Public Works Utility Operations

DATE: February 13, 2024

FROM: Michelle Klose, Director Public Works Utilities

ITEM: Amendment No. 1 to HDR Engineering, Inc. contract for the WTP Expansion Project

REQUEST:
Approval of Amendment No. 1 to HDR Engineering Inc's contract for the WTP Expansion Project.

BACKGROUND INFORMATION:
As the Water Treatment Plant Expansion design has begun, additional work has been identified at the Horizontal Collector Well. HDR has proposed Amendment No. 1 for design phase of the HCW HVAC Improvements to protect the integrity of equipment located in the well. This would be completed as part of the Water Treatment Plant Expansion project. The amount of the amendment is $337,753 and would extend the design contract to June 30, 2026.

RECOMMENDED CITY COMMISSION ACTION:
Approve Amendment No. 1 to HDR Engineering Inc's contract for the WTP Expansion Project in the amount of $337,753 and extend length of contract to June 30, 2026.

STAFF CONTACT INFORMATION:
Amber Araujo, Executive Assistant, 701-355-1739, aaraujo@bismarcknd.gov

ATTACHMENTS:
1. Bismarck WTP Expansion-HCW HVAC Amendment #1 - 1-30-24

AMENDMENT TO OWNER-ENGINEER AGREEMENT

Amendment No. 1

Owner: City of Bismarck, North Dakota

Engineer: **HDR Engineering, Inc.**

Project: Water Treatment Plant Expansion Project

Effective Date of Owner-Engineer Agreement: **July 20th, 2023**

Nature of Amendment:

- ☑ Additional Services to be performed by Engineer
- ☐ Modifications to services of Engineer
- ☐ Modifications to responsibilities of Owner
- ☑ Modifications of payment to Engineer
- ☐ Modifications to time(s) for rendering services
- ☐ Modifications to other terms and conditions of the Agreement

Description of Modifications:

See Amendment No. 1, Attachment A

Agreement Summary:	Engineering Services related to Design, Bidding, and CMAR tasks for the WTP Expansion Project as described in Owner-Engineer Agreement
Original agreement Amount:	$ 4,441,226
Net Change for prior amendments:	None
This amendment amount:	$337,753
Adjusted Agreement Amount:	$4,778,979
Change in time for services:	Additional 6 months from Original NTP (Total of 30 months from NTP)

Owner and Engineer hereby agree to modify the above-referenced Agreement as set forth in this Amendment. The Effective Date of the Amendment is **January 29, 2024.**

Owner	Engineer
City of Bismarck, North Dakota	HDR Engineering, Inc.
(typed or printed name of organization)	(typed or printed name of organization)
By: _____	By: Jason L. Kjenstad
(individual's signature)	(individual's signature)
(Attach evidence of authority to sign.)	(Attach evidence of authority to sign.)
Date: _____	Date: 1-30-2024
(date signed)	(date signed)
Name: Michael T Schmitz	Name: Jason Kjenstad
(typed or printed)	(typed or printed)
Title: President Board of Commissioners/Mayor	Title: Sr. Vice President
(typed or printed)	(typed or printed)

ATTACHMENT A

SCOPE OF SERVICES

WATER TREATMENT PLANT EXPANSION – AMENDMENT NO. 1
Bismarck Water Treatment Plant
Bismarck, North Dakota

January 29, 2024

SCOPE OF SERVICES

In addition to the scope of the original executed agreement, this Amendment shall add the described Scope of Services for HDR Engineering, Inc. ("ENGINEER") to provide engineering design, permitting, and CMAR services to the City of Bismarck ("OWNER") related to the Horizontal Collector Well – HVAC System Replacement associated with Water Treatment Plant Expansion project. The Scope of Services to be performed by ENGINEER shall be completed in accordance with generally accepted standards of practice and shall include the services and supplies to complete the following tasks:

Task Series 100 – Design & Permitting Phase Services
Task Series 200 – CMAR Phase Services

PROJECT DESCRIPTION

The City of Bismarck desires to design and construct a replacement HVAC cooling system for the existing Horizontal Collector Well (HCW) currently owned and operated by the City, located directly south of the Memorial Bridge, Bismarck, North Dakota. The current HVAC cooling system has experienced premature maintenance and failure due to the chilled water system's use of untreated raw water containing iron, maganease, and ammonia. The HCW and related facility improvements located on the HCW site will be designed by HDR Engineering, Inc.

