply design, including:
  - Submitting application package for plan review and Approval to Construct permit from ADEC, based on 95% design submittal.

  - Submitting required information to ADEC for interim and final Approval to Operate permit.

- Significant assumptions include the following:
  - Hydraulic modelling will be developed to sufficient detail needed to determine reasonably accurate operating conditions for the booster pump design in serving covered area. We assume that a fully-developed, calibrated modeling effort for infrastructure planning is not desired by the City for this project. If desired, this effort could be provided at a later time as part of an amendment to this contract.
  - New pumping system will be designed as the primary means of providing pressure and flow to the served area, without the need to operate the existing booster station (which would serve as a secondary back-up system).

Electrical and Controls design scope will include:

- Analysis of existing controls system via review of documentation and discussions with TecPro.
- Design analysis narrative to summarize conclusions from analysis of existing controls and recommended approach for upgrading existing controls, integrating controls of new and existing facilities and SCADA for remote monitoring of distribution system.
- Power and lighting design for new booster station facility, including design of an exterior, self-contained standby generator and power supply upgrades to serve both new and existing facilities.
- Controls and related instrumentation design of the new booster station, and design of controls upgrades to the existing station to improve the integration and operations of both facilities.
  - Design effort will be performed in collaboration with the City's retained controls and integration contractor, TecPro, Inc.
- SCADA design comprised of remote monitoring of pressure and flow at selected, strategic locations of the water distribution system to improve responsiveness of water delivery to areas of high demand.
- Coordination with MEA in the upgrade of power supply equipment on the pole serving the booster station facilities.
- Significant assumptions include the following:

- Local controls for the activation, operation and speed variation of booster pumps will be provided as part of the pre-manufactured pump package.
- System controls for integrating the two booster stations, pump packages and SCADA will be custom-designed by CRW.
- New and existing pumping systems will not operate in tandem to provide combined water distribution service, but instead as primary and secondary systems with automated activation of the secondary system in event the primary system fails to operate.
- City will retain TecPro to build custom control panels and integrate controls during construction of the facility. Doing so will simplify effort in generating the project design documents.

Structural and Architectural design scope will include:

- Design analysis narrative summarizing design criteria and code analysis.
- Generation of an early site construction bid package in order to accommodate the autumn installation of the new exterior piping configuration, building slab and foundation, and site grading prior to the onset of winter.
- Design of building in accordance with the 2015 edition of the International Building Code (IBC) and related codes referenced therein.
- Permitting effort related to the structural and architectural design, including:
  - Fire code review by MSB Building Official.
- A breakdown of the architectural design cost reflected in our fee spreadsheet is attached as Exhibit E.
- Significant assumptions include the following:
  - Building footsize size in the approximate range of 24 feet x 24 feet.
  - Building construction comprised of locally-available CMU, wood and/or steel. A pre-engineered building is not considered practical for meeting the construction schedule of this facility.
  - Building will be designed using Revit CADD software.

Mechanical design scope will include:

- Design analysis narrative summarizing design criteria and code analysis.

- Design of building heating and ventilation in accordance with the 2015 edition of the International Building Code and related codes referenced therein.
- Permitting effort related to the mechanical design, including:
    - Fire code review by MSB Building Official.

This fee proposal also includes and/or assumes the following:

- Permitting review fees will be directly paid to the reviewing agency by the City.
- Deliverables will include electronic PDF copies of the design analysis, geotechnical report, drawings and specifications for the design phase, will be submitted in accordance with the project schedule.
- Further assumptions are reflected in the fee spreadsheet for each area of scope.

A project schedule is included in Exhibit A, and, acknowledging the City's desire to have facility construction completed by Summer 2022, assumes the following:

- Receipt of an NTP by 5-11-2021.
- The Data Review and Systems Analysis Phase completed by 6-9-2021 and 50% Design Phase beginning by 6-10-2021.
- Early Procurement Phase for the early site package and pump package beginning by 7-5-2021.
    - The early site package schedule anticipates having the exterior piping and building foundation completed in Oct 2021.
    - The early pump package schedule anticipates having the booster pump package manufactured and delivered to the City by January of 2022.
- 95% Design Phase beginning by 8-16-2021 and completed by 9-20-2021.
- Permit applications and associated documents submitted by 9-21-2021.
    - Nominal review periods are reflected for each agency, and depend on plan reviewer workload. In particular, the ADEC review may extend well beyond the timeframe shown, based on recent experience.
- 100% Design Phase beginning by 10-11-2021 and completed by 10-29-2021.
    - The design phase schedule anticipates having the construction of the vertical, aboveground building and interior facilities beginning in January 2022 and completed in the Summer of 2022.

- City design review periods of approximately ten days or less each.

Our total proposed fee for the design phase is as follows:

DESIGN PHASE	AMOUNT
Project Management and Development *(hydraulic modelling and controls analysis efforts)*	$71,560
Design Analysis	$13,055
50% Design Development & Early Site Package	$83,925
Early Pump Package	$5,600
95% and 100% Construction Documents	$59,010
Permitting	$9,050
Bidding Services	$13,440
TOTAL	**$256,540**

All design work would be performed on a lump sum fee basis in accordance with the contract made between the City and CRW. The Permitting and Bidding Services tasks will be performed on a time-and-materials (T&M), not-to-exceed (NTE) fee basis in accordance with the contract made between the City and CRW and the fee schedule included in Exhibit C. The T&M, NTE budget would not be exceeded without prior authorization from City. Any T&M, NTE budget not expended by CRW at project completion will be returned to the City.

We look forward to working with you and the City of Wasilla staff. Thank you!

