



STAFF REPORT

Report To: Board of Supervisors

Meeting Date: June 7, 2018

Staff Contact: Carol Akers and Darren Schulz

Agenda Title: For Possible Action: To approve Amendment 1 to Contract No. 1617-114 Water Resource Recovery Facility-Capital Improvements FY18 to Keller Associates, Inc. for construction support, integration and implementation services for a not to exceed amount of \$744,259.00 to be funded from the Sewer Fund for a total contract amount of \$1,963,177.00 and to extend the term of the contract through March 31, 2020. (Carol Akers, CAkers@carson.org and Darren Schulz, DSchulz@carson.org)

Staff Summary: This amendment is for our design consultant Keller Associates to provide shop drawing reviews, respond to information requests, review and respond to Requests for Clarification and to review potential change orders. Keller will also provide the City with a complete set of as-built drawings at the completion of construction.

In addition, Keller Associates' sub consultant JSP, will be providing all of the integration for the new electrical and instrumentation associated with the project. This work will include the incorporation of the PLC's, HMI's and SCADA programming services specified in the design documents based on the developed control strategies, P&ID drawings and the I/O listings.

Agenda Action: Formal Action/Motion

Time Requested: 5 minutes

Proposed Motion

I move to approve Amendment 1 to Contract No. 1617-114 Water Resource Recovery Facility-Capital Improvements FY18 to Keller Associates, Inc. for construction support, integration and implementation services for a not to exceed amount of \$744,259.00 to be funded from the Sewer Fund for a total contract amount of \$1,963,177.00 and to extend the term of the contract through March 31, 2020.

Board's Strategic Goal

Sustainable Infrastructure

Previous Action

An RFP was published in the Nevada Appeal and on the Carson City website on March 10, 2017. One proposal was received by Keller Associates, Inc. The Board of Supervisors approved Contract 1617-114 for a not to exceed amount of \$1,218,918.00 at their June 1, 2017 meeting.

Background/Issues & Analysis

Applicable Statute, Code, Policy, Rule or Regulation

NRS 338

Financial Information

Is there a fiscal impact? Yes No

If yes, account name/number: Sewer Fund Capital Account /510-3205-434.70-40

Is it currently budgeted? Yes No

Explanation of Fiscal Impact: If approved the account will be reduced by an amount not to exceed \$744,259.00.

Alternatives

Not approve amendment and provide other direction.

Board Action Taken:

Motion: _____

1) _____

2) _____

Aye/Nay

(Vote Recorded By)

AMENDMENT FOR CONTRACT

Contract #: # 1617-114

Title: Water Resource Recovery Facility-Capital Improvements FY18

Amendment # 1

If Consideration will be amended, please indicate amount: \$744,259

Reason for amendment: For construction management services (see attachment) and to extend the term of the contract to March 31, 2020.

It is also agreed, that all unaffected conditions, requirements, and restrictions of the Original Contract document remain in full force and effect for the duration of the Contract term.

Amendment will become effective when signed by Purchasing and Contracts.

Approved by:

(1) City Department: Public Works

Name/Title: Darren Schulz, Public Works Director

Signature: _____ Date: _____

(2) District Attorney's Office:

Name/Title: Deputy District Attorney

Signature: _____ Date: _____

(3) Carson City Purchasing and Contracts:

Name/Title: Carol Akers, Purchasing and Contracts Administrator

Signature: _____ Date: _____

(4) Keller Associates, Inc.:

Name/Title: Rod J. Linja, President

Signature: _____ Date: _____

Amendment No. 01
Scope of Work
Services During Construction
Carson City WRRF Capital Improvements FY18

Background Data:

- a. Effective Date of Owner-Consultant Agreement: June 13, 2017
- b. Effective Date of this Amendment: June ____, 2018
- c. Owner/City: Carson City
- d. Consultant: Keller Associates, Inc.
- e. Project: Water Resource Recovery Facility-Capital Improvements
FY18
KA # 217047

Nature of Amendment:

Consultant provided design and bidding services for the named project. This addendum is to include services during construction and control integration. All provisions of the Agreement not modified by this or previous amendments remain in effect.

