

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

CONTRACT NUMBER XXXXXXXXXX

PROGRAM MANAGEMENT, PROJECT CONTROLS, AND CONSTRUCTION MANAGEMENT SUPPORT SERVICES

This Contract is between the City of Portland ("City," or "Bureau") and Stantec Consulting Services, Inc, hereafter called Consultant. The City's Project Manager for this Contract is Muriel Gueissaz-Teufel.

Effective Date and Duration

This Contract shall become effective on July 1, 2018. This Contract shall expire, unless otherwise terminated or extended, on July 1, 2023

Consideration

- (a) City agrees to pay Consultant a sum not to exceed \$21,760,733 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): Stantec Consulting Services, Inc.

Address: 806 SW Broadway, Ste. 200 Portland, OR 97205

City of Portland Business Tax Registration Number: 423988

- 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.

Consultant's observation of the work is not an exhaustive observation or inspection of all work performed by the CM/GC. Consultant does not guarantee the performance of the CM/GC. Consultant's observations shall not relieve the CM/GC from responsibility for performing the work in accordance with the contract for construction, and Consultant shall not assume liability in any respect for the construction of the project.

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, 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.

The parties agree that Consultant shall have no responsibility for the implementation of the health and safety plan prepared by Consultant pursuant to Section 2.2 of the Scope of Services. City acknowledges and agrees that it shall be solely responsible for implementation of that health and safety plan and for the training, competency, activities and operations of its staff. City shall release, defend and indemnify Consultant from any and all claims that arise from City's implementation of the health and safety plan. Further, City shall be solely responsible for compliance with all applicable occupational safety and health laws and regulations as they apply to its staff.

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): Upon request, 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 services that do not meet the standards of Section 1 above or other terms 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, Contract amount and D/M/W/ESB subcontracting commitments, 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 Key Personnel: / Applicable // Not Applicable

If applicable, the Consultant shall assign the key 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**

SCOPE OF WORK

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

CONSULTANT KEY PERSONNEL

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

NAME	COMPANY	ROLE ON PROJECT
Dick Talley	Stantec Consulting Services, Inc	Project Manager
Melissa McDaniel	Stantec Consulting Services, Inc	Program Management and Controls Lead
Adam Odell	Stantec Consulting Services, Inc	Engineering Services Lead
Bill Hawkins	Stantec Consulting Services, Inc	Construction Management Services Lead
Laurie Allen	Allen Construction Management Services, LLC	Deputy Program Management and Controls Lead

SUBCONSULTANTS

The Consultant shall assign the following subconsultants to perform work in the capacities designated:

NAME	DMWESB CERTIFICATION TYPE	ROLE ON PROJECT	SUBCONTRACT AMOUNT
Allen Construction Management Services, LLC	D/W/ESB Certified OR Cert #9304	Deputy Program Management and Controls Lead, Construction Inspection Services and Administrative Support	\$5,440,183

Total Subcontracting Participation (as a Percentage of the Total Contract Amount)	25.0%
Total DMWESB Subcontracting Participation (as a Percentage of the Total Contract Amount)	25.0%

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 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 D/M/W/ESB 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 D/M/W/ESB 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.

COMPENSATION

The maximum that the Consultant can be paid on this Contract is \$21,760,733 (hereafter the "not to exceed" amount.). The "not to exceed" amount includes all payments to be made pursuant to this Contract, including reimbursable expenses, if any. Nothing in this Contract requires the City to pay for work that does not meet the Standard of Care or other requirements of the Contract. The actual amount to be paid Consultant may be less than that amount.

The Consultant is entitled to receive progress payments for its work pursuant to the Contract as provided in more detail below. 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.

Any estimate of the hours necessary to perform the work is not binding on the City. The Consultant remains responsible if the estimate proves to be incorrect. Exceeding the number of estimated hours of work does not impose any liability on the City for additional payment.

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.

PAYMENT TERMS: Net 30 Days

The estimated task breakdown of the "not to exceed" amount is shown in the table below. Consultant may reallocate compensation between tasks with the approval of the BES Project Manager, provided the total "not to exceed" amount is not exceeded.

Task	Description	Not to Exceed Amount
100	Program Management and Controls	\$11,226,279
200	Engineering Services	\$1,453,648
300	Construction Management	\$8,350,723
400	Optional Tasks	\$730,083
TOTAL CONTRACT AMOUNT		\$21,760,733

Hourly Rates

Hourly billing rates on progress payment invoices shall be the salary multiplier in the table below applied to salaries paid to employees subject to the maximum hourly billing rate by labor category in the table below. This multiplier shall not exceed 3.1 and shall include the following non-reimbursable expenses: fringe benefits, payroll bonuses, autos and other defined perquisites, telecommunications, facsimile services, overhead expenses including but not limited to local and long distance telephone, parking, delivery/courier, general business and professional liability insurance, advertising costs, postage, internal copying, lease of office equipment, mileage and other local travel costs (travel within 100-mile radius of Consultant’s office), information technology, all other direct costs not identified as reimbursable, other indirect costs and profit.

<i>Prime - Salary Multiplier = 3.075</i>									
<i>Hourly Billing Rate (Max \$255)</i>									
<i>Labor Category</i>	<i>2018 Billing Rate</i>	<i>2019 Billing Rate</i>	<i>2020 Billing Rate</i>	<i>2021 Billing Rate</i>	<i>2022 Billing Rate</i>	<i>2023 Billing Rate</i>	<i>2024 Billing Rate</i>	<i>2025 Billing Rate</i>	<i>2026 Billing Rate</i>
Project Manager	\$250	\$256	\$263	\$270	\$276	\$283	\$290	\$297	\$305
Project Accountant	\$75	\$77	\$79	\$81	\$83	\$85	\$87	\$89	\$91
Project Controller	\$140	\$144	\$147	\$151	\$155	\$158	\$162	\$166	\$171
Project Administrator	\$90	\$92	\$95	\$97	\$99	\$102	\$104	\$107	\$110
Sr. Project Manager	\$200	\$205	\$210	\$215	\$221	\$226	\$232	\$238	\$244
Program Controls Manager	\$255	\$261	\$268	\$275	\$281	\$289	\$296	\$303	\$311
Program Controls Specialist	\$180	\$185	\$189	\$194	\$199	\$204	\$209	\$214	\$219
Project Controls - Scheduler	\$140	\$144	\$147	\$151	\$155	\$158	\$162	\$166	\$171
Project Controls – Financial Analyst	\$140	\$144	\$147	\$151	\$155	\$158	\$162	\$166	\$171
Project Controls - Risk Analyst	\$205	\$210	\$215	\$221	\$226	\$232	\$238	\$244	\$250
Document Controls/Reporting	\$100	\$103	\$105	\$108	\$110	\$113	\$116	\$119	\$122
Software Support Lead	\$195	\$200	\$205	\$210	\$215	\$221	\$226	\$232	\$238
Construction Manager	\$230	\$236	\$242	\$248	\$254	\$260	\$267	\$273	\$280
Deputy Construction Manager	\$210	\$215	\$221	\$226	\$232	\$238	\$244	\$250	\$256
Resident Engineer	\$195	\$200	\$205	\$210	\$215	\$221	\$226	\$232	\$238
Lead Inspector	\$150	\$154	\$158	\$162	\$166	\$170	\$174	\$178	\$183
Construction Admin Assistant	\$65	\$67	\$68	\$70	\$72	\$74	\$75	\$77	\$79
Engineering Lead	\$175	\$179	\$184	\$188	\$193	\$198	\$203	\$208	\$213
Discipline Lead	\$255	\$261	\$268	\$275	\$281	\$289	\$296	\$303	\$311
Standards Lead	\$215	\$220	\$226	\$232	\$237	\$243	\$249	\$256	\$262
EHS Lead	\$175	\$179	\$184	\$188	\$193	\$198	\$203	\$208	\$213
CADD	\$145	\$149	\$152	\$156	\$160	\$164	\$168	\$172	\$177
CADD Lead	\$255	\$261	\$268	\$275	\$281	\$289	\$296	\$303	\$311
Discipline Expert	\$255	\$261	\$268	\$275	\$281	\$289	\$296	\$303	\$311

Subconsultant – Allen Construction Management NW - Salary Multiplier = 3.1

Deputy Program Controls Manager	\$175	\$179	\$184	\$188	\$193	\$198	\$203	\$208	\$213
Construction Inspector Specialty	\$115	\$118	\$121	\$124	\$127	\$130	\$133	\$137	\$140
Project Controls Specialist	\$155	\$159	\$163	\$167	\$171	\$175	\$180	\$184	\$189
Admin Assistant	\$65	\$67	\$68	\$70	\$72	\$74	\$75	\$77	\$79
Construction Inspector 2	\$105	\$108	\$110	\$113	\$116	\$119	\$122	\$125	\$128
Construction Inspector 1	\$95	\$97	\$100	\$102	\$105	\$107	\$110	\$113	\$116

Standard Reimbursable Costs

The following costs will be reimbursed without mark-up:

- Out-of-Town Travel. Travel (transportation, lodging and per diem) of Consultant and/or experts when specified in the contract or requested by BES, directly attributed to specific tasks and when to a location outside a 100-mile radius of Consultant’s project office. All out-of-town travel must be pre-approved by BES. Travel costs will be reimbursed in accordance with the City’s Travel Expense Guidelines which are based on the General Services Administration (GSA) per diem rates plus applicable lodging taxes.
- Photocopying/Reproduction Costs. Reproduction of required drawings, reports, specifications, bidding documents, in excess of the number required as part of the contract excluding the cost of reproduction for Consultant’s or sub’s own use.
- Equipment Rental. Rental of testing equipment for odor control evaluations.

Subconsultant Costs

Compensation for subconsultants shall be limited to the same restrictions imposed on the Consultant. The maximum markup on subconsultant services shall not exceed 5.0%.

Progress Payments

On or before the 15th of each month, the Consultant shall submit to the City’s Project Manager an invoice for work performed by the Consultant during the preceding month. The invoice shall contain the City’s Contract Number and set out all items for payment including, but not limited to: the name of the individual, labor category, direct labor rate, hours worked during the period, and tasks performed. The Consultant shall also attach photocopies of claimed reimbursable expenses, if applicable. The Consultant shall stamp and approve all subconsultant invoices and note on the subconsultant invoice what they are approving as “billable” under the Contract. The billing from the prime should clearly roll up labor and reimbursable costs for the prime and subconsultants – matching the subconsultant invoices. Prior to initial billing, the Consultant shall develop a billing format for approval by the City.

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.

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.

STANTEC CONSULTING SERVICES, INC.

By: _____ Date: _____

Name: _____

Title: _____

CONTRACT NUMBER: XXXXXXX

CONTRACT TITLE: Program Management, Project Controls, and Construction Management Support Services

CITY OF PORTLAND SIGNATURES:

By: _____ Date: _____
Elected Official

Approved:
By: _____ Date: _____
Office of City Auditor

Approved as to Form:
By: _____ Date: _____
Office of City Attorney

ATTACHMENT A

STATEMENT OF WORK

For City of Portland Bureau of Environmental Services

Tyron Creek Improvement Program

Columbia Boulevard Secondary Expansion Program

**Program Management, Project Controls, and Construction
Management Support Services**



ENVIRONMENTAL SERVICES
CITY OF PORTLAND
working for clean rivers



STATEMENT OF WORK

Program Management, Project Controls, and Construction Management Support Services

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INTRODUCTION AND BACKGROUND

The City of Portland, Bureau of Environmental Services (BES) serves the Portland community by providing water quality protection, watershed planning, wastewater collection and treatment, sewer installation and stormwater management. BES owns and operates two wastewater treatment plants to treat collected wastewater from its service areas. The Columbia Boulevard Wastewater Treatment Plant (CBWTP) treats from a service area that consists of both combined and separated sewers with a peak wet-weather combined flow capacity of 450 million gallons per day (MGD) and treats an annual daily average of 76 MGD of municipal wastewater. The Tryon Creek Wastewater Treatment Plant (TCWTP) is a sanitary sewer facility rated at 8.3 MGD that treats an annual daily average wastewater flow of 6.5 MGD.

