

**FIRST AMENDMENT TO
PROFESSIONAL SERVICES AGREEMENT**

2018 Water and Recycled Water Model Update Project

THIS FIRST AMENDMENT TO AGREEMENT is made and entered into this ____ day of _____, 20__, by and between the City of Roseville, a municipal corporation (“CITY”), and Brown and Caldwell, a California corporation (“CONSULTANT”); and

W I T N E S S E T H:

WHEREAS, CITY and CONSULTANT previously entered into a Professional Services Agreement dated May 1, 2019 (“Agreement”) regarding water and recycled water model updates (“Project”); and

WHEREAS, CITY desires to amend the Agreement to include additional services as described in CONSULTANT’s letter/proposal dated May 5, 2020, which is attached hereto as Exhibit “A” and incorporated herein by reference; and

WHEREAS, CONSULTANT is willing and able to provide such additional services.

NOW, THEREFORE, the parties agree as follows:

1. CONSULTANT shall provide additional services as described in Exhibit “A” of this First Amendment to Agreement.
2. Paragraph 2 of the Agreement is amended by adding an additional paragraph to read as follows:

“CITY shall pay ninety-five thousand, seven hundred forty dollars (\$95,740), in consideration of the additional services as set forth in Exhibit “A” to the First Amendment to Agreement. This brings the total not to exceed contract amount to four hundred seventeen thousand, forty-five dollars (\$417,045).”

3. Paragraph 3 of the Agreement is amended by adding an additional paragraph to read as follows:

“CONSULTANT agrees to defend and indemnify CITY if, despite the parties intent and practice, any venue, agency, or court with competent jurisdiction determines that CONSULTANT and/or any of its agents, officers, employees, volunteers, independent contractors, or subcontractors, are characterized as employee(s) of CITY.”

4. Paragraph 11 of the Agreement is amended by adding an additional paragraph to read as follows:

“CONSULTANT and CITY agree that: (a) CONSULTANT is free from the control and direction of CITY in connection with the performance of the work; (b) CONSULTANT is providing services directly to CITY; (c) CONSULTANT has and will maintain at all relevant times a business license; (d) CONSULTANT maintains a business location that is separate from CITY; (e) CONSULTANT is customarily engaged in an independently established business of the same nature as that involved in the work performed hereunder; (f) CONSULTANT actually contracts with other businesses to provide the same or similar services and maintains a clientele without restrictions from CITY; (g) CONSULTANT advertises and holds itself out to the public as available to provide the same or similar services; (h) CONSULTANT

provides its own tools, vehicles, and equipment to perform the services; (i) CONSULTANT has negotiated its own rates; (j) CONSULTANT set its own hours and location of work in accomplishing CITY's on-call needs; and (k) CONSULTANT has the right to control the manner and means of accomplishing the result desired and exercises its own expert independent judgement."

5. All other provisions of the Agreement shall remain unchanged and in full force and effect.

IN WITNESS WHEREOF, the City of Roseville, a municipal corporation, has authorized the execution of this First Amendment to Agreement in duplicate by its City Manager and attested to by its City Clerk under the authority of Resolution No. _____, adopted by the Council of the City of Roseville on the ____ day of _____, 20__, and CONSULTANT has caused this First Amendment to Agreement to be executed.

CITY OF ROSEVILLE, a
municipal corporation

BROWN AND CALDWELL, a
California corporation

BY: _____
DOMINICK CASEY
City Manager

BY:  _____
its: Vice President

ATTEST:

and
BY:  _____

BY: _____
SONIA OROZCO
City Clerk

its: Corporate Secretary

[SIGNATURES CONTINUED ON FOLLOWING PAGE]

APPROVED AS TO FORM:

BY: _____
ROBERT R. SCHMITT
City Attorney

APPROVED AS TO SUBSTANCE:

BY:  _____
RICHARD D. PLECKER
Environmental Utilities Director

EXHIBIT “A”

Professional Services
for
Unidirectional Flushing Plan Pilot

Amendment 1 - Scope of Services and Fee

Prepared for
City of Roseville
May 5, 2020

Scope of Services

Introduction

The following Scope of Services has been prepared by Brown and Caldwell (BC) for additional modeling services for the 2018 Water and Recycled Water Model Update Project. This scope of work is an amendment to the original scope and fee for this project (May 1, 2019). BC has executed a Professional Services Agreement contract with the City under the authorized Resolution No. 19-171. The original scope and fee was to complete the update of the potable and recycled water models and provide model training.