GENERAL

The Carson City WRRF Upgrades include headworks odor control system, grit upgrades, lining of emergency overflow pond, secondary clarifier mechanisms, electrical equipment replacement in headworks, primary clarifier rehabilitation, new sludge pumps, conversion of aeration basin to additional equalization storage, electrical upgrades at the effluent pumping station, and 16-inch pipeline designed at an estimated construction cost of about \$8 million. The project will be constructed under one general contract for the 18-month construction period starting in approximately July 2018.

The Consultant (Keller Associates) will provide Services during Construction (SDC) as defined in this document. These SDC are intended to assist the Owner (Carson City) to administer the contract for construction, monitor the performance of the construction contractor, check that the contractor's work is in substantial compliance with the contract documents, and assist the Owner in responding to events that occur during the construction. These SDC are based upon the understanding that the Owner will contract directly with the contractor and will be actively involved in the construction process to make decisions, provide approvals, and perform other actions necessary for the completion of the construction. These SDC are also based upon the Owner executing a contract for construction with the contractor that is consistent with Consultant's Agreement and with these SDC, and which provides the requisite authority for Consultant to fulfill its SDC responsibilities.

The primary goal of the Consultant during the construction phase is to determine in general if the Work is proceeding in accordance with the Contract Documents based on information obtained through the Owner's Resident Engineer, including day-to-day inspections, site visits, and observations.

Consultant's SDC are based upon the 18-month schedule or duration of construction anticipated at the time that these services are agreed. Deviations from the anticipated schedule or duration of construction which materially affect the scope of these SDC and Consultant's compensation for the SDC, will require

an adjustment to Consultant's compensation.

Consultant will not be responsible for the means, methods, techniques, sequences, safety measures, or procedures of the contractor, nor shall Consultant be responsible for the contractor's failure to perform in accordance with the contract documents.

In addition to Services during Construction, as part of this contract, JSP Automation as a Subconsultant to Consultant will incorporate the PLC, HMI and SCADA programming services specified in the design documents based on the developed control strategies, P&ID drawings and the I/O listings.

Task 100 – Project Management

100.1 Construction Progress Reporting - Owner will keep the Consultant advised of the progress of the construction. Owner will hold monthly phone calls with the Consultant. Consultant will provide monthly invoices.

100.2 Internal Engineering Team Coordination - Consultant will coordinate with the internal engineering team staff on a monthly basis to update the team on construction progress and to schedule upcoming work. Consultant will coordinate efforts with the Owner.

Task 200 – Construction Management

Consultant will provide services to respond to construction and technical submittals, and close-out the contract for construction. The Owner will coordinate site activities, administer the contract for construction, and monitor contractor's performance.

Subtask 200 – Resident Engineering Services

200.1 Record Documents Check (By Owner) - Owner will monitor the continuous development of as-built drawings, specifications and other as-built or record documents by the Contractor. Owner will confirm that the documents are checked and up-to-date. Consultant will prepare record drawings based on the Contractors submittal in accordance with Task 300.3. No level of effort has been included for Consultant during construction.

200.2 Substantial and Final Completion - Consultant will participate with the Owner in a substantial and final completion project inspections and provide a written recommendation on whether the project has satisfied substantial and final completion requirements. Owner will issue documents for substantial and final completion and acceptance of the work including punch lists, completion certificate(s), final payment, release of retention, and release of insurance and bonds. Consultant level of effort is based on two site visits of one half day each for two staff. The Owner shall issue documents for final completion and acceptance of the work.

200.3 Warranties, Guarantees, Lien Releases (By Owner) - Owner will coordinate with the Contractor for the submission of required warranties, guarantees, lien releases, and other similar documents, as required by the contract for construction. Support services performed by Consultant shall be considered an Additional Service.

200.4 Pre-Construction Conference - Consultant will attend one pre-construction conference with the Contractor to review the project communication, coordination and other procedures and discuss the Contractor's general workplan and requirements for the project. Owner will take minutes or otherwise record the results of this conference.

200.5 Mobilize On-Site Team (By Owner) - Owner will provide on-site team.

200.6 Communications (By Owner) - Owner will be the primary contact for the Contractor and shall maintain communication during construction. Consultant will follow protocols established by the Owner.