To support its mission, BES is undertaking capital improvement programs (CIP) to expand the secondary treatment capacity at the CBWTP and to make improvements to the TCWTP and its related collection system. Construction of each of the programs will be implemented using a Construction Manager/General Contractor (CM/GC) delivery approach.

The CBWTP Secondary Treatment Capacity Program is mandated by the Oregon Department of Environmental Quality (DEQ), with a mandated project completion by December 2024. Overall program construction costs are estimated at \$89,000,000, based on Association for the Advancement of Cost Engineering International (AACEI) Class 5 estimates with a cost estimating range between -50% and +100%. Pending Design Consultant selection, design is anticipated to begin in 2018. CM/GC selection is anticipated in 2018. Program scope elements include the following:

- (a) New buildings providing 5,000 sf of staff and 15,000 sf storage space
- (b) Demolition of storage building 04 (STO4) and temporary relocation of shop use in that building; repaving of the demolished area
- (c) Upgrade of open-sided storage building 05 (STO5)
- (d) Temporary odor control facilities for the solids handling building to allow demolition of the composter area and until the final design of the odor control system for the solids handling facilities is completed
- (e) New motor control centers (MCCs) and 15kVA transformers from the Silver Tunnel, including a new above ground enclosure or building
- (f) New return activated sludge (RAS) pipe and upgraded/new Mixed Liquor (ML) piping from the new clarifiers and connecting to the aeration basins
- (g) New dewatering facilities
- (h) New thickening facilities(i) New sludge processing odor control facilities
- (j) New chemical feed equipment for solids handling operations
- (k) Upgraded solids handling building and support facilities, including the lab space and controls room
- (l) New electrical and instrumentation upgrades
- (m) New secondary clarifiers and associated mechanisms
- (n) Structural surface rehabilitation of the aeration basins
- (o) New associated stormwater facilities and green building features, where required
- (p) Replacement and relocation of the Biosolids Storage Hoppers

- (q) Demolition of the Composter facilities, including storage building 01 (STO1) which includes Special Operations Group (SOG) staff and shop space, storage building 02 (STO2), Synergen modular, old construction engineering modular, biosolids hoppers, odor control, and associated support utilities

The TCWTP was constructed in 1964, expanded in 1976, and is located in the City of Lake Oswego. In 2014, BES completed a Facilities Plan for the TCWTP which identified Capital Improvements required to ensure that the TCWTP continues to be a reliable community asset that complies with its discharge permit, regulatory requirements, and established levels of service.

The TCWTP Improvements Program is comprised of five projects that implement improvements recommended in the 2014 TCWTP Facilities Plan and includes the following project elements:

- (a) Replacement of the City of Portland's existing aging, open-air headworks facilities at TCWTP that are nearing the end of their useful life, are a source of odors, and are located in the floodplain with a new multi-level headworks at an elevated location capable of passing 50 MGD peak flow.
- (b) Modifications to the City of Lake Oswego sanitary sewer collection system to convey wastewater to the new headworks location including:
- i. Installation of approximately 1,700 feet of 36-inch diameter interceptor sewer using open-trench installation and approximately 500 feet of 36-inch diameter interceptor sewer within a narrow right of way using pipe ramming construction methods through soil known to contain large boulders.
 - ii. Modifications to the Willamette Pump Station to increase the station firm capacity from 3,300 gallons per minute (GPM) at 90 feet Total Dynamic Head (TDH) to 3,600 GPM) at approximately 120 feet TDH and extension of the related 14-inch diameter force main 100 feet to the new interceptor sewer.
 - iii. Modifications to the Foothills Road Pump Station to increase the station firm capacity from 150 GPM at 48 feet TDH to 200 GPM at approximately 80 feet TDH and extension of the related 4-in diameter force main 100 feet to the new Foothills Interceptor Sewer.
 - iv. Approximately 500 feet of 8-inch diameter gravity sewer to maintain service to collection system areas impacted by abandonment of the existing Foothills Interceptor sewer.
- (c) Modifications to the City of Portland sanitary sewer collection system to convey flow to the new TCWTP headworks location including:
- i. Option 1:
 1. Construction of an Influent Pump Station on the TCWTP site to provide a firm capacity of 16,000 GPM (23 MGD) at approximately 60 feet TDH with two 24-inch diameter force mains approximately 500 feet in length to the new headworks location.

Or;
 - ii. Option 2:
 1. Installation of approximately 2,600 feet of 36-inch diameter pipeline to replace the Tryon Creek Interceptor (TCI) using a combination of horizontal directional drilling (HDD), pipe ramming, and open-trench construction methods.

And:

 2. Modifications to the Tryon Creek Pump Station increasing station firm capacity from 860 GPM at 43 feet TDH to 2,000 GPM at approximately 90 feet TDH and installation of two new 12-inch diameter force main pipelines, approximately 500 feet in length.

- (d) Two new covered 75 feet diameter by 15 feet sidewater depth primary clarifiers to provide 23 MGD of primary treatment capacity and to provide a total Plant peak flow capacity of 50 MGD using a combination of new and existing facilities.
- (e) Modifications to three of the existing primary clarifiers, primary effluent pump station, and related systems to ensure that the clarifiers and pump station do not become a source of nuisance odors or a vector attractant during extended periods of non-use.
- (f) Yard piping and hydraulic structures to direct and convey flow between the new facilities and existing treatment Plant facilities.
- (g) Construction of odor control facilities to treat air from the new headworks, influent pump station, and new primary clarifiers.
- (h) Demolition of existing gravity thickeners and degritting facilities to address the most significant odor sources at the facility.
- (i) Electrical system improvements for system reliability to bring the TCWTP into compliance with EPA's Class I reliability electrical power requirements.
- (j) Plant perimeter edge treatment improvements within the area of the work at TCWTP to blend existing landscaping and trail areas with the new facilities to ensure that the TCWTP remains a good neighbor and a community asset.

The TCWTP Improvements Program overall program construction costs are estimated at \$69,000,000, based on AACEI Class 5 estimates with a cost estimating range between -50% and +100%. Construction early work is currently scheduled to start in May 2019 with construction completion in November 2022.

In addition to the two aforementioned programs, BES is also delivering annual capital improvement projects (CIP) that are integral and BES is developing, changing, and updating new processes, procedures, work flows and approaches to more effectively deliver CIP work (Project Controls Integration) and these efforts need to stay coordinated and integrated with the Bureau. Developing, coordinating, and integrating project controls processes, procedures, work flows and best practices to serve the programs that are also compatible and complementary to the other Bureau-wide projects is one focus of this contract. Incidental work to further integrate specific program deliverables to a wider Bureau-wide purposes is included in this scope of work.

BES is entering into a contract with Stantec Consulting Services, Inc. (Consultant) to act as an extension of BES staff to provide large program implementation expertise to support and mentor the City's respective implementation teams in the successful delivery of these large CIP projects while working collaboratively within the framework of CM/GC project delivery. Typical services to be provided by Consultant include program management and program management support, project controls, construction management, value engineering, partnering facilitation, cost estimating, construction oversight, and CM/GC contracting.

The following scope of services has been jointly developed by BES and Consultant and is arranged in four major categories; Program Management and Controls Services, Engineering Services, Construction Management Services and Project Management. Each of these categories and corresponding scope of services, assumptions and anticipated deliverables is more fully developed in the following pages.

The contract is intended to span over for the duration of each programs, at least until year 2025. As respective program work progresses, specific support needs for each may vary over the years. As a result, authorization to proceed on specific deliverables will be confirmed via issuance of Subtask Authorization Memos by the BES Contract Manager. Level of Effort, Schedule, and Personnel assignments for Detailed Subtask Authorization Memos will be negotiated with the City prior to authorization.

Task 1 - PROGRAM MANAGEMENT & CONTROLS SERVICES

1.1 – Program Planning Support

BES of Portland Bureau of Environmental Services (BES) Tryon Creek Improvements (TCWTP) and Columbia Boulevard Secondary Treatment Expansion (CBTWP) Programs will require general management and administration to support the defined total scope of services. Task 1 is the planning stage to work with BES staff to review and refine the processes and procedures that will be executed in each of the Programs. Outputs of the Program Planning will drive the execution of each Program.

Staffing Assumptions:

- Assumes an initial startup team of approximately 4 FTE staff to develop Program plans
- Assumes a 6 month duration for Program startup and Program plan development
- Assumes startup team will work on both Programs simultaneously

Deliverables:

Agendas and meeting notes for meetings facilitated by the Consultant.

1.1.1 Review Current Program Processes and Provide Recommendations

Consultant will conduct “Quick-Start” effort to create an effective Program start. Consultant’s team will review any existing Program and project management processes for the Programs and provide recommendations for enhancement and consistency. During this quick start effort, the Program Execution Plan, and subsequent Program management plans, will be reviewed and refined and incorporated into the overall execution plan for each of the Programs.

Deliverable:

Business Process Enhancement Recommendations with regards to Program and Project Management

1.1.2 Develop Program Execution Plan

Consultant will work with BES to review the existing Program Management Plan and issue a final Program Execution Plan (PxP) that will consolidate a series of specific plans defining program execution. The plans identified under this Task 1.2 will form the overall Project Execution Plan. The Program Execution Plan is a living document and will be revised, as necessary, throughout the course of the Program.

For the duration of this contract, Consultant will:

- a. Coordinate with BES staff on their respective responsibilities with regards to organization, schedule, communications, QA/QC and procedures. Create a decision-making hierarchy table.
- b. Create a table summarizing all planned meetings, indicating frequency, location, purpose, and attendees. Attend and provide minutes for regular meetings with BES related to management of this contract.

Deliverable:

Develop Program Execution Plan

1.1.2.1 Develop Program Financial Management Plan

Consultant will develop a Program Financial Management Plan to track program costs, cash flow, estimated monthly expenditures, document cost control procedures, monitoring procedures, and identification of Key Performance Indicators. Consultant will develop and document guidelines for cost estimates preparation, including which baseline standards are to be used and how work elements are to be delineated as part of Guaranteed Maximum Price development. Consultant will review and provide guidance on the financial procedures for BES to manage the integration of business operations for each Program and manage cost to meet the requirements of each Program. Consultant will outline how cost performance metrics will be monitored, at what frequency, and how they will be reported. These procedures will need to be implemented early and utilized throughout the planning, design, construction, operations and management phases for the life of the programs.

Deliverables:

Program Financial Management Plan

1.1.2.2 Develop Program Schedule Management Plan

Consultant will work with BES to provide schedule management processes and procedures for BES to manage the integration of various Contractor schedules. These procedures will need to be implemented early in the Program and utilized throughout the planning, design, construction, operations and management phases for the life of the program. These procedures will need to be in conformance with the requirements of all BES agreements.