END OF MEMORANDUM

Attachments:

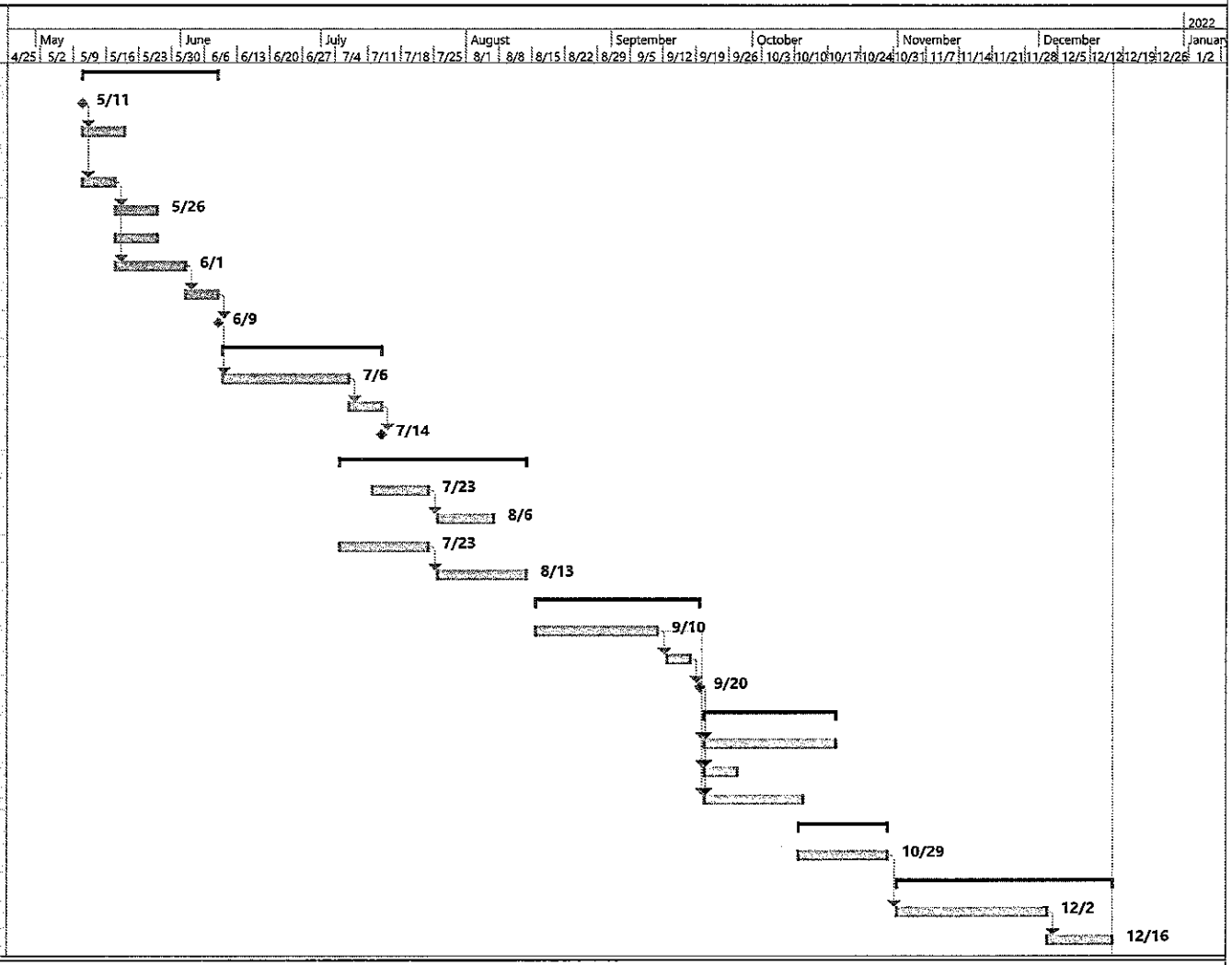
Exhibit A – Project Schedule (One 11x17 page)
Exhibit B – Fee Spreadsheets (11-11x17 pages total)
Exhibit C – 2021 CRW Fee Schedule (1 page)
Exhibit D – M. Schoming Email Detailing CRW Survey Needs (2 pages)

Exhibit E – 907 Architecture Fee Estimate (2 pages)
Exhibit F – Map of Area Served by Booster Station (1 page)

Richmond Hills Booster Station
Proposed Project Schedule

Tue 4/13/21

ID	Task Name	Start	Finish	Duration
1	**Data Review/Systems Analysis**	**Tue 5/11/21**	**Wed 6/9/21**	**21 days**
2	Project Start	Tue 5/11/21	Tue 5/11/21	0 days
3	Record Drawings and Data Collection/Review	Tue 5/11/21	Wed 5/19/21	7 days
4	Mapping for Hydraulic Modelli	Tue 5/11/21	Mon 5/17/21	5 days
5	Hydraulic Modelling	Tue 5/18/21	Wed 5/26/21	7 days
6	Controls System Analysis	Tue 5/18/21	Wed 5/26/21	7 days
7	Design Analysis Memorandum	Tue 5/18/21	Tue 6/1/21	11 days
8	City Review	Wed 6/2/21	Tue 6/8/21	5 days
9	Review Meeting	Wed 6/9/21	Wed 6/9/21	0 days
10	**50% Design Phase**	**Thu 6/10/21**	**Wed 7/14/21**	**24 days**
11	50% Design Submittal	Thu 6/10/21	Tue 7/6/21	19 days
12	City Review	Wed 7/7/21	Tue 7/13/21	5 days
13	Review Meeting	Wed 7/14/21	Wed 7/14/21	0 days
14	**Early Procurement**	**Mon 7/5/21**	**Fri 8/13/21**	**30 days**
15	Pump Package	Mon 7/12/21	Fri 7/23/21	10 days
16	Pump Package Bidding	Mon 7/26/21	Fri 8/6/21	10 days
17	Early Civil Package	Mon 7/5/21	Fri 7/23/21	15 days
18	Civil Package Bidding	Mon 7/26/21	Fri 8/13/21	15 days
19	**95% Design Phase**	**Mon 8/16/21**	**Mon 9/20/21**	**25 days**
20	95% Design Submittal	Mon 8/16/21	Fri 9/10/21	20 days
21	City Review	Mon 9/13/21	Fri 9/17/21	5 days
22	Review Meeting	Mon 9/20/21	Mon 9/20/21	0 days
23	**Permitting**	**Tue 9/21/21**	**Mon 10/18/21**	**20 days**
24	ADEC Review	Tue 9/21/21	Mon 10/18/21	20 days
25	City of Wasilla Site Plan Review	Tue 9/21/21	Mon 9/27/21	5 days
26	MSB Fire Code Review	Tue 9/21/21	Mon 10/11/21	15 days
27	**100% Design Phase**	**Mon 10/11/21**	**Fri 10/29/21**	**15 days**
28	100% Design Submittal	Mon 10/11/21	Fri 10/29/21	15 days
29	**Bidding and Award**	**Mon 11/1/21**	**Thu 12/16/21**	**34 days**
30	Bidding Period	Mon 11/1/21	Thu 12/2/21	24 days
31	Contract Award	Fri 12/3/21	Thu 12/16/21	10 days