This Amendment 1 documents additional services related to development of a unidirectional flushing (UDF) pilot program and additional support for modeling activities using the updated potable and recycled water hydraulic model.

Background

The City desires to develop and implement a pilot Unidirectional Flushing Program. UDF involves strategically closing valves and opening specific hydrants to direct water through a designated pipe, while producing controlled scouring velocities to remove accumulated deposits. In some cases, UDF may not be aggressive enough or feasible to achieve main cleaning goals. UDF is not recommended for pipelines greater than 12-inches in diameter. In these instances, other main cleaning strategies such as swabbing may need to be considered.

BC will assist the City in the development of a pilot UDF program for a portion of the water distribution system that includes a plan for dividing the pilot area into numerous smaller flush zones, defining the prioritization and progression between these flush zones, and developing flushing sequences for each zone in the form of flushing journals. The flushing sequences will start at designated clean water source locations and move outward into the system, so the water used for the flushing remains clean. We will use the calibrated hydraulic model and InfoWater UDF Suite software (UDF Module) to develop the UDF Plan. By using the UDF Module, the procedures are kept in an electronic model file that can be updated in the future as field conditions are modified. The UDF Plan will identify hydrants to open and valves to close to assist in meeting minimum scouring velocities while minimum system pressures are maintained during the flushing sequence.

Task 6: On-Call Services

The following sections detail the additional services provided under the First Amendment.

Additional On-call Services and budget increase. (Task 6.1)

BC will provide on-call support for the hydraulic modeling. The on-call assistance includes phone calls, web conferences, and face-to-face discussions as-needed. On-call services could include activities such as providing additional written guidance or model analysis as well.

BC assumes 104 hours overall for this effort.

Task 7: UDF Plan Pilot

UDF Project Management and Kickoff Meeting (Task 7.1)

BC will manage this UDF Program work as part of the hydraulic modeling update work. Incremental project management effort for these UDF tasks, not already covered by this contract, are included in this Task 7.1 budget.

BC will prepare for and conduct a kickoff workshop (Meeting No. 1) with City staff to define project roles and responsibilities, project objectives, and the criteria and restrictions that should be considered when developing the flushing sequences.

With respect to project roles and responsibilities, the meeting will also be used to determine and establish the key internal and external stakeholders who will be involved throughout the system flushing, as well as a communications protocol to promote an organized process.

The criteria and restrictions to be discussed at Meeting No. 1 include the following:

- Flushing parameters (e.g., flushing velocities, minimum allowable pressures, monitoring requirements, water quality targets, etc.)
- Water disposal options, preferences, and constraints
- Permitting requirements
- Current hydrant and valve exercise program
- Approach for high-traffic intersections and sensitive areas where specific valves and hydrants should not be selected for flushing
- Notification requirements and preferences for the public, customers, and users sensitive to changes in pressure
- Seasonal timing considerations
- Flushing zone layout and direction of workflow
- Data collection and data management requirements
- Equipment and vehicle needs
- Field staff support

BC will document the flushing criteria and restrictions established in the meeting in the UDF Plan described in Task 7.2. BC shall prepare meeting minutes and distribute them electronically to attendees.

Meetings:

- Meeting No. 1 Kickoff Workshop – up to two-hour meeting, two BC staff assumed

Deliverables:

- Meeting No. 1 Kickoff Workshop minutes, in electronic format

BC assumes 64 hours overall for this effort.

UDF Plan Development (Task 7.2)

This task consists of collecting data, preparing the model, and developing the UDF plan. The UDF plan will be developed for a pilot area, which is anticipated to include eight flushing zones. The UDF plan will include the following:

- Field journals for the pilot area (Task 7.2.3), which will be an attachment to the UDF plan
- UDF plan with instructions describing flushing procedures (Task 7.2.4)

Data Request (7.2.1)

BC will submit a data request to the City for the following items:

- City isolation valve geographical information system (GIS) shapefile
- City hydrants GIS shapefile
- Identified hydrants that cannot be used for flushing (MS Excel list of GIS shapefile)
- Identified valves that cannot be used for flushing (MS Excel list or GIS shapefile)
- Critical customer locations (MS Excel list or GIS shapefile)

Prepare System Model (7.2.2)

Using the UDF module, BC will overlay the valve and hydrant layers from the City's GIS on the hydraulic model and connect the system components, so the valves and hydrants are recognized as part of the hydraulic model. This task also includes assigning hydrant elevations by interpolating from the City's GIS layer "Contours_2017". This will result in a model that will include all system details needed for the flushing analysis. We assume that the City's valves and hydrants have unique identifier nomenclature as a data field in the valve and hydrant shapefiles.