Deliverables:

Program Schedule Management Plan, including updates as required

1.1.2.3 Develop Program Document Management Plan

Consultant will work with BES to provide document management processes and procedures for the Program to manage the integration of various Program documents. These procedures will need to be implemented early in the Program and utilized throughout the planning, design, construction, operations and management phases for the life of the program. These include document management coding structures for the Program. A Document Control manual will be issued to Program members to follow and participate in the process.

Deliverables:

Review & Refine Program Document Management Plan

1.1.2.4 Develop Program Change Management Plan

Consultant will work with BES to develop a Program Change Management Plan that will be utilized across all projects within the Program. Implement a Program Change Notice (PCN) system to track changes to the Program scope, budget, and/or schedule. The PCN system will be used to track all changes to consultant contracts. The PCN system will consist of:

- a. PCN Change Procedures
- b. A PCN log
- c. A PCN meeting with BES staff to review and approve PCNs and identify sources of funding.

Deliverables:

Program Change Management Plan

1.1.2.5 Develop Program Performance Reporting Plan

Consultant will work with BES to develop a Program Performance Reporting Plan that provides the process of determining the information and communication needs of the program stakeholders and states which stakeholders need what information, to what granularity, when they need it, how it will be given to them and by whom.

Deliverables:

Program Performance Reporting Plan

1.1.2.6 Develop Program Quality Assurance/Quality Control Plan

All staff responsible for preparing deliverables: (e.g., Engineers of Record, CM/GC) will be responsible for “quality control” of their deliverables. Starting with existing documentation and processes, Consultant will work with BES to prepare a Program Quality Assurance / Quality Control (QA/QC) Plan that incorporates latest best practices, and describes formal QA/QC steps, roles and responsibilities, and overall QA/QC requirements for delivery of the programs. The plan will be coordinated with the Agreements in place and the Construction Management Manual (including construction inspection) to be prepared under Task 3.1.1. Consultant will work with BES to ensure that this quality control is in fact implemented, which is referred to as “quality assurance.” This subtask only covers the preparation of the plan; the actual QA/QC activities are covered under the associated tasks that produce those Deliverables. Consultant will work with BES to conduct reviews, at appropriate intervals, to ensure the QA/QC Plan is being executed.

Assumptions:

City to provide Consultant with the Engineering Services Quality Manual (2000) and latest Heron Processes in place.

Deliverables:

Program Quality Assurance/Control Plan, including QA/QC Steps Table and Heron processes recommendations.

QA/QC Compliance and Effectiveness Review Reports, including recommendations for updates.

1.1.2.7 Develop Program Responsibility Assignment Matrix Plan

Consultant will work with BES to develop a Program Responsibility Matrix (RAM) Plan. This document will serve as the plan to define who in the Program team is responsible for individual work elements and deliverables. The Program RAM will cover all remaining aspects of the Programs through design, construction and closeout.

Deliverables:

Program Responsibility Assignment Matrix Plan

1.1.2.8 Develop Program Risk & Contingency Management Plan

Consultant will work with BES to develop the process of determining how to approach, plan and execute program risk activities. This includes developing risk categories for risk such as Business Risk, Program Risk, and/or Project Risk and the roles and responsibilities for each category. With the definition of risks,

contingency for each item may or may not need to be established. The Program Risk & Contingency Management Plan will develop the process for how risk and contingency are handled on the Programs.

Deliverables:

Program Risk and Contingency Management Plan

1.1.2.9 Develop Program Close-out Plan

At program completion, BES will need to closeout all portions of Program. Consultant will work with BES to develop a filing and exiting guidelines for Program staff as well as Design and Construction Management firms.

Deliverables:

Program Close-out Plan

1.2 – Program Management and Controls Support

Utilizing the plans and processes developed in **Task 1.1**, Consultant will provide Program Management and Controls Support as outlined below. Initially, Consultant will take the lead to develop the plan and implementing the plan. As the programs progress, BES staff will begin to take the lead in delivering the plan. This approach will leave the lasting legacy within BES to deliver future Programs. All tasks, and sub-tasks, identified below will be a combined effort of Consultant and BES staff as an integrated program team.

Staffing Assumptions:

- Assumes an execution team of approximately 3.5 FTE
- Assumes execution team will simultaneously support both Programs
- Assumes Program Controls Manager at full time, Program Controls Specialist at full time, Program Scheduler at part-time, Program Cost Analyst at part-time, Program Document Controller at part-time, and Program Software Support at part-time
- Assumes execution duration of approximately 6.5 years
- Assumes review of deliverable list will be conducted every 6 months and refined per BES requirements
- Assumes review of staffing plan every year and refined per BES requirements

Deliverables:

Agenda and meeting notes for meetings facilitated by Consultant.

1.2.1 - Cost Control and Schedule Management Assistance

A key component of program work is to monitor and control finance and schedule. The subtasks below will represent activities performed for cost control and schedule management.

1.2.1.1 Develop Program Standard WBS

Consultant will develop and maintain a Standard Work Breakdown Structure that will be utilized across the Program projects. The Program Standard WBS will be developed to provide consistency across cost and schedule management on the program.

Deliverables:

Program Standard WBS

1.2.1.2 Develop and Maintain Master Program Schedule

Consultant will develop and maintain a Master Program Schedule. The Master Program Schedule will be in a computerized CPM format and will contain (on a Program level and an individual project level) necessary activities of the Program and each project. The Program Schedule will reflect principal work activities of the Program team, Engineer of Record, construction management consultants, other Program consultants, contractors, and BES personnel, for each project phase, and will show interactions.

The Master Program Schedule will be cost-loaded to develop an overall cash flow projection of the Program. The Program Schedule will be updated per BES required timeframe with a report on actual or potential delays and an analysis of their effects on the Program.

The initial Master Program Schedule will include a report discussing any identified scheduling and sequencing issues.

Deliverables:

Master Program Baseline Schedule

Master Program Schedule Updates (estimated at quarterly during planning and conceptual design and monthly during detailed design, CM/GC development and construction)

1.2.1.3 Develop and Maintain Program Cost Estimate

Consultant will work with BES to develop a Program Master Cost Baseline (original budget), maintain budgets/cost projections, and report monthly on the actual and anticipated cost of the Program. Tasks will include:

- a. Produce cash flow projections for the Program. This cash flow projection will allow BES to compare Program cost projections to available funding. This comparison can identify the need to tailor either the Program delivery or funding.
- b. Develop Program reports showing relevant information including budgets, cash flow, status of funding, actual cost to date, variances to date, projected cost at completion and estimated budget surplus or deficit.

Deliverables: and Schedules:

Program Cost Baseline

Program Cash Flow Projections (estimated at quarterly during planning and conceptual design and monthly during detailed design, CM/GC development and construction)

1.2.2 – Risk Management Assistance

This task includes the management of risks on the Programs.

1.2.2.1 Develop Program Risk Register

Consultant will work with BES and the respective program consultants to implement a best-practices risk management program for activities, processes and events using a five-step process to identify, analyze, prioritize, address and monitor risks through a document risk register. This task includes developing the Program Risk Register. Consultant will conduct Risk Analysis Workshops with BES to identify potential major risks to the Program. Including timely completion, budget risks, and meeting desired functionality.

Deliverables:

Develop and maintain Program Risk Register

1.2.2.2 Analyze and Monitor Risks for Cost & Schedule Impact

Consultant will work with BES to coordinate Program Team efforts in evaluating the likelihood of a potential risk occurring and will work with the Program team to identify potential mitigating measures to address each specified risk and summarize in a report form. Scores will be assigned for probability of occurrence and magnitude of impact to the risk item. A risk index will be calculated. This process may be supported by system tools such as the Acumen Risk.

Deliverables:

Coordinate and facilitate Risk Workshops (estimated at quarterly during planning and conceptual design and monthly during detailed design, CM/GC development and construction)

Develop Risk Index and Mitigation Measures for identified Risks

Updated Risk Register and Mitigation Plans – as necessary

1.2.3 – Program Performance and Reporting Assistance

Consultant will work with BES to develop a Program Reports and Reporting portal. Consultant will begin by reviewing existing reports generated within HERON. Existing reports may be modified to fit the specific program need and additional reports may be required to be developed.

1.2.3.1 Develop Program Standard Report List & Templates

Consultant will work with BES to develop a list of Standard Reports by Stakeholder. Once each report is identified a Report Template will be developed. Standard reports could include:

- a. Executive Program Summary
- b. Detailed Project Status Report
- c. Program Schedule Report
- d. Program Cost Report
- e. Program Risk Report
- f. Project Schedule Report
- g. Project Cost Report
- h. Project Risk Report

Deliverables: and Schedules:

Program Report List by Stakeholder

Standard Reports Templates for format and content by Stakeholder

1.2.3.2 Prepare Program Quarterly and Annual Status Reports

Progress reports will be used as an informational tool for senior management, as a management tool for managers, and as status reports for staff. Consultant will work with BES to provide comprehensive reports covering the Program, Program tasks and each project comprising the Program, addressing general status, problems, concerns, and progress. The Program Quarterly and Annual Status Reports could include:

- a. Executive summary
- b. Program progress
- c. Program cost

- d. Program cash flow
- e. Program schedule
- f. Program tasks
- g. Project specific final design progress
- h. Project specific construction progress
- i. Project specific progress photos

Each section will include a narrative of the work performed and areas of concern, actions and approvals needed.

Deliverables: and Schedules:

Quarterly and Annual Progress Reports, one report per Program

1.2.4 – Program Management Information System Integration

This task involves the review of current Project Management Information Systems (PMIS) and development of the To-Be system for Program Management.

1.2.4.1 Develop Systems Map

This task involves reviewing current systems and developing the current systems and developing a current system data process flow. In addition to the current systems data flow, meetings will be held with BES staff to develop the To-Be systems data process flow. This will involve utilizing BES e-Builder System (HERON) as well as proposing any additional software solutions to assist in Program Management functions.

Deliverables:

Current Systems Map

To-Be Systems Map

1.2.4.2 Implement Program Management Information System (PMIS)

Based upon the output of the To-Be Systems Map, Consultant will work with BES to design, deploy and maintain an electronic PMIS to allow for the management of information related to each project and the overall Programs. This information includes Program records, reports, designs, and other information received or produced by each Program. The PMIS will allow BES staff to access up-to-date Program and project information using a standard intranet or internet connection. Access by intranet or internet will be determined based on partnering needs during the life cycle of the Program. Consultant will schedule a strategy workshop to develop the design for the PMIS. Consultant will utilize BES' e-Builder (HERON) as the basis for the PMIS but may recommend additional software for Program Management.

Deliverables:

Strategy Workshop, including agenda, materials, and notes

Present proposed PMIS design for BES for approval

Program specific productivity tools accessible from a centralized dashboard

Develop Program specific templates for Heron

1.2.4.3 Manage Documents

Consultant will use BES' e-Builder (HERON) as the document control software platform. Consultant will work closely with the BES staff to confirm document control needs and the extent to which the document control system should be integrated into the work flow and management processes. Examples of documentation to be maintained in e-Builder include documents related to budget, schedule, maps, photos, calendars, team directory, progress reports, newsletters, event and meeting postings, document references, and general incoming, outgoing and internal correspondence, design deliverables, construction documentation, submittals, requests for information, and O&M documents.