DESIGN PHASE	SITE	WATER-PROCESS	ELECTRICAL & CONTROLS	STRUCT & ARCH	MECHANICAL	TOTALS
Project Management and Development	$13,215	$22,805	$18,230	$12,185	$5,125	**$71,560**
Design Analysis	$3,855	$3,650	$2,340	$2,430	$780	**$13,055**
50% Design Development & Early Site Package	$25,665	$11,350	$18,190	$22,390	$6,330	**$83,925**
Early Pump Package	$0	$5,600	$0	$0	$0	**$5,600**
95% & 100% Construction Documents	$2,955	$12,075	$17,370	$21,480	$6,030	**$59,910**
Permitting (T&M, NTE)	$2,670	$4,500	$0	$1,490	$390	**$9,050**
Bidding Services (T&M, NTE)	$3,450	$1,775	$2,565	$4,270	$1,380	**$13,440**
TOTALS	**$51,810**	**$61,755**	**$58,695**	**$64,245**	**$20,035**	**$256,540**

City of Wasilla Richmond Hills Booster Station Design Phase Services Fee Estimate -- April 2021	Footnotes	Principal	Senior Engineer or Surveyor	Project Engineer or Surveyor	Staff Engineer	Senior Designer	Clerical Staff	Total CRW Labor	Subnotes	Subconsultant Expenses	Misc. CRW Expenses	Task Totals
TASK	1	$215	$195	$175	$150	$150	$95			Cost x 1.10	Cost x 1.0	
A. SITE DESIGN												
1 ***Project Management and Development***	2	2					2	$620			$110	$730
a Site Visits			2		2			$690				$690
b A/E Team Design Meetings (3 total)	3		6		4			$1,770				$1,770
c Design Coordination			8					$1,560				$1,560
d Data Gathering and Review			2		4			$990				$990
e Topographic Site Survey	4							$0		$0	$0	$0
f Review Geotechnical Information	5		4					$780		$0	$0	$780
g Cost Estimates (50% and 95% Submittals)			6		16			$3,570				$3,570
h QA/QC (2 submittals)		4	4					$1,640				$1,640
i Submittal Compilation (3 total)			3		6			$1,485				$1,485
2 ***Design Analysis***												
a Design Narrative	6		6					$1,170				$1,170
b Sketches			2			8		$1,590				$1,590
c Document Compilation and Submittal			1		6			$1,095				$1,095
3 ***50% Design Development & Early Site Package***	7											
a Site Design	8		2		6			$1,290				$1,290
b Develop Basemap	9		4			12		$2,580				$2,580
c Survey Control (1 sheet)			2		2			$690				$690
d Vicinity Map, Notes, Legend, Abbrev (2 sheets)			1		4			$795				$795
e Existing Conditions and Demolition Plan			1		6			$1,095				$1,095
f Site and Grading Plan (1 sheet)			4		12			$2,580				$2,580
h Utility Plan (1 sheet)			3		8			$1,785				$1,785
i Site Sections (1 sheet)			2		8			$1,590				$1,590
j Plan and Profile (2 sheets)			4		12			$2,580				$2,580
k Site and Utility Details (4 sheets)			4		12	24		$6,180				$6,180
l Specifications			12					$2,340				$2,340
m Responses to Comments			2					$390				$390
n Bidding Support for Early Site Package			6		4			$1,770				$1,770
4 ***95% & 100% Construction Documents***	11											
a Site Plan (1 sheet)			6		8			$2,370				$2,370
b Responses to Comments (95% submittal only)			3					$585				$585
5 ***Permitting (T&M, NTE)***	12											
a City of Wasilla Site Plan Review			2		2			$690				$690
b ADEC Plan Review of Early Site Package			4		8			$1,980			$0	$1,980

City of Wasilla Richmond Hills Booster Station Design Phase Services Fee Estimate -- April 2021	Footnotes	Principal	Senior Engineer or Surveyor	Project Engineer or Surveyor	Staff Engineer	Senior Designer	Clerical Staff	Total CRW Labor	Subnotes	Subconsultant Expenses	Misc. CRW Expenses	Task Totals
TASK	1	$215	$195	$175	$150	$150	$95			Cost x 1.10	Cost x 1.0	
A. SITE DESIGN												
6 *Bidding Services (T&M, NTE)*												
a Respond to Bidder Questions			4		2			$1,080				$1,080
b Produce Addenda			4		8			$1,980				$1,980
c Review Bids			2					$390				$390
Subtotal Task A:		6	116	0	140	44	2	$51,700		$0	$110	$51,810

Total Hours (Task A):		**6**	**116**	**0**	**140**	**44**	**2**	**n/a**		**n/a**	**n/a**	
Total Costs (Task A):		**$1,290**	**$22,620**	**$0**	**$21,000**	**$6,600**	**$190**	**$51,700**		**$0**	**$110**	**$51,810**

Assumptions:

a *Landscape design not required.*

Footnotes:

1 *Fee proposal based on Year 2021 standard rates.*
2 *Includes nominal budget for phone, fax, mailings.*
3 *Assumes attendance at up to three 2-hr A/E coordination meetings via teleconference.*
4 *Topographic survey will be provided by Owner. See attached Micah Schoming email in Exhibit D, listing survey needs for design.*
5 *Existing geotechnical information will be provided for design of building foundation and seismic site designation.*
6 *Includes description of site design layout and approach.*
7 *Assumes these two design phases will be closely overlapping efforts, and that early site package will incorporate coordinated layouts from 50% design package.*
8 *Computations and analysis.*
9 *This task represents effort needed to convert survey data into integrated LiDAR mapping and CADD layering for design use.*
10 *Assumes that stamped survey control drawing will be provided by City's surveyor in time for incorporating it into the early site package.*
11 *Assumes that development of site design beyond the early site package will be minimal.*
12 *Assumes that review fees will be paid directly to agency by City.*

