

EXHIBIT A to Ordinance

**CITY OF PORTLAND
AGREEMENT FOR PROFESSIONAL, TECHNICAL, OR EXPERT SERVICES**

CONTRACT NUMBER 3000xxx

**PROGRAM MANAGEMENT AND SUPPORT SERVICES
FOR THE BULL RUN FILTRATION PROJECT**

This Contract is between the City of Portland ("City," or "Bureau") and **Brown and Caldwell, Inc.**, hereafter called Consultant . The City's Project Manager for this Contract is **David Peters**.

Effective Date and Duration

This Contract shall become effective on **September 1, 2018**. This Contract shall expire, unless otherwise terminated or extended, on **August 31, 2023**.

Consideration

- (a) City agrees to pay Consultant a sum not to exceed **\$67,891,398** for accomplishment of the work.
- (b) Interim payments shall be made to Consultant according to the schedule identified in the STATEMENT OF THE WORK AND PAYMENT SCHEDULE.

CONSULTANT DATA AND CERTIFICATION

Name (print full legal name): **Brown and Caldwell, Inc.**

Address: **6500 SW Macadam Avenue, Suite 200, Portland, Oregon 97239-3552**

City of Portland Business Tax Registration Number: _____

- Citizenship: Nonresident alien Yes No
- Business Designation (check one): Individual Sole Proprietorship Partnership Corporation
- Limited Liability Co (LLC) Estate/Trust Public Service Corp. Government/Nonprofit

Payment information will be reported to the IRS under the name and taxpayer I.D. number provided above. Information must be provided prior to Contract approval.

TERMS AND CONDITIONS

1. Standard of Care

Consultant shall perform all services under this Contract using that care, skill, and diligence that would ordinarily be used by similar professionals in this community in similar circumstances.

2. Effect of Expiration

Passage of the Contract expiration date shall not extinguish, prejudice, or limit either party's right to enforce this Contract with respect to any default or defect in performance that has not been corrected.

3. Order of Precedence

This Contract consists of these Terms and Conditions, the Statement of Work and Payment Schedule, and any exhibits that are attached. Any apparent or alleged conflict between these items will be resolved by using the following order of precedence:

- a) these Terms and Conditions; b) Statement of Work and Payment Schedule; and c) any exhibits attached to the Contract.

4. Early Termination of Contract

- (a) The City may terminate this Contract for convenience at any time for any reason deemed appropriate in its sole discretion. Termination is effective immediately upon notice of termination given by the City.
- (b) Either party may terminate this Contract in the event of a material breach by the other party that is not cured. Before termination is permitted, the party seeking termination shall give the other party written notice of the breach, its intent to terminate, and fifteen (15) calendar days to cure the breach. If the breach is not cured within 15 calendar days, the party seeking termination may terminate immediately by giving written notice that the Contract is terminated.

5. Remedies and Payment on Early Termination

- (a) If the City terminates pursuant to 4(a) above, the City shall pay the Consultant for work performed in accordance with the Contract prior to the termination date. No other costs or loss of anticipated profits shall be paid.

- (b) If the City terminates pursuant to 4(b) above, the City is entitled all remedies available at law or equity. In addition, Consultant shall pay the City all damages, costs, and sums incurred by the City as a result of the breach.
- (c) If the Consultant justifiably terminates the Contract pursuant to subsection 4(b), the Consultant's only remedy is payment for work prior to the termination. No other costs or loss of anticipated profits shall be paid.
- (d) If the City's termination under Section 4(b) was wrongful, the termination shall be automatically converted to one for convenience and the Consultant shall be paid as if the Contract was terminated under Section 4(a).
- (e) In the event of early termination the Consultant's work product before the date of termination becomes property of the City.

6. Assignment

Consultant shall not subcontract, assign, or transfer any of the work scheduled under this agreement, without the prior written consent of the City. Notwithstanding City approval of a subconsultant, the Consultant shall remain obligated for full performance hereunder, and the City shall incur no obligation other than its obligations to the Consultant hereunder. The Consultant agrees that if subconsultants are employed in the performance of this Agreement, the Consultant and its subconsultants are subject to the requirements and sanctions of ORS Chapter 656, Workers' Compensation.

7. Compliance with Applicable Law

Consultant shall comply with all applicable federal, state, and local laws and regulations. Consultant agrees it currently is in compliance with all tax laws. Consultant shall comply with Title VI of the Civil Rights Act of 1964 and its corresponding regulations. In connection with its activities under this Contract, the Consultant shall comply with all applicable Grant Terms and conditions. This includes all terms and conditions contained in this Contract and, for a Contract involving a grant, the Grant Terms and Conditions.

8. Indemnification for Property Damage and Personal Injury

Consultant shall indemnify, defend, and hold harmless the City, its officers, agents, and employees, from all claims, losses, damages, and costs (including reasonable attorney fees) for personal injury and property damage arising out of the intentional or negligent acts or omissions of the Consultant, its Subconsultants, suppliers, employees or agents in the performance of its services. Nothing in this paragraph requires the Consultant or its insurer to indemnify the City for claims of personal injury or property damage caused by the negligence of the City. This duty shall survive the expiration or termination of this Contract.

9. Insurance

Consultant shall obtain and maintain in full force at Consultant expense, throughout the duration of the Contract and any warranty or extension periods, the required insurance identified below. The City reserves the right to require additional insurance coverage as required by statutory or legal changes to the maximum liability that may be imposed on Oregon cities during the term of the Contract.

- (a) Workers' compensation insurance as required by ORS Chapter 656 and as it may be amended. Unless exempt under ORS Chapter 656, the Consultant and all subconsultants shall maintain coverage for all subject workers.

Required and attached // Proof of exemption (i.e., completion of Workers' Compensation Insurance Statement)

- (b) General commercial liability (CGL) insurance covering bodily injury, personal injury, property damage, including coverage for independent consultant's protection (required if any work will be subcontracted), premises/operations, Contractual liability, products and completed operations, in per occurrence limit of not less than \$1,000,000, and aggregate limit of not less than \$2,000,000.

Required and attached // Waived by Bureau Director or designee // Reduce by Bureau Director or designee

- (c) Automobile liability insurance with coverage of not less than \$1,000,000 each accident, and an umbrella or excess liability coverage of \$2,000,000. The insurance shall include coverage for any auto or all owned, scheduled, hired and non-owned auto. This coverage may be combined with the commercial general liability insurance policy.

Required and attached // Waived by Bureau Director or designee // Reduce by Bureau Director or designee

- (d) Professional Liability and/or Errors & Omissions insurance to cover damages caused by negligent acts, errors or omissions related to the professional services, and performance of duties and responsibilities of the Consultant under this Contract in an amount with a combined single limit of not less than \$1,000,000 per occurrence and aggregate of \$3,000,000 for all claims per occurrence. In lieu of an occurrence based policy, Consultant may have claims-made policy in an amount not less than \$1,000,000 per claim and \$3,000,000 annual aggregate, if the Consultant obtains an extended reporting period or tail coverage for not less than three (3) years following the termination or expiration of the Contract.

Required and attached // Waived by Bureau Director or designee // Reduce by Bureau Director or designee

Continuous Coverage; Notice of Cancellation: The Consultant agrees to maintain continuous, uninterrupted coverage for the duration of the Contract. There shall be no termination, cancellation, material change, potential exhaustion of aggregate limits or non-renewal of coverage without thirty (30) calendar days written notice from Consultant to the City. If the insurance is canceled or terminated prior to completion of the Contract, Consultant shall immediately notify the City and provide a new policy with the same terms. Any failure to comply with this clause shall constitute a material breach of Contract and shall be grounds for immediate termination of this Contract.

Additional Insured: The liability insurance coverages, except Professional Liability, Errors and Omissions, or Workers' Compensation, shall be without prejudice to coverage otherwise existing, and shall name the City of Portland and its bureaus/divisions, officers, agents and employees as Additional Insureds, with respect to the Consultant's activities to be performed, or products or services to be provided. Coverage shall be primary and non-contributory with any other insurance and self-insurance. Notwithstanding the naming of additional insureds, the insurance shall protect each additional insured in the same manner as though a separate policy had been issued to each, but nothing herein shall operate to increase the insurer's liability as set forth elsewhere in the policy beyond the amount or amounts for which the insurer would have been liable if only one person or interest had been named as insured.

Certificate(s) of Insurance: Consultant shall provide proof of insurance through acceptable certificate(s) of insurance, including additional insured endorsement form(s) and all other relevant endorsements, to the City prior to the award of the Contract if required by the procurement documents (e.g., request for proposal), or at execution of Contract and prior to any commencement of work or delivery of goods or services under the Contract. The Certificate(s) will specify all of the parties who are endorsed on the policy as Additional Insureds (or Loss Payees). Insurance coverages required under this Contract shall be obtained from insurance companies acceptable to the City of Portland. The Consultant shall pay for all deductibles and premium. The City reserves the right to require, at any time, complete, certified copies of required insurance policies, including endorsements evidencing the coverage the required.

Subconsultant(s): Consultant shall provide evidence that any subconsultant, if any, performing work or providing goods or service under the Contract has the same types and amounts of coverages as required herein or that the subconsultant is included under Consultant's policy.

10. Ownership of Work Product

All work product produced by the Consultant under this Contract is the exclusive property of the City. "Work Product" includes, but is not limited to: research, reports, computer programs, manuals, drawings, recordings, photographs, artwork and any data or information in any form. The Consultant and the City intend that such Work Product shall be deemed "work made for hire" of which the City shall be deemed the author. If for any reason a Work Product is deemed not to be a "work made for hire," the Consultant hereby irrevocably assigns and transfers to the City all right, title and interest in such work product, whether arising from copyright, patent, trademark, trade secret, or any other state or federal intellectual property law or doctrines. Consultant shall obtain such interests and execute all documents necessary to fully vest such rights in the City. Consultant waives all rights relating to work product, including any rights arising under 17 USC 106A, or any other rights of authorship, identification or approval, restriction or limitation on use or subsequent modifications. If the Consultant is an architect, the Work Product is the property of the Consultant-Architect, and by execution of this Contract, the Consultant-Architect grants the City an exclusive and irrevocable license to use that Work Product.

Notwithstanding the above, all pre-existing trademarks, services marks, patents, copyrights, trade secrets, and other proprietary rights of Consultant are and will remain the exclusive property of Consultant.

11. EEO Certification

The Consultant must be certified prior to Contract execution, as Equal Employment Opportunity Affirmative Action Employers as prescribed by Chapter 5.33.076 of the Code of the City of Portland.

12. Equal Benefits

Consultant must certify prior to Contract execution, that they do not discriminate by policy or practice in the provision of employee benefits between employees with domestic partners and employees with spouses as prescribed by Chapter 5.33.077 of the Code of the City of Portland.

13. Successors in Interest

The provisions of this Contract shall be binding upon and shall inure to the benefit of the parties hereto, and their respective successors and approved assigns.

14. Severability

The parties agree that if any term or provision of this Contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular term or provision held to be invalid.

15. Waiver

The failure of the City to enforce any provision of this Contract shall not constitute a waiver by the City of that or any other provision.

16. Errors

The Consultant shall promptly perform such additional services as may be necessary to correct errors in the services required by this Contract without undue delays and without additional cost.

17. Governing Law/Venue

The provisions of this Contract shall be interpreted, construed and enforced in accordance with, and governed by, the laws of the State of Oregon without reference to its conflict of laws provisions that might otherwise require the application of the law of any other jurisdiction. Any action or suits involving any question arising under this Contract must be brought in the appropriate court in Multnomah County Oregon.

18. Amendments

All changes to this Contract, including changes to the scope of work and Contract amount, must be made by written amendment and approved by the Chief Procurement Officer to be valid. Any amendment that increases the original Contract amount by more than 25% must be approved by the City Council to be valid.

19. Business Tax Registration

The Consultant shall obtain a City of Portland business tax registration number as required by PCC 7.02 prior to beginning work under this Contract.

20. Prohibited Conduct

The Consultant shall not hire any City employee who evaluated the proposals or authorized the award of this Contract for two years after the date the Contract was authorized without the express written permission of the City and provided the hiring is permitted by state law.

21. Payment to Vendors and Subconsultants

The Consultant shall timely pay all subconsultants and suppliers providing services or goods for this Contract.

22. Access to Records

The Consultant shall maintain all records relating to this Contract for three (3) years after final payment. The City may examine, audit and copy the Consultant's books, documents, papers, and records relating to this Contract at any time during this period upon reasonable notice. Copies of these records shall be made available upon request. Payment for the reasonable cost of requested copies shall be made by the City.

23. Audits

- (a) The City may conduct financial and performance audits of the billings and services specified in this Contract at any time in the course of the Contract and during the three (3) year period established by paragraph 22. Audits will be conducted in accordance with generally accepted auditing standards as promulgated in Government Auditing Standards by the Comptroller General of the United States Government Accountability Office.
- (b) If an audit discloses that payments to the Consultant exceed the amount to which the Consultant was entitled, the Consultant shall repay the amount of the excess to the City.

24. Electronic Signatures

The City and Consultant may conduct this transaction, including any Contract amendments, by electronic means, including the use of electronic signatures.

25. Merger Clause

This Contract encompasses the entire agreement of the parties, and supersedes all previous understandings and agreements between the parties, whether verbal or written.

26. Dispute Resolution/Work Regardless of Disputes

The parties shall participate in mediation to resolve disputes before conducting litigation. The mediation shall occur at a reasonable time after the conclusion of the Contract with a mediator jointly selected by the parties. Notwithstanding any dispute under this Contract, the Consultant shall continue to perform its work pending resolution of a dispute, and the City shall make payments as required by the Contract for undisputed portions of the work. In the event of litigation no attorney fees are recoverable. No different dispute resolution paragraph(s) in this Contract or any attachment hereto shall supersede or take precedence over this provision.

27. Progress Reports: Applicable / Not Applicable

If applicable, the Consultant shall provide monthly progress reports to the Project Manager as described in the Statement of the Work and Payment Schedule.

28. Consultant's Personnel: Applicable / Not Applicable

If applicable, the Consultant shall assign the personnel listed in the Statement of the Work and Payment Schedule for the work required by the Contract and shall not change personnel without the prior written consent of the City, which shall not be unreasonably withheld.

29. Subconsultants

The Consultant shall use the subconsultants identified in its proposals. The Consultant shall not change subconsultant's assignments without the prior written consent of the Chief Procurement Officer. The City will enforce all social equity Contracting and Disadvantaged, Minority, Women and Emerging Small Business (D/M/W/ESB) subcontracting commitments submitted by the Consultant in its proposals. Failure to use the identified D/M/W/ESB subconsultants without prior written consent is a material breach of contract.