Deliverables:

Maintain Document Management Control

1.2.5 – Social Equity

Consultant will work with BES to develop and implement a fully integrated public outreach program which will provide the foundation for a positive public perception of and positive public interaction with BES, the Program, Engineer of Record and CM/GC firms and the certified D/M/W/ESB community.

1.2.5.1 Coordinate Program Public Outreach Activities

All Program outreach activities will be developed in coordination with BES. Consultant will develop a comprehensive outreach plan for all phases of design and construction.

Consultant will confirm that the public outreach program is fully coordinated with the design and construction phases and will provide strategic and consultative input on the outreach plan elements. Consultant will develop and maintain the public outreach database. Consultant will attend the regular design team meetings during Preliminary design and Final Design. Consultant will coordinate the outreach activities with the design consultant teams for the Program.

Deliverables:

Outreach plan, including database

Conduct regular meetings with appropriate staff from the Programs

Meeting agenda and notes

1.2.5.2 Education

Initially, the Program team consisting of BES, the Engineer of Record and the CM/GC contractor in conjunction with Consultant will review the various work elements, materials, goods and services that are anticipated for each Program. From this list, opportunities will be identified that can be provided by the D/M/W/ESB community. Consultant will help educate and facilitate the separation of various work elements, goods and services into discrete packages that can be provided by the community.

Consultant will then develop and coordinate distribution of a variety of collateral materials specific to the Program. Materials are anticipated to include a direct mail newsletter, a brochure, door hangers, aerial photography during construction, and presentation graphics for each project along with a summary listing of the opportunities identified. The newsletters will be produced quarterly, will be specific to each of the Program and will be two colors, four pages.

A brochure will be developed for each project. These brochures will serve as “evergreen” pieces that will provide specific Program information.

Consultant will develop and maintain a web site for each program. The sites will meet the current standards set by BES. BES will host the sites and provide the template for them. During construction, the sites will be updated weekly or more often if necessary. They will offer Program photos, meeting dates, an ongoing timeline, frequently asked questions, and will provide the public with an opportunity to send e-mail inquiries. Inquiries received will be triaged to the appropriate Program team member for a quick response. Consultant will maintain a log of inquiries and corresponding answers. The web sites will include project specific pages and provide necessary links to other web sites.

Other topics on the website will introductory and tutorial segments on public works construction requirements such as insurance, bonding, submittals, certified payroll compliance, schedule updates, pay requests, safety protocols, and bidding procedures.

Deliverables:

Individual project newsletters

Program specific fact sheets - Issue as supplements to individual project newsletters as required

Program web sites

1.2.5.3 Tracking

Consultant will develop tools that integrate with the overall Program reporting modules that will track the outreach, participation and geographical influence of each Program

Deliverables:

Dashboard reports that monitor and report D/M/W/ESB outreach, participation goals, and achievements at periodic intervals

1.2.6 – Partnering

Consultant will facilitate Partnering. The goals of Partnering are to facilitate Project completion within budget and schedule constraints, increase the timeliness of decisions, improve problem solving, and eliminate litigation.

1.2.6.1 Execute Partnering

Consultant will be responsible for the following:

- a. Understand the design criteria and Contract requirements for these programs.
- b. Understand CM/GC contract delivery.
- c. Prepare list of recommended participants for the Initial Partnering Session and two subsequent Partnering Sessions. Initial session will be within 90 days of the Preconstruction Services NTP and the subsequent sessions will be held during GMP development and approximately mid-way through construction phase.
- d. Identify a mutually agreeable date for each Partnering Session and send invites to all recommended participants.
- e. Prepare agenda and partnering tools/handouts for each Partnering Session.
- f. Facilitate discussions during the Partnering Sessions and facilitate joint development of a Partnering Charter to be signed by all participants.
- g. Secure a location for each Partnering Session that is acceptable to the Owner. The location shall be able to accommodate 30 participants.

- h. Make all arrangements for space, facilities, and food services, and notify all participants of the arrangements at least 21 days in advance. Assume 30 participants will attend.
- i. Send invites to all Key Personnel and managers from major subcontractors to participate in the Partnering Sessions.
- j. Provide the Partnering Charter in a format capable of participants posting in their office as a symbol of its commitment to a successful Partnering process.
- k. Conduct partnering effectiveness surveys and evaluations.
- l. Assume three sessions for the Columbia Boulevard and three sessions for the Tryon Creek Programs.
 - i. Columbia Boulevard - Initial session will be within 90 days of the Preconstruction Services NTP and the subsequent sessions will be held during GMP development and approximately mid-way through construction phase.
 - ii. Tryon Creek - Initial session will be within 90 days of the Preconstruction Services NTP and the subsequent sessions will be held during GMP development and approximately mid-way through construction phase.
 - iii. A total of six partnering sessions are planned for both Programs.

Deliverables:

Partnering Participant List and Invites
Provide Partner Facilitator
Arrange for Partnering meeting place
Partnering Charter

1.3– Consultant Project Management

This Task is for Consultant Project Management and Administration efforts. The purpose of this task is to provide the administrative, project team management, quality assurance/quality control (QA/QC), and financial/schedule management activities associated with performing and completing this project.

1.3.1 Develop Brief Project Management Plan

Consultant will set up the project and prepare a brief project management plan (PMP). The PMP will provide for a staffing plan and how Consultant will manage cost, scope, and schedule; establish lines of communication and team member roles; and help to define how the project will be managed so that the budget and schedule goals are met. Components of the PMP consist of the following:

- a. Project Schedule: A project schedule will be developed and maintained to monitor overall progress of the project.
- b. QA/QC Plan: Consultant will prepare a project QA/QC plan, which defines reviews to be conducted for all Consultant's deliverables and the roles and responsibilities of QA/QC team members.
- c. Staffing Plan: Consultant will prepare a level of effort summary that assigns personnel to individual activities and monitors planned versus actual hours to complete activities and milestone completions.
- d. Communications Plan: Consultant will prepare a communications plan that summarizes the key individuals within Consultant, BES and the Engineer of Record and CM/GC teams and contact information as well as a listing of proposed project meetings, and communication strategies and methods.

Deliverable:

Consultant initial Project Management Plan

1.3.2 Invoicing and Scope Management

Invoices will be submitted monthly. A project report will accompany each monthly invoice and will detail task and subtask breakdown of cost and hours worked per staff person and percent spent/complete for each task and subtask. This monthly project status report will be included with each submitted invoice.

Team management, progress meetings and client communication tasks are included in other tasks and Project Management services just include accounting, invoice preparation and contract reporting requirements monthly for the contract duration.

Scope assumes standard invoicing protocols for accountability of labor and expenses and that on the onset of the contract, standardized procedures, format, reporting requirements and invoice allocations will be developed that can be replicated for duration of contract with only minor adjustments.

Consultant and BES management will meet at least bi-annually to update the work plan, resourcing plan and review progress on deliverables as well as establish adjustments via the development of Detailed Subtask Authorization Memos.

Deliverables:

Monthly invoices and status report

Detailed Subtask Work Authorization Memos

Project Management Plan updates

1.4 – Management Reserve for Additional Services

The services listed under Task 1 incorporate best practice and core elements of Program Management. The Columbia Boulevard and Tyron Creek Programs are complex projects that integrate water infrastructure with economic development and may require supplemental services beyond those presented. It is anticipated some required services, assumptions and/or priorities will change over the course of these Programs. 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 has been established at 10% of Task 1 and 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 Task 1 but not clearly defined.

The Management Reserve will be controlled by BES. The BES 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 BES. Upon new activity identification, Consultant will provide a written description of the supplemental services and a cost estimate for BES approval. Consultant will start the activity upon receipt of written BES approval. Consultant will not proceed on any supplemental service until BES has approved the estimated cost and authorized Consultant to proceed. Funding for the supplemental services will be provided by this Management Reserve Task.

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

- a. Additional staff augmentation request from BES.
- b. Scope changes or additions to the aforementioned scope of services
- c. Services related to development of BES's project financing and/or budget.
- d. Services related to provision of BES furnished equipment, materials, and supplies.
- e. Services supporting BES in public relations activities.
- f. Additional partnering sessions.

TASK 2 - ENGINEERING SERVICES

GENERAL

Consultant will provide Engineering Services (ES) as defined below. These ES are intended to assist BES of Portland Bureau of Environmental Services (BES) through assistance in revising the Division 0 and 1 documents for alternative delivery requirements, developing standards for CAD, record drawings, health and safety manuals, automation control revisions, value engineering, and quality control reviews.

Staffing Assumptions:

- Assumes an execution team led by a single point of contact
- Execution team will flex both in terms of resource and also technical skills
- Assumes execution duration of approximately 18 months with additional efforts in outward years for design audits and VE participation
- Assumes review of deliverable list will be conducted every quarter and refined per BES requirements
- Assumes review of staffing plan every quarter and refined per BES requirements

Deliverables:

Agenda and meeting notes for meetings facilitated by Consultant.

2.1 - Standards

2.1.1 Front End Specifications (Div 0 and Div 1)

- a. Review BES's existing documents. Utilizing Consultant's database of contracts, general conditions and Division 0 and Division 1 documents for recently completed Design-Build, Design-Bid-Build and CM/GC contracts as well as standard industry contracts (i.e. AIA, EJCDC and DBIA), Consultant will propose modifications for an updated set of Division 0 and 1 documents that are specifically tailored for BES' procurement requirements for both a Design-Bid-Build delivery as well as CM/GC and Design-Build delivery models for City Attorney and BES staff review.
- b. Specifications shall be customized for treatment facilities, pumps stations, and pipelines. Key Sections of the Division 0 and 1 documents and the companion subsections that will be customized to meet BES's needs include:

DIVISION 0	DOCUMENTS
Section 00 00 00	Procurement and Contracting Requirements
Section 00 10 00	Solicitation
Section 00 20 00	Instructions for Procurement
Section 00 30 00	Available Information
Section 00 40 00	Procurement Forms and Supplements
Section 00 50 00	Contracting Forms and Supplements
Section 00 60 00	Project Forms
Section 00 70 00	Conditions of the Construction Contract
Section 00 90 00	Revisions, Clarifications and Modifications

DIVISION 1	GENERAL REQUIREMENTS
Section 01 10 00	Summary of Work
Section 01 20 00	Price and Payment Procedures
Section 01 30 00	Administrative Requirements
Section 01 40 00	Quality Requirements
Section 01 50 00	Temporary Facilities and Controls
Section 01 60 00	Product Requirements
Section 01 70 00	Execution and Closeout Requirements
Section 01 80 00	Performance Requirements
Section 01 90 00	Life Cycle Activities

- c. Consultant will incorporate BES’s standard Design-Build, Design-Bid-Build and CM/GC Agreements and companion General Conditions. Consultant is not anticipating providing any comments or deliverables with respect to BES’s agreement and general conditions.

