188247

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

CONTRACT NUMBER _____

TITLE OF WORK PROJECT
CBWTP Outfall 3 Improvements

This contract is between the City of Portland ("City," or "Bureau") and CH2M HILL Engineers, Inc., hereafter called Consultant. The City's Project Manager for this contract is Brenda Sherwood, P.E.

Effective Date and Duration
This contract shall become effective on January 1, 2017. This contract shall expire, unless otherwise terminated or extended, on January 1, 2022.

Consideration
(a) City agrees to pay Consultant a sum not to exceed $674,612 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.

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CONSULTANT DATA AND CERTIFICATION

Name (print full legal name): CH2M HILL Engineers, Inc.

Address: 2020 SW Fourth Ave., Suite 300, Portland, OR 97204

Employer Identification Number (EIN): 32-0100027
[INDEPENDENT CONSULTANTS: DO NOT PROVIDE SOCIAL SECURITY NUMBER (SSN) – LEAVE BLANK IF NO EIN]

City of Portland Business Tax Registration Number: 308278

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.

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TERMS AND CONDITIONS

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

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

3. Order of Precedence
This contract consists of these Terms and Conditions, the Statement of Work and Payment Schedule, and any exhibits that are attached. Any apparent or alleged conflict between these items will be resolved by using the following order of precedence: a) these Terms and Conditions; b) Statement of Work and Payment Schedule; and c) any exhibits attached to the contract.

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

5. Remedies and Payment on Early Termination

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

(b) If the City terminates pursuant to 4(b) above, the City is entitled all remedies available at law or equity. In addition, Consultant shall pay the City all damages, costs, and sums incurred by the City as a result of the breach.

(c) If the Consultant justifiably terminates the contract pursuant to subsection 4(b), the Consultant's only remedy is payment for work prior to the termination. No other costs or loss of anticipated profits shall be paid.

(d) If the City's termination under Section 4(b) was wrongful, the termination shall be automatically converted to one for convenience and the Consultant shall be paid as if the Contract was terminated under Section 4(a).

(e) In the event of early termination the Consultant's work product before the date of termination becomes property of the City.

6. Assignment

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

7. Compliance with Applicable Law

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

8. Indemnification for Property Damage and Personal Injury

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

9. Insurance

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

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

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

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

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

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

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

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

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

Continuous Coverage; Notice of Cancellation: The Consultant agrees to maintain continuous, uninterrupted coverage for the duration of the Contract. There shall be no termination, cancellation, material change, potential exhaustion of aggregate limits or

non-renewal of coverage without thirty (30) 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 be prepared to 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

In the event Consultant provides in excess of $2,500.00 for services to the City in any fiscal year, Consultant shall obtain EEO certification from the City.

12. Equal Benefits

Consultant must comply with the City's Equal Benefits program as prescribed by Chapter 3.100 of the Code of the City of Portland. The required documentation must be filed with Procurement Services, City of Portland, prior to contract execution.

13. Successors in Interest

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

14. Severability

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

15. Waiver

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

16. Errors

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

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

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

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

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

21. Payment to Vendors and Subconsultants
The Consultant shall timely pay all subconsultants and suppliers providing services or goods for this Contract.

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

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

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

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

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

27. Progress Reports: /☒/ Applicable /☐/ Not Applicable
If applicable, the Consultant shall provide monthly progress reports to the Project Manager as described in the Statement of the Work and Payment Schedule.

28. Consultant's Personnel: /☒/ Applicable /☐/ Not Applicable
If applicable, the Consultant shall assign the personnel listed in the Statement of the Work and Payment Schedule for the work required by the Contract and shall not change personnel without the prior written consent of the City, which shall not be unreasonably withheld.

29. Subconsultants
The Consultant shall use the subconsultants identified in its proposals. The Consultant shall not change subconsultant assignments without the prior written consent of the Chief Procurement Officer. The City will enforce all social equity contracting and Minority, Women and Emerging Small Business (M/W/ESB) subcontracting commitments submitted by the Consultant in its proposals. Failure to use the identified 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 a Monthly Subconsultant Payment and Utilization Report (MUR), made part of this contract by reference, reporting ALL subconsultants employed in the performance of this agreement. An electronic copy of the MUR may be obtained by contacting the PTE Contract Compliance Specialist.

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.

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STATEMENT OF THE WORK AND PAYMENT SCHEDULE

SCOPE OF WORK

Project Objectives
The objectives of the Outfall 003 Improvement Project include the following elements:

- Restore full operational capacity to Outfall 003,
- Develop cost-effective design solutions for modifications to the Outfall 003 diffuser that are feasible, structurally-sound against physical impact by wood debris, and constructible,
- Develop modifications and operations to minimize potential future diffuser port burial and sand intrusion into the diffuser, and
- Develop a diffuser discharge operation and inspection plan to maintain full discharge capacity, diffuser structural integrity, and discharge compliance with the NPDES permit.

Background and Approach
Outfall 003 was constructed in 1999, and it consists of an 84-inch diameter steel outfall pipe with a 265-foot-long diffuser section with 18 risers and elastomeric check valve ports on 15-foot spacing. The diffuser section is located approximately 380 feet offshore of the south bank of the Columbia River in an area of 2- to 10-foot sand waves. The most recent external inspection performed in October 2012 revealed that the river bed elevation was substantially shallower than in 1999 and 8 of 18 diffuser ports were substantially buried. An internal outfall inspection performed in 2012 using a remotely operated vehicle (ROV) revealed that the pipe was ~50% filled with sand under port #10 and ~75% filled with sand near port #13 (~60 feet from the end of the diffuser). Refer to the upper image in Figure 1. (Note that figures are located at the end of this document.)

In December 2015, Solmar Hydro (SHI) performed the first of four planned bathymetric surveys that include the Outfall 003 site and extends 2,400 feet upstream to record riverbed conditions. This survey was perfectly timed to correspond with peak wet weather effluent flows on December 9th, 2015 and the lower image in Figure 1 illustrates that a majority of the check valve diffuser ports discharged despite being buried prior to commencing discharge. The conical sand patterns are consistent with high velocity port discharges, and the absence of discharges from several ports is an unknown condition at this time. This recent survey also illustrates that river bed elevations upstream of the diffuser are shallower than recorded in 2012. BES needs to restore the full function of Outfall 003 with feasible diffuser modifications and operational changes to minimize future diffuser burial and sand intrusion into the outfall diffuser.

Site-specific data collections are required to provide input to sediment bed-form analysis, which will be used to forecast river bed elevations for the diffuser rehabilitation design. Data collections that are required include river bathymetry and current

measurements, and sediment sampling for physical analyses. The river bathymetry in the vicinity of the Outfall 003 diffuser is dynamic and influenced by sediment sizes, upstream bedload contributions, and the magnitude, duration and frequency of high river flow and current velocities, and river structures.