Develop Field Journals for Pilot Area (7.2.3)

BC will develop field journals for the pilot flushing area already identified by the City as shown in Exhibit A. This area has approximately 48,000 linear feet (LF) of 4-inch to 12-inch diameter piping that will be included in the flushing plan. The 2,800 linear feet of 16-in diameter pipeline in this area will be assumed to be cleaned through other methods and will be considered clean water interfaces (CWI) and will not be included in the UDF plan. A preliminary UDF flushing zone layout meeting (Meeting No. 2) will be conducted to discuss the pilot flushing zones configuration and documentation. Field journal templates will be provided to the City for review at this meeting. It is expected that all major changes to documentation formatting and presentation will be agreed to during the review meeting. BC shall prepare meeting minutes and distribute them electronically to attendees.

Following Meeting No. 2 BC will develop, model, and document flushing sequences for each zone within the pilot area by using optimized sequence development strategies and considering area-specific opportunities and constraints as identified in Meeting No. 1 (e.g., water disposal, traffic, asset issues, etc.). These strategies include establishing a CWI for each flushing zone, progressing from larger-diameter mains to smaller mains, and moving from the CWI to the flushing zone periphery. The documentation will include the hydrants that should be opened and valves that should be closed for each flushing sequence.

We will use the UDF module to calculate the expected flow rates from each flushing hydrant, based on target velocities. In this modeling we will verify that the minimum scouring velocities are achieved at the expected flow rates and with specified valve closures while maintaining minimum system pressures (typically 20 psi). There may be some flushing sequences where the minimum scouring velocities cannot be achieved because of system constraints such as pipeline diameters, isolation valve and hydrant configuration, or other factors in the system. These pipelines will be identified.

The minimum flushing time for each flush sequence will be defined based on volume turnover in the length of pipe being flushed (typically the time to flush three pipe lengths).

Draft UDF journals will be developed for the pilot area. These UDF field journals consist of the key field reference materials needed to flush through each flushing zone, including:

- Field journal packets (one for each of the eight flushing zones), including:
 - Overview of each flushing zone (pdf and shapefile, 1 page per flushing zone)
 - Field journal maps (pdf, 1 page per flushing sequence (approximately 8 sequences per flushing zone))
- MS Excel field journal log (1 MS Excel workbook consisting of one worksheet for each flushing zone)
- Overview map of system identifying flushing zones developed (1-page system map)

BC will submit the draft UDF field journals for City review. It is anticipated that field crews will verify the feasibility of the execution of each draft flushing sequence, including but not limited to traffic concerns, location and operation of hydrants and valves, and disposal alternatives. The City will provide one consolidated set of comments on the draft UDF field journals. BC will then finalize the UDF field journals for each flushing zone. We will submit the finalized field journals as hard copy (11x17 3-ring binder) as well as in electronic pdf format.

UDF Execution Plan Technical Memorandum (7.2.4)

Following the development of the UDF flushing zones in Task 7.2.3, BC will provide a UDF Execution Plan TM that will include the following elements:

- Pre-flushing Procedures: These include steps and sequences necessary to prepare for system flushing, including asset and area pre-inspection; follow-up reporting for map/model updates, asset repairs, storm/sewer cleaning, etc.; area-specific water discharge and disposal plan; notification; permitting; and valve exercising and identification steps, identification of all equipment necessary to conduct the field program, and other steps necessary to prepare for the system flushing.
- Flushing Procedures: Description of how to use the UDF field journals developed in Task 7.2.3, including a definition of the flushing sequence in each flushing zone and the sequential opening and closing of valves and hydrants for the pilot area.
- Field Journals for Pilot Area: The final packets developed in Task 7.2.3.
- Data Collection: Steps for flushing data collection and use.
- Guidance on contingency planning for issues that arise in the field when flushing.

An electronic pdf copy of the draft TM will be submitted for City review. Meeting No. 3 is to review the draft UDF Execution Plan TM and draft field journals. The City will provide one consolidated set of comments on the draft UDF Execution Plan. The final TM will then be submitted incorporating comments on the draft TM.