Deliverables:

Consolidated sets (3) of Division 0 and Division 1 Section documents with proposed modifications

2.1.2. Plant Health and Safety Manual

- a. Utilizing Consultant’s database of wastewater plant health and safety plans as well as BES’s existing health and safety plans, Consultant will prepare a combined health and safety plan for wastewater treatment plant operation and sewage collection system operations. The parties agree that Consultant shall have no responsibility for the implementation of the health and safety plan prepared by Consultant. BES acknowledges and agrees that it shall be solely responsible for implementation of that health and safety plan and for the training, competency, activities and operations of its staff. BES shall be solely responsible for compliance with all applicable occupational safety and health laws and regulations as they apply to its staff.
- b. Safety Plans shall be customized for treatment facilities, pumps stations, and pipelines. Key Sections and companion subsections of the Safety Plan that will be customized to meet BES’s needs to include:

Section	Topic
Section 1	Introduction
Section 2	Responsibilities of Management, Supervisor and Employee
Section 3	General Safety Rules
Section 4	Safe Working Practices
Section 5	Proper Procedures
Section 6	Accident Reporting
Section 7	Operation and Maintenance of Equipment and Vehicles
Section 8	First Aid

Deliverables:

“Smart” health and safety manual with appendices for each treatment facility or pump station.

2.1.3. Automation Controls Revisions

Consultant will work with the BES team to capture the baseline status of existing system including the following: documentation, procedures, hardware, software, and communications systems. What we refer to in the following sections as the Automation and Controls system is comprised of networks, automation controllers, instruments, and operator interface (includes all components from local touch-screens through distributed computer systems)

While some parts of this effort will document and catalog the low level technical details of the system, the goal is to assess the existing system for effectiveness in meeting the operational requirements (i.e. process goals, alarm response, maintenance effort and expense) of Columbia Boulevard and the overall system at the Enterprise Level.

This will include taking an integrated look at the controls and monitoring for the collection system and for the Tryon Creek.

Items to be considered include: the condition of hardware components, status of software revision/upgrade levels, development of Knowledge Management (“KM”) System guidelines, adequacy of system functions and capacity to meet current and future operational needs, completeness and accuracy of system documentation, and adequacy of staff training. Consultant will also include general recommendations for automation upgrades and improvements.

This task will be completed in four steps to include:

a. Existing System Evaluation

1. Review Existing Control System Documents & Standards
2. Conduct Site Visits – confirm documentation, review installations, and interview staff
3. Review Existing DCS Procedures and Usage – work with site staff to review existing procedures for management and maintenance of the control system. We will be looking at topics that include the following: system support, system backup & recovery, version control & patch management, cyber security policies, training/on-boarding, facility support systems
4. Equipment Survey – review installed equipment and standards used for the existing system programmable logic controllers, control panels, network components, servers, telemetry interfaces, and historical data logging and reporting.
5. Current State Memo – develop a memo summarizing our specific findings from the existing system as well as a review of the availability of support for installed equipment and a projected obsolescence date (no longer supported by the original manufacturer). This memo will capture a snapshot of the system components, projected life, and set the stage for the developing a plan for future standards and system development.

b. Identify Future Requirements

Consultant will identify the future operational, business, treatment, and strategic requirements for the Automation Control system.

1. Future Requirements Development – review of planned five to 10-year collection system and plant/process development
2. Technology Goals and Objectives – collaborative work with stakeholders to develop the goals and objectives addressing topics like the following: level of advanced facility control, automation, remote access, mobile computing, cyber security, historical data logging, alarm management, process area upgrades, etc.
3. Identify Gaps Between Existing System and Future Requirements

c. Develop Implementation Plan

After the completion of Steps A and B, we will contrast the existing state with the future requirements to document the gaps in functionality, capability, and support. We will use these gaps to generate recommendations for improvements.

1. Identify and Prioritize Recommended Improvement Projects
2. Identify Future Goals and Objectives
3. CIP Project Execution Guidelines -- We will develop guidelines shall be developed for Design-Bid-Build, Design-Build, and CM/GC procurement approaches. The guidelines shall document the roles, responsibilities and scope regarding automation for the involved parties.
4. Develop Upgrade Schedule -- initial planning-level schedule for the recommended automation improvement projects
5. Develop Planning Level Cost Opinions
6. Submit and Present Draft Report – the report will include an executive summary as well as sections that capture the previous work identifying the current state of the system, future requirements, gap analysis, and an implementation plan
7. Develop a list of needed standards

d. Develop Control System Standards

This task will focus on developing control system standards to the level of detail required by BES to stay on track for the long-term implementation and upgrade of the Automation and Controls systems. A fill list of what this will include will be developed after collaboration with BES. Typical elements would include standardized hardware and software vendors, drawing standards for system extensions and P&IDs, and processes for documenting and maintaining systems.

Deliverables:

Automation Standards to guide and govern the design and implementation of the instrumentation and control components. (NOTE: BES has a current instrumentation and controls document (circa 2015) that will be used as a baseline document for modification.

2.1.4 As-Built Procedures

- a. Consultant will review current as-built procedures for both linear and non-linear projects and document how as-builts are prepared, contract language regarding content and performance by Contractor, how as-builts are approved, role of Engineer of Record and how updates are integrated and managed currently for all BES projects. Review will culminate in a Technical memorandum summarizing current policies and procedures
- b. Consultant will lead or facilitate meetings with BES to develop goals and objectives for an as-built procedure and process.
- c. Consultant will develop protocols/processes for improvements for as-built procedure.
- d. Consultant will develop a work flow and updating process, both for the Contractor and Engineer (review, check, update), developing procedures for how field redlines maintained and incorporated and define how 3D model updates are to be incorporated.
- e. Consultant will summarize and develop new policy documents for as-built procedures for both linear and non-linear projects and incorporate into the Div 0 and Div 1 Sections as well as provide for an enterprise level guidance document for adoption and implementation by BES.

Deliverables:

As-Built Standards

2.1.5 CADD Standards and Details

Consultant will review current as-built procedures for both linear and non-linear projects and develop CADD standards beyond title blocks and field updates into ADEPT and work with BES to review and develop:

- a. Standard Details
- b. Line types for CTB files
- c. External vs Internal design requirements
- d. Develop 3D modeling guidelines and recommendations for BES “housed” 3D model for use on current and future projects.

Deliverables:

CAD Standards and 3D modeling guidelines

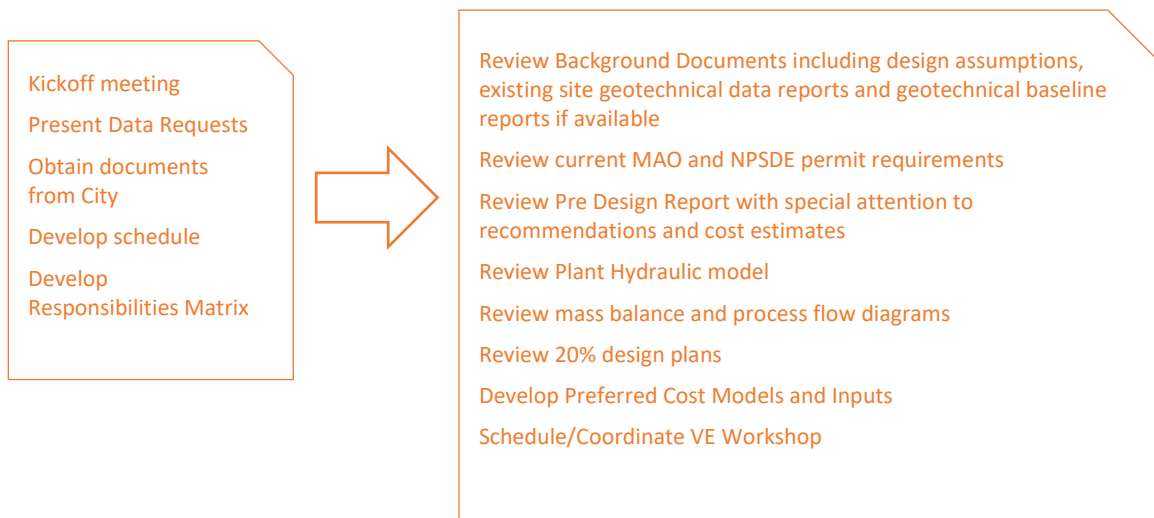
Standard electrical, I&C, piping and mechanical details

2.1.6 Value Engineering

Consultant will assist BES in conducting a value engineering study at approximately 20% design completion for the Columbia Boulevard WWTP Secondary Expansion Program only. This task will be completed through a variety of activities as follows:

- a. Pre-VE Workshop Activities

Consultant will request from BES information/plans for the Secondary Expansion at Columbia Blvd. (approximately 20% design level) that are necessary to commence with the VE workshop and to assemble and distribute all pertinent documents to the Consultant Team. The VE team will utilize this period to become familiar with the project, obtain and review the technical and cost data, coordinate timing for the VE workshop, complete logistical arrangements for the VE workshop, conduct interaction between various VE team members, and establish a comfortable working relationship with BES, the Engineer of Record and the selected CM/GC Contractor. A flowchart overview of this task is shown below:



The schedule of these pre-VE meeting activities will nominally span three weeks. BES will coordinate the appropriate BES attendees for the VE workshop. Consultant will provide a Certified VE Team Coordinator or a SAVE-certified professional.

b. Value Engineering Workshop

Consultant shall conduct a 3-day VE workshop with the Engineer of Record, BES staff and representatives from the selected CM/GC. The VE Workshop will culminate in the oral presentation of the VE team's recommendations. The workshop will consist of five distinct phases. Briefly, these phases are:

Information Phase: The VE team will gain as much information as possible about the project design, background, constraints, de-briefing from BES of any aspects of the project that are not subject to change and projected costs from the Engineer of Record. This phase will also include the Engineer of Record presentation of the 20-25% design documents.

Creative Phase: The VE team will use a group interaction process to identify alternative VE ideas for each process area.

Evaluation/Analytical Phase: The ideas generated during the Creative Phase are screened and evaluated by the VE team. The ideas showing the greatest potential for cost savings and project improvement will then be selected for further study.

Development/Recommendation Phase: The VE team will research the selected ideas and prepare descriptions, sketches and life cycle cost estimates to support the VE recommendations.

Presentation Phase: VE recommendations will be presented to BES, Engineer of Record and CM/GC contractor during an oral presentation at the conclusion of the VE workshop.

Consultant's VE Team will consist of six VE team members from Consultant, one SAVE Certified member, one staff engineer, and an administrative assistant to serve as the workshop scribe. VE Team will be supported by off-site Consultant specialists that will be available for consultation during the VE study.

c. Reporting

Shortly after completion of the workshop, the written VE Report will be prepared by the VE Team in draft for review and comment by BES, Engineer of Record and CM/GC Contractor. The report will include:

- A. Executive Summary
- B. Project Description
- C. Scope and method of VE analysis
- D. Findings and Alternatives
- E. Brief narrative for each proposal documenting construction and O&M cost savings for each alternative developed.
- F. Summary of proposals including estimated savings, description, and disposition
- G. Notes to Engineer of Record and CM/GC

Following submission of the Draft Report, two VE team members will return to BES and conduct a Final Review Presentation highlighting the most viable options for BES's consideration. After this presentation and receipt of review comments on the draft report, MWH will compile the final written report that incorporates comments generated.

Deliverables:

Meeting agendas, materials, and notes

VE Report

2.1.7 Design Reviews QA/QC

- a. Consultant will review current BES design review QA/QC procedures and checklists for both linear and non-linear projects and document how QA/QC procedures are conducted and documented, role of Engineer of Record and how comments are integrated and managed currently for all BES projects. Review will culminate in a Technical memorandum summarizing current policies and procedures
- b. Consultant will lead or facilitate meetings with BES to develop goals and objectives for QA/QC procedures and processes.
- c. Consultant will utilize the existing BES checklists and procedures and update as necessary to result in standardized design review checklists and procedures and work flow policies for interim and final design deliverables for both linear and non-linear projects.