Figure 2 illustrates the seasonal trends in Columbia River flows in recent years, and high river runoff periods that have occurred between October 2014 and May 2016 are identified on this figure. These high river runoff events are due to winter rainfall periods and spring snowmelt runoff periods, and the highest river flows create the highest current velocities and sediment transport rates. Four detailed bathymetry surveys of the Outfall 003 diffuser site and 2,400 feet upstream are being performed by Solmar Hydro, Inc. (under contract to BES) to document riverbed changes in the nearfield region of Outfall 003. Three surveys have been completed. CH2M is assuming that the fourth survey will be performed during wet season high river flow conditions (December 2016 or January 2017) when river velocity measurements are planned for this project. Figure 3 summarizes the regions and timing of multi-beam bathymetry surveys in the nearfield study area. Figure 4 summarizes the locations of current measurement transects. Current velocity measurements along sections in the river (ADCP measurements coordinated with bathymetry measurements are needed to represent ambient current velocities differences across the river width under higher river flows.

Sediment physical characteristics at the diffuser site will also be required inputs for the sediment bed-form analysis, and Figure 5 illustrates the locations of surface sediment sample collections for physical characteristics (i.e. particle size analyses). These site-specific data collections (river bathymetry, current measurements, and sediment sampling for physical analyses) will provide the necessary input to sediment bed-form analyses that will be used to forecast river bed elevations changes for the diffuser rehabilitation design. These data collections will feed information into the river conditions analyses, and outfall improvements design development – and the following steps will integrate the schedule of data collections with data uses:

Step 1 - 2016-17 Wet Season Data Collections -- Input to develop Outfall 003 condition assessment, physical characterization of diffuser site, and setup and conduct sediment bed-form evaluation to support the Outfall 003 improvement alternatives analysis and 30% design development.

Step 2 – 2017-2018 Design – Apply results of river bed-form analyses with civil, hydraulic, and structural engineering in 30%, 60%, 90% and final design development.

Task 1. Preliminary Design Phase (November 2016-August 2017)

Task 1.1 - Data Review and Data Collections

1.1.a Develop Field Operations Plan and Field Safety Instructions (FSI)

- Prepare a concise Field Operations Plan for River Data Collections to include study approach, methods and equipment, schedule, field personnel, and communications plan.
- Prepare Field Safety Instructions (FSI) for field operations (applies to CH2M and sub-consultants).

1.1.b Field Data Collections for Modeling and Design

(1) Wet Season 2016-17 Field Data Collections

- Wet season data collections will be scheduled to occur during higher river flow conditions in December 2016 or January 2017.
- Conduct ADCP surveys (velocities and sectional flow) at seven (7) river sections shown in Figure 4 using RDI Workhorse Sentinel 1200 kHz ADCP logging velocities and depths. Solmar Hydro and CH2M to perform ADCP surveys using same survey monuments and base stations as used for BES quarterly bathymetry surveys.
- Conduct multi-beam bathymetry survey of the nearfield region of Outfall 003 (refer to Figure 3) to record conditions under high river flow. Solmar Hydro will perform this bathymetry survey as the fourth quarterly survey under their contract with BES to perform four quarterly surveys of the nearfield region. The survey will use the same survey monuments and base stations as used for other BES quarterly bathymetry surveys.
- Collect surface sediment samples at 18 sites (refer to Figure 5) using 0.05 meter2 Ponar sediment sampler for physical characteristics (laboratory analysis of particle size distribution by sieve and hydrometer ASTM methods). River sediment sampling to be conducted by CH2M from Solmar Hydro work vessel with DGPS navigation to locate sampling sites.

(2) Spring 2017 Sediment Sampling (CONTINGENCY TASK)

- If a Level 2 Sediment Evaluation is required by ACOE for in-water construction permitting and is approved by BES, then a Sampling and Analysis Plan for the sediment evaluation will be prepared (under Task 3.2.2). Surface sediment sampling at eight sites along the Outfall 003 diffuser site would be performed by Stillwater Sciences and Solmar Hydro. The eight sediment samples would be submitted for physical and chemical analyses of parameters defined for sediments in the Sediment Evaluation Framework for the Pacific Northwest. Evaluation of these sediment analyses results will be prepared under Task 3.2.2.

BES Involvement:

- Review draft documents and comment.

- Assumes that BES will schedule the fourth quarterly Solmar Hydro bathymetry survey (under separate BES contract) to occur during the 2016 wet season data collections coordinated with other CH2M field activities.
- Attend three (3) teleconference meetings to review the planning for the wet season field data collections, and to discuss review comments on the deliverables. Skype connections between CH2M and BES will be used to facilitate information sharing during teleconference meetings.

Key Team Members Involved:

- Wilson, Paulson, Winslow, Solmar Hydro

Assumptions:

- Field data collections assumed to occur in December 2016 to January 2017, depending on contract Notice-to-Proceed date to allow time for completion of Tasks 1.1a prior to field data collections in November 2016. Field sampling assumed to occur in two field days with no contingency for interruption or delays due to unworkable weather or river conditions.
- Solmar Hydro will perform the wet season 2016/17 bathymetry survey as the fourth quarterly survey under their existing contract with BES to perform four quarterly surveys of the nearfield region – independent of CH2M field sampling.
- BES will contract a suitable diving contractor to perform the external and internal outfall diffuser inspections between October 2016 and February 2017 to provide the required outfall inspection data for design to proceed in the spring of 2017. The external outfall inspection will utilize underwater video during all operations to document finding and audio notations. The external dive inspection will document the condition of all 18 risers and diffuser check valve ports and BES will discharge effluent through 003 during the inspection to enhance this inspection.
- Based on the December 2015 bathymetry image of the diffuser discharging it appears that at least Ports #1, 12, 13, and 14 were not functional. This could be due to blockage or damaged riser spools. Divers will attempt to locate each duck-bill port (if located within 6-10 feet of the sediment surface) by using water jet probe at port/riser location and visible ports will be used to measure and discern specific location of other ports.
- The dive contractor will utilize an ROV outfitted with sonars for acquiring measurements in the outfall pipe; and these sonars will also be suitable to identify joints, offsets and sediment levels in the pipe. The dive contractor is assumed to track and record ROV location in the outfall from the access manhole to accurately define internal condition and sand elevations along diffuser length, and the ROV sonar will capture pipe cross sections showing material levels. We assume that the ROV will pause at each diffuser riser to allow sonar to record image of height of material inside each riser (if feasible with limitation of 28" riser diameter). We understand that the ROV must have a minimum clearance to penetrate into the pipe and this will limit the penetration if the diffuser is filled with sediments. CH2M assumes that the dive contractor will produce an inspection report documenting both internal and external inspections, including video record of external inspection of each riser and port, video sonar record of the internal outfall inspection for use in design.
- ACOE in-water construction permitting will not require sediment sampling and chemical analyses (Level 1 sediment evaluation only based on existing sediment data). If the ACOE requires a Level 2 Sediment Evaluation then it will be performed only after Consultant receives written approval from BES. This scope of work assumes that only surface sediment sampling would be required, and no sediment cores sampling would be required at diffuser site. In-water disposal will be recommended if excess sediment material will be generated during sampling.
- All deliverables will be provided to BES in an electronic file format (pdf, avi, etc.) and limited hard copies can be provided to BES on request.