Task Series 500 – HCW Design Phase Services

Objective: Develop the project design, drawings, specifications, and contract documents for bidding, equipment procurement, and construction of the project. Provide project management activities over project duration, including team management and project control, project planning, and liaison with OWNER.

Engineer Activities:

Task 501 – Team Management and Project Control

- Budget and invoice management.
- Schedule monitoring and update for project development.
- Resource management and allocation based on project schedules and activities.
- Monthly progress report submitted to OWNER with each invoice.

Task 502 – Project Planning

- Create the internal Project Management Plan for the project. Project Management Plan will document project activities, constraints, guidelines, budget, and procedures.
- Maintain Project Management Plan, distribute and update as activities dictate.

Task 503 – Kickoff Meeting

- Introduce the project team and establish the lines of communication.
- Establish review meeting dates.
- Identify OWNER/CMAR staff who are to provide information/services during the project.
- Facilitate discussion of project goals, expectations, and objectives.
- Present and request information and initial data needs from OWNER.
- Collect background data.
- Conduct key issues brainstorming.
- Kickoff meeting will include ENGINEER's Project Manager and Project Engineer.

Task 504 – Local, State, and Federal Permits

- Prepare permit applications and submit to OWNER.
- Provide technical input in securing these permits.
- Permit applications will be formally submitted and paid for by OWNER.
- Required permits to be prepared by ENGINEER are anticipated to include the following:
    - USACE 404 & Section 10 Permit Amendment
    - * Preliminary Conversations with USACE DKAO indicated that an Amendment to the existing HCW permit would likely be the permitting route. If additional permitting, i.e., a new 404, Section 10, or other Federal or State agency permit is required additional effort and fee will be required by the Engineer.

Task 505 – Biweekly Progress Meetings

- The consultant shall meet with City staff and City's chosen CMAR monthly as detailed in the original agreement scope of services.

Task 506 – HVAC Cooling System Alternative Analysis - Technical Memorandum

- Prepare a Design Memorandum (DM).
    - The DM is a summary of design criteria and data, and other pertinent information presented in outline format.
    - The primary intent of the DM is to allow the OWNER to review and comment on the design before ENGINEER proceeds with detailed design and drafting.
    - Perform quality control review of Draft DM document.
    - Submit the draft DM document to OWNER and CMAR for review and comment.
    - Incorporate Owner, CMAR, and quality control reviewer comments into Final DM document.
    - Transmit final Design Memorandum with revisions and additions in response to review comments received.

Task 507 – Pre-Design/Alternative Analysis Technical Memo Review Meeting

- Conduct a pre-design meeting with OWNER/CMAR to review the project specifics and DM and receive comments.
- Provide minutes of the pre-design meeting to document discussion items and action items.
- Incorporate action items into the project design as agreed upon in the pre-design meeting.
- Pre-design meeting will include ENGINEER's Project Manager, Project Engineer, in person, and the other disciplines of Engineers via conference call.

Task 508 – Preliminary Design (30% -60%) Drawings

- Perform calculations to support design.
- Develop design drawings.

Task 509 – Preliminary Design (30% -60%) Specifications List

- Develop list of technical specifications required for the project (Divisions 01 through 46 in CSI format).

Task 510 – Preliminary Design (30% -60%) Cost Control for CMAR Opinion of Probable Project Cost and Construction Schedule

- Review CMAR cost based on the Preliminary Design (30% -60%) documents.
- Review CMAR construction schedule based on the Preliminary Design (30% -60%) documents.
- Participate in cost reconciliation and reviews of the CMAR cost estimates at the milestones detailed in Task 213.

Task 511 – Preliminary Design (30% -60%) Design Draft Documents QC Review

- Perform quality control review of Preliminary Design (30% -60%) draft documents.

Task 512 – Preliminary Design (30% -60%) Final Documents and Submittal

- Incorporate quality control reviewer comments into Preliminary Design (30% -60%) documents.
- Submit the Preliminary Design (30% -60%) documents to OWNER and CMAR for review and comment.

Task 513 – Preliminary Design (30% -60%) Design Review Meeting

- Conduct a design review meeting with OWNER and CMAR to review design documents and receive comments.
- Provide minutes of Design review meeting to document discussion items and action items.
- Incorporate action items into project design as agreed upon in the design review meeting.
- Design review meeting will include ENGINEER's Project Manager, Project Engineer, and Project Architect in person, and the other disciplines of Engineers via conference call.