City of Wasilla Richmond Hills Booster Station Design Phase Services Fee Estimate -- April 2021	Footnotes	Principal	Senior Engineer	Project Engineer	Staff Engineer	Senior Designer	Clerical Staff	Total CRW Labor	Subnotes	Subconsultant Expenses	Misc. CRW Expenses	Task Totals
TASK	1	$215	$195	$175	$150	$150	$95			Cost x 1.10	Cost x 1.0	
B. WATER-PROCESS DESIGN												
1 ***Project Management and Development***	2	2					2	$620			$55	$675
a Site Visits				2	2			$650				$650
b A/E Team Design Meetings (3 total)	3			6	4			$1,650				$1,650
c Design Coordination				4	4			$1,300				$1,300
d Data Gathering and Review				4	8			$1,900				$1,900
e Topographical Mapping for Hydraulic Modelling				4	16	12		$4,900				$4,900
f Hydraulic Modelling				6	32			$5,850				$5,850
g Cost Estimates (50% and 95% Submittals)				4	12			$2,500				$2,500
h QA/QC (2 submittals)		4	6	4				$2,730				$2,730
i Submittal Compilation (2 total)				2		2		$650				$650
2 ***Design Analysis***	4											
a Design Narrative				12				$2,100				$2,100
b Sketches				2		8		$1,550				$1,550
3 ***50% Design Development***												
a Water-Process Design	5			4	8			$1,900				$1,900
b Notes, Legend, Abbrev, Schedules (2 sheets)				1	4			$775				$775
c Water-Process Floor Plan (1 sheet)				4	8	8		$3,100				$3,100
d Piping Elevations (1 sheet)				1	6	4		$1,675				$1,675
e Water-Process Details (2 sheets)				2	4	8		$2,150				$2,150
f Specifications				8				$1,400				$1,400
g Responses to Comments				2				$350				$350
4 ***Early Pump Package***												
a Review of Mfr'd Pumping Systems				4	6			$1,600				$1,600
b Specifications				8				$1,400				$1,400
c Drawings				4		4		$1,300				$1,300
d Bidding Support for Early Pump Package				4		4		$1,300				$1,300
5 ***95% & 100% Construction Documents***												
a Water-Process Design	5			4	8			$1,900				$1,900
b Notes, Legend, Abbrev, Schedules (2 sheets)				1	2			$475				$475
c Water-Process Floor Plan (1 sheet)				4	8	8		$3,100				$3,100
d Piping Elevations (1 sheet)				2	6	4		$1,850				$1,850
e Water-Process Details (4 sheets)				2	8	12		$3,350				$3,350
f Specifications				6				$1,050				$1,050
g Responses to Comments (95% submittal only)				2				$350				$350

City of Wasilla Richmond Hills Booster Station Design Phase Services Fee Estimate -- April 2021	Footnotes	Principal	Senior Engineer	Project Engineer	Staff Engineer	Senior Designer	Clerical Staff	Total CRW Labor	Subnotes	Subconsultant Expenses	Misc. CRW Expenses	Task Totals
TASK	1	$215	$195	$175	$150	$150	$95			Cost x 1.10	Cost x 1.0	
B. WATER-PROCESS DESIGN												
6 ***Permitting (T&M, NTE)***												
a ADEC Plan Review of Booster Station	6			12	16			$4,500				$4,500
7 ***Bidding Services (T&M, NTE)***												
a Respond to Bidder Questions				2				$350				$350
b Produce Addenda				2	6			$1,250				$1,250
c Review Bids				1				$175				$175
Subtotal Task B:		6	6	130	168	74	2	$61,700		$0	$55	$61,755
Total Hours (Task B):		**6**	**6**	**130**	**168**	**74**	**2**	**n/a**		**n/a**	**n/a**	
Total Costs (Task B):		**$1,290**	**$1,170**	**$22,750**	**$25,200**	**$11,100**	**$190**	**$61,700**		**$0**	**$55**	**$61,755**

Assumptions:

a *Area of hydraulic modelling coverage will be as shown on attached map in Exhibit F.*

b *Hydraulic modelling will be developed to sufficient detail needed to determine operating conditions for booster pump design in serving covered area. Proposal does not reflect effort to develop a detailed, calibrated hydraulic model for use as an infrastructure development planning tool in characterizing true flow and pressure scenarios in all locations of covered area.*

c *Hydraulic modelling tool will be WaterCAD to used in conjection with AutoCAD 3D.*

Footnotes:

1 *Fee proposal based on Year 2021 standard rates.*

2 *Includes nominal budget for phone, fax, mailings.*

3 *Assumes attendance at up to three 2-hr A/E coordination meetings via teleconference.*

4 *Will include summary of modelling results and recommendation of pump configuration and sizing.*

5 *Computations and analysis.*

6 *Assumes that review fees will be paid directly to agency by City.*

City of Wasilla Richmond Hills Booster Station Design Phase Services Fee Estimate -- April 2021	Footnotes	Principal	Senior Engineer	Project Engineer	Staff Engineer	Senior Designer	Clerical Staff	Total CRW Labor	Subnotes	Subconsultant Expenses	Misc. CRW Expenses	Task Totals
TASK	1	$215	$195	$175	$150	$150	$95			Cost x 1.10	Cost x 1.0	
C. ELECTRICAL & CONTROLS DESIGN												
1 ***Project Management and Development***	2	2					2	$620			$55	$675
a Site Visits			2					$390				$390
b A/E Team Design Meetings (3 total)	3		6	6	6			$3,120				$3,120
c Design Coordination			4	1	1			$1,105				$1,105
d Data Gathering and Review			4	2	2			$1,430				$1,430
e Analysis of Existing Facility Controls			16	2	2			$3,770				$3,770
f Coordination with MEA			4					$780				$780
g Cost Estimates (50% and 95% Submittals)			2	3	3			$1,365				$1,365
h QA/QC (2 submittals)		2	16			8		$4,750				$4,750
i Submittal Compilation (2 total)			1	2	2			$845				$845
2 ***Design Analysis***	4											
a Design Narrative			12					$2,340				$2,340
b Sketches								$0				$0
3 ***50% Design Development***												
a Electrical Design	5		4	8				$2,180				$2,180
b Controls Design	6		8		8			$2,760				$2,760
c Notes, Legend, Abbrev, Schedules (3 sheets)			2	4	4			$1,690				$1,690
d Electrical Site Plan (1 sheet)			2	6	2			$1,740				$1,740
e Electrical Floor Plan (1 sheet)			2	4				$1,090				$1,090
f Electrical Instrumentation Plan (1 sheet)			2		4			$990				$990
g P&ID (1 sheet)			4		4			$1,380				$1,380
h Panel Elevations and Narratives (1 sheet)			4		6			$1,680				$1,680
i Electrical Details (1 sheets)			2	4				$1,090				$1,090
j Controls Details (1 sheets)			4		4			$1,380				$1,380
k Specifications			6	2	2			$1,820				$1,820
l Responses to Comments			2					$390				$390
4 ***95% & 100% Construction Documents***												
a Electrical Design	5		4	8				$2,180				$2,180
b Controls Design	6		6		8			$2,370				$2,370
c Notes, Legend, Abbrev, Schedules (3 sheets)			2	2	2			$1,040				$1,040
d Electrical Site Plan (1 sheet)			2	6	2			$1,740				$1,740
e Electrical Floor Plan (1 sheet)			2	6				$1,440				$1,440
f Electrical Instrumentation Plan (1 sheet)			2		6			$1,290				$1,290
g P&ID (1 sheet)			2		4			$990				$990
h Panel Elevations and Narratives (1 sheet)			4		6			$1,680				$1,680
i Electrical Details (2 sheets)			2	6				$1,440				$1,440
j Controls Details (2 sheets)			4		4			$1,380				$1,380