Deliverables:

- Draft and final Field Operations Plan.
- CH2M Field Safety Instructions (FSI) for CH2M and sub-consultants.
- Bathymetry survey chart of the nearfield Outfall 003 region and bathymetry report – for 2016-17 Wet Season Survey (Solmar Hydro under BES contract)

Task 1.2 - River Hydraulics and Sediment Transport Modeling

- Develop existing Columbia River flow, stage and bathymetric survey data sources for hind-cast and forecast analyses of trends.
- Process and apply existing empirical data from the NOAA National Geodetic Data Center, recent nearfield BES bathymetry surveys (2012, 2015, and 2016) for analyses of trends and use as input to the bed-form height modeling based on Van Rijn (1984).
- Apply river flow and stage data (recorded by USGS gages) along with river cross-sectional bathymetry data collected under Task 1.1 as input to the Flow-Master model to allow for calculations of river current velocities for a range of river flow and stage elevations. Validate model-predicted velocities and adjust using field-measured current velocities from Task 1.1.
- The results and interpretations of the empirical data analysis and sediment bed-form analyses will used to represent river bed elevations and bed-form changes at the Outfall 003 diffuser.
- Prepare a Sediment Bed-form Evaluation TM (to be attached to the Basis of Design Engineering Report) for review by internal reviewers and by BES. A draft TM will be developed based on the 2016-17 Wet Season data collections.

BES Involvement:

- Review draft documents and comment.

- Attend four (4) teleconference meetings (1.5 hour meetings) to review the river data analyses and sediment bed-form evaluation preliminary results, and to discuss review comments on the draft TM. Skype connections between CH2M and BES will be used to facilitate information sharing during teleconference meetings.

Key Team Members Involved:

- Winslow & Wilson

Assumptions:

- Probabilistic bed-form height modeling based on Van Rijn (1984) is limited by available bathymetry records upstream of the 003 diffuser, and the linear regression equations developed by Van Rijn. This probabilistic analysis method is applied in the river axis to represent the probabilities of sand wave heights, but it cannot represent lateral bedform changes in a wide and complex river bed-form condition.
- The resolution and accuracy of the probabilistic data analyses and the sediment bed-form analyses to predict future river bed elevations and bed-form changes at the Outfall 003 diffuser will be defined in the TM associated with the work.
- BES has elected not to have CH2M apply the high-resolution 2D MIKE 21 hydraulic and sediment transport model to assess bed-form projections.
- The Sediment Bed-form Evaluation TM (to be attached to the Basis of Design Engineering Report) will summarize the analytical methods, data sources, modeling results and interpretations, as well as the accuracy and limitations of the predicted results.
- The sediment bed-form evaluation will be limited to available river data (noted above) and 120 hours of Dr. Winslow's labor.
- All deliverables will be provided to BES in an electronic file format (pdf, avi, etc.) and limited hard copies can be provided to BES on request.

Deliverables:

- Draft and final Sediment Bed-form Evaluation TM.

Task 1.3 - Outfall 003 Improvement Alternatives Analysis

The objective and approach for the outfall improvement alternatives analysis will be to use the results of the river data analyses and the sediment bed-form evaluation TM, outfall internal and external inspections, collected river data, effluent flow hydraulic modeling, diffuser performance dilution modeling, and engineering analyses (civil, hydraulic, and structural) to develop outfall diffuser improvement alternatives that are feasible, structurally-sound, avoid potential future diffuser port burial and sand intrusion, and are constructible. The activities under this task will include:

- Develop target design performance dilutions using CBWTP effluent chemistry data representative of dry season secondary effluent and wet season blended effluent, Columbia River background chemistry data, and the DEQ reasonable potential analysis spreadsheets.
- Develop civil (i.e. diffuser pipe stability), structural (i.e. impact and torque resistance of risers), and hydraulic (i.e. flow constraints) performance criteria for the outfall diffuser improvement and rehabilitation alternatives design development. Compare with the performance criteria defined for the as-built outfall diffuser.
- Develop up to three potential outfall diffuser riser and port improvement alternatives and/or sub-alternatives that can meet the civil, structural, and hydraulic performance criteria. Develop civil and structural calculations for each alternative and specify changes.
- Apply pipeline hydraulic model (i.e. WINHYDRO) to as-built outfall and diffuser configuration and to a maximum of three potential outfall diffuser modifications to evaluate head-loss and velocities.
- Apply dilution models (i.e. Visual Plumes models) to as-built diffuser and to a maximum of three potential outfall diffuser modifications to evaluate dilution performance under wet season and dry season discharge conditions. Assume 7Q10 dry season and wet season (Nov.-April) river flow conditions in this screening-level modeling evaluation.
- Conduct an Outfall Improvements Alternatives & Predesign Workshop with BES to review alternative concepts for diffuser rehabilitation and improvement and to plan the design process and establish design criteria.
- Prepare a draft Outfall Improvements Alternatives TM (to be incorporated into the Basis of Design Engineering Report) for review by internal reviewers and by BES. The draft TM will be developed based on the sediment bed-form analyses results using the 2016-17 Wet Season data collections.
- Prepare a Class 5 construction cost estimate for two selected alternatives

BES Involvement:

- Review draft documents and comment.
- Attend Outfall Improvements Alternatives & Pre-Design Workshop with CH2M at BES Office.
- Attend three (3) teleconference meetings (1.5 hour meetings) to review the development of the outfall improvement alternatives and to discuss review comments on the draft report. Skype connections between CH2M and BES will be used to facilitate information sharing during teleconference meetings.

Key Team Members Involved:

- Green, Cotten, Thompson, Rybel, Morse, Paulson, Winslow & Wilson

Assumptions:

- Development of civil, structural, and hydraulic performance criteria for the outfall diffuser improvements and rehabilitation alternatives design development are limited by the available information on existing outfall diffuser and current condition of the installed outfall diffuser.
- Outfall internal and external inspections results are not likely to fully reveal the condition of all of the existing diffuser risers and the diffuser pipe. If diffuser risers have failed or broken, then the engineers understanding of the cause of failures and extent of damages will be incomplete and require interpretation and risk-based selections of potential remedies -- in coordination with BES.
- Options for riser replacements and extensions will be evaluated based on the available information and assumptions of impacts to the riser and port structures in the river. The diffuser rehabilitation and improvements do not assume to include designing replacements of elastomeric check valves, and if required it will be an addition to this work.
- The draft Outfall Improvements Alternatives TM will summarize the methods, data sources, modeling and calculations results and interpretations, as well as the accuracy and limitations of the predicted results. This draft TM will not be finalized as a separate TM but will be incorporated into the Basis of Design Report.
- BES will review the outfall improvement alternatives and select one alternative.
- All deliverables will be provided to BES in an electronic file format and limited hard copies can be provided to BES on request.

Deliverables:

- Meeting notes from Outfall Improvements Alternatives & Pre-Design Workshop with CH2M
- Draft Outfall Improvements Alternatives TM

Task 1.4 – 30% Design Development

1.4a Workshop and Criteria:

- Prepare draft and final Design Criteria and Standards TM for review and approval by BES.