Task 514 – Final Design (90%-100%) Design Drawings

- Perform calculations to support design.
- Develop design drawings.

Task 515 – Final Design (90%-100%) Design Specifications and Front-End Documents

- Develop technical specifications (Divisions 01 through 46 in CSI format).
- Develop front end documents (Division 00).

Task 516 – Final Design (90%-100%) Cost Control of CMAR Opinion of Probable Project Cost and Construction Schedule

- Review CMAR opinion of probable project cost based on the design documents.
- Review CMAR construction schedule based on the design documents.

Task 517 – Final Design (90%-100%) Design Draft Documents QC Review

- Perform quality control review of design draft documents.

Task 518 – Final Design (90%-100%) Design Final Documents and Submittal

- Incorporate quality control reviewer comments into design documents.
- Submit the design documents to OWNER for review and comment.

Task 519 – Final Design (90%-100%) Design Review Meeting

- Conduct a design review meeting with OWNER to review design documents and receive comments.
- Provide minutes of design review meeting to document discussion items and action items.
- Incorporate action items into project design as agreed upon in the design review meeting.
- design review meeting will include ENGINEER's Project Manager, Project Engineer, and Project Architect and Project Structural in person, and the other disciplines of Engineers via conference call.

Task 520 – Final Bidding Drawings

- Develop final bidding drawings.

Task 521 – Final Bidding Specifications

- Develop final bidding technical specifications.

Task 522 – Review of GMP and Construction Schedule

- Develop a final bidding opinion of probable project cost based on the final bidding documents.
- Develop a final bidding construction schedule based on the final bidding documents.

Task 523 – Final Bidding Documents QC Review

- Perform quality control review of final bidding documents.

Task 524 – Final Bidding Documents and Submittal

- Incorporate quality control reviewer comments into final bidding documents.
- Submit final bidding drawings, technical specifications, front end documents, opinion of probable project cost, and construction schedule to OWNER.
- Submit final bidding drawings, technical specifications, front end documents, opinion of probable project cost, construction schedule, and permit application documents to various agencies for permitting (Task 504).

Owner Activities:

- Provide review and processing of monthly progress report and invoices within 10 working days.
- Identify and provide relevant prior studies, reports, drawings, specifications, manuals, and other data prepared by others.
- Provide review and comment on project deliverables within 14 working days.
- Coordinate OWNER staff participation and actively participate in meetings.
- Provide and make arrangements for facilities to conduct meetings.
- Provide access to project site as required for ENGINEER's performance of the scope of services.
- Sign, submit, and pay the cost for permit applications.

Deliverables:

- Monthly project status reports and invoices.
- Kickoff meeting minutes.

- HVAC-Cooling System Alternative Analysis Technical memorandum.
- Pre-design meeting minutes.
- Preliminary Design (30% -60%) drawings, technical specifications list, review of CMAR opinion of probable project cost, and construction schedule.
- Completed USACE Permit Amendment Application and Attachments.
- Preliminary Design (30% -60%) review meeting minutes.
- Final Design (90%-100%) drawings, technical specifications list, review of CMAR opinion of probable project cost, and construction schedule.
- Final Design (90%-100%) review meeting minutes.
- Final bidding drawings, technical specifications, front end documents and construction schedule to OWNER/CMAR.
- Final bidding drawings, technical specifications, front end documents, opinion of probable project cost, construction schedule, and permit application documents to various agencies for permitting.

Key Understandings and Assumptions:

- Project background data is provided within ten (10) working days of ENGINEERS request.
- The design will be based on applicable codes and standards in effect at the start of the project. Changes in codes that occur after the start of the project will be incorporated by Contract Amendment.
- Previous HCW design were provided by another Consultant, and a design calculations related to HVAC system and Structural analysis basis of design information is not available to the Engineer.
- Legal surveys, easements, or plats of the project site and surrounding areas will not be required or will be provided by others and not by ENGINEER.
- Soil borings and geotechnical investigations, laboratory analyses, engineering services, and reports will be provided by a sub-consultant to the ENGINEER. The Geotechnical Report associated with the original HCW facility design has not been provided to the Engineer at the time of this amendment.
- Wetlands will not be investigated, mitigated, and reports will by ENGINEER.
- Archeological, historical, or cultural resources investigations and reports will not be completed by ENGINEER. If any sites are determined to be archeological or historical sites, additional services will be incorporate by Contract Amendment.
- All preliminary deliverables will be submitted to OWNER in electronic PDF format via email or on flash drive.
- Final bidding documents deliverables will be submitted to OWNER in electronic PDF format via email or on flash drive and up to ten (10) signed and sealed full-size hard copies for use by OWNER and other agencies from whom approval of the project must be obtained.
- ENGINEER’s standard drawing, technical specification, and opinion of probable cost format will be utilized.
- Front end documents will not include Division 0, as these will be provided by the Owner’s CMAR.
- Opinion of probable cost will be developed using Excel software with the format of estimate being broken down by CSI Divisions.
- Opinions of probable construction cost or cost estimates provided by ENGINEER are made on the basis of information available to ENGINEER and on the basis of ENGINEER's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, since ENGINEER has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s') methods of determining prices, or over

competitive bidding or market conditions, ENGINEER does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable cost or cost estimates prepared by ENGINEER.

- Owner decisions that result in redesigns after the 60% design review will be incorporated by Contract Amendment.
- Language will be included in the bidding documents to establish the Contractor's responsibility for construction means and methods, to limit ENGINEER's responsibilities as defined by the front-end documents, to include ENGINEER as an additional insured on Contractor's insurance, to enable ENGINEER reimbursement for review of multiple resubmittals and redesign to accommodate substitution requests.
- Only permits specifically identified in the Scope of Services will be prepared.
- Permits required by the contract documents shall be obtained by the construction Contractor in accordance with the contract documents.
- Any SCADA Design shall include network diagrams, process & instrumentation diagrams (P&IDs), control descriptions, and control equipment specifications. Software integration will be done by the Bismarck's current system integrator.
- The SCADA P&IDs will be designed based on the base criteria set forth as part of American National Standard Institute/International Society of Automation (ANSI/ISA) Standard ISA5, "Documentation of Measurement and Control Instruments and Systems" and all of its subparts. P&ID development will include every piece of process, instrumentation and electrical system equipment that integrates into the control system.

Task Series 200 – CMAR Phase Services
Objective: Assist OWNER in bidding and award to a Contractor for construction of the project.

Engineer Activities:
HDR will assist the Owner with selection and coordination of the Construction Management –at-Risk (CMAR) for the design of the HCW HVAC Replacement. ENGINEER's activities shall be as defined in Series 200 of the Original Agreement.

Task Series 100 – Design Phase Services

SCADA & CONTROL SYSTEM UPGRADES
As a result of the Preliminary Design that have taken place since the execution of the Original Agreement the scope of the SCADA Upgrades has been expanded to be defined as follows:

- Networks Upgrades consisting of Switch replacements, conversion to fiber ring topology, VLAN assignment and network traffic segregation, and security improvement including City of Bismarck IT coordination.
- Conversion of Filter Valve Network to from RS-485 to Analog
- Control Panel Replacement/Upgrades consisting of the improvement or entire replacement of Control Panels CP 01, 02, 03, 04, 13, 07, 09, 12, 16; SP 1, 2, 3. Engineering services to include of condition assessment, design, and procurement tasks.

SCHEDULE

The scope of services for this Amendment shall be completed in accordance with the following schedule unless modified by mutual agreement or by factors beyond the control of ENGINEER:

Task Series 500 – Design Phase Services	12 months after NTP
Task Series 200 – CMAR Phase Services	12 months after NTP
Task Series 300 – Construction Administration Services	Not Included –Future Amendment
Task Series 400 – Construction Observation Services	Not Included – Future Amendment

An estimated design phase schedule is attached for reference and additional detail.

COMPENSATION

Owner shall pay Engineer for Services for Amendment No. 1 as follows. Terms and Conditions of Original Agreement Exhibit J remain unchanged with the exception of compensation. Updated Engineer's 2024 Rates and Expense Schedules in affect are attached for reference.

The total compensation for such services including Amendment No. 1 is estimated to be **$4,778,979.00** based on the following estimated distribution of compensation not including RPR services.