For Contracts valued \$50,000 or more, the Consultant shall submit subconsultant payment and utilization information electronically, reporting ALL subconsultants employed in the performance of this agreement. More information on this process may be viewed on the City Procurement website at: <https://www.portlandoregon.gov/brfs/75932>. Contact the PTE Contract Compliance Specialist for submission guidelines.

Subconsultants are responsible for meeting all requirements applicable to the Consultant under this contract, including compliance with City policies and all applicable federal, state, and local laws and regulations.

30. Third Party Beneficiaries

There are no third party beneficiaries to this Contract. Enforcement of this Contract is reserved to the parties.

31. Conflict of Interest

Consultant hereby certifies that, if applicable, its Contract proposal is made in good faith without fraud, collusion or connection of any kind with any other proposer of the same request for proposals or other City procurement solicitation(s), that the Consultant as a proposer has competed solely on its own behalf without connection or obligation to, any undisclosed person or firm. Consultant certifies that it is not a City official/employee or a business with which a City official/employee is associated, and that to the best of its knowledge, Consultant, its employee(s), its officer(s) or its director(s) is not a City official/employee or a relative of any City official/employee who: i) has responsibility in making decisions or ability to influence decision-making on the Contract or project to which this Contract pertains; ii) has or will participate in evaluation or management of the Contract; or iii) has or will have financial benefits in the Contract. Consultant understands that should it elect to employ any former City official/employee during the term of the Contract then that the former City official/Consultant employee must comply with applicable government ethics and conflicts of interest provisions in ORS Chapter 244, including but not limited to ORS 244.040(5) and ORS 244.047, and the City's Charter, Codes and administrative rules, including lobbying prohibitions under Portland City Code Section 2.12.080.

32. Respectful Workplace Behavior

The City of Portland is committed to a respectful work environment, free of harassment, discrimination and retaliation and other inappropriate conduct. Every individual has a right to work in a professional atmosphere where all individuals are treated with respect and dignity. The City's HR Rule 2.02 covers all employees with the City of Portland as well as consultants, vendors or consultants who provide services to the City of Portland. By signing this Contract/Agreement, the Consultant indicates compliance with all terms and conditions contained in this Contract including HR 2.02.

STATEMENT OF THE WORK AND PAYMENT SCHEDULE

OBJECTIVES

The goal of the Bull Run Filtration Project (Project) is to develop and implement a pilot program and deliver a complex water treatment facility capable of complying with the Long Term 2 Enhanced Surface Water Treatment Rule. The Project will plan, design, and construct all treatment systems related to the Bull Run Supply including filtration, pre/post treatment systems, disinfection, and corrosion control. The Program Management and Support Services for the Project will be the Portland Water Bureau (PWB) with a pilot program, project definition, project management, project controls, land use and permitting, value engineering, partnering facilitation, stakeholder engagement, geotechnical investigations, development of standards, construction management and other related support services for the Project. The Consultant's staff and their team of subconsultants (referred to collectively as Consultant) shall complete the work as described below.

1. The Project schedule shall be in general accordance with the Project Milestones listed under Schedule of Work.
2. Construction of the Project shall be delivered through a Construction Manager / General Contractor (CM/GC) procurement process.

GENERAL EXECUTION

PWB Activities

The City of Portland Water Bureau's Project Manager (PWB PM) will provide the Consultant a Notice to Proceed (NTP) stating the date the Consultant can begin work subject to the conditions of the Contract. The performance time of the Contract starts from the NTP date. The PWB will provide overall Project direction and oversight and other specific services defined in the Consultant's Statement of Work. PWB will also provide a program management office for the first five (5) years of the Project.

Format of Deliverables

Unless otherwise specified or approved by the PWB PM, all Project deliverables shall be submitted electronically in PDF format and a format appropriate to the product (e.g. documents in Word, spatial products as GIS shapefiles) along with twenty (20) hard-copies.

Each of the Exhibits attached to this Contract, including, without limitation, the Statement of Work, Contract Budget, Hourly Billing Rate Table, and Confidentiality Agreement, is expressly incorporated herein and made part of this Contract, all references to this Contract, unless specified otherwise, shall include the Exhibits.

STATEMENT OF WORK

Consultant shall provide the services described in **Exhibit A – Statement of Work**.

SCHEDULE OF WORK

The Project Schedule consists of the four major milestones defined below. The Consultant will work closely with designated PWB personnel, the Project Engineering Services Consultant, the Project Delivery Construction Contractor, and others to deliver the Project and accomplish the Project goals and deadlines. The Consultant shall provide the PWB PM a detailed Gantt chart schedule within one (1) day of issuance of a Notice to Proceed (NTP) in a format preapproved by the PWB PM.

Project Milestones	
Completion of Draft Project Definition	July 2019
Completion of Final Project Definition	July 2020
Completion of Pilot Program & Submission to OHA	November 2020
Completion of Design	November 2022
Compliance	September 2027

CONSULTANT KEY PERSONNEL

Consultant shall assign the following key personnel to do the work in the capacities designated:

Name	Company	Role on Project
Jon Holland	Brown and Caldwell, Inc.	Program Manager
Kyle Sandera	Brown and Caldwell, Inc.	Controls, Quality, Risk Management
Lynn Stephens	Brown and Caldwell, Inc.	Pilot Testing
Bill Persich	Brown and Caldwell, Inc.	Pilot Testing, Project Definition
Jeremy Williams	Brown and Caldwell, Inc.	Design Management
Simon Watson	Brown and Caldwell, Inc.	O&M
Laurie Sullivan	Brown and Caldwell, Inc.	O&M
Tom Lebo	Brown and Caldwell, Inc.	Construction Management
Libby Barg	Barney and Worth - subconsultant	Communications
Tim Brooks	Winterbrook- subconsultant	Permitting
Jeff Campbell	Project Control Cubed, LLC- subconsultant	Scheduling
Melinda Friedman	Confluence Engineering Group- subconsultant	Pilot testing, Distribution Water Quality

SUBCONSULTANTS

The Consultant shall assign the following subconsultants listed below to perform work in the capacities designated. There is 22% of the total Control dollars assigned to Disadvantaged, Minority, Women and Emerging Small Business (D/M/W/ESB).

NAME	DMWESB CERTIFICATION TYPE	ROLE ON PROJECT	SUBCONTRACT AMOUNT
Akana	D/MBE	Civil	\$300,000
Aladon		RCD/M	\$390,000
Assessment Associates, Inc.	ESB	Environmental Assessment	\$200,000
Asset Management Professionals	MBE/ESB	Asset Management	\$250,000
Barney & Worth	WBE	Communications	\$3,370,000
CFM Strategic Communications		Public Affairs	\$150,000
CMTS	D/MBE	Construction Inspections	\$925,000
Confluence Engineering Group, LLC		Water Quality and Corrosion	\$1,220,000
Convergence Architecture	WBE	Architectural	\$480,000
Day CPM		Program Advisor, Budget, Inspection	\$1,900,000
Eaton Synergies	WBE	Administration	\$1,250,000
ecoREAL Solutions	D/WBE	Green Building	\$190,000
Emerio Design, LLC	D/MBE	Survey	\$360,000
Global Transportation Engineering	D/M/W/ESB	Traffic	\$80,000
Greenbusch Group, Inc.	WBE	Acoustic	\$50,000
Heritage Research Associates, Inc.	D/WBE	Cultural Resources	\$100,000
Integrated Water Solutions	WBE	NEPA Permitting	\$400,000
Life Simplified	D/W/ESB	PMIS and Cost Control	\$2,600,000
NNA Landscape Architecture	D/M/ESB	Landscape Architecture	\$100,000
Project Controls Cubed	<i>Certification Pending</i>	5D scheduling	\$4,200,000
Rau Innovations		O&M	\$150,000
Rhino One	D/MBE	Geotech	\$975,000
SEFT Consulting Group	D/M/ESB	Seismic	\$210,000
Staheli Trenchless Consultants	WBE	Trenchless	\$135,000
Strategic Value Solutions, Inc.		Value Engineering	\$200,000
Universal Field Services, Inc.		Right of Way	\$80,000
V&A Consulting Engineers, Inc.	D/MBE	Corrosion Engineering	\$215,000
Winterbrook Planning	ESB	Permitting	\$770,000
Technical Advisory Committee (TBD)		Technical Advisors	\$300,000 (to be distributed among selected subconsultants)
Unidentified Work for Subcontracting Participation*			\$1,976,108

Total Subcontracting Participation	\$23,526,108
Total Subcontracting Participation (as a Percentage of the Total Contract Amount)	34.7%
Total DMWESB Subcontracting Participation (as a Percentage of the Total Contract Amount)	22.0%

*Additional tasks for DMWESB subcontractors will be identified as the project progresses. Subcontractor Project Controls Cubed has a pending State certification and if certified will contribute to the total DMWESB subcontracting participation.

The City will enforce all social equity Contracting and Disadvantaged, Minority, Women and Emerging Small Business (DMWESB) subcontracting commitments submitted by the Consultant in its Proposal. Consultant shall not add, eliminate, or replace any Subconsultant assignments without the prior written consent of the Chief Procurement Officer; failure to use the identified DMWESB Subconsultants without prior written consent is a material breach of contract. Any changes must be reported and submitted to the PTE Contract Compliance Specialist on the Subconsultant Change Request Form found on Procurement Services' website under Contractor Resources. All changes to this Contract, including changes to the DMWESB subcontracting commitments, must be made by written amendment and approved by the Chief Procurement Officer to be valid.

For Contracts valued \$50,000 or more, the Consultant shall submit monthly subconsultant payment and utilization information electronically, reporting ALL subconsultants employed in the performance of this Contract. More information on this process may be viewed on the City Procurement website at: <https://www.portlandoregon.gov/brfs/75932>. Contact the PTE Contract Compliance Specialist for submission guidelines.

Along with the reporting requirements identified above, the Consultant shall submit a monthly subconsultant report to the PWB Contract Administration Branch (CAB) on a monthly basis. The report shall be emailed to: WB CAB Intake at: CABIntake@portlandoregon.gov

The report shall include the following information:

- A. Date
- B. Contract number/Consultant's Name
- C. Project Title
- D. Contract Phase
- E. Contract Amount
- F. Subconsultant
- G. Subconsultant Name
- H. DMWESB Designation
- I. Role on Project under this Contract
- J. Original Subcontract Amount
- K. Amount Expended to Date
- L. Amount Remaining to be Paid
- M. Comment – include information on changes to work, if not utilizing subconsultant the reason why and when the subconsultant will be utilized.

COMPENSATION

The maximum that the Consultant can be paid on this Contract is \$67,891,398 (hereafter the “not to exceed” amount). The estimated break down of the “not to exceed” **contract budget** amount is shown in **Exhibit B**, attached to this Contract. The Consultant remains responsible if the estimate proves to be incorrect. Exceeding the not to exceed amount does not impose any liability on the City for additional payment. Exhibit B, contract budget, is attached and hereby incorporated into the Contract. If work is completed before the “not to exceed” amount is reached, the Consultant’s compensation will be based on the Consultant’s bills previously submitted for acceptable work performed and approved. The Consultant is entitled to receive progress payments for its work pursuant to the Contract. The City will pay Consultant based on these invoices for acceptable work performed and approved until the “not to exceed” amount is reached. Thereafter, Consultant must complete work based on the Contract without additional compensation unless there is a change to the scope of work and an amendment to the Contract.

Consultant may reallocate compensation between phases with the approval of the PWB Project Manager, provided the total “not to exceed” original Contract amount is not exceeded. A bimonthly report shall be provided to the PWB that includes any approved reallocation of phase funds and tasks. A revised contract budget table shall also be provided and submitted to PWB PM and the Water Bureau (WB) Contract Administration Branch (CAB) Representative at that time.

HOURLY RATES

The Consultant shall be compensated in accordance with the hourly rates set forth in attached **Exhibit C, Hourly Billing Rate Table**. In no way shall the cost of hours billed by the Consultant exceed the total Contract amount throughout the term of this Contract. The Water Bureau has authorized an annual rate increase for each year of this contract. The first annual rate increase is estimated to be September 2019. The rates identified in **Exhibit C** shall remain constant throughout the term of the Contract. This includes **subconsultant hourly rates** included to the Contract as **Exhibit C-1**. Compensation for subconsultants shall be limited to the same restrictions imposed on the Consultant. The maximum markup on subconsultant services shall not exceed **5%**.

STANDARD REIMBURSABLE COSTS

The following costs shall be reimbursed without mark-up: Preapproved travel, including mileage (only travel beyond a 100-mile radius of Portland when specifically required by the Contract shall be reimbursed); preapproved meals during travel and while to conduct work under specifically associated to this Contract; document reproduction directly attributable to the Contract; preapproved food and non-alcoholic beverages for Project meetings directly attributable to the Contract; and, other preapproved reimbursable direct costs directly attributable to the Contract. There shall be no increases to any reimbursable(s) during the term of this Contract.

Travel - It is the policy of the City that all travel shall be allowed only when the travel is essential to the normal discharge of the Consultant’s responsibilities under the Contract. All travel must be for official City business only. All travel and lodging shall be conducted in the most efficient and cost-effective manner resulting in the best value to the City. Reimbursable direct costs include preapproved travel beyond a 100-mile radius of Portland. Personal expenses shall not be authorized at any time. Alcohol is not an authorized purchase under this Contract. Travel costs shall be reimbursed in accordance with the City’s Travel Expense Guidelines, which are based on the General Services Administration (GSA) per diem rates. All Travel shall be pre-approved in writing by the Water Bureau Project Manager. Upon submitting invoices which indicate travel the Consultant shall provide all travel receipts for any items being requested for reimbursement. All receipts shall indicate the company that payment was made to, detail describing the type of services purchased and the total amount paid initially by Consultant. All requests shall be in accordance with the limits of travel reimbursement. When submitting invoices and travel has been authorized and conducted by the consultant a separate line item shall be identified on the invoice.

Preapproval of Travel/Meals

All travel and meals must be pre-approved by the Water Bureau’s Project Manager in writing. The Consultant is required to notify the Water Bureau’s Project Manager regarding all travel they anticipate, including any travel beyond a 100-mile radius of Portland and indicate why this travel would be necessary. When requesting authorization for pretravel and meals, the Consultant shall include the estimated date/times when Key Personnel, either employed with the Consultant or as a subconsultant on the Contract, will be

required to travel and how this is associated with the Contract as well as indicate the location and estimated costs for that travel. The Consultant shall include the purpose and reason why a local member would not be available to perform the work and why an alternate communication method could not be used.

