CITY OF NEWPORT, OREGON
PROFESSIONAL SERVICES AGREEMENT

Engineer of Record

THIS AGREEMENT is between City of Newport, an Oregon municipal corporation (City), and Brown and Caldwell, Inc., a California corporation, which is registered to practice Civil Engineering in the State of Oregon (Consultant).

RECITALS

A. Pursuant to public contracting rule 137-048-0220, the City of Newport (City) solicited proposals for professional Consulting services to assist the City in Engineering Services.

B. After reviewing all proposals, the City has selected Brown and Caldwell, Inc. (Consultant) as a Consultant of Record to provide the proposed services.

C. Consultant is willing and qualified to perform such services.

TERMS OF AGREEMENT

1. Consultant's Scope of Services

Consultant shall perform professional Consulting services related to Civil Engineering. The City is free to utilize other Consultants or consultant as it deems appropriate.

2. Effective Date and Duration

This agreement is effective on execution by both parties and shall expire, unless otherwise terminated or extended, after three years. The parties may extend the term by mutual agreement.

3. Consultant's Fee and Schedules

A. Fee

Fees for services under this Agreement shall be based on time and materials and pursuant to the rates shown in Exhibit A. Consultant may increase the rates shown in Exhibit A on an annual basis, subject to the written approval of the City. Consultant will alert the City when Consultant is increasing its fees. Consultant will bill for progress payments on a monthly basis. In order to determine the maximum monetary limit for each task, Consultant will submit a schedule and a labor hour estimate based on the rates shown in Exhibit A. Consultant will invoice monthly progress payments based on actual time worked on the project. The maximum monetary limit will not be exceeded without prior written approval by the City. Projects partially completed may be paid for in proportion to the degree of completion.

Consultant will be reimbursed for direct charges such as the cost of printing, postage, delivery services, and subconsultant fees. Unless specifically noted in the Task Order, direct charges will be billed at cost without any markup. Office expenses such as computer cost, telephone calls,

and overhead expenses are incidental and are included in the hourly rates shown in Exhibit A.

B. Payment Schedule for Basic Fee

Payments shall be made within 30 days of receipt of monthly billings based on the work completed. Payment by the City shall release the City from any further obligation for payment to the Consultant for service or services performed or expenses incurred as of the date of the statement of services. Payment shall be made only for work actually completed as of the date of invoice. Payment shall not be considered acceptance or approval of any work or waiver of any defects therein.

C. Payment for Contingency Tasks

When agreed to in writing by the City, the Consultant shall provide services described as Contingency Tasks in a Task Order.

D. Certified Cost Records

Consultant shall furnish certified cost records for all billings to substantiate all charges. Consultant's accounts shall be subject to audit by the City. Consultant shall submit billings in a form satisfactory to the City. At a minimum, each billing shall identify the Task Order under such work is performed, work completed during the billing period, percentage of work completed to date, and percentage of budget used to date for each task.

E. Identification

Consultant shall furnish to the City its employer identification number.

F. Payment – General

1) Consultant shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

2) Consultant shall pay employees at least time and a half pay for all overtime worked in excess of 40 hours in any one week except for individuals under the contract who are excluded under ORS 653.010 to 653.261 or under 29 USC sections 201 to 209 from receiving overtime. Any subcontractors utilized by Consultant under this Agreement will be paid according to the then prevailing wage.

3) Consultant shall promptly, as due, make payment to any person, co-partnership, association or corporation, furnishing medical, surgical and hospital care or other needed care and attention incident to sickness or injury to the employees of Consultant or all sums which Consultant agrees to pay for such services and all moneys and sums which Consultant collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.

4) Consultant shall make payments promptly, as due, to all persons supplying services or materials for work covered under this contract. Consultant shall not permit any lien or claim to be filed or prosecuted against the City on any account of any service or materials furnished.

5) If Consultant fails, neglects or refuses to make prompt payment of any claim for labor, materials, or services furnished to Consultant, sub-consultant or subcontractor by any person as such claim becomes due, City may pay such claim and charge the amount of the payment against funds due or to become due to the Consultant. The payment of the claim in this manner shall not relieve Consultant or its surety from obligation with respect to any unpaid claims.

G. Schedule

Consultant shall provide services under this Agreement in accordance with the Project Schedule.