Deliverables:

Design Review Checklists and procedures

Update to BES Design Quality Manual (linear and non-linear projects)

2.1.8 Verification of Design Submittal Content

- a. Consultant will conduct a QA/QC Content Audit with each design milestone submittal from the Engineer of Record for both the Columbia Boulevard and Tryon Creek Programs. Audit will consist of:
 - Document processes and reporting methods for compliance against checklist and to ensure completeness during QA/AC.
 - Review submittal contents during each design milestone against the design checklists developed in Task 2.7
 - Supplement BES staff to help facilitate turnaround of Engineer of Records 30%, 60%, and 90% documents and organize/compile review comments.
 - Consultant is not scoped to provide discipline specific reviewers nor to conduct any design quality control reviews of the respective Engineers of Record.

Deliverables:

QA/QC Content Audit Reports

2.2 – Management Reserve for Additional Services

The services listed under Task 2 incorporate best practice and core elements of Program Management. The majority of the services are to work in concert with BES 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 has been established at 10% of the sum of Task 2 and 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 Task 2 but not clearly defined.

The Management Reserve will be controlled by BES. The BES 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 BES. Upon new activity identification, Consultant will provide a written description of the supplemental services and a cost estimate for BES approval. Consultant will start the activity upon receipt of written BES approval. Consultant will not proceed on any supplemental service until BES 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 BES and agreement on compensation to Consultant.

1. Additional staff augmentation request from BES.
2. Scope changes or additions to the aforementioned scope of services
3. Services related to development and/or modification of existing BES documentation
4. Additional VE session
5. Additional partnering sessions
6. Additional staff and management training

TASK 3 - CONSTRUCTION MANAGEMENT SERVICES

GENERAL

BES intends to deliver the Columbia Boulevard Secondary Expansion Program utilizing a Construction Manager/General Contractor (CM/GC) delivery method. This program is the largest the Bureau will undertake in the next 5 years under this relatively new delivery method for the Bureau. As a result, this scope of work was developed with the intent of ensuring resources and CM/GC-specific expertise will be available to ensure the success of the program. Moreover, Consultant is intended to provide Construction Management Services (CMS) that are inclusive around providing mentoring and training opportunities to BES staff to both assist in this Program delivery model and build the skills with City staff. Specifically, these CMS are intended to assist BES of Portland Bureau of Environmental Services (BES) to administer the CM/GC contract during both pre-construction and construction phases, monitor the performance of the construction Contractor, verify that the work performed by the Contractor is in substantial compliance with the contract documents, and assist BES in responding to events that occur relating to the construction activities. These CMS are based upon the understanding that BES will contract directly with a CM/GC firm and will be actively involved in the construction process to make decisions, provide approvals, and perform other actions necessary for the completion of the work performed by the construction contractors. These CMS are also based upon BES executing a CM/GC contract that is consistent with the Consultant's Agreement and with these CMS, and which provides the requisite authority for Consultant to fulfill its CMS responsibilities.

Consultant's CMS are based upon the schedule or duration of construction anticipated at the time that these services are agreed. Deviations from the anticipated schedule or duration of construction projects will materially affect the scope of these CMS and Consultant's compensation for the CMS, and will require an adjustment to Consultant's compensation.

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

The scope of CMS is to be provided in three tasks, Programmatic, Pre-Construction and Construction Phases. The Programmatic phase will be to develop overall program-level guidelines, policies and documents that will be employed by BES in the execution of the Program. The Pre-Construction phase will be to assist in developing the Guaranteed Maximum Price (GMP). The Construction Phase will be for the actual CMS to be provided during the construction of the Columbia Boulevard Wastewater Treatment Secondary Treatment Expansion Program.

Staffing Assumptions:

- Assumes an initial CMS startup team of approximately 0.5 FTE staff to work in concert with the Program Management and Controls initial startup team to develop Program plans
- Assumes a 6-month duration for Program startup and Program plan development
- Assumes CMS startup team will work on both Programs simultaneously

3.1 PROGRAMMATIC CONSTRUCTION MANAGEMENT SERVICES

3.1.1 Construction Management Manuals

Consultant will work with BES to review existing BES Construction Management Manual and BES Construction Quality Management and Inspection Manual, existing Construction QA/QC procedures, Heron Processes, documentation and management of construction inspections and associated records and develop recommendations for updates. Consultant will work collaboratively with BES staff to first develop a plan specific to CM/GC delivery and then creating allied documents for Design Bid Build and Design Build delivery. Consultant will develop or refine standards for; construction contracting and contract management, risk management, contingency management, estimate review, constructability review, value engineering, change management and claims, CM Specific reporting, inspection procedures, documentation and reporting, QA/QC management and reporting, Best Practices, team building and partnering, health safety & environment, and completion and closeout for completeness and consistency in evaluating conformance of the Contractor's Work with Contract Documents.

Updates to the CM manual will result in an updated Construction Management Manual that encompasses both Construction Management and the Construction Quality Management and Inspection Manual into one overall comprehensive Plan.

Assumptions:

For each delivery approach:

- Conduct three (3) CM Manual and Quality Management and Inspection Manual review workshops with BES staff within first six months
- Conduct draft CM Plan update review workshops
- Conduct final CM Plan update review workshops

Deliverables:

Existing documentation review notes with recommendations

Draft Construction Management Manuals for CM/GC Delivery model, and allied versions for the DBB and DB delivery models including Construction Quality and Inspection

Final Construction Management Manuals for CM/GC Delivery model and allied versions for the DBB and DB delivery models

3.1.2 Training

Consultant will provide training sessions to educate and inform BES staff on best practices in the industry. These sessions are anticipated to include the procedures, processes and differences between traditional design-bid-build and CM/GC project delivery models as it relates to construction management. Topics to encompass culture and behavioral differences and tendencies, communication styles and methodology, documentation (written, video and verbal), reporting and record keeping of contractor work force, activities, schedule monitoring, risk recognition and avoidance, quality and performance.

Assumptions:

- Conduct six training workshops with BES staff within twelve months
- Workshops estimated to be 3 hours in duration

Deliverables:

- Training Materials and Examples
- Attendance records

3.2 CMS DURING THE PRE-CONSTRUCTION PHASE

Consultant will provide CMS support during the pre-construction phase for the Columbia Boulevard Program only. Support will be provided to contracting strategies and execution, constructability reviews, schedule reviews, cost estimate and GMP development reviews and subcontracting strategies and execution.

Staffing Assumptions:

- Assumes an initial CMS startup team of approximately 0.5 FTE staff
- Assumes a 2-year duration for Pre-Construction Phase

3.2.1 CM/GC Contracting

Consultant will assist BES and the CM/GC contractor in the collaborative development of design phase and Construction Phase Agreements between BES and the CM/GC; review 60% design and GMP Proposal Request document deliverables for contract general requirements and general conditions; and provide recommendations and suggestions to BES for improvements or modifications to the documents to improve agreement fairness, completeness, transparency, and clarity in development of pre-construction services, early packages and/or CM/GC contract(s) for construction for CBWTP.

Assumptions:

- Participate in meetings relating to each contract issued for the CM/GC
- Review and provide comment on each draft contract

Deliverables:

- Review notes with recommendations

3.2.2 Constructability Review

Constructability review will be performed primarily by the CM/GC contractor. Consultant will participate in constructability reviews to provide suggested input and to assist with facilitating communication between the Engineer of Record and CM/GC.

Assumptions:

- Participate in constructability review sessions with CM/GC prior to GMP acceptance by BES

Deliverables:

Comments and input on CM/GC Contractor suggestions for constructability improvement to the design

3.2.3 Cost Estimating

Cost estimate will be developed by the CM/GC Contractor. Consultant will collaborate with Program Engineer of Record estimators, BES, and CM/GC estimators to establish the format and methodology to be used for documenting and establishing the GMP. The format and methodology may include

identification of line items, units of measurement, systems, sub-systems, crew composition, equipment costs, labor and equipment productivity rates, escalation, and sources of price and cost data.

Consultant will collaborate with the Program Engineer of Record estimators, BES, and CM/GC estimators to create estimates to the ACEI classifications appropriate to the level of design completion for scopes of work identified for self-performance by the CM/GC, and subcontracts to be awarded using a process other than competitive bidding, and for changes to the design increasing contract GMP.

Consultant will review the CM/GC's estimates for reasonableness against Consultant's internal estimating database information and other published data sources, review for accuracy in quantities, review overhead, indirect costs and other markups for consistency with local market conditions, verify CM/GC Contractor's understating of detail not specifically shown on the drawings in earlier design stages, and provide detailed comparison estimates of select elements of the project.

Assumptions:

- Collaborate on development of estimates such that estimates from different parties can be reasonably compared
- Review estimates prepared by the CM/GC for unit rate, unit productivity and unit costs for alignment or variance against published databases
- Develop detailed estimates for up to two (2) select areas of the Program as comparison to the CM/GC Contractor's estimates

Deliverables:

Definition of class of cost estimates required appropriate to the level of design completion.

Notes and comments on GMGC estimate alignment or variances from published databases

Detailed estimates for up to two (2) select areas of the Program

Estimate review and comparison notes and recommendations

3.2.4 CM/GC Subcontracting plan review

Consultant will maintain an ongoing dialog with the CM/GC Contractor to review and understand the CM/GC contractor's approach to subcontracting and work packaging, including compliance with the approved Community Benefits Agreement. Consultant will provide evaluation and comment to BES as to the advantages and disadvantages as well as potential impacts to BES relating to the contractor's plan

Assumptions:

- CM/GC Contractor will fully cooperate and provide reasoning and decision criteria associated with their work packaging/Subcontracting plan

Deliverables:

Notes and comments on GMGC work packaging/Subcontracting plan including comment on possible advantages or disadvantages to and possible impact to BES.

3.2.5 Project Execution Schedule

Project execution schedules will be developed by the CM/GC Contractor. Consultant will collaborate with Program Engineer of Record, BES, and CM/GC to establish the software, format and methodology to be used for documenting and establishing the project execution schedule. The format and methodology may

include identification of work break down structure, activity definition and sequencing, activity resource assignment, durations, precedence diagramming, critical path analysis, float management, change management and sources of delivery and completion data.

Consultant will collaborate with the Program Engineer of Record, BES, and CM/GC to Program baseline schedule and cadence for updates appropriate to the level of design and construction completion.

Assumptions:

- Collaborate on development of project execution schedule such that schedule estimates from different parties can be reasonably compared
- Review schedules prepared by the CM/GC

Deliverables:

Notes and comments on GMGC project execution schedule development and tracking

3.2.6 Maintenance of Plant Operations (MOPO)

Maintenance of Plant Operation Plans will be developed by the CM/GC Contractor. Consultant will collaborate with Program Engineer of Record, BES, and CM/GC to develop a comprehensive pre-task plan that focuses on safety, quality, preparedness, coordination with other plant activities, and execution for any single activity that interfaces with the operations of an existing facility. The MOPO Plan will include a MOPO log detailing all MOPO activities for the duration of the project such as any planned shutdowns, treatment capacity restrictions or changes in operations, chemical deliveries, solids disposal, other planned construction activities, operational changes, staffing changes, and all known operations protocols.

Consultant will collaborate with the Program Engineer of Record, BES, and CM/GC to develop MOPO plan and cadence for updates.

