

**PUBLIC WORKS MEMORANDUM
#20-2022**

DATE: May 9, 2022
TO: Honorable Mayor Meredith Leighty and City Council Members
THROUGH: Heather Geyer, City Manager *Hmg*
FROM: Kent Kisselman, PE – Director of Public Works *FKK*
SUBJECT: CR-89 – Water Treatment Facility Solids Handling Improvements Engineering Services Addendum #2

PURPOSE

To consider CR-89, a resolution approving an addendum with Hazen and Sawyer for the Water Treatment Facility Solids Handling Improvements Engineering Services contract.

BACKGROUND

The City has been studying a solution to improve the handling of solid waste at the treatment facility since 2019. A design consultant (Hazen and Sawyer) was retained under a separate Request for Proposal, and a preliminary engineering report was written to document the benefits that Northglenn would realize if this system was constructed.

The project would refurbish the existing ponds and add a gravity thickener and dewatering building to house a rotary fan press. These improvements combined would save an estimated 111 acre feet of water per year and reduce the burden of solids currently being sent to the Wastewater Treatment Plant.

In 2020, the City awarded Hazen and Sawyer a contract to design the solids handling improvements. The purpose of this addendum is to provide for engineering services during construction of this highly specialized work. The engineer who designs the project must also be engaged to perform submittal review, request for information responses, issue resolution, and other construction administration tasks. This phase of services was already anticipated, planned for, and included in the initial proposal process.

BUDGET/TIME IMPLICATIONS

Funds for this project are available in the Water Fund.

	Amount
2022 Budget	\$6,985,331.40
<i>Glacier Construction Company, Inc.</i>	(<i>\$5,975,709</i>)
<i>Glacier Contingency (10%)</i>	(<i>\$597,570.90</i>)
Hazen and Sawyer addendum #2	(\$392,430)
Hazen contingency (5%)	(\$19,621.50)
Budget Remaining	\$0

This project is scheduled to be complete by the third quarter of 2023.

STAFF RECOMMENDATION

Attached is CR-89, a resolution that, if approved, would authorize the Mayor to execute an addendum to the contract between the City and Hazen and Sawyer for the Water Treatment Facility Solids Handling Improvements Engineering Services in an amount not to exceed \$392,430, and authorizes the City Manager, on behalf of the City, to approve minor changes in scope of services and execute relevant change orders up to the approved expenditure limit of \$412,051.50. Staff recommends approval of CR-89.

STAFF REFERENCE

If Council members have any questions, please contact Kent Kisselman, Director of Public Works, at kkisselman@northglenn.org or 303.450.4005.

CR-89 – Water Treatment Facility Solids Handling Improvements Engineering Services
Addendum #2
Solids Handling Improvements Engineering Services contract

SPONSORED BY: MAYOR LEIGHTY

COUNCIL MEMBER'S RESOLUTION

RESOLUTION NO.

No. CR-89
Series of 2022

Series of 2022

A RESOLUTION APPROVING ADDENDUM NO. 2 TO THE PROFESSIONAL SERVICES AGREEMENT BETWEEN THE CITY OF NORTHGLENN AND HAZEN AND SAWYER FOR CONSTRUCTION PHASE ENGINEERING SERVICES FOR THE WATER TREATMENT PLANT SOLIDS HANDLING IMPROVEMENTS PROJECT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTHGLENN, COLORADO, THAT:

Section 1. Addendum No. 2 to the Professional Services Agreement between the City of Northglenn and Hazen and Sawyer, attached hereto, in the amount of \$392,430.00 with a five percent (5%) contingency of \$19,621.50 for a total amount not to exceed \$412,051.50 for construction phase engineering services for the Water Treatment Plant Solids Handling Improvements Project is hereby approved and the Mayor is authorized to execute same on behalf of the City of Northglenn.

DATED, at Northglenn, Colorado, this _____ day of _____, 2022.

MEREDITH LEIGHTY
Mayor

ATTEST:

JOHANNA SMALL, CMC
City Clerk

APPROVED AS TO FORM:

COREY Y. HOFFMANN
City Attorney

ADDENDUM #2 TO AGREEMENT FOR PROFESSIONAL SERVICES

THIS SECOND ADDENDUM TO AGREEMENT FOR PROFESSIONAL SERVICES is made and entered into this ____ day of _____, 20____, by and between the CITY OF NORTHGLENN, State of Colorado (hereinafter referred to as the "City") and Hazen and Sawyer (hereinafter referred to as "Consultant").

RECITALS:

A. On August 10, 2020 the City and Consultant entered into an Agreement for Professional Services for engineering services (the "Agreement").

