

Western Regional Water Commission

STAFF REPORT

DATE: July 9, 2020

TO: Chairman and Members, Western Regional Water Commission ("WRWC")

FROM: Jim Smitherman, Water Resources Program Manager

SUBJECT: Discussion and action on a Northern Nevada Water Planning Commission (NNWPC) recommendation for a scope of work and funding, not to exceed \$150,000 from the Regional Water Management Fund (RWMF), for consulting engineering assistance concerning the completion of the Regional Effluent Management Planning Guidance Document Project.

SUMMARY

In March 2018, the WRWC approved of a scope of work, and funding in an amount not to exceed \$561,000 from the RWMF for the development of a Regional Effluent Management Planning Guidance Document (the Project). The WRWC approved and executed an Interlocal Agreement with the University of Nevada, Reno (UNR) to have the Nevada Water Innovation Institute provide primary support, i.e., an Associate Research Professor, to develop the document at the direction of the Regional Effluent Management Team (the Team).

The Project has progressed over the first two years of the three-year Agreement with four of the eight Project Tasks completed. The Team recently determined that external engineering technical support is necessary to assist in the completion the Project. Staff requested a proposal from Mr. Roy Johnson, Managing Engineer at Brown and Caldwell, who developed the effluent management framework that serves as the basis for the Project. A proposal is attached.

Funding for an agreement with Brown and Caldwell will come from two sources: 1) defunding the UNR Agreement by approximately \$80,000, which will reduce the Associate Research Professor level of effort to 54 percent of full time in fiscal year 2020-2021, and 2) approximately \$70,000 from the WRWC project contingency fund.

BACKGROUND

In December 2014, the NNWPC directed staff to prepare a presentation summarizing wastewater master planning in the region and outlining a scope of work for a wastewater and effluent management master plan update. Working together with the Team, technical staff from the City of Reno, the City of Sparks, Washoe County and the Truckee Meadows Water Authority, staff provided the requested information and materials at the following two NNWPC meetings. The Team had been meeting informally since April 2014 to discuss regional effluent management issues.

In February 2015, the NNWPC, approved funding for project coordination services to help the Team develop a framework to be used as the basis of an effluent management strategy focused on the Truckee Meadows Water Reclamation Facility and the South Truckee Meadows Water Reclamation Facility. Mr. Roy Johnson, Managing Engineer at Brown and Caldwell provided project coordination and completed the framework in 2018.

FISCAL IMPACT

The net fiscal impact to the RWMF for this item, if approved, will not exceed \$70,000 in FY 2020-2021. Budget authority is provided in the FY 2020-2021 budget, in Fund Group 766, Fund 7066, Account Number 710100, Professional Services, Cost Object WP310200.

RECOMMENDATION

The NNWPC recommends that the WRWC approve the scope of work and funding, not to exceed \$150,000 from the RWMF, for consulting engineering assistance concerning the completion of the Regional Effluent Management Planning Guidance Document Project and authorize the Chair to execute an agreement with Brown and Caldwell for that purpose.

RECOMMENDED MOTION

“Move to approve the scope of work and funding, not to exceed \$150,000 from the RWMF, for consulting engineering assistance concerning the completion of the Regional Effluent Management Planning Guidance Document Project and authorize the Chair to execute an agreement with Brown and Caldwell for that purpose.”

JS:jp

Attachment



Exhibit A Scope of Work

Western Regional Water Commission Regional Effluent Management Guidance Document

July 9, 2020

Brown and Caldwell (BC) is pleased to present this scope of work to assist with developing the Regional Effluent Management Guidance Document (Guidance Document).

Background

The Northern Nevada Water Planning Commission (NNWPC) is currently developing the Guidance Document as a collaborative effort by the Regional Effluent Management Team (Regional Team) and the Nevada Water Innovation Institute (NWII). The Regional Team is comprised of staff from the Northern Nevada Water Planning Commission, City of Reno, City of Sparks, Truckee Meadows Water Authority (TMWA) and Washoe County. The primary external support to the Regional Team has been provided by the University of Nevada, Reno, through the NWII.