Assumptions:

- Collaborate on development of MOPO
- Review MOPO Plan and updates prepared by the CM/GC

Deliverables:

Notes and comments on GMGC MOPO plan development and tracking

3.3 SERVICES DURING CONSTRUCTION PHASE

Consultant will provide CMS support during the construction phase for the Columbia Boulevard Program only. Support will be provided to assist in coordinating the site activities, administering the contract for construction, monitoring the CM/GC's performance, responding to design and technical submittals, and closing out the contract for construction.

Staffing Assumptions:

- Assumes construction activities to initiate in Q2/3 of 2021 and extend through Q4 of 2024
- Assumes Construction Manager, Resident Engineer, Lead Inspector and Construction Administrative staff at full time
- Specialized Inspection Staff (Structural, Mechanical, Electrical/Controls) will flex in and out of the staffing matrix as construction progress demands change.

- Assumes review of Program progress and construction quality will be conducted quarterly and refined per BES requirements
- Assumes review of staffing plan quarterly and refined per BES requirements

Deliverables:

Agenda and meeting notes for meetings facilitated by Consultant.

3.3.1 Document Management System and Procedures

Consultant will utilize the eBuilder “Heron” document management system and work within the boundaries of the City’s records management requirements. Consultant will, in coordination with BES, maintain any BES required hard copy records, suitably organized, of all relevant documentation.

Consultant will utilize features of the Heron system to log and track all relevant correspondence and documents. Consultant will assist BES in monitoring all outstanding decisions, approvals or responses required from BES.

3.3.2 Site Coordination

3.3.2.1 Pre-Construction Conference

Consultant will coordinate and attend one pre-construction conference with the CM/GC to review the project communication, coordination and other procedures and discuss the CM/GC’s general work plan and requirements for the project. Consultant will take minutes or otherwise record the results of this conference.

3.3.2.2 Mobilize On-Site Team

Consultant will mobilize a team on site for the duration of the construction to provide site coordination, contract administration and monitoring the performance of the CM/GC. The on-site team will mobilize in field offices to be provided by the CM/GC or BES in accordance with the terms of the contract for construction.

3.3.2.3 Communications

Consultant will implement and maintain regular communications with the CM/GC during the construction. Consultant will receive and log all communications from the CM/GC and will coordinate the communications between BES and CM/GC. Consultant will not communicate directly with the CM/GC’s subcontractors and vendors.

3.3.2.4 Project Site Meetings

Consultant will conduct periodic meetings with the CM/GC and will prepare the minutes of these meetings.

3.3.2.5 Field Instructions and Orders

Consultant will issue field instructions, orders or similar documents during construction as provided in the contract for construction.

3.3.2.6 Photo Documentation

Consultant will provide video/photo documentation of the progression of construction. Documentation shall consist of a combination of webcam, still photos and aerial drone videos as follows:

Webcam – Three permanent installations located at strategic locations on the plant site. Webcam will be established with a direct link to BES hosted website with controlled access. Duration is assumed to be four years.

Construction Photos – Monthly, independent professional photographer will attend to construction site and document progress through still photographs in digital format that will be provided to BES and Project Team and posted/saved/shared on the SharePoint site. Duration is assumed to be four years.

UAV – Monthly project flyover using an unmanned aerial vehicle (UAV, also known as drone) for purposes of documenting construction progress and video of construction activities. Video files will be in digital format that will be provided to BES and Project Team and posted/saved/shared on the SharePoint site. Duration is assumed to be four years.

3.3.3 Construction Contract Administration

3.3.3.1 Permits, Bonds and Insurance

Consultant will verify that the required permits, bonds and insurance have been obtained and submitted by the CM/GC.

3.3.3.2 Payments to CM/GC

- a. Consultant will receive and review the CM/GC's requests for payment. Consultant will determine whether the amount requested reflects the progress of the CM/GC's work and is in accordance with the contract for construction. Consultant will provide recommendations to BES as to the acceptability of the requests. Consultant will advise BES as to the status of the total amounts requested, paid, and remaining to be paid under the terms of the contract for construction.
- b. Recommendations by Consultant to BES for payment will be based upon Consultant's knowledge, information and belief from its observations of the work on site and selected sampling that the work has progressed to the point indicated. Such recommendations do not represent that continuous or detailed examinations have been made by Consultant to ascertain that the CM/GC has completed the work in exact accordance with the contract for construction; that Consultant has made an examination to ascertain how or for what purpose the CM/GC has used the moneys paid; that title to any of the work, materials or equipment has passed to BES free and clear of liens, claims, security interests, or encumbrances.

3.3.3.3 Correspondence and Communications

Consultant will coordinate all written communications among the CM/GC, Consultant and BES during the construction. Consultant will prepare written communications to the CM/GC and provide recommendations to BES for written communications between BES and CM/GC.

3.3.4 Change Management

3.3.4.1 Minor Variations in the Work

Consultant may authorize minor variations in the work which do not involve an adjustment in the CM/GC's contract price nor time for construction and are not inconsistent with the intent of the contract documents.

3.3.4.2 Coordinate Issuance of Changes

- a. Consultant will assist BES with the issuance of changes to the contract for construction. Design and engineering services to prepare drawings, specifications and other information for the change shall

be considered as Additional Services, and shall entitle Consultant to additional compensation for the design services.

- b. Consultant will receive and review the CM/GC's response to the request for change and will obtain such further information as is necessary to evaluate the basis for the CM/GC's proposal. Consultant will assist BES with negotiations of the proposal and, upon approval by BES, prepare final change order documents for execution by BES and CM/GC.

3.3.4.3 Review of CM/GC's Requested Changes

Consultant will review all CM/GC-requested changes to the contract for construction. Consultant will make recommendations to BES regarding the acceptability of the CM/GC's request and, upon approval of BES, assist BES in negotiations of the requested change. Upon agreement and approval, Consultant will prepare final change order documents.

Design and engineering services to review CM/GC initiated changes and to prepare drawings and specifications for issuance to the CM/GC are assumed to be provided by the Engineer of Record. Should Consultant be requested to perform, these services shall be considered as Additional Services, entitling Consultant to additional compensation.

3.3.4.4 Change Order Reports

Consultant will provide periodic reports to BES about the status of Change Orders. The report shall include issued Change Orders, pending change orders, and change order amounts.

3.3.5 Interpretations of Contract Documents

Consultant will coordinate with the Engineer of Record to provide written responses to the CM/GC's request for interpretation or clarification of the contract documents.

3.3.6 As Built Drawings and Record Documents

Consultant will coordinate the CM/GC's submittal of as-built drawings, specifications and other as-built or record documents and shall transmit these to BES. Consultant will meet with the CM/GC as necessary to discuss the preparation and submittal of as-built or record drawings.

3.3.7 Claims and Disputes

Consultant will receive, log, and notify BES about all letters and notices from the CM/GC concerning claims or disputes between the CM/GC and BES pertaining to the acceptability of the work or the interpretation of the requirements of the contract for construction. Consultant will review all such letters and notices and will discuss them with the CM/GC as necessary to understand each such claim or dispute. Consultant will advise BES regarding the CM/GC's compliance with the contract requirements for such claims and disputes. Consultant will assist BES in discussions with the CM/GC to resolve claims and disputes.

As part of this subtask, Consultant services will include executive level support as technical advisor to provide review and recommendations regarding dispute management and resolution, quality, cost and schedule analysis, evaluation and interpretation. This support will be proactive and occur at strategic intervals and be in the form of active communications and recommendations or perceptions of probable outcomes.

Consultant will not issue decisions on CM/GC claims or disputes. Consultant will not, except as part of Additional Services, undertake comprehensive and detailed investigation or analysis of CM/GC's claims and disputes, nor participate in judicial or alternative dispute resolution procedures for the claims or disputes.

3.3.8 Project Controls

CM/GC's Schedule Submittal: Consultant will review the CM/GC's construction schedule and verify that it is consistent with the requirements of the contract for construction. Consultant will advise the CM/GC of any areas where the schedule is not in compliance with the contract for construction. Consultant will provide comments to BES to assist BES in approving, accepting or taking other action on the CM/GC's schedule, in accordance with the contract for construction.

3.3.9 CM/GC's Schedule Updates

Consultant will review the CM/GC's periodic schedule updates or other schedule submissions. Consultant will advise the CM/GC if the updates or other submissions are not in accordance with the contract for construction. Relating to the overall project schedule and CM/GC's schedule, Consultant will provide the following:

- Analyze of CM/GC and Engineer of Record schedules for logic, ties, and problem areas.
- Maintain a consolidated schedule of design and construction activities based on schedules provided by the Engineer of Record and CM/GC.
- Apply the principles of Work Breakdown Structure and Project/Cost Coding to schedule to ensure that the data is consistently entered and utilized in Heron.
- Meet with Engineer of Record and CM/GC monthly to update the overall schedule and identify "crashes", contingencies erosion, and upcoming critical path items.
- Monitor logic ties in the schedule with finish and start dates so that a critical path is always clearly identified.
- Review CM/GC's status physical/actual progress updates monthly and upload to Heron.
- Review CM/GC proposed schedules for each change proposal request, and provide analysis of impact to overall schedule and critical path.
- Monitor float consumption.
- Assumes that schedule updates will be provided in standardized and accepted format and software versions. No pdf versions.

3.3.10 Effect of Change Orders

Consultant will review information submitted by the CM/GC regarding the effect of proposed or issued Change Orders upon the construction schedule, duration and completion date. Consultant will advise BES as to the potential impact of proposed or issued Change Orders. Consultant will assist BES in discussions with the CM/GC concerning the potential impact of proposed or issued Change Orders.

3.3.11 Periodic Reports

Consultant will provide periodic reports to BES as to the status of the construction schedule, date of completion, contract price, retainage, pending changes to the contract price or completion date and other issues material to the cost and time for completion of the construction.

3.3.12 Field Inspections

3.3.12.1 Field Office

Consultant will staff a field office on the project site for purposes of providing inspectors to observe the work of the CM/GC.

3.3.12.2 Independent Testing, Inspection and Survey Services

BES will employ, or cause the CM/GC to employ, independent firms, (or employ testing resources within BES of Portland) for the material testing, specialty inspection, survey, or other services related to verifying the quality of the CM/GC's work. Consultant will assist in coordinating BES provided testing, inspection and survey services. Consultant will review the reports and other information prepared by the independent firms (or internal City of Portland resources) that are provided to BES. Consultant will assist in coordinating their schedules and the transmittal of their reports, findings or other information to the CM/GC and/or BES. Consultant will not be responsible for the accuracy or completeness of the work and reports of the independent (or city of Portland) testing, inspection and survey firms.

These services will be coordinated by CM/GC and will be addressed in MOPO Plan and existing plant operations staff.

3.3.12.3 Review of Work

Consultant will conduct daily on-site observations of the CM/GC's work for the purposes of determining if the work generally conforms to the contract for construction and that the integrity of the design concept as reflected in the contract for construction has been implemented and preserved by the CM/GC. Consultant will supervise a team of field inspection staff, who will prepare written reports, diaries or other records of their observations.

Consultant's inspection staff will arrange for monthly photographs of the work in progress by the CM/GC, which will be made available to BES.

Consultant shall, with the assistance of BES, obtain written plans from the CM/GC for quality control of its work, and will monitor the CM/GC's compliance with its plan.