B. On March 22, 2021 the parties agreed through Addendum #1 to increase the Scope of Services to include Design, Permitting and Bid Phase services, and increase compensation in the amount of \$452,210 accordingly.

C. The parties desire to supplement the Agreement with this Addendum #2 to allow for an additional scope of services for:

Exhibit A, Construction Phase Services

AGREEMENT

NOW, THEREFORE, it is hereby agreed that for the consideration hereinafter set forth, that Consultant shall provide to the City, professional engineering services as needed in the manner provided in the Agreement.

1. The Scope of Services in the Agreement is hereby supplemented to include the scope of services for Construction Phase Services attached hereto as **Exhibit A**, and incorporated herein by this reference (the "Additional Scope of Services"). Consultant shall commence work on the Additional Scope of Services within ten (10) days of the issuance of a Notice to Proceed.

2. Subparagraph A. of Article IV entitled "Compensation" is hereby amended to provide as follows:

A. Compensation shall not exceed nine hundred seventeen thousand two hundred sixty dollars (\$917,260) for the original contract, Addendum #1 and work authorized as described in Exhibit B to this Addendum #2.

3. The original Agreement is in full force and effect and is hereby ratified by the City and the Consultant. The original Agreement, Addendum # 1 and this Addendum constitute all of the agreements between the City and the Consultant.

2/9/22

IN WITNESS WHEREOF, the parties hereto each herewith subscribe to the same in duplicate.

CITY OF NORTHGLENN, COLORADO

By: _____

Meredith Leighty

Print Name

Mayor

Title

Date

ATTEST:

Johanna Small, CMC, City Clerk

APPROVED AS TO FORM:

Corey Y. Hoffmann, City Attorney

CONSULTANT

By: [Signature]

Associate Vice President

Title

Date 4/18/2022

ATTEST:

[Signature]

Notary
Title

4/18/2022
Date



Exhibit A

Scope of Work for the City of Northglenn’s Solids Handling Improvements Project – Services During Construction

Project Understanding

This phase of the overall project is to provide engineering construction services for the Solids Handling Improvements administrative at the City of Northglenn’s (City) Water Treatment Plant (WTP). Currently, the City conveys diluted solids via the wastewater collection system to the City’s wastewater treatment plant. This project allows the City to dewater the alum solids at the WTP while recycling backwash decant. This new recycling step helps the City close the long-term water supply gap projected by the City’s staff.

This scope of work describes the construction phase services provided, including but not limited to construction administration, review of monthly schedule and progress payments, response to Submittals and Requests for Information (RFIs), review of Change Orders (CO), Substantial and Final Completion Review, Start-up and Optimization assistance and support, and production of Record Drawings.

Scope of Work – Services During Construction

Task 3 – Supplemental Final Design Services

This task covers additional design activities not originally scoped in the Solids Handling Design contract. This includes engineering and design support for the re-routing of the Chemical Facility drain line, relocation of the recycle line and modeling of the raw water vault. It also includes modifications to the design to address State Dam Engineer comments and provide a formal submittal package to the that review process. This task also includes the conversion of Division 0 specifications from Hazen to City standards.

Task 4 – Construction Administration Services

Hazen will attend a preconstruction meeting, monthly progress meetings, review monthly invoices, and provide monthly progress reports to the City.

Meetings:

- Pre-Construction Meeting: Up to two (2) Hazen staff are expected to attend this meeting in person. Prior to this workshop, a meeting agenda and any items that require City review or input

will be provided. Summary meeting notes will also be provided within a week of the workshop to document decisions, outcomes, and other comments.

- Monthly Progress Meetings: Up to two (2) Hazen staff are expected to attend monthly progress meetings for the 9-month construction duration to provide an update on the project status.

Deliverables:

- Hazen will review monthly invoices and provide progress reports for the 9-month construction duration.

Task 5 – Services During Construction

Construction Document Review:

- Hazen will review the draft Schedule of Values (SOV) from the Contractor and provide any comments to the City to establish the final SOV. After the SOV is established, the City will review all monthly invoices and track progress reports to determine potential deviations to schedule or payment.
- At the start of construction, Hazen will review the contractor's proposed detailed cost breakdown to confirm they reasonably reflect anticipated costs. On a monthly basis, the City will review the project's schedule status and construction work in place, to finalize progress payments based on the value of work completed.
- Hazen will review submittals and resubmittals, including but not limited to shop drawings, vendor O&M manuals, shutdown or tie-in plans, start-up and testing plans, training materials, spare parts lists, and field test reports. The anticipated number of submittals and resubmittals to be reviewed is up to 144.
- Hazen will prepare responses to RFI's submitted by the contractor and will issue necessary clarifications and interpretations of the Contract Documents as appropriate to the completion of the contractor's work. Engineer may issue Field Orders authorizing minor variations in the Work from the requirements of the Contract Documents but will promptly send all such Field Orders to the City's representative for their review prior to finalization. The anticipated number of RFIs to be reviewed is up to 75.
- Hazen will review contractor Change Order requests for technical content, cost, and schedule prior to recommending acceptance or rejection as a Change Order to the City. Hazen will provide up to 150 hours of change order review support during the construction period.