4. **Ownership of Plans and Documents: Records; Confidentiality**

A. Definitions. As used in this Agreement, the following terms have the meanings set forth below:

1) Consultant Intellectual Property means any intellectual property owned by Consultant and developed independently from this Agreement that is applicable to the Services or included in the Work Product.

2) Third Party Intellectual Property means any intellectual property owned by parties other than City or Consultant that is applicable to the Services or included in the Work Product.

3) Work Product means the Services Consultant delivers or is required to deliver to City under this Agreement. Work Product includes every invention, discovery, work of authorship, trade secret or other tangible or intangible item and all intellectual property rights therein, and all copies of plans, specifications, reports and other materials, whether completed, partially completed or in draft form.

B. Work Product

1) Except as provided elsewhere in this Agreement, all Work Product created by Consultant pursuant to this Agreement, including derivative works and compilations, and whether or not such Work Product is considered a "work made for hire" or an employment to invent, shall be the exclusive property of City. City and Consultant agree that such original works of authorship are "work made for hire" of which City is the author within the meaning of the United States Copyright Act. To the extent that City is not the owner of the intellectual property rights in such Work Product, Consultant hereby irrevocably assigns to City any and all of its rights, title, and interest in all original Work Product created pursuant to this Agreement, whether arising from copyright, patent,

trademark, trade secret, or any other state or federal intellectual property law or doctrine. Upon City's reasonable request, Consultant shall execute such further documents and instruments necessary to fully vest such rights in City. Consultant forever waives any and all rights relating to original Work Product created pursuant to this Agreement, including without limitation, any and all rights arising under 17 USC §106A or any other rights of identification of authorship or rights of approval, restriction or limitation on use or subsequent modifications.

2) In the event Consultant Intellectual Property is necessary for the use of any Work Product, Consultant hereby grants to City an irrevocable, non-exclusive, non-transferable, perpetual, royalty-free license to use Consultant Intellectual Property, including the right of City to authorize contractors, Consultants and others to use Consultant Intellectual Property, for the purposes described in this Agreement.

3) In the event Third Party Intellectual Property is necessary for the use of any Work Product, Consultant shall secure on City's behalf and in the name of City, an irrevocable, non-exclusive, non-transferable, perpetual, royalty-free license to use the Third Party Intellectual Property, including the right of City to authorize contractors, Consultants and others to use the Third Party Intellectual Property, for the purposes described in this Contract.

4) In the event Work Product created by Consultant under this Agreement is a derivative work based on Consultant Intellectual Property or is a compilation that includes Consultant Intellectual Property, Consultant hereby grants to City an irrevocable, non-exclusive, non-transferable, perpetual, royalty-free license to use the pre-existing elements of Consultant Intellectual Property employed in the Work Product, including the right of City to authorize contractors, Consultants and others to use the pre-existing elements of Consultant Intellectual Property employed in a Work Product, for the purposes described in this Agreement.

5) In the event Work Product created by Consultant under this Agreement is a derivative work based on Third Party Intellectual Property, or a compilation that includes Third Party Intellectual Property, Consultant shall secure on City's behalf and in the name of City an irrevocable, non-exclusive, non-transferable, perpetual, royalty-free license to use the pre-existing elements of the Third Party Intellectual Property, including the right to authorize contractors, Consultants and others to use the pre-existing elements of the Third Party Intellectual Property, for the purposes described in this Agreement.

6) To the extent permitted by the Oregon Constitution and by the Oregon Tort Claims Act, Consultant shall be indemnified and held harmless by City from liability arising out of re-use or alteration of the Work Product by City which was not specifically contemplated and agreed to by the Parties in this Agreement.

7) Consultant may refer to the Work Product in its brochures or other literature

that Consultant utilizes for advertising purposes and, unless otherwise specified, Consultant may use standard line drawings, specifications and calculations on other, unrelated projects.

C. Confidential Information

1) Consultant acknowledges that it or its employees, Sub-Consultants, subcontractors or agents may, in the course of performing their responsibilities under this Agreement, be exposed to or acquire information that is the confidential information of City or City's residents. Any and all information provided by City and marked confidential, or identified as confidential in a separate writing, that becomes available to Consultant or its employees, Sub-Consultants, subcontractors or agents in the performance of this Agreement shall be deemed to be confidential information of City ("Confidential Information"). Any reports or other documents or items, including software, that result from Consultant's use of the Confidential Information and any Work Product that City designates as confidential are deemed Confidential Information. Confidential Information shall be deemed not to include information that: (a) is or becomes (other than by disclosure by Consultant) publicly known; (b) is furnished by City to others without restrictions similar to those imposed by this Agreement; (c) is rightfully in Consultant's possession without the obligation of nondisclosure prior to the time of its disclosure under this Agreement; (d) is obtained from a source other than City without the obligation of confidentiality; (e) is disclosed with the written consent of City; or (f) is independently developed by employees or agents of Consultant who can be shown to have had no access to the Confidential Information; or (g) is required to be disclosed by law, subpoena, or other court order.