1.4b Develop 30% Design Documents:

- Develop a 30% Design Submittal including: plan and profile drawings, drawings index, and table of contents for technical specifications.
- Prepare a Class 3 construction cost estimate
- Prepare a Draft Basis of Design Engineering Report for BES review (and eventual submittal to Oregon DEQ once finalized in 60% design phase). The report will include: project background, objectives and benefits; existing outfall conditions; river site physical characteristics and a summary of the sediment bed-form analyses; outfall improvement design considerations (effluent flow and hydraulics, discharge dilutions, water quality standards compliance, structural requirements) and review of improvement options; and details of the selected outfall improvement alternative (construction methods and materials, 30% design drawings, schedule, permitting, and construction cost estimate).
- 30% Design Submittals will undergo internal QA/QC review prior to submittal to BES for review

BES Involvement:

- Review draft documents (including design criteria) and comment.
- Attend four (4) teleconference meetings (1.5 hour meetings) to review and discuss 30% design development, and to discuss review comments on the Draft Basis of Design Engineering Report. Skype connections between CH2M and BES will be used to facilitate information sharing during teleconference meetings.

Key Team Members Involved:

- Green, Cotten,, Thompson, Rybel, Winslow, Wilson

Assumptions:

- 30% Design development of civil, structural, and hydraulic performance criteria for the outfall diffuser improvements and rehabilitation alternatives design will focus on the one selected alternative (from the Outfall Alternatives Analysis & Pre-Design Workshop) and will be limited by the available information on the current condition of the installed outfall diffuser – based on the outfall internal and external inspections. These inspection results are not assumed to fully reveal the condition of all of the existing diffuser risers and the diffuser ports. If diffuser risers have failed or broken, then the engineers understanding of the cause of failures and extent of damages will be incomplete and require interpretation and risk-based selections of potential remedies – in coordination with BES.
- Options for riser replacements and extensions will be evaluated based on the available information and assumptions of impacts to the riser and port structures in the river. The diffuser rehabilitation and improvements do not assume to include designing replacements of elastomeric check valves, and if required it will be an addition to the design work and budget.
- The Draft Basis of Design Engineering Report will incorporate the Sediment Bed-form Evaluation TM and the draft Outfall Improvements Alternatives TM, and the outfall alternative selected by BES.
- BES will review the outfall improvement alternatives and select one alternative during the Task 1.3 workshop.
- All deliverables will be provided to BES in an electronic file format and limited hard copies can be provided to BES on request.

Deliverables:

- 30% Design Submittal
- Class 3 construction cost estimate
- Draft Basis of Design Engineering Report

Task 2. Design Phase (August 2017-March 2018)

Task 2.1 – Workshop and 30% Design Checklist

- Conduct a Post 30% Design Workshop at BES offices with BES to review and adjudicate 30% design comments
- Prepare and maintain a Design Checklist
- Complete BES 30% Design Milestone Checklist

BES Involvement:

- Review draft documents and comment.
- Attend Post 30% Design Workshop at CBWTP with CH2M.

Key Team Members Involved:

- Green, Cotten, Thompson, Wilson & BMC

Assumptions:

- CH2M will prepare and maintain a Design Checklist and BES will provide input on monthly updates to the Checklist.

Deliverables:

- Meeting notes from Post 30% Design Workshop

Task 2.2 – 60% Design Development

- Develop a 60% Design Submittal to conform to the City's requirements including: plan and profile drawings, draft details drawings, updated drawings index, and draft technical specifications.
- Prepare a Class 2 construction cost estimate.
- Prepare Final Basis of Design Engineering Report for BES review and submittal to DEQ (basis for the in-water environmental permitting).
- All of the 60% Design Submittals will undergo internal QA/QC review prior to submittal to BES for review.
- Complete BES 60% Design Milestone Checklist

BES Involvement:

- Review draft documents and comment.
- Attend 60% Design Workshop at CBWTP with CH2M.
- Attend three (3) teleconference meetings (1.5 hour meetings) to review and discuss 60% design development, construction approaches, and review comments on Draft Basis of Design Engineering Report. Skype connections between CH2M and BES will be used to facilitate information sharing during teleconference meetings.

Key Team Members Involved:

- Green, Cotten, Thompson, Rybel, Wilson & BMC

Assumptions:

- 60% Design Submittal assumes one selected alternative in design, and it will consist of 10 sheets that will include cover sheet, lists of drawings, 4 detail sheets of diffuser riser and port improvements, 2 sheets for outfall diffuser pipe cleanout, and other sheets for construction.
- The 60% design level-of-effort assumes that existing risers will be excavated, exposed, removed (partial or complete) and replaced with new risers (existing check valve ports will be used and missing ports to be replaced in kind); and sand in the outfall pipeline can be removed by non-destructive methods. The existing outfall pipeline and terminal flange are assumed to be in acceptable working condition and will remain in services. More extensive construction may require additional design effort and budget. The diffuser rehabilitation and improvements do not assume to include designing replacements of elastomeric check valves, and if required it will be an addition to this work and budget.
- 60% Design development for the outfall diffuser improvements and rehabilitation alternatives design will limited by the available information on the current condition of the installed outfall diffuser – based on the outfall internal and external inspections. Inspection results are not assumed to fully reveal the condition of all existing diffuser risers and the diffuser ports. If diffuser risers have failed or broken, then the engineers understanding of the cause of failures and extent of damages will be incomplete and require interpretation and risk-based selections of potential remedies – in coordination with BES. Additional evaluation work may require additional design effort, more coordination with BES, and additional design budget.
- Options for riser replacements and extensions will be evaluated based on the available information, available design budget, and assumptions of impacts to the riser and port structures in the river.
- The Final Basis of Design Engineering Report will incorporate the Sediment Bed-form Evaluation TM and the draft Outfall Improvements Alternatives TM, the outfall alternative selected by BES, and the appropriate 30% Design Drawings (i.e. Plan and Profile and Riser and Port Details).
- All deliverables will be provided to BES in an electronic file format and limited hard copies can be provided to BES on request.

Deliverables:

- Meeting notes from 60% Design Workshop
- 60% Design Submittal
- Class 2 construction cost estimate

- Final Basis of Design Engineering Report

Task 2.3 – 90% Design Development

- Develop a 90% Design Submittal including: plan and profile drawings, details drawings, updated drawings index, and final technical specifications.
- All of the 90% Design Submittals will undergo internal QA/QC review prior to submittal to BES for review.
- Develop pre-qualifications requirements for construction firms and assist BES with review of pre-bid qualifications submittals by construction firms.
- Complete BES 90% Design Milestone Checklist

BES Involvement:

- Review draft documents and comment.
- Attend 90% Design Workshop at CBWTP with CH2M.
- Develop Prequalification RFQ with technical support from CH2M
- Attend two (2) teleconference meetings (1.5 hour meetings) to review and discuss 90% design development. Skype connections between CH2M and BES will be used to facilitate information sharing during teleconference meetings.