Resident Project Representative:

- Hazen will provide a Resident Project Representative (RPR) part time up to 24 hours per month for 9 months to monitor progress and conduct on-site observations of the contractors work to

determine if the work generally conforms to the construction Contract Documents. RPR tasks will include:

- Attending the pre-construction meeting
- Attend monthly progress meetings
- Review Contractor Schedule of Values
- Reviewing monthly pay application
- Reviewing monthly schedule updates
- Provide monthly progress reports
- Serving as Hazen's construction liaison with the Contractor and aiding in interpreting the Contract Documents
- Reviewing the Contractor's work and reject and/or request correction of any work which will not produce a completed project that conforms to the Contract Documents.
- Monitoring record drawing updates
- Observe and oversee testing/inspections
- Review and observe shut down tie in plans
- Perform final inspections and create final punch lists
- Perform review for Substantial and Final Completion
- Oversee equipment manufacturer review of equipment installation prior to startup
- Witness and document equipment start-up, performance testing, and reliability demonstrations and alerting Owner in advance of testing and startup activity dates.

Startup Assistance and Optimization:

- Hydraulic Checkout and Site Acceptance Testing: Hazen will provide two people for up to 1 week (40 hours per person per week) to assist with hydraulic and control system checkouts and site acceptance testing.
- Start-up Assistance: Hazen will provide two people for up to 2 days (8 hours per person per day) for start-up assistance related to construction completion and solids thickening and dewatering operations.
- Operations Optimization: Hazen will provide two people for up to 3 days (8 hours per person per day) for solids thickening and dewatering operations optimization as construction is completed and facilities are placed into service.

Deliverables:

- Hazen will take the as-built markups of the construction drawings that have been maintained at the Field Office by the Contractor to create Record Drawings for the project. These drawings will be prepared within 90 days of the date of receipt based on Contractor record drawings and associated documentation of the City. Note that Hazen will not field verify markups. A full-size copy of record drawings will be provided to the City, along with an electronic copy of all drawings to the City.

Assumptions for Task 4 and 5:

- Construction Duration – See schedule below. Deviation from this may lead to additional efforts not included in this scope of work.
- Communications – It is assumed that contractor-led construction progress meetings occur on-schedule and are conducted with agendas, roles and responsibilities, clear action items, and due dates. Deviation from this approach may lead to additional efforts not included in this scope of work.

Schedule

The following lists estimated milestones. Hazen will coordinate with Northglenn's Project Manager to maintain progress on this project.

- Notice to Proceed: March 1, 2022
- Contractor Selection: March 7, 2022
- Contractor Mobilization: June 2022
- System Checkout and Startup: February 2023
- Construction Complete: March 2023

Northglenn Solids Handling Improvements
 Hazen SDC Fee Estimate
 February 3, 2022