Food and/or non-alcoholic beverages

Food and/or beverages may be provided to participants at meetings or conferences that are allowable activities and have been preapproved by the Water Bureau's Project Manager in writing. In addition, the agenda, list of participants and approval from the PWB Project Manager must be included as an attachment to the monthly invoice submitted for the scheduled event. Expenses incurred for food and/or beverages provided at training sessions, meetings, or conferences must satisfy the following three (3) tests:

Test 1: The cost of the food and/or beverages provided is considered to be reasonable in cost.*

Test 2: The food and/or beverages provided are incidental to a work-related event.

Test 3: The food and/or beverages provided are not related directly to amusement and/or social events.

Any event where alcohol is being served is considered a social event and, therefore, costs associated with that event are not allowable. *Reasonable in cost shall be defined as a price that is consistent with what a reasonable person would pay in the same or similar circumstances for the same business or for the same or similar item

The Consultant and their subconsultants shall adhere to the following applicable definitions for food and beverages:

- Food and/or beverages retain their common meanings.
- Food or beverages are considered in the context of formal meals and in the context of refreshments served at short, intermittent breaks during an activity that supports the project under this Contract between the Consultant and the Water Bureau.
- Beverages do not include alcoholic drinks.

Personal expenditures or expenditures not related to the Contract are not eligible for reimbursement.

Progress Payments

Compensation to the Consultant shall be based on the following:

- Invoices submitted to the Water Bureau's Finance Department via email and includes the appropriate required information as outlined in the Contract and includes all supporting documentation relating to charges expressed on the invoice.
- Detailed monthly Project progress reports submitted to the Water Bureau Project Manager as required.
- Monthly utilization reports (MUR). For Contracts valued \$50,000 or more, the Consultant shall submit subconsultant payment and utilization information electronically, reporting ALL subconsultants employed in the performance of this agreement. More information on this process may be viewed on the City Procurement website at: <https://www.portlandoregon.gov/brfs/75932>. Contact the City's Procurement Office's PTE Contract Compliance Specialist for submission guidelines.

The Consultant is required to follow Generally Accepted Accounting Principles (GAAP). Personal expenditures or expenditures not related to the Project or part of the Contract are not eligible for reimbursement. On or before the 15th of each month, the Consultant shall submit to the Water Bureau's Accounts Payable Department an Invoice for work performed by the Consultant during the preceding month.

The Consultant shall enter all pertinent information below on their invoice in order for the City to review and authorize processing of invoices for payment. The invoice and shall be e-mailed to: wbaps@portlandoregon.gov

- A. Contract Number and Water Bureau's Project Title
- B. Invoice date
- C. Date range during which the services are being invoiced for work provided
- D. Water Bureau Project Manager's name
- E. Original Contact total, not to exceed amount broken out by: Project; Phase(s), Task, and, Subtask (as applicable)
- F. Reflect and added dollars associated with a Contract amendment(s) and show the revised/current Contract amount
- G. Paid to date amount showing the amount submitted for prior to the current invoice (regardless of payment status)
- H. Amount being invoiced for the current invoice and broken out, with a roll up of a "Total Amount Billed for This Invoice" line item amount
- I. Balance remaining to the Contract after receipt of payment for the current invoice
- J. Consultant shall describe all services performed with particularity and by whom it was performed (Consultants individual or subconsultant, labor category, direct labor rate, hours worked during the period) and shall itemize and explain all expenses for which reimbursement is claimed. If reimbursable expenses are authorized, identify by line item categories, 1) Travel Expenses and 2) General Reimbursable Expenses. Note: Invoices for Basic Services under a specific Phase and

Task shall be for completed Basic Services only and shall indicate the percentage of the total Basic Services for that Phase and Task that the amount invoiced represents

- K. The Consultant shall also attach photocopies of claimed reimbursable expenses, as applicable and preapproved authorization document from the Water Bureau's Project Manager
- L. The Consultant shall stamp and approve all subconsultant invoices and note on the subconsultant invoice what they are approving as "billable" under the Contract
- M. The billing from the Consultant must clearly roll up labor and reimbursable costs for the prime and subconsultants – matching the subconsultant invoices

Final invoice for Contract - The last invoice submitted on the Project must be clearly labeled "Final Invoice"

PAYMENT TERMS: Net 30 Days

The City shall pay all amounts to which no dispute exists within 30 calendar days of receipt of the invoice. Payment of any bill, however, does not preclude the City from later determining that an error in payment was made and from withholding the disputed sum from the next progress payment until the dispute is resolved.

The Consultant shall make full payment to its subconsultants within 10 business days following receipt of any payment made by the City to Consultant.

ACH Payments

It is the City's policy to pay its Consultant invoices via electronic funds transfers through the automated clearing house (ACH) network. To initiate payment of invoices, Consultant shall execute the City's standard ACH Vendor Payment Authorization Agreement.

Upon verification of the data provided, the Payment Authorization Agreement will authorize the City to deposit payment for services rendered directly into Consultant accounts with financial institutions. All payments shall be in United States currency.

The Consultant shall include a separate reimbursable line item on their submitted invoice(s) each month for applicable charges with all supporting documentation. This shall include any pre-approved travel and meals, while on approved travel

When submitting invoice, Consultant shall include supporting documentation they have received from the PWB Project Manager authorizing travel/meals along with all travel and meal receipts. PWB will not pay Consultant or their subconsultants for overnight or extended parking costs.

CONFIDENTIALITY AND NON-DISCLOSURE.

All deliverables under the Contract are considered confidential until and unless determined otherwise by the PWB. Final decisions about what is or is not confidential will be made by the PWB Chief Engineer and the PWB Operations Director.

Confidential Information. Consultant acknowledges that it and its employees, subconsultants or agents may, in the course of performing the Services under this Contract, be exposed to or acquire information that is confidential to PWB or PWB's clients. Any and all information of any form obtained by Consultant or its employees or agents in the performance of this Contract shall be deemed to be confidential information of PWB ("Confidential Information").

Non-Disclosure. Consultant agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Consultant uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose

The Consultant and its employees, subconsultants or agents shall be required to sign a Confidentiality/Non-Disclosure Agreement substantially in accordance with the Agreements attached as Exhibit D.

WORKERS' COMPENSATION INSURANCE STATEMENT

IF YOUR FIRM HAS CURRENT WORKERS' COMPENSATION INSURANCE, CONSULTANT MUST SIGN HERE:

I, undersigned, am authorized to act on behalf of entity designated below, and I hereby certify that this entity has current Workers' Compensation Insurance.

Consultant Signature: _____ Date: _____ Entity: _____

IF YOUR FIRM DOES NOT HAVE CURRENT WORKERS' COMPENSATION INSURANCE, CONSULTANT MUST COMPLETE THE FOLLOWING INDEPENDENT CONSULTANT CERTIFICATION STATEMENT:

As an independent Consultant, I certify that I meet the following standards:

1. The individual or business entity providing labor or services is registered under ORS Chapter 701, if the individual or business entity provides labor or services for which such registration is required;
2. Federal and state income tax returns in the name of the business or a business Schedule C or form Schedule F as part of the personal income tax return were filed for the previous year if the individual or business entity performed labor or services as an independent Consultant in the previous year; and
3. The individual or business entity represents to the public that the labor or services are to be provided by an independently established business. Except when an individual or business entity files a Schedule F as part of the personal income tax returns and the individual or business entity performs farm labor or services that are reportable on Schedule C, an individual or business entity is considered to be engaged in an independently established business when four or more of the following circumstances exist. Consultant: check four or more of the following:

- _____ A. The labor or services are primarily carried out at a location that is separate from the residence of an individual who performs the labor or services, or are primarily carried out in a specific portion of the residence, which portion is set aside as the location of the business;
- _____ B. Commercial advertising or business cards as is customary in operating similar businesses are purchased for the business, or the individual or business entity has a trade association membership;
- _____ C. Telephone listing and service are used for the business that is separate from the personal residence listing and service used by an individual who performs the labor or services;
- _____ D. Labor or services are performed only pursuant to written Contracts;
- _____ E. Labor or services are performed for two or more different persons within a period of one year; or
- _____ F. The individual or business entity assumes financial responsibility for defective workmanship or for service not provided as evidenced by the ownership of performance bonds, warranties, errors and omission insurance or liability insurance relating to the labor or services to be provided.

Consultant Signature

Date

FOR CITY USE ONLY

PROJECT MANAGER-COMplete ONLY IF CONSULTANT DOES NOT HAVE WORKER'S COMPENSATION INSURANCE

ORS 670.600 Independent Consultant standards. As used in various provisions of ORS Chapters 316, 656, 657, and 701, an individual or business entity that performs labor or services for remuneration shall be considered to perform the labor or services as an "independent consultant" if the standards of this section are met. The Contracted work meets the following standards:

1. The individual or business entity providing the labor or services is free from direction and control over the means and manner of providing the labor or services, subject only to the right of the person for whom the labor or services are provided to specify the desired results;
2. The individual or business entity providing labor or services is responsible for obtaining all assumed business registrations or professional occupation licenses required by state law or local government ordinances for the individual or business entity to conduct the business;
3. The individual or business entity providing labor or services furnishes the tools or equipment necessary for performance of the Contracted labor or services;
4. The individual or business entity providing labor or services has the authority to hire and fire employees to perform the labor or services;
5. Payment for the labor or services is made upon completion of the performance of specific portions of the project or is made on the basis of an annual or periodic retainer.

City Project Manager Signature

Date

CONSULTANT SIGNATURE:

This Contract may be signed in two (2) or more counterparts, each of which shall be deemed an original, and which, when taken together, shall constitute one and the same Agreement.

The parties agree the City and Consultant may conduct this transaction, including any Contract amendments, by electronic means, including the use of electronic signatures.

I, the undersigned, agree to perform work outlined in this Contract in accordance to the STANDARD CONTRACT PROVISIONS, the terms and conditions, made part of this Contract by reference, and the STATEMENT OF THE WORK made part of this Contract by reference; hereby certify under penalty of perjury that I/my business am not/is not in violation of any Oregon tax laws; hereby certify that my business is certified as an Equal Employment Opportunity Affirmative Action Employer and is in compliance with the Equal Benefits Program as prescribed by Chapters 5.33.076 and 5.33.077 of Code of the City of Portland; and hereby certify I am an independent consultant as defined in ORS 670.600.

Brown and Caldwell, Inc.

BY: _____ Date: _____

Name: _____

Title: _____

DRAFT

CONTRACT NUMBER: _____

CONTRACT TITLE: PROGRAM MANAGEMENT AND SUPPORT SERVICES FOR THE BULL RUN
FILTRATION PROJECT

CITY OF PORTLAND SIGNATURES:

By: _____ Date: _____
Bureau Director

By: _____ Date: _____
Chief Procurement Officer

By: _____ Date: _____
Elected Official

Approved:

By: _____ Date: _____
Office of City Auditor

Approved as to Form:

By: _____ Date: _____
Office of City Attorney

DRAFT

Scope of Work

Phase 001 Program Management

Brown and Caldwell, Inc. hereafter called “Core Team” or “Consultant” shall be required to complete the following services for the City of Portland Water Bureau hereafter called “City” or “Water Bureau” or “PWB.”

Task 010 Core Team

Objective Objectives of the Consultant task include to:

- Provide key program staff to lead and manage all major aspects of the program
- Form a consensus with the City relative to the program’s goals, objectives, and constraints, and fully integrate the program team members into a cohesive organized and dedicated team to meet the program goals
- Prepare a Program Management Plan (PMP) to serve as the roadmap to successful completion of the program’s goals and objectives
- Finish on time, on budget and within scope

Activities Activities to be performed under this task include:

- **Management:** The Core Team will be coordinating and overseeing all aspects of the program. Core Team staff will contribute, guide, and work to deliver quality products on schedule and within budget.
- **Staffing:** Provide a Program Manager, Deputy Program Manager, Principal-in-Charge, and other key staff that will contribute to tasks across the entire Program. Manage staff working on the Program and anticipate upcoming workload needs. Match staff capabilities with program needs.
 - Program Principal: Accountable to PWB’s management team for BC’s success. Confirm appropriate resources are in place to support the Program. Monitor Program progress and conduct regular check-in’s with PWB management.
 - Program Manager: Work closely with PWB’s program leadership throughout the program. Serve as primary contact for PWB and manage the overall contract and deliverables. Oversees all aspects of the program from start to finish.
 - Deputy Program Manager: Responsible for program controls including schedule, financial, risk, quality, scope, and change management. Oversee the program controls group and coordination with all aspects of the program. Conduct regular reporting to management and the program status and forecast. Manage administrative, scheduling, PMIS, and accounting staff.
 - Senior Advisor: Advise on Program Management best practices including VDC implementation. Support decision-making, risk, schedule, quality management. Serve as an expert resource to the program team.
- **Team Effectiveness:** Develop and maintain and engaged and effective team completely integrated with PWB staff. Establish a teambuilding environment for clear communication, accountability, and achievement of goals.

- **Kick-off Meeting:** Hold an initial pre-kickoff meeting among key program team members to establish a kick-off meeting agenda. Anticipated agenda items include:
 - Organizational lines of authority
 - Document control systems and information exchange
 - Communication protocols
 - Individual projects discussion
 - Construction and operation strategies
 - Schedule goals
 - Budgets and cost estimates
 - Scope control
 - Agency interface, permitting, and environmental issues mitigation
 - Public outreach

Subsequent to the pre-kickoff meeting, conduct a kick-off meeting including consultation with City staff to confirm their goals, objectives and constraints and, if possible, prioritize them. Identify program and project constraints including federal, state, and local permit requirements.

- **Information Identification and Acquisition:** Identify and gather all existing information, former reports, and records associated with treatment and water quality. Obtain available rules, regulations, standards, guides, and codes for use during implementation of the program.
- **Coordinate Subconsultants:**
 - Development of scopes-of-work, budgets, schedules, and subcontract terms with subconsultant, including any required subcontract amendments
 - Coordination with subconsultant relative to scheduling of their work and completion of work products
 - Review of subconsultant deliverables
 - Monitoring of subconsultant expenditures versus budget
- **Program Management Plan (PMP):** Prepare a PMP and manage compliance with the PMP including the following key functional areas:
 - Responsibility Matrix: Matrix-formatted identification of roles of individuals and their responsibilities for the tasks assigned to them as to Production, Review, Information, and/or Approval.
 - Standard Operating Guidelines (SOGs): Develop standard operating practices for use by all program participants to maintain consistency and efficiency in delivery of projects. This would include operating practices of budgeting, planning, City approval, design, construction, permitting, and closeout.
 - Communication Plan: Prepare Communication Plan of protocols for written communications, e-mails, verbal communications, and digital imaging; protocols will include communication with the public, Oversight Committee, Technical Committee, and Program Team.
 - Risk Management Plan: Prepare a risk management plan that includes a risk register to identify, quantify, and develop a mitigation strategy. The plan will be

updated monthly and proactive risk management will continue throughout the program duration.