200.7 Project Site Meetings - Owner will conduct periodic meetings with the Contractor and will prepare the minutes of these meetings. Level of effort by Consultant is estimated at six onsite meetings over a projected 18-month construction period. In addition to the onsite meetings it is anticipated that the Consultant will participate in up to 36 meetings by phone (1 hour meetings have been assumed).

200.8 Field Instructions and Orders - Owner will issue routine field instructions, orders, or similar documents during construction, as provided in the contract for construction. In the event that a field order will result in a technical modification to the project, Consultant will review the proposed change. Reviewing up to 15 field orders by Consultant are budgeted for this task.

Subtask 210 – Field Inspections

210.1 Field Office (By Owner) - Owner will staff a field office on the project site for purposes of providing inspectors to observe the work of the Contractor. Owner will provide work space for Consultant in the field office with WiFi access.

210.2 Independent Testing, Inspection and Survey Services - The Owner will employ, or cause the Contractor to employ, independent firms for the material testing, specialty inspection, survey, or other services related to checking the quality of the Contractor's work. Consultant will review the reports and other information prepared by the independent firms that are provided by the Owner. For those reports provided to the Consultant a written response to Owner regarding the satisfactory nature of the work being evaluated by the independent reports will be provided. For budgeting purposes up to ten issues are anticipated as requiring written response by the Consultant. Consultant shall not be responsible for the accuracy or completeness of the work and reports of the independent testing, inspection, and survey firms.

210.3 Review of Work (By Owner) - Owner will conduct daily onsite observations of the Contractor's work for the purposes of determining if the work generally conforms to the contract for construction and that the integrity of the design concept as reflected in the contract for construction has been implemented and preserved by the Contractor. No Consultant level of effort has been included. Any effort required by Consultant will be done as an additional service.

210.4 Deficient and Non-Conforming Work - Should Owner discover or believe that any work by the Contractor is not in accordance with the contract for construction, or is otherwise defective, or not conforming to requirements of the contract or applicable rules and regulations, Owner will bring this to the attention of the Consultant. Consultant will recommend corrective action. Owner will monitor the Contractor's corrective actions. Level of effort anticipated is for Consultant to recommend corrective action for 6 incidents.

210.5 Engineering Team Visits - Consultant will coordinate eight (8) onsite visits over the projected 18-month construction period by the engineering team members to review progress and quality of the work. The visits shall observe the general quality of the work at the time of the visit and review specific items of work that are brought to the attention of the engineering team members by the Contractor or the Owner. Owner shall provide geotechnical field observations. Visits will be coordinated with progress meetings.

210.6 Regulatory and Third-Party Testing and Inspections (By Owner) - Owner will monitor the Contractor's coordination of inspection and testing by regulatory and third-party agencies that have jurisdiction over the project. No Consultant level of effort has been included. Any effort required by Consultant will be done as an additional service.

Subtask 220 – Schedule Monitoring

220.1 Contractor's Schedule Submittal - Consultant and Owner will review the Contractor's final draft of the initial construction schedule. Owner shall review and require the Contractor to correct initial submittals.

220.2 Contractor's Schedule Updates (By Owner) - Owner will review the Contractor's periodic schedule updates or other schedule submissions. No Consultant level of effort has been included. Any effort required by Consultant will be done as an additional service.

Subtask 230 – Pay Application Approval

230.1 Permits, Bonds, and Insurance (By Owner) - Owner will check that the required permits, bonds, and insurance have been obtained and submitted by the Contractor. Work by Consultant shall be considered an additional Service.

230.2 Payments to Contractor - Owner will receive and review the Contractor's requests for payment including checking work and materials on site. Consultant shall compare the pay request to the project schedule of values and provide recommendation of payment or non-payment.

Subtask 240 – Document Control

240.1 Closeout File and Records (By Owner) - Owner will coordinate project close-out documentation. See Task 200.2 for Consultants effort in reviewing closeout documentation provided by the Owner. No Consultant level of effort has been included for initiating closeout documentation.