Key Team Members Involved:

- Green, Cotten, Thompson

Assumptions:

- 90% Design Submittal is assumed to consist of 10 sheets that will include cover sheet, lists of drawings, 4 detail sheets of diffuser riser and port improvements, 2 sheets for outfall diffuser pipe cleanout, and other sheets.
- The 90% design level-of-effort assumes that existing risers will be excavated, exposed, removed (partial or complete) and replaced with new risers (existing check valve ports will be used and missing ports to be replaced in kind); and sand in the outfall pipeline can be removed by non-destructive methods. The existing outfall pipeline and terminal flange are assumed to be in acceptable working condition and will remain in services. More extensive construction may require additional design effort and budget. The diffuser rehabilitation and improvements do not assume to include designing replacements of elastomeric check valves, and if required it will be an addition to this work and budget.
- 90% Design development for the outfall diffuser improvements and rehabilitation alternatives design will limited by the available information on the current condition of the installed outfall diffuser – based on the outfall internal and external inspections. Inspection results are not assumed to fully reveal the condition of all existing diffuser risers and the diffuser ports. If diffuser risers have failed or broken, then the engineers understanding of the cause of failures and extent of damages will be incomplete and require interpretation and risk-based selections of potential remedies – in coordination with BES. Additional evaluation work may require additional design effort, more coordination with BES, and additional design budget.
- Options for riser replacements and extensions will be evaluated based on the available information, available design budget, and assumptions of impacts to the riser and port structures in the river.
- All deliverables will be provided to BES in an electronic file format and limited hard copies can be provided to BES on request.

Deliverables:

- Meeting notes from 90% Design Workshop
- 90% Design Submittal
- Technical support to BES for Prequalification RFQ

Task 2.4 – Project Bidding Documents

- Develop complete and sealed plan and profile drawings, details drawings, and final sealed technical specifications.
- Prepare a Class 1 construction cost estimate
- All of the Project Bidding Documents will undergo internal QA/QC review prior to submittal to BES for acceptance.

BES Involvement:

- Review Bidding Documents.
- Attend three (3) teleconference meetings to review and discuss Bidding Documents. Skype connections between CH2M and BES will be used to facilitate information sharing during teleconference meetings.

Key Team Members Involved:

- Green, Cotten, and Thompson.

Assumptions:

- Bid Documents are assumed to consist of 10 sheets that will include cover sheet, lists of drawings, 4 detail sheets of diffuser riser and port improvements, 2 sheets for outfall diffuser pipe cleanout, and other sheets; and final sealed technical specifications.
- All deliverables will be provided to BES in an electronic file format and limited hard copies can be provided to BES on request.

Deliverables:

- Bid Documents

Task 3. Permitting Support (March 2017-March 2018)

Task 3.1 – Develop Environmental Permit Strategy

- Prepare environmental strategy, including potential permit schedule.

BES Involvement:

- Review permit strategy and schedule, and comment.

Key Team Members Involved:

- Mader & Wilson - Permitting Task Leads

Assumptions:

- No pre-application meetings with agencies will be held prior to this task.
- No additional Portland Streamlining Team meetings.

Deliverables:

- Draft and final permit strategy and schedule.

Task 3.2 – Perform Sediment Evaluation

3.2.1. Level 1 Sediment Evaluation Technical Memorandum.

- Prepare Level 1 Sediment Evaluation Technical Memorandum (TM) conforming to the interagency *Sediment Evaluation Framework for the Pacific Northwest* (SEF-PNW). The evaluation will be based on existing available Columbia River sediment evaluations by others, and known historical uses of the river in the project vicinity. The TM will be used to support a position that no sediment sampling and analysis will be required by regulatory agencies for this project. BES or CH2M will submit the TM to U.S. Army Corps of Engineers (ACOE) for review and approval. 3.2.2. Level 2 Sediment Evaluation (CONTINGENCY TASK).
- If the ACOE requests a Level 2 Sediment Evaluation (based on results of the Level 1 TM), the consultant will prepare a sediment Sampling and Analysis Plan (SAP) to guide characterization of dredged material for handling and disposal, and to direct the Level 2 sediment sampling for sediment physical and chemical analyses (under Task 1.1c).
- BES or CH2M will submit the SAP to the ACOE for review and approval prior to sediment sampling.
- Sediment physical and chemical analytical results will be summarized in a Level 2 Sediment Evaluation TM. BES or CH2M will submit this TM to ACOE for review and approval, and the ACOE findings will determine whether river sediments at the diffuser site may be allowed to be disposed in-water at the construction site.

BES Involvement:

- Review draft documents and provide comments.
- Attend meetings with ACOE in Portland, if necessary.
- Attend three (3) teleconference meetings to review and discuss Sediment Evaluation TMs and SAP. Skype connections between CH2M and BES will be used to facilitate information sharing during teleconference meetings.

Key Team Members Involved:

- Mader, M. Singer & Wilson, Stillwater Sciences

Assumptions:

- ACOE approval for Level 1 Sediment Evaluation TM will determine if sediment sampling in the river is required. Up to 8 hours are included to respond to ACOE comments on the Level 1 TM.
- Task 3.2.2 (Level 2 Sediment Evaluation) will be performed only if required by ACOE and only after CH2M receives written approval from BES.
- If sediment sampling is required, the Level 2 Sampling and Analysis Plan would be developed during spring 2017 for implementation.
- If sediment sampling is required, Level 2 sediment sampling would be performed during spring 2017. Up to 8 surface grab sampling would be collected. Samples would be analyzed for the full suite of metals and organics, as defined for freshwater sediments in SEF-PNW.
- In-water disposal will be recommended if excess sediment material will be generated during sampling.
- If sediment sampling is required, the Level 2 Sediment Evaluation TM would be completed in 2017. Up to 8 hours are included to respond to ACOE comments on the Level 2 TM.
- Since sediment sampling of materials (sands) inside the Outfall 003 diffuser is not feasible, then it is assumed that materials removed from inside the Outfall 003 diffuser during construction will be required to be loaded onto a barge for transfer to CBWTP grounds for storage and reuse.

Deliverables:

- Draft and final Level 1 Sediment Evaluation TM.
- CONTINGENCY TASK. Draft and final SAP, and draft and final Level 2 Sediment Evaluation TM.

Task 3.3 – Prepare Joint Permit Application (JPA #1) to Dredge Sediment for Inspection of Diffuser (CONTINGENCY TASK)

- Dredging accumulated sediment for visual inspection of the diffuser port and risers requires a federal Nationwide Permit #3 (Maintenance) and Rivers and Harbors Act Section 10 approval from the ACOE, and a removal-fill permit from the Oregon Department of State Lands (DSL). Limited external inspections will be performed in the fall of 2016, but if more extensive (deeper) external inspections of buried and potentially damaged risers is selected by BES to better inform the design process, then it will require agency approvals. This effort will be independent of and in advance of the JPA prepared under Task 3.4.
- A draft Joint Permit Application (JPA) will be developed based on recommendations by designers and divers for accessing key diffuser conditions (i.e., sand entrainment, and integrity of ports and risers). The JPA will be revised based on BES comments, and submit to ACOE and DSL. We expect that the permitting duration will be approximately August 2016 to March 2017. Up to 8 hours are included to respond to ACOE/DSL comments on the JPA #1.