Task No.	Task	Fee
Original Agreement		
100 - 110	Project Management	$387,423
111 - 116	30% Preliminary Design Phase	$878,330
117 - 122	60% Design Phase	$797,595
123 - 133	Final Design Phase	$1,797,340
210 - 215	CMAR Phase	$490,538
Amendment No. 1		
500 - 524	**HCW Design Phase**	**$265,814**
210 - 215	**HCW CMAR Phase**	**$21,939**
Subconsultants		
SUB	Geotechnical	$40,000
SUB	SCADA/Controls	$50,000
SUB	**SCADA/Controls Amendment #1**	**$50,000**
TBD	Construction Administration	Not Included
TBD	RPR Construction Observation	Not Included

HOURLY RATE AND EXPENSE SCHEDULE

REIMBURSABLE EXPENSES

Reimbursable Expense shall mean actual expenses incurred for travel, meals, subconsultants, shipping, and other incurred expense. If negotiated with Owner in the contract, HDR will add an agreed to percentage mark-up to subconsultant invoices to cover administrative expenses and vicarious liability. Specialty equipment charges apply to specific equipment used on the project.

Direct Expenses	
Drone	$275.00 per day
Traffic Counting Equipment	$120.00 per hour
Survey/GPS Equipment	$50.00 per hour
Robotic Total Station	$50.00 per hour
Side-by-Side Utility Vehicle	$25.00 per hour
Handheld GPS	$20.00 per hour
HDR Vehicle Mileage	$0.75 per mile
Personal Vehicle Mileage	IRS rate per mile
Printing (in-house)	
B&W 8.5x11	$0.0857 each
Color 8.5x11	$0.1801 each
B&W 11x17	$0.1228each
Color 11x17	$0.2397 each
Plots Bond	$0.55 per sq. ft.

HDR

HDR Engineering
2024 Hourly Billing Rates

Enclosed are the 2024 Hourly Billing Rates for HDR Engineering. These rates shall be adjusted annually.

Description	Billing Rate/Hour
Managing Principal	235
Senior Project Manager	225
Project Manager III	205
Project Manager II	190
Project Manager I	170
Engineer VI	205
Engineer V	190
Engineer IV	170
Engineer III	145
Engineer II	130
Engineer I	120
Senior ASME Engineer	195
ASME Engineer	180
System Integrator Engineer IV	195
System Integrator Engineer III	175
System Integrator Engineer II	155
System Integrator Engineer I	115
Engineering/Field Services Technician V	180
Engineering/Field Services Technician IV	160
Engineering/Field Services Technician III	135
Engineering/Field Services Technician II	115
Engineering/Field Services Technician I	105
Cadd/GIS Technician V	160
Cadd/GIS Technician IV	140
Cadd/GIS Technician III	120
Cadd/GIS Technician II	110
Cadd/GIS Technician I	100
Right of Way IV	190
Right of Way III	175
Right of Way II	155
Right of Way I	120
Right of Way Coordinator	95
Environmental/Hydrologist/Geologist VI	200
Environmental/Hydrologist/Geologist V	180
Environmental/Hydrologist/Geologist IV	160
Environmental/Hydrologist/Geologist III	140
Environmental/Hydrologist/Geologist II	125
Environmental/Hydrologist/Geologist I	110
Senior Land Surveyor	155
Land Surveyor	135
Survey Technician III	125
Survey Technician II	110
Survey Technician I	95

Senior Construction Manager	205
Construction Manager	195
Construction Engineer III	180
Construction Engineer II	160
Construction Engineer I	135
Construction Inspector	105
Strategic Communications/Graphic Designer IV	165
Strategic Communications/Graphic Designer III	145
Strategic Communications/Graphic Designer II	130
Strategic Communications/Graphic Designer I	100
Project Controller	95
Project Assistant	95
Admin Assistant	70

HDR has technical experts in various geographic locations that may be utilized based on specific project need. This specialized expertise will be billed at the below rates.

Description	**Billing Rate/Hour**
Technical Expert VI	315
Technical Expert V	305
Technical Expert IV	285
Technical Expert III	265
Technical Expert II	245
Technical Expert I	225

City of Bismarck - 10 MGD WTP Expansion
Detailed Engineering Fee Proposal
Amendment No. 1