Subtask 250 – General Submittal Review

250.1 Technical Submittals - Owner will pre-screen all submittals for completeness prior to sending them to Consultant for review. Consultant will review the Contractor's shop drawings, samples, and other submittals. Consultant's scope shall be based upon the scope of work in the contract for construction and shall include for a maximum of three submissions by the Contractor for each shop drawing, sample or submission. Should there be additional reviews required of Consultant and design team, Consultant shall be entitled to additional compensation.

Consultant review of all shop drawings, samples and submittals shall be for general conformance with the design concept and general compliance with the requirements of the contract for construction. Such review shall not relieve the Contractor from its responsibility for performance in accordance with the contract for construction, nor is such review a guarantee that the work covered by the shop drawings, samples and submittals is free of errors, inconsistencies or omissions.

250.2 Equipment Operation & Maintenance Manuals - Owner will pre-screen all operation and maintenance (O&M) manuals submitted by Contractor for completeness prior to sending them to Consultant for review. Consultant will review the Contractor's O&M manuals.

250.3 Start-up and Shut Down Plan Review - For Start-up and Shut Down plans (Division 01), it is assumed that the Owner will review initial submittals for completeness and general concept before providing to Consultant for final review. Consultant will review the start up plans for general conformance with the contract documents.

Subtask 260 – Change Management

260.1 Minor Variations in the Work (By Owner) - Owner will authorize minor variations in the work that do not involve an adjustment in the Contractor's contract price, nor time for construction, and are not inconsistent with the intent of the contract documents. No level of effort has been included for Consultant. Any effort required by a claim will be submitted as a Project Change Request.

260.2 Requested Design/Engineering Services - Coordinate Issuance of Changes - Owner will issue changes to the contract for construction. Design and engineering services to prepare drawings and specifications for the change shall be performed by Consultant as requested by Owner as part of a Project Change Request. Owner will receive and review the Contractor's response to the request for change and will obtain such further information as is necessary to evaluate the basis for the Contractor's proposal. Owner will prepare final change order documents for execution by the Owner and Contractor. Consultant's role is to clarify the intent of the construction documents.

260.3 Change Order Review - Owner shall provide initial review of Contractor-requested changes to the construction contract. Consultant shall provide final review and recommend approval or non-approval to Owner.

260.4 Claims and Disputes (Additional Services) - Owner will receive and log letters and notices from the Contractor concerning claims or disputes pertaining to the acceptability of the work or the interpretation of the requirements of the contract for construction.

Consultant will not issue decisions on Contractor claims or disputes other than its determination regarding the change order requests. Consultant will not, except as part of Additional Services, undertake comprehensive and detailed investigation or analysis of Contractor's claims and disputes, nor participate in judicial or alternative dispute resolution procedures for the claims or disputes. No level of effort has been included for Consultant. Any effort required by a claim will be done as an additional service.

260.5 Requests for Information - At the Owner's request, Consultant will provide written responses to the Contractor's request for interpretation or clarification of the contract documents. The Owner shall manage the RFI process and formally respond to the Contractor. Consultant will track RFI's throughout construction by tagging them in the live PDF. Modifications to the CAD files will not be completed until the after construction is substantially complete.

260.6 Proposed Substitutions (Additional Services) - Consultant will assist the Owner in reviewing and responding to the Contractor's requests for substitution of materials and equipment. Consultant will review such requests and will advise the Owner as to the acceptability of such substitutions. Substitution reviews shall be paid for by Contractor as per the Contract Documents. No level of effort has been included for Consultant. Any effort required will be considered additional services.

Subtask 270 – Special Inspections (By Owner)

To be provided by the Owner.

Subtask 280 – Third Party Materials Testing (By Owner)

To be provided by the Owner. Per task 210.2, at request of the Owner, Consultant will review material testing result to check that work and materials conform to the contract documents. Consultant will assist Owner in identifying any testing results that are not consistent with the specifications.

Subtask 290 – Third Party Construction Surveying (By Owner)

To be provided by the others.

Task 300 – Startup Services

Subtask 300 – Testing and Commissioning

300.1 Vendor Operation and Maintenance Manuals - Owner will coordinate the submission of required manuals provided by equipment suppliers for operation and maintenance and for training of the Owner's staff by the Contractor. Consultant will review operation and maintenance manuals per Task 250.2.