- Document Control Plan: Develop a document control plan to organize files and set file naming conventions for the program. This will include a file mapping that will be incorporated into the PMIS.
- Change Management Plan: Develop a plan to address changes that occur over the course of the program. The plan will include procedures to handle changes and identify approval authority levels, notification and documentation requirements.
- Reporting Plan: The reporting plan will identify the metrics and information that will be tracked and reported. The plan will identify frequency of reporting, distribution list, and draft templates.
- Financial Management Plan: This plan will map out the procedures for budgeting, accounting, tracking, and reporting budget for the program. BC will coordinate with the City to understand existing reporting system, policies, cost centers, and procedures.
- Quality Management Plan (QMP): Prepare a QMP that identifies the quality requirements to be implemented on the program.
- Health and Safety Plan—Prepare a Field Health and Safety Plan (HASP) for initial field investigative work and field construction inspection and management to be performed later in the program. The HASP will outline requirements, safety issues, training, emergency procedures, and safety reporting requirements.
- **Decision Process Plan:** Develop and implement a decision-making process for the program that builds upon PWB’s existing process. Facilitate workshops with significant decision making needs.

Deliverables Deliverables for this task include the following:

- Program Management Plan
- Program Charter
- Decision Process Plan

Expectations Expectations for this task include the following:

- Staffing and funding limits for Core Team are listed in Exhibit B.

Task 020 Administration

Objective To guide the program by providing organization, communicating information, and tools necessary for the program teams to operate cohesively.

Activities Activities to be performed under this task include:

- **Administrative support**
 - Coordinate and schedule meetings
 - Reserve conference rooms
 - Manage hardcopy filing system
 - Answer program multi-line phone switchboard and transfer calls
 - Coordinate and execute program office mailing/shipping

- Order and maintain office materials
- Support document distribution, labeling, formatting, and photocopying
- Support the preparation of meeting notes
- Support Word processing
- Support health & safety, risk, and quality management
- Support project and task managers with coordination of deliverables
- Support coordination of subconsultants
- Greet visitors to the program office
- Support preparation of a bi-monthly newsletter
- Support event planning
- Keep the front desk/reception area and common spaces organized and presentable
- Run errands as needed
- Support PWB administrative needs as available
- **Word Processing**
 - Develop and maintain templates for program documents
 - Train staff on use of templates and document formatting
 - Conduct readability, spelling and grammar reviews of documents
 - Format Word files into clear, legible, and presentable documents
 - Maintain program icons and images
- **Project Coordination and Accounting:** Conduct BC's internal accounting and project coordination. Prepare monthly invoices, maintain BC's internal management system, and support BC's Program Manager and task leads.
- **Program Management Information System (PMIS):** The PMIS will serve as the management system and provide consistency for the program. It will house documents, facilitate communication, manage accounting, budget projections, workflows, and reporting. The PMIS will be used for contract, risk, and financial management.
 - Develop and deploy an interim PMIS to provide the basic functions until the final PMIS is selected and implemented. The interim system will support document management and communications with the goal of transferring the interim data to the final system. The ability to transfer the data to the final system is dependent of the selected system. The interim system will be Microsoft SharePoint Online.
 - Conduct an evaluation of PMIS systems for use on the Program. Work closely with PWB staff to perform a needs assessment and business process mapping. Conduct a workshop to present and select a software solution to serve as PMIS for the program.
 - Deploy a fully configured solution for the selected software. The final PMIS will provide document management, cost control, communications, and reporting. The system will contain a customized dashboard that provides the current status of selected reporting metrics. Work closely with PWB to develop the dashboard.

- Train the team (including the designer and contractor) how to use the PMIS. This will require several training sessions and the development of training materials for the program. Provide new user training as additional staff come on board.
- Maintain the PMIS system throughout the program by providing regular user on-call support, software version upgrades, manage licensure, periodic system reviews, and limited system enhancements. Troubleshoot system issues and manage permissions.
- Assistance in procurement and contract management:
- **Risk management support:** Help maintain the risk register within the PMIS and communicate changes to the program team.
- **QAQC support:** Assist staff in coordinating QC reviews, documenting reviews, and conducting quality audits.

Deliverables Deliverables for this task include the following:

- Program administrative standards and templates
- Meeting notes
- Interim and Final PMIS
- PMIS Evaluation and Selection Memo
- PMIS training documents

Expectations Expectations for this task include the following:

- Staffing and funding limits for Administration are listed in Exhibit B

Task 030 Schedule Control

Objective To identify and sequence activities and durations for the program

Activities Activities to be performed under this task include:

- **Develop Scheduling Standards:** Coordinate with PWB staff to determine scheduling preferences and requirements. Prepare standards required for schedule development, mechanics, naming conventions, and requirements for use in virtual design and construction (VDC).
- **Develop Master Program Schedule:** Prepare a master program schedule for the overall program. The schedule will identify key scheduling/coordination/interface constraints and establish milestones for the tasks related to regulatory requirements, piloting, project definition, permitting, design, procurement, construction, commissioning, and optimization. These schedule will be updated monthly and the status reported to the program team. Any issues will be flagged and corrective action will be initiated. Schedule risk will be evaluated and reported with each update.
 - Setup scheduling cloud database for the program
 - Establish cost loading requirements and financial periods to correspond to PWBs financial system
 - Setup 4D/5D Synchro workflow
- **Integrate Design and Construction Schedules:** Once the design engineer and contractor are retained, they will prepare and update a detailed design and construction project schedules that will be reviewed and incorporated into subsequent master schedule updates. The schedules will include milestones of the

various reviewing and permitting agencies. Design Engineers' schedules will be reviewed for compatibility with overall program objectives and appropriate adjustments made; design schedules will then be monitored monthly to allow corrective actions to be made in a timely manner. Detailed schedules will display each task, discipline, and design/construction interface, and the lead-times required for approvals. Design schedules will be based on the production of plans, technical specifications, and contract documents for each project. Construction schedules will be prepared prior to the constructability review for each contract so they may be reviewed by the program manager's constructability team. The schedules will be cost and resource-loaded and will be used during invoice review and VDC reviews. The construction schedules will be used to set contract durations and major milestones, indicate major tie-ins to existing facilities so there is no interference with operations, and identify expected delivery of any pre-purchased and long lead-time materials/equipment.

- Create performance reports for each schedule submittal
- Conduct workshop at each design submittal (4D/5D)
- Perform risk analysis on designer and contractor submitted schedules
- Confirm reported progress against actual
- Conduct time impact analyses
- Perform visual schedule variance analysis (VSVA) and visual critical path variance analysis (VCVA)
- Build commissioning schedule (pull planning with contractor and designer)

Deliverables Deliverables for this task include the following:

- Master program schedule
- Scheduling standards
- Monthly schedule updates
- Schedule reporting

Expectations Expectations for this task include the following:

- Primavera P6 will be used to develop cost-loaded schedules
- The designer and contractor's scopes will include scheduling requirements developed by BC
- Staffing and funding limits for Schedule Control are listed in Exhibit B.
- The contractor will create and maintain the 5D model

Task 040 Budget Control

Objective To effectively develop and manage the program budget and regular reporting of budget status and forecast.

Activities Activities to be performed under this task include:

- **Budgeting and Cost Control:** Develop the initial program budget including costs by PWB labor and expenses. Assemble a cost control team to provide cost control activities including:
 - Program Accounting
 - Coordinate with City's accounting

- Process invoices including tracking and entry into the PMIS
- Develop cost control and reporting procedures
- Monthly reconciliation of actual charges against City accounting records
- Establish financial reports and budget projection requirements
- Monthly budget reports
- Forecasting and earned value analysis
- Evaluate actual to planned
- Assist change management
- Create framework for PMIS financial module
- **Cost Estimating:** Develop cost estimating standards and schedule for the program. Provide initial and a revised opinion of probable construction cost; the revised version will be developed as sufficient information becomes available near the completion of project definition. Review cost estimates provided by the design engineer and contractor at the 30, 60, and 90 percent design completion levels and assist with the guaranteed maximum price (GMP) development.

Deliverables Deliverables for this task include the following:

- Monthly budget reports
- Cost estimating schedule
- Cost estimating standards
- Monthly sub payment reports

Expectations Expectations for this task include the following:

- PWB will provide financial information for easy inclusion
- Staffing and funding limits for Budget Control are listed in Exhibit B.

Task 050 Outreach and Equity

Objective To engage the broader public to keep them informed and maintain support for the program.

Activities Activities to be performed under this task include:

- **Public Outreach Plan:** During the Preplanning Phase of the project, Barney & Worth and PWB communications staff are developing a Strategic Communications Framework for the long-term project based on customer values and needs for both the filtration and corrosion control improvements projects. Using that framework our team will develop a detailed series of public outreach plans in close collaboration with the PWB team. The plans will include strategies for engaging the broader public and working with the site neighbors and water bureau staff. Content will include target audiences, messaging, tools and materials, and an outreach schedule and assignments. The plans will be updated annually.
- **Outreach Implementation:** Coordinate and support implementation of the plan including:
 - Develop materials and tools described in the Public Outreach Plan. Example materials are talking points, schedules, project fact sheets, “Technical Notes” that address specific technical topics, internal and external newsletter articles,

- short videos suitable for website and social media use, social media posts, blogs, educational displays and online survey materials.
- Support outreach to neighborhood and other community groups and events, including outreach focused on communities of color and other underrepresented communities. Roles may include creating and managing an overall schedule of community events, developing meeting plans, developing presentation materials and handouts, coordinating with venues, and coordinating with PWB and attendees.
 - Provide outreach to neighbors of the treatment plant site and along the construction routes, including managing a database of contacts and neighbor input. Outreach may include flyers and other materials, open houses, postcards, and door-to-door outreach. Coordinate incorporation of neighbor input into design and construction.
- **Program Website:** The initial layout and content for the program website has been developed. Additional information will be added to the website as more is known about the filtration and corrosion control projects, process, plant capacity and program schedule. Create content (engaging videos, photographs, infographics, update FAQs and schedule) and coordinate posting on the webpage. Develop regular updates to website content and facilitate review meetings with communications staff to reach agreement on content. Provide photos and videos for posting to the website.
 - **Public Opinion Research:** Provide timely public opinion research results to guide the strategic communications effort.
 - **Telephone Survey:** Conduct telephone survey as follows: Scientific, random telephone survey of 800 Portland residents to allow for comparative analysis by demographic group (age, area of the city, income level). The anticipated margin of error will be $\pm 3.5\%$. Will include a 12-minute survey consisting of approximately 30-35 questions. Provide quality control including pre-testing, call backs, and validation calls. Surveys will be repeated every 2 years.
 - **Focus Group Research:** Begin with two focus groups of community members to develop messaging and graphics. Conduct one focus group every two years following the initial group. Each will include approximately 8-10 participants per group and a \$100-\$150 honorarium will be provided for the 2-hour facilitated discussion. Discussions will be moderated by a professional moderator.
 - **DMWESB Development and Support:** Support PWB in meeting or exceeding DMWESB participation goals.
 - **DMWESB Reporting Approach:** Integrate DMWESB reporting requirements and goals into overall program controls and reporting, including developing a brief memorandum summarizing reporting requirements and needs. DMWESB reporting and tracking will be developed for three contracts:
 - Program management (current contract)
 - Filtration Plant Engineering Services
 - Filtration Plant CM/GC
 - **DMWESB Quality Assurance and Development Program:**
 - Conduct a meeting to discuss DMWESB opportunities, lessons learned from past projects, confirm project schedule, delivery requirements,

- communication procedures, and potential opportunities for DMWESB mentoring.
- Meet with up to twelve (12) DMWESB subconsultant firms to develop a project plan for each firm.
 - Confirm structure and timing of mentoring and development opportunities.
 - On-going Quality Assurance Check Ins.
 - Two-way feedback between DMWESB firms and Prime.
 - Tracking of metrics identified in Project Plans (e.g., schedule compliance, mentoring hours).
 - Identify concerns or challenges that need to be addressed. Where needed, develop a performance plan to address concerns.
 - Coaching of individual team members to improve time management
 - Develop a project close-out summary for each DMWESB firm, including review of metrics in Project Plan, lessons learned, and additional action items for DMWESB firm to leverage experience from the project on future marketing efforts and projects.
 - Summarize DMWESB development approach and planned efforts. Develop DMWESB Development fact sheet for internal and external stakeholders.
 - Provide two interim reports summarizing performance on metrics and highlighting program wins and challenges. Identify needed adjustments to DMWESB Development Program.
 - Develop a summary of DMWESB Development Program results, including successes and lessons learned.
- **Community Benefits Agreement:** Develop a Community Benefits Agreement (CBA) or similar agreement for the Filtration Plant CM/GC contract.
 - Review previous CBA agreements used by the City, including general CBA adopted by Council.
 - Conduct stakeholder interviews with up to eight individuals/groups, such as: minority business representatives, union representatives, PWB leadership, construction contractors and Portland project managers who have worked under past CBAs.
 - Develop CBA reporting approach to identify key performance indicators within the CBA or other agreement and appropriate methods for both CM/GC reporting and incorporation into overall program reporting.
 - Facilitate CBA Implementation strategy to identify CBA requirements that pose the greatest risks (i.e., requirements that are the most difficult to meet). Work with CM/GC to identify proactive risk mitigation strategies for those elements.
 - Provide oversight for CBA implementation. Delivery of CBA requirements will be the responsibility of the CM/GC. CBAs typically require monthly reporting by CM/GCs, which synthesize information from subcontractors, as well as quarterly reports to the Labor-Management-Community Oversight Committee (Committee) that include 3-month projections.
 - Review reports and incorporate into program dashboards and reporting

- Compare monthly performance to both CBA standards and 3-month projections
- Identify immediate corrective actions if deviations from standards or projections are found.