Task	Description	Assumptions	Mech	Mech	Arch	HVAC	Struct	Mech	Elec	Cost	Arch	Civil	Mech	Elec	Struct	Hvac	Gen	Total	Hours	Labor	Fee	Expense	Total
			AD	SP	BR	RVD	WD	MR	AB	DV	CC	BL	ML/DR	JN	JB	RC	SR						
300	Task 3 - Supplemental Final Design Services		\$ 270	\$ 270	\$ 230	\$ 195	\$ 195	\$ 195	\$ 175	\$ 175	\$ 175	\$ 150	\$ 150	\$ 130	\$ 130	\$ 130	\$ 150	\$ 115	184	\$ 26,720	\$ -	\$ 26,720	
325	Supplemental Final Design Services	Chemical building drain, New vault tie-in re-design and State Dam Engineer Submittal, toe-drain re-alignment, re-compiling of Div 0 to Northglenn Standard						24				32	48						184	\$ 26,720	\$ -	\$ 26,720	
400	Task 4 - Construction Administration Services		0	0	0	0	0	24	0	24	0	0	0	0	0	0	0	0	48	\$ 8,880	\$ -	\$ 8,880	
	Attend Pre Construction Meeting	6-10 hrs per person						6		6									12	\$ 2,220	\$ -	\$ 2,220	
	Attend Progress Meetings	9 months, 2 hrs per month						18		18									36	\$ 6,660	\$ -	\$ 6,660	
	Review Monthly Invoices and Provide Progress Reports	6 hrs per report, 9 months																	0	\$ -	\$ -	\$ -	
500	Task 5 - Services During Construction		0	0	0	0	51	232	82	206	132	132	428	312	190	120	96	384	2365	\$ 392,105	\$ 4,725	\$ 396,830	
510	Construction Management																						
	Review contractor Schedule of Values (SOV)							2		12			4						18	\$ 3,090	\$ -	\$ 3,090	
	Review, Monitor and Accept Contractors Schedule	2-8 hrs per month						16		56									72	\$ 12,920	\$ -	\$ 12,920	
	Coordination of testing reports																		0	\$ -	\$ -	\$ -	
	Shut down tie in plans/coordination							16		24									40	\$ 7,320	\$ -	\$ 7,320	
	Final Inspections/Punch List	8 hours per area per discipline								24									24	\$ 4,200	\$ -	\$ 4,200	
	Hydraulic Checkout and Site Acceptance Testing	One week of SAT						40					40						80	\$ 13,800	\$ -	\$ 13,800	
	Startup Assistance	startup 2 day, optimization 3 day						40					40						80	\$ 13,800	\$ -	\$ 13,800	
	Substantial Completion Review	assume 8 hrs								8									8	\$ 1,400	\$ -	\$ 1,400	
	Final Completion Review/Project Closeout	10-20 hrs recommended						10		10									20	\$ 3,700	\$ -	\$ 3,700	
520	Review submittals and resubmittals	1.5 sub/sheet, 6 hrs/sub					31	40	52		86	86	160	207	124	78			864	\$ 128,065	\$ -	\$ 128,065	
530	Response to RFIs	0.66 rfi/sheet, 6 hr per rfi					16	16	24	72	36	36	66	82	52	32			432	\$ 66,220	\$ -	\$ 66,220	
540	Change Order Review	4% construction cost, 12% labor percentage, \$150 labor rate						48					100						148	\$ 24,360	\$ -	\$ 24,360	
550	Record Drawings	5 hrs/sheet designer, 1 hr per sheet engineer					4	4	6		10	10	18	23	14	10	96	384	579	\$ 73,230	\$ -	\$ 73,230	
	Expenses																				\$ 4,725	\$ -	\$ 4,725
	Total		0	0	0	0	51	280	82	230	132	164	476	312	190	120	120	440	2587	\$ 387,705	\$ 4,725	\$ 392,430	

Labor Classifications	Rate
SPC - Sr Principal Consultant	\$ 270
SA - Senior Associate	\$ 230
A - Associate	\$ 195
SPE - Senior Principal Engineer	\$ 170
PE - Project Engineer	\$ 150
AE - Assistant Engineer	\$ 125
CAD - Senior CAD Designer	\$ 150
Tech - Technician / Designer / Admin	\$ 110

Expenses	Rate	Quantity	Total
Round Trip Mileage	\$ 0.585	3120	\$ 1,825.20
Civil Site Visit	\$ 1,250.000	2	\$ 2,500.00
Print Record Drawings	\$ 400.000	1	\$ 400.00

2 trips of 3 days each

	Number of Trips	Number people	Total Trips
Preconst. Mlgs	1	2	2
Progress Mlgs	9	2	18
Test Reports	5	1	5
Tie ins	3	2	6
punchlist	3	1	3
startup	2	2	4
optimization	3	2	6
sub completion	8	1	8
final completion	1	2	2
Field Submittal Reviews	24	1	24
			78



PROSPECTIVE CONTRACTOR'S CERTIFICATE REGARDING EMPLOYING OR CONTRACTING WITH A WORKER WITHOUT AUTHORIZATION

FROM: Hazen and Sawyer
(Prospective Contractor)

TO: City of Northglenn
11701 Community Center Drive
Northglenn, Colorado 80233-8061

Project Name _____

Bid Number _____

Project No. _____

As a prospective Contractor for the above-identified bid, I (we) do hereby certify that, as of the date of this certification, I (we) do not knowingly employ or contract with a worker without authorization who will perform work under the Agreement and that I (we) will confirm the employment eligibility of all employees who are newly hired for employment to perform work under the Agreement through participation in either the E-Verify Program administered by the United States Department of Homeland Security and Social Security Administration or the Department Program administered by the Colorado Department of Labor and Employment.

Executed this 18th day of April, 2022

Prospective Contractor Hazen and Sawyer

By: [Signature]

Title: Associate Vice President

To be completed if contractor is providing services and has employees.