City of Wasilla Richmond Hills Booster Station Design Phase Services Fee Estimate -- April 2021	Footnotes	Principal	Senior Engineer	Project Engineer	Staff Engineer	Senior Designer	Clerical Staff	Total CRW Labor	Submotes	Subconsultant Expenses	Misc. CRW Expenses	Task Totals
TASK	1	$215	$195	$175	$150	$150	$95			Cost x 1.10	Cost x 1.0	
C. ELECTRICAL & CONTROLS DESIGN												
k Specifications			4	2	2			$1,430				$1,430
l Responses to Comments (95% submittal only)			2					$390				$390
5 ***Bidding Services (T&M, NTE)***												
a Respond to Bidder Questions			4					$780				$780
b Produce Addenda			2		8			$1,590				$1,590
c Review Bids			1					$195				$195
Subtotal Task C:		4	152	74	92	8	2	$58,640		$0	$55	$58,695
Total Hours (Task C):		4	152	74	92	8	2	n/a		n/a	n/a	
Total Costs (Task C):		$860	$29,640	$12,950	$13,800	$1,200	$190	$58,640		$0	$55	$58,695

Assumptions:

a New pumping and controls system will provide primary water distribution to served area. Existing pumping system will provide secondary (back-up) water distribution to served area.

b New and existing facilities will not operate in tandem to provide combined water distribution service.

c New pumps and associated VFDs and controls will be provided as a pre-manufactured package, such as like Grundfos Boosterpaq.

d Pump package controls will be integrated into controls and instrumentation of new facility.

e SCADA design for this project will feature remote monitoring of flows and pressures in key locations of the distribution system within served area.

f Design scope will include facility controls, power service to facility and related upgrades, and self-contained standby generator.

Footnotes:

1 Fee proposal based on Year 2021 standard rates.

2 Includes nominal budget for phone, fax, mailings.

3 Assumes attendance at up to three 2-hr A/E coordination meetings via teleconference.

4 Design analysis narrative will describe scope of integration for both facilities, general operations of facility controls and extents of needed controls modifications for existing facility.

5 Computations and analysis.

6 Development of functional descriptions and controls parameters.

City of Wasilla Richmond Hills Booster Station Design Phase Services Fee Estimate -- April 2021	Footnotes	Principal	Senior Engineer	Project Engineer	Staff Engineer	Senior Designer	Clerical Staff	Total CRW Labor	Subnotes	Architectural Subconsultant Expenses	Misc. CRW Expenses	Task Totals
TASK	1	$215	$195	$175	$150	$150	$95			Cost x 1.10	Cost x 1.0	
D. STRUCTURAL & ARCHITECTURAL DESIGN												
1 ***Project Management and Development***	2	2					2	$620	d	$5,500	$55	$6,175
a Site Visits (none)								$0				$0
b A/E Team Design Meetings (3 total)	3		6					$1,170				$1,170
c Design Coordination			4		4			$1,380				$1,380
d Cost Estimates (50% and 95% Submittals)			4					$780				$780
e QA/QC (2 submittals)		4	6					$2,030				$2,030
f Submittal Compilation (2 total)				2		2		$650				$650
2 ***Design Analysis***	4								d	$1,650		$1,650
a Design Narrative			4					$780				$780
b Sketches	5											
3 ***50% Design Development & Early Site Package***	6											
a Architectural Design	5							$0	d	$5,500		$5,500
b Structural Design	7		2	16		4		$3,790				$3,790
c Code Summary Sheet (1 sheet)	5											
d Notes, Legend, Abbrev, Schedules (2 sheets)			2			4		$990				$990
e Foundation and Floor Plan (1 sheet)			2	8		10		$3,290				$3,290
f Roof Plan (1 sheet)			2	4		8		$2,290				$2,290
g Structural Details (2 sheets)			2	8		12		$3,590				$3,590
h Building Elevations (1 sheet)	5											
i Specifications			6					$1,170				$1,170
j Responses to Comments			2					$390				$390
k Bidding Support for Early Site Package			4		4			$1,380				$1,380
4 ***95% & 100% Construction Documents***												
a Architectural Design	5								d	$12,650		$12,650
b Structural Design	7			4				$700				$700
c Code Summary Sheet (1 sheet)	5							$0				$0
d Notes, Legend, Abbrev, Schedules (4 sheets)			2			4		$990				$990
e Foundation and Floor Plan (1 sheet)			2	4		6		$1,990				$1,990
f Roof Plan (1 sheet)			2	4		6		$1,990				$1,990
g Building Elevations (1 sheet)	5											
h Architectural Details (2 sheets)	5											
i Structural Details (3 sheets)			2	4		6		$1,990				$1,990
k Specifications			4					$780				$780
l Responses to Comments (95% submittal only)			2					$390				$390

City of Wasilla Richmond Hills Booster Station Design Phase Services Fee Estimate -- April 2021	Footnotes	Principal	Senior Engineer	Project Engineer	Staff Engineer	Senior Designer	Clerical Staff	Total CRW Labor	Subnotes	Architectural Subconsultant Expenses	Misc. CRW Expenses	Task Totals
TASK	1	$215	$195	$175	$150	$150	$95			Cost x 1.10	Cost x 1.0	
D. STRUCTURAL & ARCHITECTURAL DESIGN												
5 *Permitting (T&M, NTE)*												
a Fire Code Review by MSB Building Official	8		2					$390	d	$1,100	$0	$1,490
6 *Bidding Services (T&M, NTE)*									d	$2,200		$2,200
a Respond to Bidder Questions			4		2			$1,080				$1,080
b Produce Addenda			2		4			$990				$990
c Review Bids								$0				$0
Subtotal Task D:		6	68	54	14	62	2	$35,590		$28,600	$55	$64,245
Total Hours (Task D):		**6**	**68**	**54**	**14**	**62**	**2**	**n/a**		**n/a**	**n/a**	
Total Costs (Task D):		**$1,290**	**$13,260**	**$9,450**	**$2,100**	**$9,300**	**$190**	**$35,590**		**$28,600**	**$55**	**$64,245**

Assumptions:

a A building with an approximate footprint size of 24'x24' will be designed using Revit CADD software.

b Building construction will be comprised of locally-available materials such as lumber, CMU, steel or combination thereof.

c 2015 edition of IBC will be used as design standard for building.