BES Involvement:

- Provide a copy of the Oregon DSL waterway easement (lease) for Outfall 003.
- BES will provide signed land use affidavit from City planner, and project owner's signature.
- Review draft JPA, and comment.
- Attend meetings with ACOE and DSL in Portland, if necessary.
- Attend three (3) teleconference meetings to review and discuss the JPA development.

Key Team Members Involved:

- Mader & Wilson

Assumptions:

- The permitting duration is estimated to be approximately September 2016 to March 2017. Up to 8 hours are included to respond to ACOE/DSL comments on the JPA #1.
- Wetland delineation will not be required.
- Conventional means and methods will be used for dredging/sand removal.
- Compensatory mitigation plans are not included.
- Consultation with the State Historic Preservation Office will not be required.
- Fish Passage Plan for ODFW will not be required.
- Level 2 Sediment Evaluation will not be required.
- CH2M will pay all application review fees, including the review fee required by DSL.

Deliverables:

- Draft and final JPA #1 (CONTINGENCY TASK).

Task 3.4 – Prepare Joint Permit Application (JPA #2) for Diffuser Repair

- Diffuser repair requires a federal Nationwide Permit #3 (Maintenance) and Rivers and Harbors Act Section 10 approval from the ACOE, and a removal-fill permit from the Oregon Department of State Lands (DSL). A draft Joint Permit Application (JPA) will be developed including alternatives analysis, based on 30% design (i.e., Preliminary Draft Modeling Report, Outfall Alternatives Report, and Basis of Design Engineering Report) to cover all aspects of in-water construction.
- The JPA will be revised based on BES comments, and submitted to ACOE and DSL for processing and approval.

BES Involvement:

- Provide a copy of the Oregon DSL waterway easement (lease) for Outfall 003.
- BES will provide signed land use affidavit from the City planner, and project owner's signature.
- Review draft JPA and comment.
- Attend meetings with ACOE and DSL in Portland, if necessary.
- Attend three (3) teleconference meetings to review and discuss the JPA development.

Key Team Members Involved:

- Mader & Wilson

Assumptions:

- We expect that the permitting duration will be approximately March 2017 to March 2018.
- Up to 8 hours are included to respond to ACOE/DSL comments on the JPA #2.
- Wetland delineation will not be required.
- Conventional means and methods will be used for construction.
- Compensatory mitigation plans are not included.
- Consultation with the State Historic Preservation Office will not be required.
- Fish Passage Plan for Oregon Department of Fish and Wildlife (ODFW) will not be required.
- DEQ 401 Water Quality Certification has been provided programmatically for Nationwide Permit #3.
- Design will not include permanent in-river marking of the diffuser location with dolphins or buoys.
- BES will pay all application review fees, including the review fee required by DSL.

Deliverables:

- Draft and final JPA #2.

Task 3.5 – Prepare Endangered Species Act Documentation and Consultation

3.5.1. ESA Documentation and Consulting

- Receipt of the ACOE Nationwide Permit #3 requires project compliance with the federal Endangered Species Act (ESA) and Magnuson-Stevens Act (MSA). At this time, it is unknown whether the National Marine Fisheries Service (NMFS) will allow project use of the SLOPES V programmatic biological opinion for ESA incidental take permitting, or whether an individual project biological opinion will be required. This subtask assumes that documentation will be prepared to support verification by NMFS that the project actions are covered by the SLOPES V (*Stormwater, Transportation and Utilities*) programmatic biological opinion. Therefore, a SLOPES Action Implementation Form will be prepared for inclusion in the JPA #2, and Action Completion Report after the diffuser repair is completed.

3.5.2. ESA Biological Assessment (CONTINGENCY TASK).

- Prepare a draft ESA biological assessment using the draft Basis of Design Engineering Report for the project description, and available site-specific biological and physical data. This subtask assumes that the SLOPES V programmatic biological opinion cannot be used for the project's incidental take permitting. However, we will use the NMFS SLOPES V programmatic biological opinion as the basis for impact assessment, as appropriate, to facilitate review of the biological assessment by NMFS. Also, information from subtask 3.5.1 will be incorporated, as possible.

BES Involvement:

- Review draft biological assessment and comment.
- Attend meetings with ACOE and NMFS in Portland, if necessary.
- Attend three (3) teleconference meetings to review and discuss the ESA document development.

Key Team Members Involved:

- Mader & D. DeKrey, Stillwater Sciences

Assumptions:

- ESA terms and conditions will allow in-water construction and sediment disposal.
- The SLOPES V programmatic biological opinion by the National Marine Fisheries Service may provide sufficient ESA/MSA coverage for the project if NMFS determines that outfall diffuser repair is a covered activity.
- An individual biological assessment may be required by ACOE and NMFS if the proposed activities are not covered by the SLOPES V programmatic biological opinion.
- Task 3.5.2 (ESA biological assessment) will be performed only if required by ACOE and only after Consultant receives written approval from BES. Up to 8 hours are included to respond to NMFS comments on the draft ESA biological assessment.
- Seal and sea lion may use the project site. A Marine Mammal Protection Act (MMPA) take permit will not be required because project specifications will incorporate measures for avoiding harm or harassment of marine mammals.
- The U.S. Fish and Wildlife Service will not participate in the ESA Section 7 consultation.

Deliverables:

- Draft and final SLOPES Action Implementation Form.
- Draft and final SLOPES Action Completion Report.
- Draft and final Biological Assessment (CONTINGENCY TASK).

Task 3.6 – Pre-Application and Post-Submittal Meetings

- Conduct pre-application meetings with ACOE, DSL, and Portland BDS to communicate the project design and construction plans, and verify permit application requirements.
- Conduct post-submittal meetings with ACOE, DSL, and Portland BDS to address public comments and respond to information requests. Provide support to the project during the agency reviews.
- Notify and coordinate with the Oregon State Marine Board and the U.S. Coast Guard regarding potential hazards to mariners and procedures for temporary closure. (Outfall 003 currently is not shown on the NOAA charts.)

BES Involvement:

- Meeting attendance, as desired.

Key Team Members Involved:

- Mader & Wilson

Assumptions:

- Consultant will not engage resource agencies regarding environmental commitments with tangible financial implications.
- Regulatory conditions will be carried forward to project specifications.

Deliverables:

- Meeting notes.

Task 3.7 – Support NPDES Permit Update

- Provide technical support to BES during DEQ revisions to the NPDES permit for Outfall 003.

BES Involvement:

- Lead communications and determine technical support needed.

Key Team Members Involved:

- Mader & Wilson

Assumptions:

- Consultant will not engage resource agencies regarding environmental commitments with tangible financial implications.
- Up to 24 hours are included to respond to DEQ comments on the draft permit revision.