Meetings:

The following meetings are included in Task 7.2:

- Meeting No. 2 Review Preliminary Flushing Zone Layout and Documentation - up to two-hour meeting, two BC staff assumed
- Meeting No. 3 Review Draft Field Journals and UDF Execution Plan TM - up to two-hour meeting, two BC staff assumed

Deliverables:

The following deliverables are included in Task 7.2:

- One electronic copy of preliminary UDF Zone Layout
- UDF Field Journals

- Draft UDF field journal packets (pdf), MS Excel field journal log, and overview system map
- Final UDF field journal packets (three hard copies (11x17 3-ring binders)), One electronic copy of Microsoft Excel field journal, electronic copy (pdf) and hard copy of system map showing flushing zones.
- UDF Execution Plan TM
 - Electronic copy of draft UDF Execution Plan TM
 - Three hard copies and one electronic copy of final UDF Execution Plan TM

BC assumes 188 hours overall for this effort.

UDF Program Implementation (Task 7.3)

This task includes supporting the City in the execution of the UDF Plan.

Execute UDF Plan (7.3.1)

BC will support City staff as they are implementing the UDF Plan and conducting flushing runs in the field. Support activities could include field support to assist with following the flushing plan and modeling revised flushing sequences if hydrants or valves included in the flushing plan are discovered by City staff to not be available once flushing begins. This task is limited to up to 40 hours. It is assumed BC will provide one staff person for up to two days in the field with staff as they begin flushing. All operations of valves and equipment will be done by City staff.

Meetings:

The following meetings are included in Task 7.3:

- No meetings identified.

Deliverables:

The following deliverables are included in Task 7.3:

- No deliverables identified.

BC assumes 40 hours overall for this effort.

Training/Technical Documentation (Task 7.4)

BC will provide up to two days of UDF module training. Prior to the training we will develop a formalized draft SOP for setting up the UDF Module and developing and executing a UDF Plan. The SOP will include step by step instructions supported by screen shots from the module and will be tailored to identify formatting specific to the City's UDF plan as developed in the preceding tasks. At the training we will review the draft SOP with the City. Following the training the City will provide one consolidated set of comments on the draft UDF SOP. We will incorporate City comments on the draft UDF SOP and finalize the UDF SOP.

As an administrative accommodation, and as directed by the City, BC agrees to process the payment of an invoice to Innovyze under an amendment to our Professional Services Agreement contract with the City dated May 1, 2019 for the purchase of a Innovyze UDF software suite for a fixed seat license of InfoWater UDF Suite, unlimited pipes including InfoCare. Upon execution of the Amendment by the City and receipt of payment from the City for the Innovyze UDF software suite, BC will provide the weblink to the City for the City to install the software on their system directly from the Innovyze website. In the future, the City will be solely responsible for directly paying Innovyze for any future InfoCare annual maintenance fees.

It is further agreed that BC will not be a signatory nor named as the purchaser/owner on the software purchase contract nor the software license agreement, and the City will be the legal owner of the license. The City acknowledges and agrees that all product warranties, license terms, software support and maintenance for the Innovyze UDF Software Suite are provided directly by Innovyze to the City, and that BC is not a party to, or responsible for, such warranties, support or maintenance. The City agrees to contact Innovyze directly if they have any issues or questions about the software or license agreement. The City agrees to indemnify and hold harmless BC from any and all claims, including but not limited to, claims based on breach of the license agreement, and any claims based on patent or copyright infringement, related to its use and operation of the Innovyze software purchased on its behalf by BC.

Meetings:

The following meetings are included in Task 7.4:

- Model Training Day 1 - up to 4-hour meeting, one BC staff assumed
- Model Training Day 2 - up to 4-hour meeting, one BC staff assumed

Deliverables:

The following deliverables are included in Task 7.4:

- Email with software license information.
- Draft UDF SOP (electronic pdf format)
- Final UDF SOP (electronic pdf format and five bound hardcopies)

BC assumes 56 hours overall for this effort.

City Responsibilities

- Conduct field reconnaissance to update maps, conduct hydrant/valve inspection, confirm disposal locations, and aid in optimal sequence development.
- Procure equipment, hardware, consumables, etc. as recommended by BC. Provide specifications for existing or acquired diffuser equipment.
- Coordinate with other stakeholders and City departments as needed. Obtain any necessary permits.
- Provide customer notification/outreach of flushing activities to customers in the flushing demonstration area.
- All operations of valves and equipment will be done by City staff.
- As determined by the City, conduct a limited amount of pre-flushing as needed to bring fresh water just up to the demonstration area.
- Conduct flushing pilot trials with support from BC.
- Participate in meetings described in this scope of work.
- Install Innovyze UDF software suite.