Footnotes:

1 Fee proposal based on Year 2021 standard rates.

2 Includes nominal budget for phone, fax, mailings.

3 Assumes attendance at up to three 2-hr A/E coordination meetings via teleconference.

4 Design analysis will include code analysis and general description of building construction.

5 Provided in architect scope and fee.

6 Assumes these two design phases will be closely overlapping efforts, and that early site package will incorporate coordinated layouts from 50% design package.

7 Computations and analysis.

8 Includes time for coordinating with MSB Building Official and with mechanical engineer. Assumes that review fees will be paid directly to agency by City.

Subnotes:

d See attached architectural fee estimate in Exhibit E. Amount shown includes CRW's 10% mark-up.

City of Wasilla Richmond Hills Booster Station Design Phase Services Fee Estimate -- April 2021	Footnotes	Principal	Senior Engineer	Project Engineer	Staff Engineer	Senior Designer	Clerical Staff	Total CRW Labor	Subnotes	Subconsultant Expenses	Misc. CRW Expenses	Task Totals
TASK	1	$215	$195	$175	$150	$150	$95			Cost x 1.10	Cost x 1.0	
E. MECHANICAL DESIGN												
1 ***Project Management and Development***	2	2					2	$620			$55	$675
a Site Visits (none)								$0				$0
b A/E Team Design Meetings (3 total)	3		6					$1,170				$1,170
c Design Coordination			4		2			$1,080				$1,080
d Cost Estimates (50% and 95% Submittals)			4					$780				$780
e QA/QC (2 submittals)		2	2					$820				$820
f Submittal Compilation (2 total)					2	2		$600				$600
2 ***Design Analysis***	4											
a Design Narrative			4					$780				$780
b Sketches								$0				$0
3 ***50% Design Development***												
a Mechanical Design	5		2		4			$990				$990
b Notes, Legend, Abbrev, Schedules (2 sheets)			2		4			$990				$990
c Mechanical Floor Plan (1 sheet)			2		8			$1,590				$1,590
d Mechanical Details (2 sheets)			2		8			$1,590				$1,590
e Specifications			4					$780				$780
f Responses to Comments			2					$390				$390
4 ***95% & 100% Construction Documents***												
a Mechanical Design	5		2		4			$990				$990
b Notes, Legend, Abbrev, Schedules (2 sheets)			2		2			$690				$690
c Mechanical Floor Plan (1 sheet)			2		8			$1,590				$1,590
d Mechanical Details (2 sheets)			2		8			$1,590				$1,590
e Specifications			4					$780				$780
f Responses to Comments (95% submittal only)			2					$390				$390

City of Wasilla Richmond Hills Booster Station Design Phase Services Fee Estimate -- April 2021	Footnotes	Principal	Senior Engineer	Project Engineer	Staff Engineer	Senior Designer	Clerical Staff	Total CRW Labor	Subnotes	Subconsultant Expenses	Misc. CRW Expenses	Task Totals
TASK	1	$215	$195	$175	$150	$150	$95			Cost x 1.10	Cost x 1.0	
E. MECHANICAL DESIGN												
5 ***Permitting (T&M, NTE)***												
a Fire Code Review by MSB Building Official	6		2					$390				$390
6 ***Bidding Services (T&M, NTE)***												
a Respond to Bidder Questions			2					$390				$390
b Produce Addenda			2		4			$990				$990
c Review Bids								$0				$0
Subtotal Task E:		4	54	0	54	2	2	$19,980		$0	$55	**$20,035**
Total Hours (Task E):		**4**	**54**	**0**	**54**	**2**	**2**	**n/a**		**n/a**	**n/a**	
Total Costs (Task E):		**$860**	**$10,530**	**$0**	**$8,100**	**$300**	**$190**	**$19,980**		**$0**	**$55**	**$20,035**

Assumptions:

a Design scope will include HVAC, fuel delivery system, interior day tank and exterior fuel storage for new facility.

Footnotes:

1 *Fee proposal based on Year 2021 standard rates.*
2 *Includes nominal budget for phone, fax, mailings.*
3 *Assumes attendance at up to three 2-hr A/E coordination meetings via teleconference.*
4 *Design analysis will include code analysis and general description of mechanical systems.*
5 *Computations and analysis.*
6 *Includes assumed time for coordination with architect and with MSB Building Official. Review fee included in structural/architectural costs.*

CRW ENGINEERING GROUP, LLC
2021 Fee Schedule

LABOR RATES

Labor Category	Grade	Hourly Rate
Engineer/Land Surveyor	XXIV	$235.00
Engineer/Land Surveyor	XXIII	$230.00
Engineer/Land Surveyor	XXII	$225.00
Engineer/Land Surveyor	XXI	$220.00
Engineer/Land Surveyor	XX	$215.00
Engineer/Land Surveyor	XIX	$210.00
Engineer/Land Surveyor	XVIII	$205.00
Engineer/Land Surveyor	XVII	$200.00
Engineer/Land Surveyor	XVI	$195.00
Engineer/Land Surveyor	XV	$190.00
Engineer/Land Surveyor	XIV	$185.00
Engineer/Land Surveyor	XIII	$180.00
Engineer/Land Surveyor	XII	$175.00
Engineer/Land Surveyor	XI	$170.00
Engineer/Land Surveyor	X	$165.00
Engineer/Land Surveyor	IX	$160.00
Engineer/Land Surveyor	VIII	$155.00
Engineer/Land Surveyor	VII	$150.00
Engineer/Land Surveyor	VI	$145.00
Engineer/Land Surveyor	V	$140.00
Engineer/Land Surveyor	IV	$135.00
Engineer/Land Surveyor	III	$130.00
Engineer/Land Surveyor	II	$125.00
Engineer/Land Surveyor	I	$120.00
Planner	XV	$175.00
Planner	XIV	$170.00
Planner	XIII	$165.00
Planner	XII	$160.00
Planner	XI	$155.00
Planner	X	$150.00
Planner	IX	$145.00
Planner	VIII	$140.00
Planner	VII	$135.00
Planner	VI	$130.00
Planner	V	$125.00
Planner	IV	$120.00
Planner	III	$115.00
Planner	II	$110.00
Planner	I	$105.00