Deliverables:

- Review comments on the draft NPDES permit.
- Meeting notes.

Task 3.8 – City Type II Environmental Review Support

The project requires Type II Environmental Review by the Portland Bureau of Development Services (BDS). In the Type II procedure, the decision is made by City staff. The permitting team will use the Basis of Design Engineering Report for Environmental Review application development. Provide documents prepared under separate tasks (e.g., technical reports, drawings, specifications, calculations). Provide assistance and meeting support to BES and BDS during the Type II environmental review process.

BES Involvement:

- Review draft Environmental Review application, and comment.

Key Team Members Involved:

- Mader & Hoffman

Assumptions:

- A Type II Environmental Review will be required for project to meet the approval criteria for in-water work and activities at the water's edge.
- BES will pay any applicable fees related to Environmental Review.
- The City's staff decision will not be appealed.

Deliverables:

- Draft and final Environmental Review application.

Task 4. Public Involvement Support (November 2016-February 2019)

Support BES's community outreach efforts during design of the CBWTP Outfall 3 Improvements. BES will be the main contact on broader public information materials, but JLA will provide draft content for public information materials. JLA will provide the following public information and outreach services:

- Attend up to four team meetings at key milestones to promote internal team communications.
- Perform one visit to project site to develop an understanding of the project environment.
- Review and verify the project stakeholder/mailing list provided by BES. Check that the list includes appropriate neighborhood associations, businesses, business districts, public interest groups, other agencies affected by the project, traditionally underrepresented populations, and other key stakeholders. Develop or update BES's Stakeholder template.
- Develop a public outreach plan. Include a brief description of the specific issues or concerns related to each stakeholder, and a schedule for outreach.
- Develop and maintain a Communications log using a template provided by BES. List will include all public inquires and outcomes from discussions with BES PI staff member or JLA staff member.
- Develop a project information flyer, including map, and coordinate with BES graphic designer for production by BES. Update project information flyer at key design and construction milestones. Assumes up to 3 text updates provided to BES.
- Develop content for project website maintained by BES. Update web content at key design and construction milestones. Assumes up to 4 text updates provided to BES.
- Develop a press release for distribution by BES.
- Arrange one community meeting for BES to present the project features to stakeholders and the public. Provide public notices, venue arrangement, and agenda, and prepare presentation materials. Assist BES staff in facilitating discussion, and record public comments.

BES Involvement:

- BES Public Involvement staff to lead all public involvement

Key Team Members Involved:

- J. Pickul (JLA)

Assumptions:

- BES support will be as defined by scope and limited by labor hours in budget.
- BES will provide stakeholder list template, and maintain the Stakeholder mailing list.
- BES will provide Communications log template.
- BES will print/mail information flyer.
- BES will maintain the project website and post material developed by JLA.
- BES will distribute the press release.

Deliverables:

- Verified stakeholder list.
- Draft and final public outreach plan.
- Communications log.
- Draft and final content for information flyer, including up to 3 updates.
- Draft and final content for website, including up to 4 updates.
- Draft and final press release.
- Presentation materials for the community meeting, and public comment record.

Task 5. Bid Phase Support Services (March 2018-July 2018)

In support of the City the bidding support services will consist of the following (as requested by the City):

- attend the project pre-bid conference,
- provide responses to bidder's questions as requested,
- prepare addenda to clarify and or modify the project bidding documents,
- attend twice monthly coordination meetings by teleconference with BES and
- review construction firms' bids (as requested by BES)

BES Involvement:

- Sherwood led with support from BES procurement and construction management services.

Key Team Members Involved:

- Green, Cotten, Thompson

Assumptions:

- Assume twice monthly coordination meetings/conference calls with BES project manager. Skype connections between CH2M and BES will be used to facilitate information sharing during teleconference meetings.
- Scope and budget for this task assume 60 hours of professional engineer's labor for this task.

Deliverables:

- Addenda to Bid Documents (if needed)

Task 6. Construction Phase Support Services (July 2018-March 2019)

Support the City of Portland's BES Construction Management Division that will perform construction management and inspection of the construction work to ensure compliance with the plans and specifications. Construction phase support services will consist of the following (as requested by the City):

- Attend the preconstruction conference, perform the duties of the Registered Design Professional in Responsible Charge of the project, and review submittals for compliance with the plans, specifications and design intent.
- Evaluate and respond to requests for information,
- Identify changes to design documents, if applicable,
- Attend weekly construction progress meetings,
- Prepare design clarifications and cost estimates for design clarifications (if applicable), and
- Evaluate Contractor change order requests, notices of change, and associated cost estimates.

BES Involvement:

- Sherwood led and coordinated with BES Construction Management Division.

Key Team Members Involved:

- Green, Cotten, Thompson

Assumptions:

- Assume attending weekly coordination meetings. Skype connections between CH2M and BES may be used to facilitate information sharing during teleconference meetings.
- Scope and budget for this task assume 60 hours of professional engineer's labor for this task.
- BES will contract specialty diving inspectors to perform inspection dives to observe and verify that the installed work is performed in accordance with the contract requirements; and one Diver Inspection Report will be prepared. If diving inspections reveal inconsistencies in construction from contract requirements, then BES will be notified immediately and BES will be responsible for implementing remediation of installation.

Deliverables:

- Design Clarifications and Cost Estimates (if needed)

Task 7. Project Management and Quality Assurance (July 2016-July 2019)

The objective of this task is to manage, lead, and monitor the project to meet project goals and objectives, within the schedule and budget.

Task 7.1 Project Administration and Progress Reporting

Prepare and distribute a project management plan to include schedule, budget, roles, contacts, and procedures. Prepare monthly invoices and subconsultant payment and utilization report. Prepare monthly progress reports to advise BES project manager of project status. The report will include monthly progress by task, task budget status. A list of outstanding issues, potential changes and schedule impacts will also be provided. Prepare and execute and manage subconsultant agreements.

Task 7.2 Project Management

Schedule, coordinate, and supervise project work. Maintain liaison and coordination with City, DEQ, and outside agencies. Prepare records of decisions and meeting notes. Monitor project budget. Prepare, maintain, and update project activity schedule. Consultant Project Management responsibilities also include Contract management, Sub-consultant management, and providing timely responses to City and regulatory authority comments and requests.

Task 7.3 Coordination Meetings

During planning, permitting and design process, conduct twice monthly internal team meetings to review progress, coordinate evaluations, and identify information needs. In addition, the project manager will coordinate twice monthly progress teleconference meetings with the BES project manager that will summarize progress, outline upcoming tasks for both the CH2M HILL team and BES, and identify outstanding issues.

Task 7.4 QA/QC Plan and Management

Project quality assurance and quality control will be delivered by a Quality Manager and technical reviewers for each subject matter. Develop QA/QC Plan and manage QA/QC team (note that technical QA/QC efforts are budgeted within the specific tasks).