The Guidance Document is intended to be a brief, updatable (living) document that focuses on the following elements:

- Effluent inter-relationships between facilities to guide decisions
- Facility-specific effluent management alternatives with implementation lead times
- Budgetary costs for effluent management alternatives
- Public input (for specific elements such as A+ water)
- Facility-specific timelines showing critical milestones to meet effluent management constraints
- Development of technical analysis supporting reclaimed water regulations and regional policies

The following eight tasks were previously identified as the key steps for developing the Guidance Document and several of these steps are already in progress:

Task 1: Establish Effluent Management Goals.

The purpose of this task is to identify the short-term and long-term regional effluent management goals, and to identify the goals that are common to the community, along with agency-specific and facility-specific goals. Examples of possible goals include: community goals from public input, protect and enhance the environment, growth readiness, provide for sustainable water resources, infrastructure flexibility and resiliency, a common vision for effluent use, and long-term funding requirements and affordability. Common goals and goals that are specific to each facility will be developed.

Task 2: Document Planning Resources.

The purpose of this task is to identify support personnel and inventory the available planning resources. Truckee Meadows Regional Planning Agency regional growth projections, water reclamation facility flow projections, the Regional Water Management Plan, TMWA Water Resource Plan and water reclamation facility master plans are examples of current, relevant information.

Task 3: Effluent Management Constraints.

The purpose of this task is to identify current and future management constraints, such as: water rights, Truckee River Operating Agreement (TROA), Water Quality Settlement Agreement (WQSA) and Truckee River Total Maximum Daily Loads (TMDLs), regulatory discharge permits, interlocal agreements, infrastructure limitations, geographic constraints, public perception, and financial considerations.

Task 4: Effluent Management Methods.

The purpose of this task is to review current and potential effluent management methods. The management methods currently being used by local facilities include: surface water discharge, non-potable reuse and rapid infiltration basins. Future potential management options may include: export of the effluent outside of the existing collection area, uses of

Class A+ exceptional quality reclaimed water, or other management options. The potential management methods that might be used by each local treatment facility and the methods most viable for each facility will be presented.

Task 5: Water Quality and Resource Management.

The purpose of this task is to develop local water quality, water resources, and effluent constraints and opportunities in the context of exploring creative solutions for effluent management. Examples of possible creative solutions may include inter-facility raw sewage / reclaimed water interties, uses of Class A+ exceptional quality reclaimed water, reclaimed water export and/or storage for future use (i.e. American Flat Road Water Bank) or satellite flow shaving facilities.

Task 6: Inter-Agency Coordination & Evaluations.

The purpose of this task is to identify and evaluate future management options for each existing wastewater facility including: opportunities for inter-facility or inter-agency coordination and potential joint projects, options for new facilities or treatment processes, flow shaving facilities, or decommissioning existing facilities.

Task 7: Financial Evaluation.

The purpose of this task is to identify and estimate future cost implications for each viable management option for each existing wastewater facility. Planning level estimates will be provided for capital costs and typical operating costs to compare alternatives. In addition, a planning level evaluation will consider impacts to rates, connection fees, funding sources and the potential for joint ventures.

Task 8: Inter-Agency Regional Effluent Management Planning Guidance Document.

An Inter-Agency Guidance Document will be produced, which summarizes the key findings, outcomes and recommendations from the effluent and reclaimed water management planning effort. The intent is not to write a large report, but rather to summarize the key findings and recommendations in a living document for decision makers. The Guidance Document would include a discussion of the inter-relationships between the various water reclamation facilities, including a decision-making tool, such as a flowchart or spreadsheet to guide decisions. It would present the recommended Work Plan, including facility-specific effluent management alternatives with implementation lead times, budgetary costs for the recommended effluent management alternatives and timelines showing critical milestones for effluent management actions. A summary of the alternatives considered, and public input and responses (if available) would also be included.

Brown and Caldwell Scope of Services

A significant portion of Tasks 1-4 has been completed by the Regional Team and the NWII. BC will work collaboratively with the Regional Team and NWII to develop portions of Tasks 5-8. The following project activities are anticipated, and described in more detail in subsequent sections:

Phase 100 – Project Management

Phase 200 – Collaboration and Meetings

Phase 300 – Effluent Options and Alternatives Compilation and Screening

Phase 400 – Planning Level Cost Estimates

Phase 500 – Alternatives Worksheet

Phase 600 – Guidance Document Support and Development

Phase 100 – Project Management

This task will cover managing the overall project including budget, schedule, staff coordination, and quality assurance. Monthly invoices will be prepared showing the hours expended for each invoice period. This phase assumes a maximum project duration of eleven months.