Labor Category	Grade	Hourly Rate
Technician	XX	$170.00
Technician	XIX	$165.00
Technician	XVIII	$160.00
Technician	XVII	$155.00
Technician	XVI	$150.00
Technician	XV	$145.00
Technician	XIV	$140.00
Technician	XIII	$135.00
Technician	XII	$130.00
Technician	XI	$125.00
Technician	X	$120.00
Technician	IX	$115.00
Technician	VIII	$110.00
Technician	VII	$105.00
Technician	VI	$100.00
Technician	V	$95.00
Technician	IV	$90.00
Technician	III	$85.00
Technician	II	$80.00
Technician	I	$75.00
Administrative	XIX	$170.00
Administrative	XVIII	$165.00
Administrative	XVII	$160.00
Administrative	XVI	$155.00
Administrative	XV	$150.00
Administrative	XIV	$145.00
Administrative	XIII	$140.00
Administrative	XII	$135.00
Administrative	XI	$130.00
Administrative	X	$125.00
Administrative	IX	$120.00
Administrative	VIII	$115.00
Administrative	VII	$110.00
Administrative	VI	$105.00
Administrative	V	$100.00
Administrative	IV	$95.00
Administrative	III	$90.00
Administrative	II	$85.00
Administrative	I	$80.00

SUPPLIES AND SERVICES

Direct Expenses and Supplies	Invoice + 10%
Subconsultants	Invoice + 10%
Meals (Per Diem)	$60.00/day
In-House Expenses:	
Xerox (8-1/2 x 11)	$0.10/copy
Xerox (11 x 17)	$0.20/copy
Color Copies (8-1/2 x 11)	$1.00/copy
Mileage (Federal Rate)	$0.56/mile
Bond Plots	$1.00/square foot
Mylar Plots	$2.00/square foot

11/16/2020

Jon Hermon

From: Micah Schoming
Sent: Monday, April 12, 2021 4:52 PM
To: Jon Hermon
Subject: City of Wasilla - Richmond Hills Booster Station Design Survey
Attachments: Bella Vista West 2014 - topo area request.pdf

Hi Jon,

See attached PDF of the area we are requesting at least 20 existing ground shots for elevation, which is the expected location of the future booster station structure and pipe alignment for the intake and discharge alignment. For the design base map we need to confirm we will receive the following info within the as-built drawing:

1. Utility locations (above and below) on and adjacent to property. (water valves, hydrants, electrical transformers, utility poles, etc)
2. ROW linework for the project property and adjacent lots and road right of way.
3. At least three building corners of the existing booster station, with the structure linework drawn. Include the finished floor elevation of the existing booster station.
4. Site features such as the fence, gate, edge pavement, and similar relevant items
5. Created EG surface of the existing ground topo shots

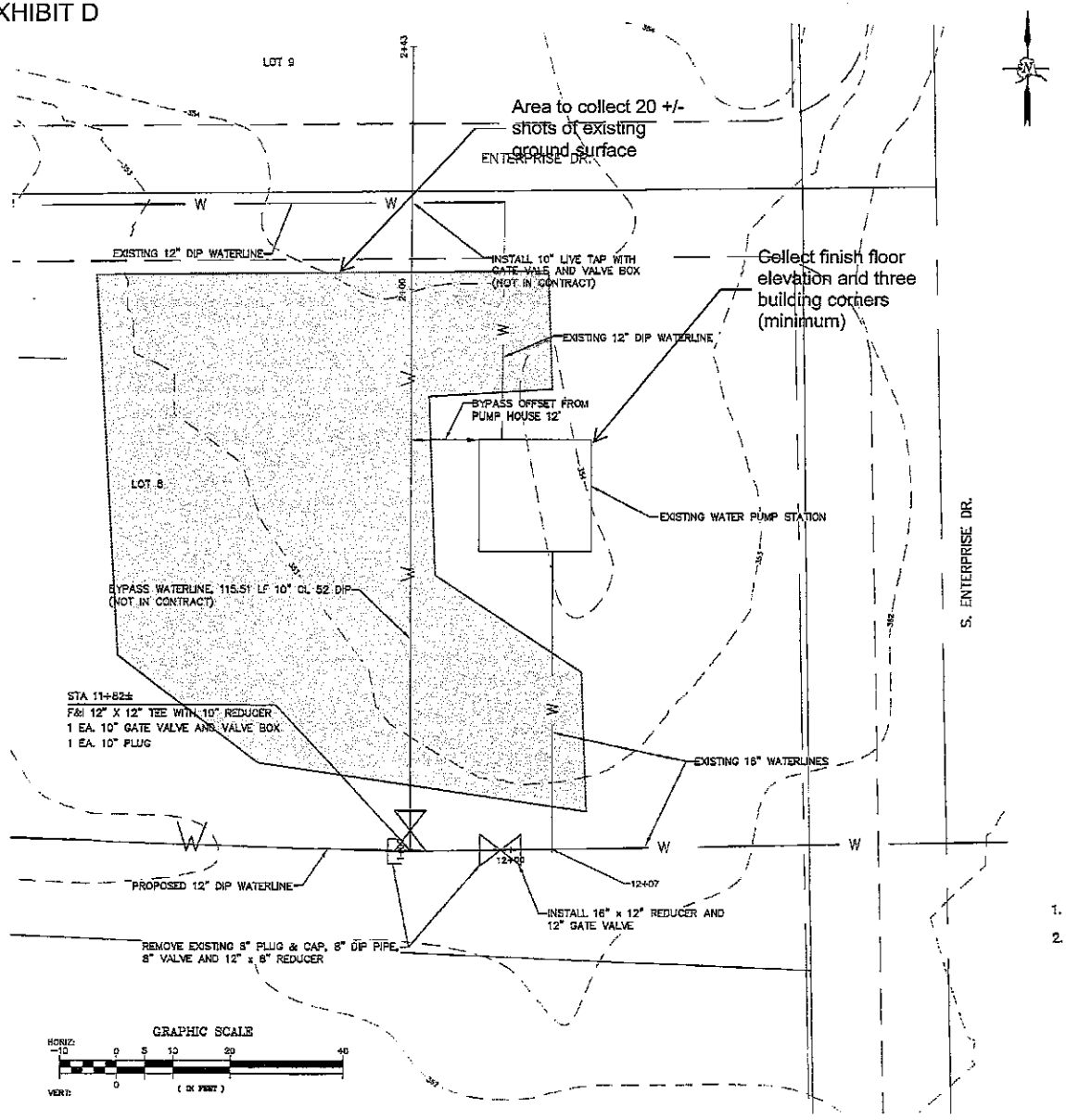
The finished format deliverable is an ACAD file in Civil 3D 2016 or newer version.