3.3.12.4 Deficient and Non-conforming Work

Should Consultant discover or believe that any work by the CM/GC is not in accordance with the contract for construction, or is otherwise defective, or not conforming to requirements of the contract or applicable rules and regulations, Consultant will bring this to the attention of the CM/GC and BES. Consultant will thereupon monitor the CM/GC's corrective actions and shall advise BES as to the acceptability of the corrective actions.

3.3.12.5 Engineer of Record Visits

Consultant will coordinate monthly visits to the site by the Engineer of Record members to review progress and quality of the work. The visits shall observe the general quality of the work at the time of the visit and review any specific items of work that are brought to the attention of the Engineer of Record members by the CM/GC or BES.

These services will be coordinated by CM/GC and will be addressed in MOPO Plan and existing plant operations staff.

3.3.12.6 Factory and Off-Site Tests and Inspections

Consultant will coordinate tests and inspections of work, materials and equipment for the project at off-site facilities and suppliers, as specified in the contract for construction.

These services will be coordinated by CM/GC and will be addressed in MOPO Plan and existing plant operations staff.

3.3.12.7 Performance and Witness Testing

Consultant will attend and witness field and factory performance tests as specified in the contract for construction and Consultant contract scope.

These services will be coordinated by CM/GC and will be addressed in MOPO Plan and existing plant operations staff.

3.3.12.8 Regulatory and Third Party Testing and Inspections

Consultant will monitor the CM/GC's coordination of inspection and testing by regulatory and third party agencies that have jurisdiction over the project.

These services will be coordinated by CM/GC and will be addressed in MOPO Plan and existing plant operations staff.

3.3.12.9 Subsurface and Physical Conditions

Whenever the CM/GC notifies Consultant or BES of subsurface or physical conditions at the site which the contract for construction provides should be so notified, Consultant will advise BES and inspect the conditions at the site. Consultant will advise BES as to the appropriate action(s), and will assist BES in responding to the CM/GC.

Engineering and technical services that are required to investigate the subsurface or physical conditions shall be considered an Additional Service.

3.3.12.10 Substantial and Final Completion

Consultant will assist BES with inspections at substantial and final completion, in accordance with the contract for construction. Consultant will prepare punch lists of items requiring completion or correction. Consultant will make recommendations to BES regarding acceptance of the work based upon the results of the final inspection.

3.3.12.11 Specialty Inspections

Consultant and BES will coordinate with the Engineer of Record for any required specialty inspections or testing services that BES requires from the Engineer of Record for the work.

3.3.12.12 Shop Drawings, Samples and Submittals

Consultant will obtain from the CM/GC a proposed shop drawing and submittal schedule, which shall identify all shop drawings, samples and submittals required by the contract for construction, along with the anticipated dates for submission.

Consultant will coordinate with the Engineer of Record for the reviews of the CM/GC's shop drawings, samples, and other submittals. Consultant will log and track all shop drawings, samples and submittals.

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

3.3.12.13 Scope of Review

Consultant's scope shall be based upon the scope of work in the contract for construction and shall include for a maximum of two submissions by the CM/GC for each shop drawing, sample or submission. Should

there be additional reviews required of Consultant and design team, additional compensation may be required.

3.3.12.14 CM/GC Clarifications and Requests for Information (RFI)

- a. Requests for Information: Consultant will review the CM/GC's requests for information or clarification of the contract for construction. Consultant will coordinate such review with the Engineer of Record and with BES as appropriate. Consultant will coordinate and issue responses to the requests.
- b. Consultant will log and track the CM/GC's requests.

3.3.12.15 Proposed Substitutions

Consultant will assist BES in reviewing and responding to the CM/GC's requests for substitution of materials and equipment. Consultant will review such requests and will advise BES as to the acceptability of such substitutions.

3.3.12.16 Safety

Consultant will manage the health, safety and environmental activities of its staff and the staff of its subcontractors to achieve compliance with applicable health and safety laws and regulations.

Consultant will adjust its health, safety and environmental program to comply and accommodate the responsibilities for health, safety and environmental compliance specified in the contract for construction.

Consultant is not responsible for health or safety precautions of staff from BES, the Engineer of Record, CM/GC or any other parties. Consultant is not responsible for the CM/GC's compliance with the health and safety requirements in the contract for construction, or with federal, state, and local occupational safety and health laws and regulations.

Consultant will coordinate with responsible parties to correct conditions that do not meet applicable federal, state and local occupational safety and health laws and regulations, when such conditions expose Consultant staff, or staff of Consultant subcontractors, to unsafe conditions.

Consultant will notify affected personnel of any site conditions posing an imminent danger to them which Consultant observes.

3.3.13 Program Closeout

3.3.13.1 Substantial Completion

CM/GC will be responsible for achieving Substantial Completion as required by the construction agreement. CM/GC will be responsible for requesting substantial completion approval from BES. Consultant will assist BES in evaluating the CM/GC readiness and completeness in achieving substantial completion, issuing documents for substantial completion and acceptance of the work. Consultant will advise BES on payment, and partial release of retention.

3.3.13.2 Final Completion

CM/GC will be responsible for achieving Final Completion as required by the construction agreement. CM/GC will be responsible for requesting final completion approval from BES. Consultant will assist BES in evaluating the CM/GC readiness and completeness in achieving final completion, issuing documents for final completion and acceptance of the work. Consultant will advise BES on final payment, release of retention, and release of insurance and bonds.

3.3.13.3 Occupancy and Start-Up Permits

Consultant will assist BES with securing occupancy and start-up permits. Should the contract for construction require the CM/GC to secure such permits, Consultant will monitor the CM/GC's efforts and will advise BES of the CM/GC's progress. Should BES be required to secure such permits, Consultant will assist BES by coordinating final inspections, submitting documents to the governmental agencies and coordinating inspections by the agencies.

3.3.13.4 Vendor Operation and Maintenance Manuals, Training

Consultant will coordinate with the CM/GC for the submission of required manuals provided by equipment suppliers for operation and maintenance and for training of BES's staff by the CM/GC. Engineer of Record will maintain responsibility for review of manuals and required training as required by the construction agreement terms and conditions. Consultant will assist BES in coordinating the completion of these manuals and training sessions.

3.3.14.5 Warranties, Guarantees, Lien Releases

Consultant will coordinate with the CM/GC for the submission of required warranties, guarantees, lien releases and other similar documents as required by the contract for construction. Consultant will coordinate with the Engineer of Record to verify and advise BES as to the acceptability and compliance of these documents with the contract for construction.

3.3.14.6 Close-out File and Records

Consultant will provide to BES an organized set of project documents and records.

3.3.15 Post Construction

3.3.15.1 Operations and Maintenance Manual

Consultant will coordinate with the Engineer of Record on development of an Operations and Maintenance (O&M) manual describing the operation of the Project facilities and systems.

3.3.15.2 Operation and Maintenance Training

Consultant will coordinate with the Engineer of Record on providing supplemental instruction to BES's staff in the operation, maintenance and testing of the equipment provided under this Project.

3.3.15.3 Start-Up Support

Consultant will coordinate with the Engineer of Record on preparation of a Plan of Operation to identify specific actions and related completion dates for startup and operation of the new facilities. Consultant will coordinate with and support the CM/GC BES, the Engineer of Record with field activities and communication between the parties during the startup phase

3.3.15.4 Warranty Period Services

1. Consultant will provide the following warranty performance review services during the one-year warranty period to assist BES in coordinating corrections of deficient equipment or construction:
2. Participate in an end-of-warranty period inspection one month prior to completion of the warranty period and provide a letter identifying any deficiencies found and recommended actions.
3. Make periodic visits to the site during the warranty period to monitor contract deficiencies in workmanship, materials or equipment and prepare correspondence informing the CM/GC of such deficiencies.
4. Provide periodic onsite observation during correction of the deficiencies.

3.4 – Management Reserve for Additional Services

The services listed in task 3 incorporate best practice and core elements of Construction Management. The Columbia Boulevard Program is a complex project that integrate demolition, new construction and maintenance of plant operations and may require supplemental services beyond those presented. It is anticipated some required services, assumptions and/or priorities will change over the course of this Program. As such, these supplemental services will be funded through a Management Reserve that is established at the onset of this contract. The Management Reserve will be controlled by BES. The 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.

The Management Reserve account has been established at 10% of task 3 and 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 Task 3 but not clearly defined.

Consultant will only perform supplemental services as authorized in writing by BES. Upon new activity identification, Consultant will provide a written description of the supplemental services and a cost estimate for BES approval. Consultant will start the activity upon receipt of written BES approval. Consultant will not proceed on any supplemental service until BES has approved the estimated cost and authorized Consultant to proceed. Funding for the supplemental services under Task 3 will be provided through this Management Reserve Task.

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

- a. Additional staff augmentation request from BES.
- b. Scope changes or additions to the aforementioned scope of services
- c. Services related to completing detailed cost estimating in the event of unresolved progress on GMP development between BES, Engineer of Record and CM/GC.
- d. Services related to disputes over pre-qualification, bid protests, bid rejection and re-bidding of the construction contracts and subcontracts.
- e. Services related to provision of BES furnished equipment, materials, and supplies.
- f. Services related procurement or management of third party contractors other than testing, inspection and survey firms.
- g. Performance of materials testing, specialty testing and surveying services.
- h. Services necessary due to the default of the CM/GC.
- i. Services related to damages caused by fire, flood, earthquake or other acts of nature.
- j. Services related to BES's operation and use of the completed project other than as specifically provided in the above scope of work.
- k. Services related to warranty claims, enforcement and inspection.
- l. Services for the investigation and analysis of contractor claims; preparation of reports on contractor claims; provision of professional claims analysis services; participation in litigation or alternative dispute resolution of claims.
- m. Preparation for and serving as a witness in connection with any public or private hearing or other forum related to the project.
- n. Services for review and/or preparation of BES or CM/GC proposed changes to the project.
- o. Services to support, prepare, document, bring, defend, or assist in litigation undertaken or defended by BES.

TASK 4 – OPTIONAL TASKS

During scoping discussion, several tasks were identified as potential services to be provided by Consultant depending upon BES's need for additional staff augmentation, integration and training. As a result, the following two tasks have been identified as Optional Tasks to be included within the overall contract not-to-exceed amount. Written approval of the City's Contract Manager and BES Program Managers is required prior to initiation of the following optional tasks.

4.1 PMIS Integration Assistance

Consultant will provide Subject Matter Expertise for integration assistance with BES's e-Builder (HERON) System. Consultant will assist BES with designing and implementing a PMIS to deliver a fit for purpose system. This design will incorporate current needs as well as incorporate future room for growth. This support will include workflow and business process development in the tool, report template development as well as a training component.

Deliverables:

Current and To-Be Systems Maps
Software Workflow and Business Process Development
Report Template Development

Assumptions:

A total of 2,038 hours has been estimated for this effort.

4.2 Program Controls Training Support

Consultant will assist BES with developing a Train the Trainer modules for project controls processes as well as the PMIS. Consultant will assist with training current BES staff on the developed training plans. In addition to Training Support, Consultant will provide Subject Matter Expertise for the execution of Program Management and Controls on future CIP Programs and Projects. This will include staff that are experts in Cost, Schedule, Scope and Risk Management. Assistance will be provided to develop baseline plans, monitor and control baseline plans, performance reporting and change management control of the baseline plans.

Deliverables:

Create Training Modules
Execute Pilot Trainings
Execute Train the Trainer sessions
Program/Project Controls Assistance

Assumptions:

A total of 1,004 hours has been estimated for this effort.

****End of Document****