Deliverables Deliverables for this task include the following:

- Public Outreach Plan
- Website updates
- Telephone survey results
- Focus group reports
- DMWESB reporting needs memorandum
- Project plans for up to twelve individual firms
- DMWESB development program memorandum
- DMWESB development program progress memoranda (total of 2)
- Equity reporting and tracking
- Social Equity Plan
- Community Benefits Agreement
- Memorandum summarizing CBA Monitoring and Reporting Approach
- Memorandum summarizing CBA Implementation Strategy

Expectations Expectations for this task include the following:

- These services will be performed on a time-and-materials basis to the budget limit shown in Exhibit B.
- Printing and public meeting costs will be paid by PWB.

Task 060 Permitting

Objective To lead an integrated permitting team that clarifies the permitting requirements and the time each permit is needed

Activities Activities to be performed under this task include:

- The permitting task for this initial project stage will culminate in a comprehensive Permitting Technical Memo (TM). The TM will be a working document, updated at specific stages of the project (e.g., 30%, 60% and 90% design), and culminating in a permit notebook with all approved permits and supporting documentation. This phase will help define which permits will be needed for the project; final determination on some permits may not occur until the design phase. The steps in the project definition phase include the following:
 - Data Collection/Assessment:
 - Compile and review project information, including permit and land use history of project area, PWB water supply and distribution system information, environmental reports (PWB, DSL, Multnomah and Clackamas Counties, other sources), historical data and photos, other background information on the site and vicinity

- Compile and review all applicable codes and regulations, including but not limited to those that apply within Multnomah and Clackamas Counties, and in wetlands and waterways.
- Assess data gaps to be filled, data sources, potential data acquisition issues and how to address these, schedule and responsibilities
- Identify related project design, process or schedule implications
- National Environmental Policy Act (NEPA) study: Conduct a brief study to determine the impacts and associated requirements of accepting WIFIA funding for the program. The goal is to determine what environmental studies will be required and the duration and sequencing of those studies relative to the program schedule. Results of this study will be documented in a brief memo.
- Early Field Review and Agency Coordination:
 - Field review of project site and potential pipe connecting routes with focus on potential permits, thresholds for review, approval criteria and mitigation opportunities
 - Review field findings with design team to identify steps that may allow project to avoid or minimize specific permits (such as avoiding jurisdictional waters)
 - Early coordination with Mike Reed (City Streamlining Team coordinator) and if warranted, early presentation of project to Streamlining Team
 - Coordination with Multnomah and Clackamas County planning staff, DEQ, and other regulatory agencies that are not part of the Streamlining Team
- Permitting TM:
 - Prepare initial draft of Permitting TM incorporating findings from Subtasks 1 and 2, including following elements:
 - Permit name, issuing agency, contact information
 - Project element triggering permit and project specific requirements
 - Permit schedule with permit review process milestones, PWB review periods, public comment periods, agency meetings, synchronized with design milestones
 - Summary of permit status, comments, unresolved issues and action plan
 - Permit costs and team responsibilities
 - Coordination and review of design plan sheets/specifications related to permit
 - Reference section listing code citations, correspondence, supporting documentation
 - Identify opportunities for early coordination with regulatory agencies that may facilitate permitting process
 - Prepare a permit tracking matrix (with summary of permit needs, requirements, and criteria) to track all permits and identify rapid “permit impact” response to any proposed design or construction changes
 - Update matrix on a monthly basis, or at PWB’s request
- Project Definition Report:

- Review of preliminary site schematic, including proposed structures and uses, programming, grading plan, access plan, stormwater and sanitary utilities
- Review of preliminary plans for piping to and from the site
- Prepare section of PD report identifying and describing required permits, using information from prior subtasks.
- WIFIA funding needs assessment:
 - Review of permitting requirements for WIFIA funding
 - Summarize WIFIA requirements
 - Identify additional studies needed
 - Prepare TM summarizing estimated permitting effort to support WIFIA funding application, and estimating needed budget
- **30% Design Review:**
- Design Team Coordination:
 - Ongoing review of 30% design progress for permit implications
 - Participate in up to six field meetings to review potential design and construction changes and potential impacts
 - Review and respond to questions and comments from the public or other parties (at PWB request)
 - Begin environmental documentation, and defined in the Project Definition phase, including:
 - Stream, wetland and wildlife habitat field reconnaissance
 - Wetland delineations and documentation
 - Preliminary environmental impact assessments and alternatives analysis
 - Land use impact assessments
 - Traffic, noise, and cultural resource assessments
- Agency Coordination:
 - Ongoing coordination with City Streamlining Team and attend Streamlining Team meeting
 - Ongoing coordination with Multnomah and Clackamas County planning staff on land use and transportation topics
 - Ongoing coordination with state and federal resource agencies
 - Schedule and attend pre-application conferences with each County to review current project design
- Permitting TM Update and Preliminary Applications:
 - Review and comment on 30% design package
 - Identify specific drawings needed for permit submittal (“Permit Package”) and coordinate with team on permit drawing requirements
 - Prepare outlines of Multnomah and Clackamas County land use applications
 - Update Permitting TM and Permit Matrix with outstanding issues flagged and permit schedules revised as needed

- **60% Design Review**
- Design Team Coordination:
 - Ongoing review of 60% design progress for permit implications
 - Participate in up to four field meetings to review potential design and construction changes and potential impacts
 - Complete environmental documentation started in previous phase, including:
 - Stream, wetland and wildlife habitat field reconnaissance
 - Wetland delineations and documentation
 - Preliminary environmental impact assessments and alternatives analysis
 - Land use impact assessments
- Agency Coordination
 - Ongoing coordination with City Streamlining Team and attend Streamlining Team meeting (prior to submittal of Joint Permit Application)
 - Prepare and submit wetland delineation report to DSL for concurrence
 - Ongoing coordination with state and federal resource agencies
 - Ongoing coordination with Multnomah and Clackamas County staff, including transportation and other agencies commenting at the pre-application conference
 - Participate in up to two field meetings with regulators to review potential design and construction plans, potential impacts, and any agency concerns
- Permit Preparation
 - Compile and review draft permit package drawings and supporting studies and documentation, including environmental evaluations, construction, stormwater, and mitigation plans
 - Prepare draft land use review applications and submit to PWB for review
 - Prepare and submit draft Joint Permit Application to PWB for review
 - Incorporate PWB comments on these documents and on draft land use applications
 - Prepare and file land use applications with County planning departments
 - Prepare and file Joint Permit Application with Corps/DSL
 - Prepare drafts of other consultant-led permit applications
- Update Permit Action Plan and Tracking Matrix
 - Review of 60% design package, with design refinements and specifications
 - Update Permitting TM and Permit Matrix, identifying outstanding issues, if any
- **Second Intermediate and Final Design Review:** All remaining permit applications will be filed during these last design stages. The permit team will monitor permit progress and address questions and information needs identified by the permitting agencies after review with PWB. The Permitting TM will be updated with permit status and schedule, and any actions needed to meet the timeline for start of construction identified.
- **Design Team Coordination**

- Ongoing review of 90% design progress
- Review and respond to questions and comments from the public or other parties (at PWB request)
- Monitor review process for permits and respond to agency comments
- Coordinate and lead presentation at public hearing(s)
- Compile final permits and supporting documentation as attachments to the Permitting TM
- **Prepare Final Permitting TM and Notebook**
 - Prepare final Permitting TM (with Permit Action Plan and Permit Matrix)
 - Compile local land use, state and federal permit approvals in permit notebook
 - Deliver Permitting TM and Notebook to PWB

Deliverables Deliverables for this task include the following:

- Permitting TM
- NEPA Study memo
- Permitting section of PDR
- Summary of Streamlining Team meeting
- Summary of Pre-application Conference
- Outline of Land Use applications
- Updated Permitting TM containing:
 - Revised Permit Action Plan (with updated permit schedule and sequencing)
 - Revised Permit Tracking Matrix
 - Revised or additional supporting documentation/attachments
- Draft and Final Land Use applications with supporting documentation/attachments
- Meeting minutes when meeting with permitting agencies
- Final permit applications

Expectations Expectations for this task include the following:

- The Following items are included in the project management reserve:
 - Permitting efforts for WIFIA funding
 - Endangered species identification, studies and consultation.
- The contractor will obtain the trade permits
- City will provide permitting support
- Overflow pipe to the river is not needed
- These services will be performed on a time-and-materials basis to the budget limit shown in Exhibit B.

Task 070 Piloting

Objective

To conduct a pilot investigation that collects the data required to recommend the appropriate treatment processes and test high-rate granular media filtration over seasonal variations and corrosion control.

Activities

Activities to be performed under this task include:

- **Technical Advisory Committee (TAC):** The TAC effort has been split between Task 070 Piloting and Task 080 Project Definition. The goal of the TAC is to obtain input on key program issues from an outside panel of local and national experts with large water treatment plant experience. BC will convene a panel to provide guidance and review of the Pilot Study Work Plan, Interim Pilot Study Report, and Draft Pilot Study Report. Individual panel members may be called upon for feedback on time-sensitive, issue-specific topics as needed.
- **Oregon Health Authority (OHA) Engagement:** Support PWB in discussions with OHA for review and approval of the Pilot Study Work Plan and Final Pilot Study Report.
- **Prepare piloting work plan:** Conduct site visit and review existing water quality data, facility drawings, and prior studies to inform the work plan development. Identify processes and equipment for testing, test schedule, and sampling plan. Interim, draft and final work plans will be prepared.
- **Pilot system design:** Design the test facility to be located at the Headworks. Work closely with PWB to identify supply, disposal, and electrical supply and prepare a site plan and process flow diagram.
- **Procure piloting equipment:** Manage procurement for the purchase of pilot equipment, including negotiating options, enclosures, delivery terms, and price. Pilot equipment will be delivered to the Headworks. PWB will offload and construct piping and electrical to the pilot unit and any enclosures not provided by the pilot manufacturer. The pilot will be designed, procured, and installed in such a way that the pilot can be moved to the new treatment plant for use in operator training.
- **Bench-scale testing:** Develop an experimental plan to conduct pre-pilot jar testing of corrosion control chemicals, coagulants and chlorination/chloramination demand and decay testing during pilot operation. Conduct initial testing and train PWB for future seasonal testing.
- **Startup, testing, and training:** Manage installation of pilot equipment and associated utilities. Commission the pilot equipment and train PWB staff to operate, sample, collect data, and troubleshoot operation.
- **Regular operation assistance:** Assist PWB with routine operation of the pilot system. Coordinate weekly conference call to discuss pilot status and resolve any issues. Conduct quarterly pilot review workshops to discuss results and planned future operation.
- **Prepare monthly pilot reporting:** Set up initial data collection spreadsheet and analyze progress monthly. Develop a brief monthly report summarizing testing results and any changes required.
- **Coordination with design team:** Hold monthly meetings with the designer to collaborate on pilot progress and operational setpoints. Discuss design criteria and impacts on design.
- **Pilot Study Report:** Develop an Interim Pilot Study Report to document status at midpoint. Produce a Draft and Final Pilot Study Report and coordinate with OHA on results and recommendations within the report.

Deliverables

Deliverables for this task include the following:

- Minutes from TAC meetings and discussions
- Pilot equipment purchase contract

- Pilot Study Work Plan (preliminary, draft and final)
- Pilot Study Report (interim, draft and final)

Expectations Expectations for this task include the following:

- Procured pilot equipment will include contact basins and/or chemical addition locations for corrosion control chemicals, flocculation and /sedimentation (assumes plate settlers), ozone (configurable for both pre and intermediate), and filtration (dual media), and contact basins for disinfection and post-treatment pH adjustment.
- These services will be performed on a time-and-materials basis to the budget limit shown in Exhibit B.
- PWB will provide laboratory services and chemicals for the pilot
- The following items are included in the project management reserve:
 - Outside lab expenses
- PWB will handle NPDES and building permits (if needed) for the pilot
- PWB will provide and install piping, electrical, covers/enclosures, and miscellaneous appurtenances to and from the pilot unit
- PWB will periodically remove accumulated solids produced by the pilot treatment system

Task 080 Project Definition

Objective To complete conceptual design of the project to the extent required and appropriate prior to beginning design (approximately 10% design level)

Activities Activities to be performed under this task include:

- Technical coordination and review of subconsultant deliverables
- **Technical Advisory Committee (TAC):** Obtain input on key program issues from an outside committee of local and national experts with extensive water treatment experience:
 - Convene the committee (remote experts participate by phone) to provide guidance on program technical decisions. Individual panel members may be called upon for feedback on time-sensitive, issue-specific topics as needed.
- **Identify additional studies:** Collect and review relevant prior studies and identify additional studies required by the program.
- **Assist contractor procurement:**
 - Assist in development of the RFP
 - Answer contractor questions during procurement
 - Additional assistance as requested
- Alternative analysis and BCE's as determined during the course of the program
- **Pipelines:**
 - Evaluate and select alignments
 - Evaluate and select material
 - Perform hydraulic analysis to size pipelines
- **Treatment Process Evaluation and Selection (coordinated with pilot testing):**

- Evaluate and determine pretreatment corrosion control chemicals and doses
- Evaluate and determine preoxidation type and dose ranges
- Determine sedimentation/flocculation process
- Determine filter media size, depth, and filtration rate
- Preliminary chemical requirements for dose and storage
- Determine washwater requirements (rate and duration)
- Evaluate and determine solids processing and method of dewatering
- Define plant ancillary requirements
- Hydraulic Modeling using existing PWB model
- Site Civil preliminary design
- Coordination and participation in the RCD/RCM process and workshops
- Phase 2 Site Assessment
- **Architectural Programming and Support Services:**
 - Architectural Programming
 - Identify basic parameters for the project's filtration process structures and non-process buildings that include Administration/Operations, Maintenance, and Water Quality Laboratories.
 - Programming services for non-process buildings by developing a needs assessment to determine the ultimate size of each building and respective adjacencies to other plant spaces. Programming will involve meeting with PWB staff to determine space needs and adjacencies. Develop a color coded excel spreadsheet and associated narrative documenting space needs, maintenance space requirements, and laboratory space requirements. Narrative to include benchmark data to help size spaces and provide justification for building sizes proposed.
 - Laboratory Planning
 - Meet with PWB laboratory staff to identify all testing and regulatory requirements, and understand building requirements. Space requirements for all lab and lab service and staff needs will be included within a lab specific narrative. Rough lab sizes and associated systems will be developed.
 - Sizing Non-Process Facilities
 - Provide a visual program document including the above information. This document will illustrate program spaces in scale and will be used to quantify non-process spaces. Layout initial floor plan diagrams for non-process buildings. Develop concept massing models (BIM format) of process and non-process facilities to inform cost, engineering, and visual impact.
 - Architectural Basis of Design
 - Develop a Basis of Design narrative for buildings. Include building volumes, proposed structural systems, laboratory design criteria, building and jurisdictional code analysis, Green Building requirements, and associated engineering discipline narratives to inform a Class IV estimate. Materials and finishes will be proposed to inform the estimate for process and non-process buildings, with the understanding that material quality, durability and

associated cost will be established in this phase. Design work to inform character and architectural vision will be developed in Phase II.