300.2 Start-Up Support - Consultant will furnish assistance to the Owner in plant startup and initial plant operation. This task includes coordination with Owner's System Integrator, and assistance during equipment testing, system testing, pre-commissioning testing and commissioning

Startup support includes the following major equipment startups:

- Headworks Odor Control
- Headworks Grit Washer
- Primary Clarifiers
- Secondary Clarifiers
- Sludge Pumps

Consultant's level of effort includes five trips of up to one engineers per trip.

300.3 Record Drawings - The Owner will coordinate with the Contractor to ensure that as-builts are being maintained throughout the project in accordance with the contract documents. Owner will provide record/as-built information to the Consultant.

Consultant will revise the original design drawings to reflect available record information provided by the Contractor and equipment suppliers. One reproducible set and three hard copies will be submitted to the Owner.

300.4 Warranty Period Services - Consultant will provide the following warranty performance review services during the one-year warranty period to assist the Owner in coordinating corrections of deficient equipment or construction:

Participate in an end-of-warranty period inspection one month prior to completion of the warranty period and provide a letter identifying any deficiencies found and recommended actions.

Subtask 310 – Training

310.1 Operation and Maintenance Manual - Consultant will update the Operation and Maintenance (O&M) manual describing the operation of the project facilities and systems consistent with requirements of the Nevada Division of Environmental Protection. Owner shall provide SCADA system screen shots in a timely manner to Consultant for use in the manual to describe equipment operation. The manual will be produced in PDF format. The following deliverables will be prepared:

- Draft for Owner review
- Draft for NDEP review
- Final O&M Manual

310.2 Training (Additional Services) - No level of effort has been included for training. Consultant will perform operator training as requested by Owner as an Additional Service.

Task 400 – Additional Services

To cover the costs of project work items that are unforeseen by the City (additional services), a task budget is incorporated into this contract. Labor effort will not be charged to this task unless authorized in writing by the City.

Task 500 – Integration Services

See Attachment A for scope from JSP Automation. JSP has assumed the following modifications:

1. Headworks:
 - a. 80 digital Inputs
 - b. 8 Analog Inputs
 - c. 1 Analog Output
 - d. 16 Digital Outputs
 - e. 340 Virtual Data Points
 - f. Grit Washer Interface
 - g. Grit System Graphic
 - h. Influent Screw Pump Graphic
 - i. Bio-Filter Graphic
 - j. Grit Chamber Blower Graphics
 - k. Headworks Overview
 - l. Flow Monitoring
 - m. 8 trend Graphs

2. Primary Sludge:
 - a. 32 digital Inputs
 - b. 2 Analog Inputs
 - c. 8 Digital Outputs
 - d. 80 Virtual
 - e. Primary Sludge Graphic
 - f. 1 trend Graphs

3. North Lift Pump Station:
 - a. 32 digital Inputs
 - b. 8 Analog Inputs
 - c. 3 Analog Output

- d. 8 Digital Outputs
 - e. 120 Virtual Data Points
 - f. Bar screen Interface
 - g. Wetwell Graphic
 - h. VFD Control Screen
 - i. Pump System Graphic
 - j. Bar Screen Graphics (3)
 - k. 4 trend Graphs
4. General System Modifications:
 - a. Alarm Handling
 - b. Navigation
 - c. Data Logging
 - d. Communications Overview
 5. Secondary Clarifiers
 - a. Revise Existing PLC Programs
 - b. Modify SCADA to view new Clarifier Data
 6. Intermediate Pump Station
 - a. Revise Existing PLC Programs
 - b. Modify SCADA to view new additional alarm points
 7. Start-up and Commissioning
 - a. 320 Man Hours (Field)
 - b. Data Logging
 - c. Communications Overview
 8. Grit Pump Station Addition
 - a. Add Grit Pump Station control to headworks PLC
 - b. Modify SCADA to include grit pump station

Consultant Provided Services (Additional Services)

Except as noted above, the following services shall be provided by Consultant upon authorization of the Owner and agreement on additional compensation to Consultant.