Task 7.5 Project Management for Contingency Tasks

Provide management to schedule, coordinate, and supervise project work for Contingency Tasks 1.1.c(4), 3.2.2, 3.3, 3.5.2 (as authorized by BES). Maintain liaison and coordination with City, DEQ, and outside agencies. Prepare records of decisions and meeting notes. Monitor project budget. Prepare, maintain, and update project activity schedule. Project Management responsibilities also include Contract management, Sub-consultant management, and providing timely responses to City and regulatory authority comments and requests.

BES Involvement:

- Sherwood with support from BES senior management

Key Team Members Involved:

- Cotten, Green, and Burkhart

Assumptions:

- Assume 34 month project duration and 32 monthly narratives and invoices.
- Assume twice monthly coordination teleconference meetings with BES project manager during active project periods. Skype connections between CH2M and BES will be used to facilitate information sharing during teleconference meetings.
- Budget assumes that overall project scope is as defined in the preceding Task 1-7 (excluding the optional tasks).
- Assume project *management costs for* each Contingency tasks are generally proportional to base project management costs. Additional project management effort associated with Contingency Tasks is included in Project Management Task 8.5.

Deliverables:

- Project management plan including definition of project team, roles and responsibilities
- Monthly invoices including progress report for 36 months of reporting (2 paper copies)
- Change management plan, including Decision/Change logs
- Project schedule updates
- Project Quality Management Plan
- Closeout plan

CONSULTANT PERSONNEL

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

FIRM	NAME	ROLE ON PROJECT
CH2M HILL	Dave Wilson	Senior Technical Engineer
CH2M HILL	Dave Green	Senior Advisor
CH2M HILL	Quitterie Cotten	Project Manager
CH2M HILL	Byrl Thompson	Senior Outfall Engineer
CH2M HILL	Brad Paulson	Senior Technical Modeler
CH2M HILL	Steve Mader	Permitting Lead

SUBCONSULTANTS

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

NAME	M/W/ESB	ROLE ON PROJECT	SUBCONTRACT AMOUNT
Base Tasks			
Solmar Hydro, Inc.	ESB	Hydrographic, Currents & Sediment Surveys, Navigation, and Data Analysis	$ 16,000
Stillwater Sciences, Inc.	WBE	Biological & Sediment Studies	$ 29,200
JLA Public Involvement, Inc.	DBE/WBE	Public Involvement	$ 9,189
Ballard Marine Construction, Inc.		Constructability Reviews	$ 5,600
		Base Budget Total (without Contingency Tasks):	***$ 59,989***
Contingency Tasks			
Stillwater Sciences, Inc.	WBE	Biological & Sediment Studies	$ 99,900
Solmar Hydro, Inc.	ESB	Hydrographic, Currents & Sediment Surveys, Navigation, and Data Analysis	$ 4,000
		Total Contingency Tasks:	***$103,900***
		TOTAL SUBCONTRACT AMOUNT:	**$163,889**

The City will enforce all social equity contracting and Minority, Women and Emerging Small Business (M/W/ESB) subcontracting commitments submitted by the Consultant in its Proposal. The 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 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.

For contracts valued $50,000 or more, the Consultant shall submit a Monthly Subconsultant Payment and Utilization Report (MUR), made part of this Contract by reference, reporting ALL Subconsultants employed in the performance of this Contract. An electronic copy of the MUR may be obtained by contacting the PTE Contract Compliance Specialist.

COMPENSATION

The maximum that the Consultant can be paid on this contract is $674,612 (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.

The task breakdown of the "not to exceed" amount is shown in the table below. Work cannot proceed on a Task and/or charges made against a Task until the Consultant has received written notification from the City's Project Manager that the Task is authorized to proceed. The Consultant may not reallocate compensation between tasks without the written approval of the City's Project Manager.

TASK	DESCRIPTION	COST NOT TO EXCEED
	Base Tasks	
1	Preliminary Design Phase	$197,207
2	Design Phase	$109,472
3	Permitting Support	$ 96,935
4	Public Involvement Support	$ 12,891
5	Bid Phase Support Services	$ 15,492
6	Construction Phase Support Services	$ 17,012
7	Project Management and Quality Assurance	$ 59,724
	Base Budget Total (without Contingency Tasks):	***$508,733***
	Contingency Tasks	
1.1.b.2	Spring 2017 (Sediments)	$ 20,650
3.2.2	Perform Sediment Evaluation (Level 2)	$ 81,865
3.3	Prepare JPA #1_Dredge Sediment	$ 14,238
3.5.2	Prepare Biological Assessment	$ 31,830
7.5.1	Project Management for Contingency Task 1.1.b.2	$ 2,404
7.5.2	Project Management for Contingency Task 3.2.2	$ 9,530
7.5.3	Project Management for Contingency Task 3.3	$ 1,657
7.5.4	Project Management for Contingency Task 3.5.2	$ 3,705
	Total Contingency Tasks:	***$165,879***
	TOTAL CONTRACT AMOUNT:	**$674,612**

The necessity for Contingency Tasks will be determined by the City. No work or charges may proceed on Supplemental Services without written authorization of the City's Project Manager.

Hourly Rates

The billing rates shall not exceed those set forth below:

NAME	ROLE ON PROJECT	MAX HOURLY RATE
Dave Wilson	Senior Technical Engineer	$211
Dave Green	Senior Advisor	$250
Quitterie Cotten	Project Manager	$183
Byrl Thompson	Senior Outfall Engineer	$200
Brad Paulson	Senior Technical Modeler	$215
Steve Mader	Permitting Lead	$242

The hourly billing rates include a multiplier applied to salaries. 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 a 100-mile radius of Consultant's project office), information technology (including computer time and CAD services and other related highly specialized equipment), all other direct costs not identified as reimbursable, other indirect costs and profit.

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 project tasks and when to a location outside a 100-mile radius

of Consultant's project office. Travel will be preapproved by the City's Project Manager and travel costs will be reimbursed in accordance with the City's Travel Expense Guidelines.

- Photocopying/Reproduction Costs. Reproduction of required drawings, reports, specifications, in excess of the number required as part of the contract excluding the cost of reproduction for Consultant's or sub's own use.

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%.

Adjustment of Labor Rates Due to Inflation

Annual adjustment of hourly rates will be considered upon written request from the Consultant. Approval of a request for rate increases is solely within the City's discretion and under no circumstances is the City obligated to approve such a request.

Rate increases are subject to the following limitations:

- No increases will be granted before the one-year anniversary of the contract;
- No more than one increase shall be granted per contract year;
- Rate increases may not exceed the inflation rate for the preceding calendar year for the Portland Metropolitan Area (as determined from the US Department of Labor statistics);
- Rate increases shall not be retroactive.

Other than the impact of inflation as described above, hourly rates may not be increased.

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 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.

PAYMENT TERMS: Net 30 Days

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, Consultants 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 MANANGER-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 Chapter 3.100 of Code of the City of Portland; and hereby certify I am an independent consultant as defined in ORS 670.600.

CH2M HILL Engineers, Inc.

BY:_____ Date:_____

Name:_____

Title:_____

188247

CONTRACT NUMBER: _____

CONTRACT TITLE: **CBWTP Outfall 3 Improvements**

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