Team

The team proposed for this work is Melanie Holton as the Project Manager. Carlos Quispe will be the key UDF sequencing modeler. Brian Scott will provide UDF execution and training support. Micaela Nino will provide QA/QC of modeling sequences and deliverables.

Schedule

The duration of this project is seven months, based on a June 3, 2020 City Council meeting day to authorize this amendment. The project duration will be early June through end of December 2020. June 8 is the assumed date of the notice to proceed from the City to BC. A schedule of the key activities is listed below based on this start date assumption. If Notice to Proceed is different, subsequent dates will be revised.

Schedule of Key Activities	
Key Activity	Estimated date (week of) (assume all dates are in 2020)
Notice to Proceed	June 8
Task 6: On-Call Services	June 8 – December 31
Data request submittal	June 15
Receive data from City	June 30
Meeting No. 1 Kickoff Workshop	June 22
Submit preliminary UDF Zone Layout	July 13
Meeting No. 2 Review Preliminary Flushing Zone Layout and Documentation (City provide review comments by this day)	July 27
Submit draft UDF field journal packets	Sept 21
Submit draft UDF Execution Plan TM	Sept 21
Meeting No. 3 Review Draft Field Journals and UDF Execution Plan TM (City provide review comments by this day)	Oct 5
Submit final UDF field journal packets	Oct 19
Submit final UDF Execution Plan TM	Oct 19
Email UDF license information	Oct 26 (no later than)
Submit Draft UDF SOP	Oct 26
Model Training Day 1 and Day 2	Nov 9
City provide review comments on draft UDF SOP	Nov 12
Submit final UDF SOP	Nov 20
UDF execution support	Dependent on when City executes. Assume completed by Dec 22, 2020

Fee

The overall effort associated with this Amendment 1 additional services is \$95,740 which includes the \$23,370 software purchase fee for the InfoWater UDF software, increasing the fee ceiling from \$321,305 to \$417,045. The fee estimate for this Amendment 1 scope of work is as shown in Exhibit B, Budget Proposal.

The following table summarizes the previously executed and proposed agreements and amendments under this contract.

Agreement/Amendment	Scope of Services	Amount
Professional Services Agreement	Update Potable and Recycled Water Models and Training	\$321,305
First Amendment to Professional Services Agreement	On-Call Services, Pilot Unidirectional Flushing Program Development	\$95,740
Total		\$417,045

Attachments:

Exhibit A - Pilot Area Map

Exhibit B - Budget Proposal

Exhibit A: Pilot Area Map



Exhibit B: Budget Proposal

Roseville, City of (CA) – 2018 Water and Recycled Water Model - Amendment 1 EXHIBIT B

		Holton, Melanie E	Okamura, Esther Elaine L	Suesser, Thomas	Schock, Dawn M	Fugal, Andrew L	Surio, Lindsay B	Zuber, John D	Nino, Micaela M	Scott, Brian J			EXPENSE				
Phase	Phase Description	PM	PA								Total Labor Hours	Total Labor Effort	Mileage	UDF software purchase	Total ODCs	Total Expense Effort	Total Effort
		\$238.72	\$112.06	\$101.54	\$103.39	\$226.62	\$95.49	\$334.72	\$131.65	\$142.50							
6	On-Call Services	24	0	0	0	40	0	0	40	0	104	20,000	0	0	0	0	20,000
****	Default Task	24	0	0	0	40	0	0	40	0	104	20,000	0	0	0	0	20,000
7	UDF Module -Amnd1	88	24	148	4	12	8	3	32	29	348	51,970	400	23,370	23,770	23,770	75,740
	7.1 UDF PM and Meetings	24	24	4	0	0	8	3	0	1	64	10,736	0	0	0	0	10,736
	7.2 UDF Plan Developmen	36	0	112	4	8	0	0	24	4	188	25,922	0	0	0	0	25,922
	7.3 UDF Plan Execution	4	0	16	0	0	0	0	0	20	40	5,429	0	0	0	0	5,429
	7.4 UDF SOP	24	0	16	0	4	0	0	8	4	56	9,884	400	23,370	23,770	23,770	33,654
	GRAND TOTAL	112	24	148	4	52	8	3	72	29	452	71,970	400	23,370	23,770	23,770	95,740

Hours and Dollars are rounded to nearest whole number. To display decimals, change the format of the cells.