Phase 200 – Meetings and Collaboration

This task will include collaboration with the Regional Team and the NWII to coordinate work activities, attend Regional Team meetings, and attend and present information at selected NNWPC meetings at the request of the Regional Team or the NNWPC. BC will work closely with the NWII and the Regional Team to review and understand the work performed to date and to develop a plan and schedule to complete the remaining tasks. BC anticipates that the Guidance Document Tasks 5-8 will be developed collaboratively by BC, the Regional Team, and the NWII.

Phase 300 – Effluent Options and Alternatives Compilation and Screening

It is BC's understanding that the Regional Team and the NWII have identified approximately 30 individual effluent disposal options, or combination of options. These options will be compiled into an information matrix that includes the following elements: disposal capacity, wastewater treatment facilities (WWTF) benefitted including proportional benefits to each WWTF, return-flow requirements, timing constraints such as go/no-go start limitations or end-dates when disposal is no longer viable, additional WWTF treatment (such as A+) required to implement the disposal option, known constraints such as TMDL limits, and recommended additional evaluations to confirm the viability of the disposal option. The matrix will also identify which disposal options are mutually exclusive or dependent on other options.

This task assumes that up to five (5) additional effluent disposal options may be identified that will be incorporated into the information matrix.

BC will work with the Regional Team and the NWII to combine disposal options into multiple alternatives that will serve as the basis for comparing cost, capacity, timing, and viability for regional effluent alternatives. BC will work with the Regional Team to develop a screening methodology to compare and rank alternatives.

Phase 400 – Planning Level Cost Estimates

BC will develop planning level capital and operation cost estimates for up to 35 disposal options to be used as a basis for comparing options and developing the cost of alternatives that combine various options. This task assumes that the configuration, size, and quantities for each disposal option has been, or will be, developed by NWII staff and provided to BC.

Cost estimates will be Class 5 in accordance with the Association for the Advancement of Cost Engineering International (AACE) for the purpose of evaluating alternatives. A Class 5 estimate is defined as a Conceptual Level or Project Viability Estimate. Expected accuracy for Class 5 estimates typically ranges from -50 to +100 percent, depending on the technological complexity of the project, appropriate reference information and the inclusion of an appropriate contingency determination. In unusual circumstances, ranges could exceed those indicated. It is anticipated that cost estimates to determine actual fee impacts and construction costs will require more detailed cost estimating in the future and is beyond the intent of this scope of work.

Phase 500 – Alternatives Worksheet

As a joint effort with the NWII staff, BC will develop an alternatives worksheet that combines the results of the Phase 300 Effluent Options and Alternatives work and the Phase 400 Planning Level Cost Estimates. At this time, it is assumed that the worksheet will be one or more Excel spreadsheets. The worksheet(s) will represent the additional disposal capacity for each WWTF for each alternative, along with the total planning level cost for each alternative along with prorated capital cost to each benefitting WWTF.

Phase 600 – Guidance Document Support and Development

BC will work collaboratively with NWII staff to develop a draft Guidance Document that presents a brief summary of each of the individual disposal options and each of the preferred disposal alternatives that combines individual disposal options. The Guidance Document will include the results of the Phase 500 Alternatives Worksheet and a decision-tree style graphic to illustrate possible paths forward for the alternatives that will also highlight mutually exclusive disposal alternatives. It is our understanding that the intent of the Guidance Document is to be a concise, "living", document that can be readily updated as additional information becomes available or additional disposal options are identified. BC and NWII will present the draft Guidance Document to the Regional Team for review and input and then prepare the final Guidance Document after receiving comments.

This task assumes that the NWII staff will author the sections discussing work related to Guidance Document Tasks 1-4. Sections discussing individual disposal options will be authored by NWII. Alternative sections will be jointly authored by NWII and BC. All report figures will be prepared by NWII or by Regional Team member agencies. The sections for regulatory requirements, water rights impacts, and potential rate or connection fee impacts will be authored by the Regional Team and incorporated into the Guidance Document by NWII or BC. At this time, it is anticipated that any rate or connection fee discussion will be general in nature and it is assumed that detailed discussion or analysis of these items will be addressed by the individual agencies separate from this document.

It is assumed that the public input section of the document, if included, will be associated with implementing Class A+ effluent and this section will be developed by the Regional Team, the NWII, or other consultants working on the ongoing Class A+ demonstration project.