Bismarck WTP - Amendment No. 1 30% Design 60% Design 90% Design 100% Design Split Between Multiple Phases of Design	Total Hours	Senior Project Manager Client Manager	Senior Project Manager	CaddGIS Technician V	Engineer V	Engineer V	Engineer III	Land Surveyor	Senior ASME Sr. Architect QC	Senior ASME Architect	CaddGIS Technician IV BIM Arch	Senior ASME Sr. Structural QC	ASME Sr. Structural Engineer	CaddGIS Technician V	Environmental Scientist V	Sr Process QC	Sr CMAR Process Expert	Engineer IV	CaddGIS Technician II	Senior ASME Sr. Fire Protection QC	CaddGIS Technician IV ASME Fire Protection Engineer	CaddGIS Technician IV ASME BIM/MEA	Senior ASME Sr. Mechanical QC	ASME HVAC and Plumbing Engineer	CaddGIS Technician IV ASME HVAC and Plumbing MEA	Senior ASME Sr. Electrical QC	Senior ASME Electrical Engineer & Design Manager	CaddGIS Technician IV Electrical MEA	ASME Sr. Instrumentation QC	Engineer VI Instrumentation Engineer	CaddGIS Technician V ASME Instrumentation MEA	Construction Manager Resident Project Representative	Engineer III Resident Project Representative	Engineering/Field Services Technician II	Project Controller
		D. Peters	J. Honner	R. Liggett	P. Markwed	J. Hillius	A. Hanson	D. Salonen	R. McKinley	W. Wilson	J. Keyes	B. Hoagland	Stelmaszek G.	J. Keyes	T. Fricke-Robinson	E. Berggren	T. Quigley	K. Lentch	K. Peyton	M. Shumpert	B. Cooper	T. Freeman	S. Nienhueser	R. Dalrymple	A. Carson	K. Ganskop	Andrew Tee	Felipe Luna	K. Rohloff	P. Bunkers	J. White	T. Mergen	A. Hanson	S. Rede	B. Davis
		$ 225.00	$ 225.00	$ 160.00	$ 190.00	$ 190.00	$ 145.00	$ 135.00	$ 195.00	$ 195.00	$ 140.00	$ 195.00	$ 180.00	$ 140.00	$ 180.00	$ 315.00	$ 305.00	$ 170.00	$ 120.00	$ 195.00	$ 140.00	$ 140.00	$ 195.00	$ 180.00	$ 160.00	$ 195.00	$ 195.00	$ 160.00	$ 195.00	$ 195.00	$ 160.00	$ 195.00	$ 145.00	$ 115.00	$ 95.00
100 Design Phase (All Hours 2023)	**1,534**	**4**	**44**	**12**	**39**	**66**	**0**	**0**	**4**	**90**	**46**	**16**	**292**	**150**	**20**	**0**	**0**	**0**	**28**	**4**	**42**	**22**	**16**	**160**	**110**	**4**	**166**	**138**	**2**	**18**	**13**	**0**	**0**	**16**	**12**
101 - Team Management and Project Control (10 months)	36	2	10	2		10																													12
102 - Project Planning	10		4	2		4																													
103 - Kickoff Meeting - Internal + External	35	1	4	1	1	4																		8			8	8							
104 - Geotechnical Exploration and Report	0																																		
105 - Local, State, and Federal Permits - USACE Permit	69	1	4		20	20									20				4																
106 - Bi-Weekly Meetings	0																																		
107 - UF Membrane Pilot Protocol & Design Memorandum Draft	0																																		
108 - Design Memorandum Draft QC Review	0																																		
109 - Design Memorandum Final and Submittal	0																																		
110 - Pre-Design Meeting	0																																		
111 - 30% Design Drawings	**0**																																		
112 - 30% Design Specifications	0																																		
113 - 30% Design Cost Control	0																																		
114 - 30% Design Draft Documents QC Review	0																																		
115 - 30% Design Final Documents and Submittal	0																																		
116 - 30% Design Review Meeting	0																																		
117 - 60% Design Drawings	**481**		**2**	**1**	**2**	**4**				**32**	**24**		**100**	**60**					**8**		**12**	**8**		**50**	**50**		**60**	**60**		**4**	**4**				