- Architectural input will include placement of facilities, internal site circulation, security and public access. Additionally, massing models will be used for site layout and presentation materials.
- **Green Building:**
 - Feasibility assessment and roadmap
 - Develop and update the sustainability management matrix
 - Sustainability report
 - Gap analysis and design guidance
 - Healthy material tracking
- **Transportation Engineering:**
 - Perform traffic counts to support permitting
- **Acoustic Engineering:**
 - Baseline noise measurements
 - Develop design criteria
- **Archaeology:**
 - Contractor will conduct a field assessment along the proposed pipeline routes and of the proposed WTP site to determine if there are cultural resources
 - If during the field assessment it is found that there is a high likelihood that cultural resources could be located at any of the project sites, determine what mitigation would be needed
 - Prepare a draft construction specification for the project design teams to use, that would include discovery provisions to address cultural resources if they are found during construction
- **Landscape Architecture:**
 - Develop initial landscape plan for site; identify stormwater requirements and opportunities for green infrastructure
 - Assist permitting effort
 - Review 30, 60, and 90% design submittals
- **Geotechnical:**
 - Literature review
 - Geologic site reconnaissance
 - Field exploration:
 - Work plan: Develop preliminary approach and locations for geotechnical field explorations. Complete site visit to observe site access and ground conditions for geotechnical field investigations. Finalize geotechnical field exploration plan. Stake out locations of proposed explorations and complete the one-call utility locates notification. Evaluate the presence of underground utilities using a third-party utility locates firm.

- Borings: 20 geotechnical borings at the treatment plant site. The depth of the borings for treatment plant facilities will be on the order of 75 to 150 feet (10 borings to 50 feet, 4 borings to 75 feet, 4 borings to 100 feet, and 2 borings to 150 feet). Drilling will be conducted using the mud rotary technique within soil, and HQ-triple-tube wireline coring in rock. The two deep borings will be cased using 3-inch I.D. PVC pipes and will be used for cross-hole seismic survey.
- Cone penetrometer test (CPT) probes: 10 CPT probes in the treatment plant site. The probes will be advanced to a depth of refusal or to a maximum average depth of 80 feet. Shear wave velocity measurements will be collected at 1-meter intervals in each of the probes. One pore pressure dissipation test will also be completed in each probe to provide information about groundwater conditions.
- Test Pits: Up to 18 test pits will be excavated at select locations across the treatment plant site. The test pits will be excavated to depths of approximately 15 feet provided excavated faces of the test pits do not collapse to prevent the excavation to these depths. Bulk soil samples will be collected from tests pits, the pits will be logged, and photographs of the pits and spoil piles will be collected and included in the data report prepared for the project. Spoil material from the pits will be placed back in the excavated holes and compacted in lifts using the back of the backhoe bucket.
- Geophysical tests: 1 series of geophysical test using down-hole seismic survey in accordance with ASTM D4428, and 2 ReMi survey lines to obtain average shear wave velocity of subsurface profile.
- Piezometers: Install 6 standpipe piezometers with data loggers to facilitate observation of groundwater levels and seasonal fluctuations.
- Pipeline Exploration: 20 geotechnical borings along pipelines at intervals of 1,000 feet. The depth of the borings along the pipelines will be on the order of 25 to 75 feet (10 borings 25 feet, 5 borings 50 feet, and 5 borings 75 feet). Additional borings may be needed depending on site access conditions. Install up to six standpipe piezometers with data loggers at critical locations for slope stability analysis.
- Boring tests: Collect soil samples from borings using standard penetration test (SPT) samplers, Modified California Samplers, and thin-walled Shelby tube samples at regular 5 feet intervals. For borings with depth more than 100 feet, samples will be collected at 10 feet intervals below 100 feet below ground surface. Collect rock core samples, when it is needed. Log the borings in accordance with the Unified Soil Classification System, ASTM D2488, and ISRM 1978 by observing cuttings and collect soil samples and rock cores.
- Laboratory Testing: Develop laboratory testing program and complete laboratory testing on select, representative soil and rock samples to develop engineering parameters. The laboratory testing will consist of up to 500 moisture contents, 80 grain size analysis with 200 wash, 80 Atterberg Limits, 5 one-dimensional consolidation tests, 9 Points of Residual Shear Strength, 20 uniaxial compressive strength, and up to 8 sets of pH, electrical resistivity, chlorides and sulphates.

- **Geotechnical Data Report (GDR):** Prepare a geotechnical data report that includes site reconnaissance, both previously existing geotechnical information and data obtained during the current geotechnical exploration, subsurface conditions, and groundwater conditions. Two separate reports will be prepared, one for the plant site and one for the pipeline alignment.
- **Geotechnical and Seismic Analysis:** The data collected will be analyzed for the proposed infrastructure development.
 - Develop code-based seismic response spectrum for the treatment facility. Complete a Site Specific Seismic and Geologic Hazard Analysis in accordance with Oregon Structural Specialty Code (OSSC 2014) and in compliance with Oregon Seismic Resiliency Plan Requirements. Liquefaction, lateral spreading, fault rupture, tsunami, seiche and other hazards will be studied and quantified. Pipe displacements will be quantified for pipes located in seismic hazard zones. Site specific and code-based response spectrum will be developed and compared for the design of critical infrastructure.
 - Utilize simplified methods to evaluate potential for seismically induced slope stability at the project site and along the pipeline alignment. Develop preliminary mitigation measures like retaining walls (soil-nail, soldier piles etc.), drainage improvements (horizontal and vertical)
 - Develop general retaining wall design criteria
 - General reservoir foundation recommendations including deep foundations and or ground stabilization. Various techniques like stone columns, compaction grouting, deep soil mixing etc. will be considered
 - Foundation recommendations for other support structures on the plant site and along the pipeline alignment
 - Cut/Fill slope design / recommendation.
- **Preliminary Geotechnical Engineering Design Report:** Summarize the preliminary analysis and design data in a series of reports which will include:
 - Site-Specific Seismic and Geologic Hazard Report: One for the project site and one for pipeline alignment/alignments
 - Geotechnical Design Report: One for the project site and one for the pipeline alignment /alignments
- **Seismic:**
 - Develop program seismic standards and design requirements
- **Trenchless:**
 - Develop program trenchless standards and methods
- **Corrosion:**
 - Develop program corrosion standards
- **Right-of-Way (ROW) support services:**
 - As-needed ROW services to support PWB efforts
- **Utility coordination:** Coordinate with local utility providers along pipeline alignments and providing utilities to the plant site.
 - Determine electrical supply availability and reliability

- Determine sewer, stormwater, and natural gas requirements and availability
- Jurisdictional design/installation requirements
- Existing underground utilities investigations for alignment fatal flaws and relocation requirements
- **Plant Layout:**
 - Determine preliminary process flow diagram and plant layout including chemical feed and storage requirements, solids processing requirements, and ancillary systems locations
- **Smart Utility Definition:** Provide basis for potential future implementation of Smart Utility concepts for PWB through the WTP program.
 - Conduct up to four Smart Utility Envisioning Workshops to:
 - Introduce concepts through state of the industry and example utility case studies
 - Discuss the impact of technology on asset management, design and maintenance (RCD/RCM), engineering, and operations
 - Discuss asset lifecycle and data attributes and effects of Reliability Centered Maintenance (RCM), Reliability Centered Design (RDD), and 3/4/5D Design
 - Discuss Smart Utility possibilities and the associated levels of complexity
 - Identify the future of PWB's business and operational systems and how they will be connected
 - Define the PWB Smart Utility vision including Smart Utility use cases
 - Perform a review of existing business and operational systems and processes typically included in Smart Utility to provide an understanding of the current state of PWB's systems and architecture:
 - Asset Management systems including Computerized Maintenance Management Systems (CMMS), Building Information Modeling (BIM), RCM, and RCD
 - Operational systems including SCADA, SCADA Historians, HMI, PLC, and communications
 - Other supporting systems including Geographic Information Systems (GIS), Laboratory Information Systems (LIMS), Customer Information Systems (CIS), and Enterprise Resource Planning (ERP) systems (finance, billing, etc.),
 - Enterprise reporting and analytical systems
 - Identify and gaps between PWB's current systems and Smart Utility vision.
 - Prioritize identified gaps in a workshop with PWB
 - Develop action plans/projects to close the gaps and review with PWB in a workshop
 - Develop an Implementation Plan that includes the list of prioritized action plans, schedule, and high-level cost information. Review with PWB in a workshop
 - Review and comment on design engineer's 30, 60, 90 and 100 percent submittals and attend up to four workshops to promote alignment with the Smart Utility vision

- Evaluate network security and infrastructure requirements to meet the NIST 800.82 guidelines for securing critical assets involving industrial control systems and Smart Utility
- **Determine design criteria:**
 - Architectural, structural, building and process mechanical, electrical, instrumentation and controls, security
- **Develop Front-End Document Standards:** Provide programmatic front-end documents to the design engineer at the start of design activities to ensure consistency of construction contract administration provisions. PWB standard front end documents and EJCDC General Conditions and Supplemental General Conditions will be the basis of the programmatic Division 0 documents. These documents will be developed in close coordination with PWB.
 - Review and refine Division 0 contract documents for program use. Develop select Division 1 contract documents for programmatic standardization including Summary of Work, CPM Schedule, Schedule of Values, Submittal Procedures, Pre-Construction Conditions Demonstration, and Issue Resolution Process. Develop programmatic construction contract administrative forms, including Progress Payments, Submittal Transmittals, Use of Program Document Management System, Contractor Reporting, Requests for Information (RFIs), and others.
 - Develop standards for inclusion in the PDR and in the City’s design standards manual to support future endeavors to implement an asset management system for PWB. For instance, construction record information will be specified to be provided in electronic formats conducive to importing into the City’s asset management data bases. This can apply to physical assets (new pipelines, pumping and treatment facilities, structures, and mechanical, electrical, control and communication equipment) as well as the supporting documentation such as facility O&M manuals and equipment technical manuals.
- Coordinate and incorporate cost estimating, O&M, schedule, pilot information, distribution system planning
- Technical standards (Structural, mechanical, electrical, civil, I&C, BIM)
- Procurement assistance:
 - RFP/RFQ content
 - Evaluation criteria and scoring
 - Scopes of work
 - Respond to design firms questions
 - Conduct reference checks
- Coordinate initial VDC review

Deliverables Deliverables for this task include the following:

- Project definition report
- Technical standards
- BIM execution plan
- Architectural Programming Spreadsheet

- Draft and Final programming narrative and findings
- Laboratory criteria and floor plan
- Scaled space diagrams
- Concept massing models
- Green building registration and tracking
- Quarterly green building report
- Baseline Acoustic Measurement Memo
- Acoustic Design Criteria Memo
- Cultural resources findings memo
- Cultural resources specification
- Geotechnical Data Report
- Site-specific Seismic and Geologic Hazard Report
- Preliminary Geotechnical Engineering Design Report
- Smart Utility future state requirements TM
- Smart Utility use case TM
- Business and operational system review TM
- Smart Utility gap review and prioritization workshop
- Smart Utility Action Plan review workshop
- Smart Utility Implementation Plan review workshop
- Smart Utility Implementation Plan
- Network security model for use as a guideline during implementation of the smart utility application installation.
- Font-End document standards

Expectations Expectations for this task include the following:

- PWB will provide required surveying
- Filtration technology will be selected by PWB before notice to proceed
- Ten attendees per RCD/M workshop
- PWB will provide copies of all available geotechnical, geologic, and groundwater reports and studies completed at the project site.
- PWB will provide access to site required to complete geotechnical explorations.
- PWB will assist with reviewing potential underground utility interferences with proposed geotechnical exploration locations.
- No clearing of brush or trees will be required to complete the geotechnical exploration along the pipeline or at the plant facility.
- All boring locations can be reasonably accessed using standard rubber-tire or track-mounted drilling equipment. PWB will provide Right-of-entry for the sites.
- Geotechnical exploration will commence within 1 month of Notice to Proceed (NTP) and be completed within 3 months of NTP.

- Soil encountered during the field exploration will be free of environmental contamination requiring special monitoring, handling, testing, or disposal.
- Drilling fluids and cuttings from borings not used for laboratory testing will be placed in drums and disposed of offsite.

Task 090 Design

Objective To effectively manage the design including schedule, budget, and quality.

Activities Activities to be performed under this task include:

- **Manage design:**
 - Meetings and workshops
 - RCD coordination
 - Coordination with permitting
 - Discipline coordination
 - Coordination with scheduling and cost estimating
 - Invoice review
- **Value Engineering (VE):** Reduce program costs through identification and implementation of alternative project designs and construction elements. Conduct one VE workshop at the appropriate completion level (between project definition and 30 percent design). The goal of the workshop is to:
 - Identify the required functions of the construction elements
 - Generate alternatives that will provide the function at a lower cost
 - Determine whether the alternatives will meet requirements for O&M (life-cycle cost)
 - Outline any regulatory impacts for each alternative
 - Identify cost savings
 - Present recommendations for the Design Engineer and PWB to review

The VE team will consist of a multi-disciplinary team of experienced operators, design engineers, and construction experts from the Contractor's staff to work with the VE facilitator. The VE team will initially meet with the program team to gather project data, and will then present the results at the end of the workshop.

- **Design reviews:**
 - Perform 30, 60, and 90% design reviews. At each design review, assist in the preparation of a detailed log of review comments will be provided and keyed to specification sections and drawing numbers. The log will be the basis for developing agreement among the Design Engineers, Contractor, and City relative to disposition of review comments.
 - Discipline reviews will include structural, mechanical, electrical, architectural, civil, acoustic, landscape, and general coordination review
 - Review equipment list against specifications
 - Review designer BIM model for compliance with program standards
 - Review designer clash detection results

- VDC reviews including linking of cost-loaded schedule to 3D model
- Conduct constructability workshop at each design review
- Assist PWB with GMP negotiations as needed
- Conduct a Gap analysis to identify scope gaps
- Develop CM staffing plan
- Assist with designer procurement process:
 - Assist with designer scope development
 - Develop responses to designer questions during procurement
 - Additional procurement assistance as requested

Deliverables Deliverables for this task include the following:

- Design review logs and QC documentation
- Design submittal BIM audit results
- Design decision log
- Value engineering memo

Expectations Expectations for this task include the following:

- Two design contracts (WTP and Pipelines)
- These services will be performed on a time-and-materials basis to the budget limit shown in Exhibit B.