Deliverables: NWII and BC will jointly combine the Guidance Documents sections prepared by various parties. The deliverables for this task will be a draft Guidance Document in PDF format and final Guidance Document in PDF format, along with alternative matrix and analysis worksheets in their native format to accommodate future updates.

Assumptions and Exclusions

- Assumes attending up to 40 Regional Team meetings.
- Assumes attending and presenting at up to two NNWPC meetings.
- Assumes Guidance Document Tasks 1-4 will be completed by the Regional Team and NWII, including identifying regulatory and permit requirements for the various disposal options.
- Assumes all report figures will be developed by others.
- Assumes all water rights evaluations will be developed by others. Water right evaluations developed by others can be integrated into the Guidance Document
- Assumes all rate impacts, connection fees, and funding source evaluations will be performed by the individual agencies.
- Assumes all travel will be local and work will not require BC's non-local staff to travel.
- Cost estimates, financial analyses, and feasibility projections are subject to many influences including, but not limited to, price of labor and materials, unknown or latent conditions of existing equipment or structures, and time or quality of performance by third parties. Such influences may not be precisely forecasted and are beyond the control of BC; actual costs incurred may vary substantially from the estimates prepared by BC. BC does not warrant or guarantee the accuracy of construction or development cost estimates.
- Assumes the Regional Team will conduct all coordination with the Nevada Division of Environmental Protection or other regulatory agencies.
- Assumes NNWPC and the Regional Team will manage all work by NWII or other consultants.
- Assumes several sections of the Guidance Document will be prepared by other parties as specifically identified in previous paragraphs and provided to BC in native file format.

Schedule

BC's work will begin immediately upon authorization. The tentative schedule is to provide the draft Guidance Document by January 31, 2021 and the final Guidance Document by June 30, 2021. It is anticipated that the draft Document may have information that will need further development; however, it will be provided to confirm direction and format with the Regional Team for developing the final Guidance Document. Meeting this schedule depends on receiving information in a timely manner from various parties not under BC's direction; BC will coordinate with the NNWPC Project Manager if the schedule needs to be adjusted.

Compensation

BC will complete the work identified in this scope on a time and materials basis for a not to exceed fee of \$149,673.00 in accordance with the attached fee schedule.

Brown and Caldwell Schedule of Hourly Billing Rates

Level	Engineering	Technical/Scientific	Administrative	Hourly Rate
A			Office/Support Services I Word Processor I	\$53
B	Drafter Trainee	Field Service Technician I	Office/Support Services II Word Processor II	\$66
C	Assistant Drafter	Field Service Technician II	Office/Support Services III	\$75
D	Drafter Engineering Aide Inspection Aide	Field Service Technician III	Accountant I Word Processor III Office/Support Services IV	\$86
E	Engineer I Senior Drafter Senior Illustrator Inspector I	Geologist/Hydrogeologist I Scientist I Senior Field Service Technician	Accountant II Word Processor IV	\$103
F	Engineer II Inspector II Lead Drafter Lead Illustrator	Geologist/Hydrogeologist II Scientist II	Accountant III Area Business Operations Mgr Technical Writer Word Processing Supervisor	\$123
G	Engineer III Inspector III Senior Designer Supervising Drafter Supervising Illustrator	Geologist/Hydrogeologist III Scientist III	Accountant IV Administrative Manager	\$146
H	Senior Engineer Principal Designer Senior Construction Engineer Senior Engineer	Senior Geologist/Hydrogeologist Senior Scientist	Senior Technical Writer	\$165
I	Principal Engineer Principal Construction Engineer Supervising Designer	Principal Geologist/Hydrogeologist Principal Scientist	Corp.Contract Administrator	\$188
J	Supervising Engineer Supervising Constr. Engineer Supervising Engineer	Supervising Scientist Supervising Geologist/ Hydrogeologist	Assistant Controller	\$196
K	Managing Engineer	Managing Geologist/Hydrogeologist Managing Scientist	Area Bus Ops Mgr IV	\$219
L	Chief Engineer Executive Engineer	Chief Scientist Chief Geologist/Hydrogeologist	Corp Marketing Comm. Mgr.	\$237
M	Vice President			\$254
N	Senior Vice President			\$266
O	President/Executive Vice President			\$277
P	Chief Executive Officer			\$304