- Services related to development of the Owner's project financing and/or budget.
- Services related to provision of Owner-furnished equipment, materials, and supplies.
- Services related to procurement or management of third party contractors other than testing, inspection, and survey firms.
- Performance of materials testing, specialty testing, and surveying services.
- Services necessary due to the default of the Contractor.
- Services related to damages caused by fire, flood, earthquake, or other acts of God.
- Services related to the Owner's operation and use of the completed project other than as specifically provided in the above scope of work.
- Other services related to warranty claims, enforcement, and inspection that are not described in section 300.4.

- Services for the investigation and analysis of contractor claims, preparation of reports on contractor claims, provision of professional claims analysis services, and participation in litigation or alternative dispute resolution of claims.
- Preparation for and serving as a witness in connection with any public or private hearing or other forum related to the project.
- Services supporting the Owner in public relations activities.
- Development, coordination, or participation in partnering programs.
- Services for review and/or preparation of Owner or Contractor proposed changes to the project.
- Services to support, prepare, document, bring, defend, or assist in litigation undertaken or defended by the Owner.
- Miscellaneous and supplemental services related to the project as requested by the Owner.
- Any other services designated in this scope of services as additional services.
- Effort in the scope above that is required to address construction claims, unforeseen subsurface considerations or additional construction requested by the contractor or Owner would be additional costs.
- Services related to operator training as requested by Owner.

Owner Provided Services

The following services shall be provided by the Owner.

- Owner leads construction engineering; includes full-time Construction Management services.
- Owner will provide to Consultant data in Owner's possession relating to Consultant's services on the Project. Consultant will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by the Owner.
- Owner will make its facilities accessible to Consultant as required for Consultant's performance of its services and will provide labor and safety equipment as required by Consultant for such access. Owner will perform, at no cost to Consultant, such tests of equipment, machinery, pipelines, and other components of Owner's facilities as may be required in connection with Consultant's services.
- Owner will give prompt notice to Consultant whenever Owner observes or becomes aware of any development that affects the scope or timing Consultant's services, or of any defect in the work of Consultant or the Contractor.
- Owner will notify Consultant if the conditions at the site are not consistent with the construction contract and will impact the construction cost or construction schedule.
- The Owner shall examine information submitted by Consultant and render in writing, or otherwise provide decisions in a timely manner.
- The Owner shall furnish required information and approvals in a timely manner.
- The Owner shall cause all agreements with the Contractor to be consistent with the contract documents between the Owner and contractor. Any modification of the contract documents between the Owner and contractor will also be consistent with the Consultant's Agreement with the Owner.
- Owner to provide fiber installation inspections as required by the specifications.

- Owner will review monthly pay requests from the Contractor.
- Equipment delivery acceptance tests and inspections shall be provided by Owner.
- Owner shall provide materials testing, geotechnical, survey, or other third-party services not specifically listed above.

COMPENSATION

Table 1 provides a summary of the level-of-effort estimates. Consultant has developed this level of effort estimate based on the work plan presented herein and assumptions stated previously. The fees for each task will be billed as described in Table 1 below.

The total for lump sum tasks outlined below will not be exceeded without prior approval by the City. The time and materials task budget subtotals identify the focus and level of effort assumed for this work; however, the totals do not represent the itemized not-to-exceed budgets. The total work effort shall not exceed the total budget limit. Reimbursables are included in the itemized costs.

**Table 1 - Summary of Cost
Carson City WRRF Improvements
Services During Construction**

Task	Description	Cost
100	Project Management	
	Lump Sum	\$ 47,530
200	Construction Management	
	Lump Sum	\$ 206,955
	Time and Materials*	\$ 78,050
300	Startup Services	
	Lump Sum	\$ 60,610
400	Additional Services	
	Time and Materials*	\$ 43,500
500	Integration	
	Lump Sum	\$ 307,614
Total Lump Sum		\$ 622,709
Total Time and Materials		\$ 121,550
Total Contract		\$ 744,259
* Time and Material tasks include:		
207.7	Project Site Meetings	
210.4	Deficient and Non Conforming Work	
210.5	Engineering Team Visits	
260.2	Coordinate Issuance of Changes	
260.3	Change Order Review	
400	Additional Services	