Task 100 Operations & Maintenance (O&M)

Objective The objective of this task includes:

- Effectively engaging PWB O&M staff and incorporating their input into the planning, design, and construction of the plant
- Understanding O&M staff needs and creating a plan to satisfy the needs under the program
- Preparing O&M staff for operation and maintenance of the new facility

Activities Activities to be performed under this task include:

- **O&M Engagement Plan:** Work closely with PWB to develop a plan for engaging PWB O&M staff throughout the program. The plan will identify meeting frequency and attendees, workshops, communication, and team procedures. A plan for training O&M staff will be developed and incorporated into this plan.
- **Reliability Centered Design/Maintenance (RCD/M):**
 - RCD/M workshops and materials
 - Five 3-day workshops will be provided for RCD/M
 - Workshops will include all books and reference materials
 - Develop an RCM practices TM
- **Staffing Plan:** Work closely with PWB to develop a plan for staffing the new WTP including the number of staff required, level of certification, and timing of hiring.
- **Distribution System Preparation Plan and support:** Develop a plan to prepare the distribution system for the change in water quality.

- **Asset Management Plan:** Prepare a plan that identifies PWB's current asset management procedures and tools, and identifies potential improvements under the program.
- **Electronic O&M Manual:** Prepare an electronic O&M manual for the pipelines and WTP. The manual will include general process information, emergency procedures, SCADA information, alarm procedures, security, spare parts, maintenance procedures and frequency, and warranty information.
- **Commissioning Plan:** Prepare a commissioning plan in coordination with PWB, the designer, and contractor. The plan will identify steps and sequencing for commissioning processes and equipment.

Deliverables Deliverables for this task include the following:

- O&M Engagement Plan
- RCD training and workshop materials
- Staffing Plan
- RCM Practices TM
- Asset Management Plan
- Standard Operating Procedures (SOPs)
- Emergency Response Plan
- O&M Training Plan
- Commissioning Plan
- Distribution system prep plan
- Electronic O&M Manual

Expectations Expectations for this task include the following:

- Electronic O&M manual will be developed using Sharepoint
- 10 PWB staff will attend RCD/M workshops
- These services will be performed on a time-and-materials basis to the budget limit shown in Exhibit B.

Phase 002 Construction

Task 010 Water Treatment Plant (WTP)

Objective To provide CM supervision for contract bidding, construction contract administration, commissioning of program elements, and closeout of the WTP contract.

Activities Activities to be performed under this task include:

- Supervise CM team support personnel
- Supervise and direct specialty subcontractors in the conduct of schedule, cost, quality control, and change management activities
- Assistance during bidding
 - Conduct bidding when CM/GC plans to bid
 - Issue addenda

- Conduct bid opening
- Review bids and prepare tabulations
- Make recommendations
- **Monthly progress reporting:** Prepare monthly summary reports of project status including; schedule status (ahead by, on, behind by), work progress summary for the period, status of major issues encountered or resolved during the period, representative work progress photographs, contract value earned, change order summary. This construction project information will be rolled into the overall program monthly status report.
- **Daily field reporting:** Prepare daily reports of construction activities, scheduled work accomplished, scheduled work not accomplished, on-site construction contractor and subcontractor workforce, on-site equipment (used or idle), materials and equipment deliveries, materials stored, weather conditions and other conditions that support or impede construction contractor work activities. Photographic records of work activities and issues encountered will be taken to document work progress and issues encountered.
- **Coordinate inspections and Quality:** The CM, in conjunction with program resources, will verify construction contractor adherence to quality assurance and quality control requirements specified in the construction contract documents. Observed or discovered construction contractor failures to satisfy specified work quality will be documented by CM issuance of a Non-Compliance Notice (NCN) to the construction contractor at the time of observation or discovery. NCN's will be logged and tracked through final corrections. Records of quality compliance will be maintained in the project records.
- Troubleshoot field issues
- Track permit requirements
- **Claims assistance:** Receive all Initial Notices of Claims by construction contractors against the City. Evaluate contents of claims, obtain the factual information concerning the claims, review the impact of the alleged cause, and make recommendations in conjunction with the Design Engineer as to what the City position with the construction contractor should be. Continue to assist the City in evaluating, negotiating, and otherwise bringing to conclusion all claims.
- Post construction acoustic monitoring and report
- **Track RFI's and submittals:** RFI's and submittals will receive a unique identifier and will be tracked as to progress and ultimate approval disposition on a web-based software system. The system will include the RFI/submittal information and track its progress from construction contractor initiation to the CM, CM to Design Engineer, Design Engineer to CM and CM back to construction contractor. Status of each RFI/submittal will be registered. Each item will be entered and tracked with logs printed and distributed at coordination meetings.
- Provide interpretations and clarifications of contract documents and execute field orders, construction change directives, and change orders
- **Construction document management:** Maintain the PMIS system through construction. Provide training, manage permissions and upgrades, and implement changes when needed.
- Conduct weekly construction meetings

- **Schedule review and reporting:**
 - Assemble construction contractor schedule review teams consisting of the Construction Manager, program schedule specialist and PWB
 - Conduct a detailed review of construction contractor's initial baseline schedule using VSVA and VCVA. Prepare schedule comments and observations in a summary memorandum to construction contractor.
 - Meet with construction contractor to discuss schedule comments and observations and reach consensus regarding action items and modifications to be incorporated into the baseline schedule prior to acceptance.
 - Conduct time-impact-analysis as needed
 - With respect to periodic construction contractor schedule updates, review construction contractor schedule updates for changes to milestone dates and critical path activities and prepare a review comment and observation memorandum to be directed to the construction contractor for response justification.
 - Meet with construction contractor regarding schedule update comments and observations.
 - Provide review comments, including action items and required modifications, for construction contractor schedule updates
- Review and support contractor's use of Synchro software solution
- Coordinate with local agencies
- Plan and assist with commissioning
- Implement and track QAQC plan
- Track health and safety
- **Spare parts:** Maintain logs of transmittal of spare parts and materials signed by the CM and representatives of the construction contractor and City.
- **Review payment requests:** Monthly progress payments to the construction contractor will be based on actual progress and progress payment amount based on actual progress as determined by review of schedule activities by the resident project representative (Project CM) and the construction contractor. Progress payment submittals will include the construction contractor's schedule updated to reflect actual progress, and the month progress payment invoice calculated there from. This method assures the construction contractor maintains its schedule current each month as a prerequisite to submitting and receiving monthly payments. Construction contractor progress payment applications will be accompanied by monthly project status reports prepared by the construction contractor summarizing project status and corrective actions in the event that progress lags behind planned progress. The provisions will be incorporated into program standards.
- Track warranties and special guarantees
- **Project closeout:**
 - Prepare/issue contract close-out list to construction contractor
 - Confirm construction contractor cost-loaded schedule includes specified activities and values associated with project close-out, including final sign-offs

from local and regulatory permitting agencies, required bonds, lien waivers, and construction contractor acceptance conditions for final contract payment.

- Start and maintain an exceptions list as a precursor to a contract punchlist at the 75-percent level of project completion for periodic issue to the construction contractor. This allows the construction contractor to accomplish exception list items along the way to reduce the number of contract punchlist items.
- Maintain logs of equipment installation certifications, startups, and commencement of warranty periods.
- Maintain logs of transmittal of spare parts and materials signed by the CM and representatives of the construction contractor and City.
- Confirm receipt and quality of specified record information and documentation (record drawings, technical manuals, etc.)
- Coordinate Design Engineer's and City final inspections and incorporation into final punchlist.
- Verify acceptable resolution of final punchlist items.
- Coordinate equipment vendor training of PWB staff
- Confirm receipt of Design Engineer project certifications.
- Confirm receipt of sign-off of permitting agencies related to the construction contract.
- Complete post construction acoustic monitoring
- Confirm receipt of construction contractor's special guarantees and warranties.
- Prepare letter of recommendation for final acceptance of construction contracts and issuance of final payments.

Deliverables Deliverables for this task include the following:

- Bid documentation addenda, tabulation of bids, and recommendation of award letters
- Daily construction reports and photographic records
- RFI response and submittal review
- Meeting agendas, sign-in sheets, information hand-outs, and preparation/distribution of meeting minutes (pre-bid, preconstruction, and weekly construction coordination meetings)
- Monthly status reports
- Acoustic Verification Memo (Post construction acoustic monitoring report for the WTP)

Expectations Expectations for this task include the following:

- Design engineer will provide primary RFI responses and submittal reviews
- One full-time CM is expected for both the WTP and pipelines. In addition, three full-time inspectors are expected for the WTP.
- CM services shall be provided on a time-and-materials basis to the limits shown in Exhibit B.

Task 020 Raw Water Pipe (RWP)

Objective To provide CM supervision for contract bidding, construction contract administration, commissioning of program elements, and closeout of the RWP contract.

Activities Activities to be performed under this task include:

- See above under WTP

Deliverables Deliverables for this task include the following:

- See above under WTP

Expectations Expectations for this task include the following:

- Approximately 3 miles of pipe

Task 030 Finished Water Pipe (FWP)

Objective To provide CM supervision for contract bidding, construction contract administration, commissioning of program elements, and closeout of the FWP contract.

Activities Activities to be performed under this task include:

- See activities above under WTP.

Deliverables Deliverables for this task include the following:

- See above under WTP

Expectations Expectations for this task include the following:

- Approximately 2 miles of pipe.

Phase 003 Optimization

Objective To provide operations and maintenance assistance during the first year of operation.

Activities Activities to be performed under this task include:

- Development of Startup and Optimization plan including schedule of events over one-year duration
- Provide training classes in optimization techniques
- Assist in collection and review of baseline data:
 - Energy use
 - Chemical use
 - Process data
- Train in use of SCADA system and reporting tools that support optimization
- Support developing standard operating procedures (PWB to take lead) including but not limited to:
 - Seasonal coagulation scheme
 - Filter operation
 - Backwash procedure

- Filter inspection protocols
- Disinfection
- Assisting PWB O&M staff in troubleshooting
- Assist PWB in meeting and exceeding drinking water regulations and PWB goals
- Identify operational or maintenance changes where needed

Deliverables Deliverables for this task include the following:

- Optimization plan and schedule (draft and final)
- Standard operating procedures (draft and final)
- Training materials

Expectations Expectations for this task include the following:

- Staffing and funding limits for Optimization are listed in Exhibit B.
- PWB will take lead on development of Standard Operating Procedures, BC will review
- PWB will provide all laboratory services

Phase 004 Management Reserve

Objective To provide a budgetary reserve for several identified tasks where impacts to schedule and budget cannot be fully determined at this time.

Activities Activities under this phase will be determined as the program progresses. The services listed under Phases 001 through 003 incorporate best practice and core elements of Program Management. The majority of the services are to work in concert with PWB management and staff in the development of standard practices, documentation and protocols. It is anticipated some required services, assumptions and/or priorities will change over the course of these services. As such these supplemental services will be funded through a Management Reserve that is established at the onset of this contract.

The Management Reserve account shall be managed by the City's Contract Manager within the overall contract not-to-exceed amount. Approval of the City's Contract Manager is required to reallocate budget from this Management Reserve to an existing or new subtask that is within the overall scope of the Project but not clearly defined.

The Management Reserve will be controlled by PWB. The PWB Contract Manager will review all requests for supplemental services and work with the Consultant Contract Manager to determine if they fall within the existing scope of services or whether it requires a variation to the existing agreement. Consultant will only perform supplemental services as authorized in writing by PWB. Upon new activity identification, Consultant will provide a written description of the supplemental services and a cost estimate for PWB approval. Consultant will start the activity upon receipt of written PWB approval. Consultant will not proceed on any supplemental service until PWB has approved the estimated cost and authorized Consultant to proceed. Funding for the supplemental services will be provided by this Management Reserve SubTask.

The following list is possible examples of services provided by Consultant upon authorization of PWB and agreement on compensation to Consultant.

- Smart utility implementation
- Laboratory support services
- NEPA permitting
- Construction inspection
- Special inspection
- Additional specialty subconsultant services
- Distribution system flushing services

Deliverables None

Expectations Expectations for this task include the following:

- This task will not be used without PWB's written authorization

DRAFT

EXHIBIT B, CONTRACT BUDGET

The maximum that the Consultant can be paid on this Contract is **\$67,891,398** (hereafter the “not to exceed” amount). The estimated break down of the “not to exceed” amount is shown in the table below.