118 - 60% Design Specifications	**93**		2		2	4				16			16								6			20			16			3				8	
119 - 60% Design Cost Control	**17**		2		2	2				2			2								2			2			2			1					
120 - 60% Design Draft Documents QC Review	**38**		2						2		2	8		2					2	2		2	8		2	2	2		2	1		1			
121 - 60% Design Final Documents and Submittal	**34**		2	1	2	4				2	2		34	2	2				2		2	2		3	2		2	2		1	1				
122 - 60% Design Review Meeting	**30**		2	1	2	2				2	2		2	2					1		2	2		2	2		2	2		1	1				
123 - 90% Design Drawings	**0**																																		
124- 90% Design Specifications	0																																		
125 - 90% Design Cost Control	0																																		
126 - 90% Design Draft Documents QC Review	0																																		
127 - 90% Design Final Documents and Submittal	0																																		
128 - 90% Design Review Meeting	0																																		
129 - Final Bidding Drawings	**516**		**2**	**2**	**2**	**4**				**16**	**12**		**150**	**80**					**8**		**8**	**4**		**50**	**50**		**60**	**60**		**4**	**4**				
130- Final Specifications	**88**		2		2	4				16			16								6			20			12			2				8	
131 - Final Cost Control	**17**		2		2	2				2			2								2			2			2			1					
132 - Final Documents QC Review	**38**		2						2		2	8		2					2	2		2	8		2	2	2		2	1		1			
133 - Final Documents and Submittal	**32**		2	2	2	2				2	2		2	2					1		2	2		3	2		2	2		1	1				
Total Design Phase Fee	**$ 264,530**	$ 900	$ 9,900	$ 1,920	$ 7,410	$ 12,540	$ -	$ -	$ 780	$ 17,550	$ 6,440	$ 3,120	$ 52,560	$ 21,000	$ 3,600	$ -	$ -	$ -	$ 3,360	$ 780	$ 5,880	$ 3,080	$ 3,120	$ 28,800	$ 17,600	$ 780	$ 32,370	$ 22,080	$ 390	$ 3,510	$ 2,080	$ -	$ -	$ 1,840	$ 1,140
200 CMAR Phase (All Hours 2023)	**99**	**0**	**9**	**0**	**4**	**24**	**0**	**0**	**0**	**10**	**0**	**2**	**8**	**0**	**0**	**6**	**10**	**0**	**0**	**2**	**2**	**0**	**0**	**14**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**
210 Agreement Assistance	0																																		
211 CMAR Preconstruction/Design Phase Coordination	9		2			6										1																			
212 Project & Design Management/Meetings	26		2			6				2		2				2	4			2	2			2			2								
213 Schedule, Procurement, and Risk Coordination	18		2			6											4							4			2								
214 Maintenance of Plant Operation (MOPO)	8		1		2	2										1																	2		
215 CMAR Deliverables Review	38		2		2	4				8			8			2	2							8			2								
Total CMAR PHASE Fee	**$ 20,655**	$ -	$ 2,025	$ -	$ 760	$ 4,560	$ -	$ -	$ -	$ 1,950	$ -	$ 390	$ 1,440	$ -	$ -	$ 1,890	$ 3,050	$ -	$ -	$ 390	$ 280	$ -	$ -	$ 2,520	$ -	$ -	$ 1,170	$ -	$ -	$ -	$ -	$ -	$ -	$ 230	$ -
Total Design, CMAR Fee	**$ 285,185**	$ 900	$ 11,925	$ 1,920	$ 8,170	$ 17,100	$ -	$ -	$ 780	$ 19,500	$ 6,440	$ 3,510	$ 54,000	$ 21,000	$ 3,600	$ 1,890	$ 3,050	$ -	$ 3,360	$ 1,170	$ 6,160	$ 3,080	$ 3,120	$ 31,320	$ 17,600	$ 780	$ 33,540	$ 22,080	$ 390	$ 3,510	$ 2,080	$ -	$ -	$ 2,070	$ 1,140
Total Hours by Project Discipline		**4**	**53**	**12**	**43**	**90**	**0**	**0**	**4**	**100**	**46**	**18**	**300**	**150**	**20**	**6**	**10**	**0**	**28**	**6**	**44**	**22**	**16**	**174**	**110**	**4**	**172**	**138**	**2**	**18**	**13**	**0**	**0**	**18**	**12**

Total Detailed Engineering Hours	**1,633**			
	Design	**CMAR Admin**		**Total**
WTP Fee	$ 264,530	$ 20,655		$ 285,185
Expenses	$ 1,284	$ 1,284		$ 2,568
Total Fee without Subs	**$ 265,814**	**$ 21,939**		**$ 287,753**
				$ -
SCADA/I&C Sub	$ 50,000			$ 50,000
Fee Subtotal Design AND CMAR Management	**$ 315,814**	**$ 21,939**		**$ 337,753**