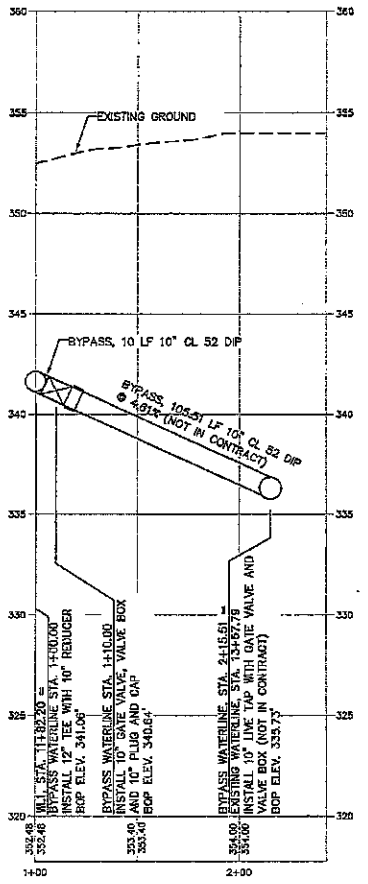
The third party surveyor will also need to prepare a stamped Survey Control Sheet we will incorporate into the Early Package as the future contractor will need to know the basis of horizontal and vertical control and any TBM's set during the site survey. We can provide a title block to the surveyor later

Micah Schoming, PE
Civil Engineer

CRW Engineering Group, LLC
3940 Arctic Blvd, Ste. 300
Anchorage AK 99503
Office 907-562-3252 | Direct 907-646-5636
www.crweng.com

EXHIBIT D





NOTES:

1. COORDINATE BYPASS INSTALLATION WITH CITY OF WASILLA PUBLIC WORKS.
2. WORK PERFORMED ON TEE REPLACEMENT AT STA. 12+07 SHALL BE DONE BETWEEN THE HOURS OF 12AM AND 5AM.

GRAPHIC SCALE

HORIZ:
VERT:
(IN FEET)

BELLA VISTA WEST
EXISTING WATERLINE
CONNECTION

PROJECT No.	13-00777
DATE	MAY 2014
DESIGNED	CAL
DRAWN BY	CMS
CHECKED BY	CAL
CAD DWG FILE	C4.0-3_WATER P&P.dwg
SCALE:	
HORIZONTAL	1"=10'
VERTICAL	NA
SHEET	C4.0 of 19

FIELD BOOKS

No.	DATE	REVISIONS / DESCRIPTION

EXHIBIT E

907 Architecture LLC
PO Box 875570
Wasilla, Alaska 99687
907.632.6487

PROPOSAL LETTER FOR ARCHITECTURAL SERVICES
CITY OF WASILLA
RICHMOND HILLS BOOSTER STATION UPGRADE
NO. 0114-0-2021/AG

April 2, 2021

Jon Hermon, PE
CRW Engineering Group LLC
3940 Arctic Blvd #300
Anchorage, AK 99503

Mr. Hermon,

Thank you for allowing **907 Architecture LLC** the opportunity to submit a fee proposal. Please read through this document thoroughly and should you have any queries contact me prior to signing.

If you find these conditions acceptable, please sign the fee proposal in the relevant places and return by hand, mail or e-mail to mwilson@907architecture.com. Receipt will serve as confirmation of our appointment and I will begin your project accordingly.

Please feel free to contact me should you have any queries at any stage. It is always better to resolve any aspects earlier in the design.

I look forward to working with you and the design team on this project.

Kind regards,

Matthew Wilson, AIA
907 Architecture LLC

Please find enclosed our detailed proposal for your consideration.

EXHIBIT E

907 Architecture LLC
PO Box 875570
Wasilla, Alaska 99687
907.632.6487

The following represents the agreement entered into by Matthew Wilson, AIA. ("Architect" and "Design Professional") and Jon Hermon, PE / CRW Engineering Group ("Client"). We are pleased to provide the following services:

Architect
Matthew Wilson, AIA
907 Architecture LLC
PO Box 875570
Wasilla, Alaska 99687-5570
907.632.6487

Client:
Jon Hermon, PE
CRW Engineering Group LLC
3940 Arctic Blvd #300
Anchorage, AK 99503

I.

A. ARCHITECTURAL SCOPE OF WORK

The scope of work is to provide Architectural design services for a new building to house equipment for a domestic water booster pump station for the City of Wasilla.

907 Architecture will provide an Architectural background (.dwg or .rvt) for the mechanical and electrical system design and provide detailing where needed to support the Booster Station. The proposed building will be approximately 24'x24' (576 sf) slab on grade building with a stem wall foundation. The wall materials are still in debate but could be wood framed with metal siding or CMU construction with manufactured wood trusses and a metal roof. The existing building looks to be wood framed with wood siding and a metal roof.

A 50% (.pdf only), 95% (.pdf only) and 100% (.pdf only) submittal are scheduled for this project and will be submitted to the client for review and comment. The drawings will consist of (City of Wasilla required drawings) floor plans, roof plans, building elevations, building sections, wall sections, and any required detailing to convey construction for permitting and construction. Book 3-part specifications will be provided for the bidding package.

Full Construction Administration services are included in this scope of work. This includes permitting support, submittal review, construction meetings, DCVR's, change orders, inspections, and substantial completion inspection and report.

II. PROFESSIONAL FEES

1. PROJECT SCOPE:

ARCHITECTURAL DESIGN	**Design Fee**
Project Management and Development	$5,000
50% Design with Code Analysis (Drawings & Specs)	$6,500
95% Construction Documents (Drawings & Specs)	$7,500
100% Construction Documents (Drawings & Specs)	$4,000
Permitting Assistance (Central Matsu Fire Dept)	$1,000
Total Architectural Design Fee	**$24,000**

CONSTRUCTION ADMINISTRATION	
Bidding Assistance & Support (Time & Materials)	$2,000
Construction Administration (Time & Materials)	$6,000
Total Architectural Bidding & Const Admin	**$8,000**

CITY OF WASILLA, ALASKA