Phase	Task/Description	Amount per Task
001	Program Management	
	010 - Core Team	\$11,735,732
	020 - Administration	\$4,853,946
	030 - Schedule Control	\$5,373,609
	040 - Budget Control	\$2,968,416
	050 - Outreach and Equity	\$3,696,000
	060 - Permitting	\$861,000
	070 - Piloting	\$2,055,089
	080 - Project Definition	\$4,564,584
	090 - Design	\$3,371,329
	100 - O&M	\$3,455,651
	Total Phase 001 – Program Management	\$43,315,357
002	Construction	\$9,122,875
003	Optimization	\$457,963
004	Management Reserve	\$14,955,203
TOTAL CONTRACT AMOUNT		\$67,891,398

Exhibit C. Hourly Billing Rates

	Engineering	Classifications		2018 Billing Rates		2019 Billing Rates		2020 Billing Rates		2021 Billing Rates		2022 Billing Rates		2023 Billing Rates		2024 Billing Rates		2025 Billing Rates		2026 Billing Rates		2027 Billing Rates		2028 Billing Rates	
		Technical/Scientific	Administrative	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
A			Office/Support Services I	\$38.00	\$62.00	\$38.76	\$63.24	\$39.54	\$64.50	\$40.33	\$65.79	\$41.13	\$67.11	\$41.96	\$68.45	\$42.79	\$69.82	\$43.65	\$71.22	\$44.52	\$72.64	\$45.41	\$74.10	\$46.32	\$75.58
B	Drafter Trainee	Field Service Technician I	Office/Support Services II Project Aide Word Processor I	\$44.00	\$76.00	\$44.88	\$77.52	\$45.78	\$79.07	\$46.69	\$80.65	\$47.63	\$82.26	\$48.58	\$83.91	\$49.55	\$85.59	\$50.54	\$87.30	\$51.55	\$89.05	\$52.58	\$90.83	\$53.64	\$92.64
C	Assistant Drafter	Field Service Technician II	Office/Support Services III Sr. Project Aide Word Processor II	\$56.00	\$84.00	\$57.12	\$85.68	\$58.26	\$87.39	\$59.43	\$89.14	\$60.62	\$90.92	\$61.83	\$92.74	\$63.07	\$94.60	\$64.33	\$96.49	\$65.61	\$98.42	\$66.93	\$100.39	\$68.26	\$102.40
D	Drafter Engineering Aide Inspection Aide	Field Service Technician II	Accountant I Office/Support Services IV Project Analyst I Project Coordinator I Word Processor III	\$66.00	\$100.00	\$67.32	\$102.00	\$68.67	\$104.04	\$70.04	\$106.12	\$71.44	\$108.24	\$72.87	\$110.41	\$74.33	\$112.62	\$75.81	\$114.87	\$77.33	\$117.17	\$78.88	\$119.51	\$80.45	\$121.90
E	Engineer I Senior Drafter Senior Illustrator Inspector I	Geologist/ Hydrogeologist I Scientist I Senior Field Service Technician	Accountant II Project Analyst II Project Coordinator II Word Processor IV	\$83.00	\$123.00	\$84.66	\$125.46	\$86.35	\$127.97	\$88.08	\$130.53	\$89.84	\$133.14	\$91.64	\$135.80	\$93.47	\$138.52	\$95.34	\$141.29	\$97.25	\$144.11	\$99.19	\$147.00	\$101.18	\$149.04
F	Engineer II Inspector II Lead Drafter Lead Illustrator	Geologist/ Hydrogeologist II Scientist II	Accountant III Area Business Operations Mgr. Project Analyst III Sr. Project Coordinator Technical Writer Word Processing Supervisor	\$93.00	\$139.00	\$94.86	\$141.78	\$96.76	\$144.62	\$98.69	\$147.51	\$100.67	\$150.46	\$102.68	\$153.47	\$104.73	\$156.54	\$106.83	\$159.67	\$108.96	\$162.86	\$111.14	\$166.12	\$113.37	\$169.44
G	Engineer III Inspector III Senior Designer Supervising Drafter Supervising Illustrator	Geologist/ Hydrogeologist III Scientist III	Accountant IV Administrative Manager	\$105.00	\$159.00	\$107.10	\$162.18	\$109.24	\$165.42	\$111.43	\$168.73	\$113.66	\$172.11	\$115.93	\$175.55	\$118.25	\$179.06	\$120.61	\$182.64	\$123.02	\$186.29	\$125.48	\$190.02	\$127.99	\$193.82
H	Senior Engineer Principal Designer Senior Construction Engineer Senior Engineer	Senior Geologist/ Hydrogeologist Senior Scientist	Senior Technical Writer	\$125.00	\$189.00	\$127.50	\$192.78	\$130.05	\$196.64	\$132.65	\$200.57	\$135.30	\$204.98	\$138.01	\$208.67	\$140.77	\$212.84	\$143.59	\$217.10	\$146.46	\$221.44	\$149.39	\$225.87	\$152.37	\$230.39
I	Principal Engineer Principal Construction Engr Supervising Designer	Principal Geologist Principal Hydrogeologist Principal Scientist	Corp. Contract Administrator	\$155.00	\$233.00	\$158.10	\$237.66	\$161.26	\$242.41	\$164.49	\$247.26	\$167.78	\$252.21	\$171.13	\$257.25	\$174.56	\$262.40	\$178.05	\$267.84	\$181.61	\$273.00	\$185.24	\$278.46	\$188.94	\$284.03
J	Supervising Engineer Supervising Constr. Engineer Supervising Engineer	Supervising Scientist Supervising Geologist Supervising Hydrogeologist	Assistant Controller	\$175.00	\$259.00	\$178.50	\$264.18	\$182.07	\$269.46	\$185.71	\$274.85	\$189.43	\$280.35	\$193.21	\$285.96	\$197.08	\$291.68	\$201.02	\$297.51	\$205.04	\$303.46	\$209.14	\$309.53	\$213.32	\$315.72
K	Managing Engineer	Managing Geologist Managing Hydrogeologist Managing Scientist	Area Bus Ops Mgr. IV	\$218.00	\$295.00	\$222.36	\$300.90	\$226.81	\$306.92	\$231.34	\$313.06	\$235.97	\$319.32	\$240.69	\$325.70	\$245.50	\$332.22	\$250.41	\$338.86	\$255.42	\$345.64	\$260.53	\$352.55	\$265.74	\$359.60
L-N	Chief Engineer Executive Engineer Vice President Senior Vice President	Chief Scientist Chief Geologist Chief Hydrogeologist	Corp. Marketing Comm. Mgr.	\$260.00	\$295.00	\$265.20	\$300.90	\$270.50	\$308.02	\$275.91	\$313.06	\$281.43	\$319.32	\$287.06	\$325.70	\$292.80	\$332.22	\$298.66	\$338.86	\$304.63	\$345.64	\$310.72	\$352.55	\$316.94	\$359.60

Pending hourly rates per term of contract for Consultant's subconsultants as of 7/18/2018.

Confidentiality Agreement

Parties to this Agreement:

Brown and Caldwell, Inc.

_____ (Employee)

collectively, "the Parties"

Whereas:

- A. Brown and Caldwell, Inc. is contracted by the City of Portland, Water Bureau, (the City), to provide program management and support services regarding the planning, design, and construction of a filtration treatment facility as part of the Bull Run Filtration project (Contract).
- B. Brown and Caldwell, Inc. has retained Employee, who will perform portions of this work.
- C. Directly or indirectly, Employee may generate, receive or otherwise learn of information that is of a confidential nature, including information that, if made public, could compromise the security of the City's water system.
- D. It is critical that Brown and Caldwell, Inc. and its employees maintain the confidentiality of the work that they perform, as disclosure of confidential information could result in damage to the City.

The Parties agree as follows:

- 1. For the purposes of this Agreement, "Confidential Information" means all documents and information of any type or format that the City designates as "for non-disclosure" or "confidential," including drafts and emails.
- 2. Confidential Information shall not apply to any portion of the Confidential Information which (i) is or becomes generally available to the public through no fault of Brown and Caldwell, Inc. or Brown and Caldwell, Inc.'s Employee except in the instance of inadvertent disclosure; (ii) becomes available to Brown and Caldwell, Inc. on a non-confidential basis except in the instance of inadvertent disclosure; or (iii) was known to Brown and Caldwell, Inc. or its employees on a non-confidential basis and not in contravention of applicable law or a confidentiality or other similar agreement prior to its disclosure by the City or one of its representatives.

EXHIBIT D

3. Confidential Information shall not be disclosed by Employee to any person within the Brown and Caldwell, Inc. organization who will not be involved in providing services to the City under Brown and Caldwell, Inc.'s Contract.
4. Unless ordered to do so by a court of competent jurisdiction, Confidential Information shall not be disclosed by Employee to any person outside of Brown and Caldwell, Inc.'s organization unless authorized by the City's Bull Run Filtration project's project manager in writing.
5. All information provided to the Employee shall remain the property of the City, may not be used for any purpose not authorized in the Contract and shall be returned to the City upon request.
6. The Obligations of this Agreement shall survive termination by any means of this Agreement or the Brown and Caldwell, Inc.'s Contract with the City. The obligations of this Agreement shall survive Employee's termination of employment at Brown and Caldwell, Inc.
7. No amendment to this Agreement shall be effective without the written acknowledgement and consent of all Parties.
8. This Agreement is binding on the Parties, their agents, successors, assigns, officers, directors and principals.
9. If any term or provision of this agreement is declared by a court of competent jurisdiction to be illegal or in conflict with any the law, the validity of the remaining terms shall not be affected.

EMPLOYEE

Dated: _____

Employee of Brown and Caldwell, Inc.

Brown and Caldwell, Inc.

Dated: _____

By: _____

Confidentiality Agreement

Parties to this Agreement:
City of Portland
Brown and Caldwell, Inc.
collectively, "the Parties"

Whereas:

- A. Brown and Caldwell, Inc. is contracted by the City of Portland, Water Bureau (the City) to provide program management and support services for the planning, design, and construction of a filtration treatment facility as part of the Bull Run Filtration project (Contract).
- B. Brown and Caldwell, Inc., at times, retains subcontractors to perform portions of this work.
- C. Directly or indirectly, Brown and Caldwell, Inc., its employees and/or its subcontractors may generate, receive or otherwise learn of information that is of confidential nature, including information that, if made public, could compromise the security of the City's water system.
- D. It is critical that Brown and Caldwell, Inc., its employees and its subcontractors maintain the confidentiality of the information that the City deems so as to ensure the safety of the City's water supply.

The Parties agree as follows:

- 1. For the purposes of this Agreement, "Confidential Information" means all documents and information of any type or format that the City designates as "for non-disclosure" or "confidential," including drafts and emails.
- 2. Confidential Information shall not apply to any portion of the Confidential Information which (i) is or becomes generally available to the public through no fault of Brown and Caldwell, Inc. or Brown and Caldwell, Inc.'s Employee except in the instance of inadvertent disclosure; (ii) becomes available to Brown and Caldwell, Inc on a non-confidential basis except in the instance of inadvertent disclosure; or (iii) was known to Brown and Caldwell, Inc or its employees on a non-confidential basis and not in contravention of applicable law or a confidentiality or other similar agreement prior to its disclosure by the City or one of its representatives.

EXHIBIT D

3. Confidential Information shall not be disclosed to any person within the Brown and Caldwell, Inc.'s or subcontractor's organization who will not be involved in providing services to the City under Brown and Caldwell, Inc.'s Contract.
4. Unless ordered to do so by a court of competent jurisdiction, Confidential Information shall not be disclosed to any person outside of Brown and Caldwell Inc.'s or its subcontractors' organizations unless authorized by the City's Bull Run Filtration project's project manager in writing.
5. All information provided to the Brown and Caldwell, Inc., its employees and/or its subcontractors shall remain the property of the City of Portland, may not be used for any purpose not authorized in the Contract and shall be returned to the City upon request.
6. The City may seek injunctive relief and/or specific performance in Multnomah County Circuit Court against Brown and Caldwell, Inc., its employees and/or its subcontractors for breach or anticipated breach of any provision of this Agreement without proof of any actual or special damages.
7. Brown and Caldwell, Inc. and its subcontractors shall make all members of their organizations who are providing services to the City under Brown and Caldwell Inc.'s Contract aware of, and take reasonable measures necessary to ensure compliance with, this Agreement.
8. Brown and Caldwell, Inc. shall execute a confidentiality agreement as provided in Attachment A with each of its employees who may have access to Confidential Information and as provided in Attachment B with its subcontractors who may have access to Confidential Information. Brown and Caldwell, Inc. shall provide copies of the executed agreements to the City promptly after the employee or subcontractor becomes engaged.
9. The Obligations of this Agreement shall survive termination by any means of the Agreement, Brown and Caldwell, Inc.'s Contract and agreements between Brown and Caldwell, Inc., its employees and its subconsultants.
10. No amendment to this agreement shall be effective without the written acknowledgement and consent of all Parties.
11. This agreement is binding on the Parties, their agents, successors, assigns, officers, directors and principals.

12. If any term or provision of this agreement is declared by a court of competent jurisdiction to be illegal or in conflict with any the law, the validity of the remaining terms shall not be affected.

Brown and Caldwell, Inc.

Dated: _____

President

CITY OF PORTLAND WATER BUREAU

Dated: _____

By: _____
Michael Stuhr, P.E., Administrator

Confidentiality Agreement

Parties to this Agreement:
Brown and Caldwell, Inc.
_____ (“Subcontractor”)
collectively, “the Parties”

Whereas:

- A. Brown and Caldwell, Inc. is contracted by the City of Portland, Water Bureau, (the City), to provide program management and support services for the planning, design, and construction of a filtration treatment facility as part of the Bull Run Filtration project (Contract).
- B. Brown and Caldwell, Inc. has retained Subcontractor to perform portions of this work.
- C. Directly or indirectly, Subcontractor may generate, receive or otherwise learn of information that is of a confidential nature, including information that, if made public, could compromise the security of the City’s water system.
- D. It is critical that Brown and Caldwell, Inc and its subcontractors maintain the confidentiality of the work that they perform, as disclosure of confidential information could result in damage to the City.

The Parties agree as follows:

- 1. For the purposes of this Agreement, “Confidential Information” means all documents and information of any type or format that the City designates as “for non-disclosure” or “confidential,” including drafts and emails.
- 2. Confidential Information shall not apply to any portion of the Confidential Information which (i) is or becomes generally available to the public through no fault of Brown and Caldwell Inc. or Brown and Caldwell, Inc.’s Subcontractor except in the instance of inadvertent disclosure; (ii) becomes available to Brown and Caldwell, Inc. on a non-confidential basis except in the instance of inadvertent disclosure; or (iii) was known to Brown and Caldwell, Inc. or its subcontractors on a non-confidential basis and not in

contravention of applicable law or a confidentiality or other similar agreement prior to its disclosure by the City or one of its representatives.

3. Confidential Information shall not be disclosed by Subcontractor to any person within the Subcontractor's organization who will not be involved in providing services to the City under Brown and Caldwell, Inc.'s Contract.
4. Unless ordered to do so by a court of competent jurisdiction, Confidential Information shall not be disclosed by Subcontractor to any person outside of Subcontractor's organization unless authorized by the City's Bull Run Filtration project's project manager in writing.
5. All information provided to the Subcontractor shall remain the property of the City of Portland, may not be used for any purpose not authorized in the Contract and shall be returned to the City upon request.
6. Brown and Caldwell, Inc. may seek injunctive relief and/or specific performance in Multnomah County Circuit Court against Subcontractor and/or its employees for breach or anticipated breach of any provision of this Agreement without proof of any actual or special damages.
7. Subcontractor shall make all members of its organization who are providing services to the City under Brown and Caldwell, Inc.'s Contract aware of this Agreement, and shall take reasonable measures necessary to ensure compliance with this Agreement.
8. The Obligations of this Agreement shall survive termination by any means of this Agreement, Brown and Caldwell, Inc.'s Contract, and agreements between Brown and Caldwell, Inc. and Subcontractor.
9. No amendment to this Agreement shall be effective without the written acknowledgement and consent of all Parties.
10. This Agreement is binding on the Parties, their agents, successors, assigns, officers, directors and principals.
11. If any term or provision of this agreement is declared by a court of competent jurisdiction to be illegal or in conflict with any the law, the validity of the remaining terms shall not be affected.

SUBCONTRACTOR

Dated: _____

Subcontractor

BROWN AND CALDWELL, INC.

Dated: _____

By: _____

Name, Role