2) Consultant agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Consultant uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purposes whatsoever other than the provision of Services to City under this Agreement, and to advise each of its employees, Sub-Consultants, subcontractors and agents of their obligations to keep Confidential Information confidential. Consultant shall use its best efforts to assist City in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limiting the generality of the foregoing, Consultant shall advise City immediately in the event Consultant learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Agreement and Consultant will at its expense cooperate with City in seeking injunctive or other equitable relief in the name of City or Consultant against any such person. Consultant agrees that, except as directed by City, Consultant will not at any time during or after the term of this Agreement disclose, directly or indirectly, any Confidential Information to any person, except in accordance with this Agreement, and that upon termination of this Agreement or at City's request, Consultant will turn over to City all

documents, papers, and other matter in Consultant's possession that embody Confidential Information.

3) Consultant acknowledges that breach of this Section 4, including disclosure of any Confidential Information, will give rise to irreparable injury to City that is inadequately compensable in damages. Accordingly, City may seek and obtain injunctive relief against the breach or threatened breach of this Section 4, in addition to any other legal remedies that may be available. Consultant acknowledges and agrees that the covenants contained herein are necessary for the protection of the legitimate business interests of City and are reasonable in scope and content.

5. Assignment/Delegation

Neither party shall assign or transfer any interest in or duty under this Agreement without the written consent of the other. If City agrees to assignment of tasks to a subcontractor, Consultant shall be fully responsible for the acts or omissions of any subcontractors. Any approval of a subcontractor does not create a contractual relationship between the subcontractor and City.

6. Consultant is Independent Contractor

A. The City's project director, or designee, shall be responsible for determining whether Consultant's work product is satisfactory and consistent with this Agreement, but Consultant is not subject to the direction and control of the City. Consultant shall be an independent contractor for all purposes and shall not be entitled to compensation other than the compensation provided for under Section 3 of this Agreement. The City's acceptance of the work product as satisfactory does not relieve the Consultant from responsibility for any errors in the work product.

B. Consultant is an independent contractor and not an employee of City. Consultant acknowledges Consultant's status as an independent contractor and acknowledges that Consultant is not an employee of the City for purposes of workers compensation law, public employee benefits law, or any other law. All persons retained by Consultant to provide services under this Agreement are employees of Consultant and not of City. Consultant acknowledges that it is not entitled to benefits of any kind to which a City employee is entitled and that it shall be solely responsible for workers compensation coverage for its employees and all other payments and taxes required by law. Furthermore, in the event that Consultant is found by a court of law or an administrative agency to be an employee of the City for any purpose, City shall be entitled to offset compensation due, or to demand repayment of any amounts paid to Consultant under the terms of the Agreement, to the full extent of any benefits or other remuneration Consultant receives (from City or third party) as a result of the finding and to the full extent of any payments that City is required to make as a result of the finding.

C. The Consultant represents that no employee of the City or any partnership or corporation in which a City employee has an interest, has or will receive any remuneration of any description from the Consultant, either directly or indirectly, in connection with the letting or performance of this Agreement, except as specifically

declared in writing.

D. Consultant and its employees, if any, are not active members of the Oregon Public Employees Retirement System.

E. Consultant certifies that it currently has a City business license or will obtain one prior to delivering services under this Agreement.

F. Consultant is not an officer, employee, or agent of the City as those terms are used in ORS 30.265.

7. Indemnity

A. The City has relied upon the professional ability and training of the Consultant as a material inducement to enter into this Agreement. Consultant represents to the City that the work under this Agreement will be performed in accordance with the professional standards of skill and care ordinarily exercised by members of the Civil Engineering profession under similar conditions and circumstances as well as the requirements of applicable federal, state and local laws, it being understood that acceptance of a Consultant's work by the City shall not operate as a waiver or release. Acceptance of documents by City does not relieve Consultant of any responsibility for design deficiencies, errors or omissions.

B. Consultant shall defend, hold harmless and indemnify the City, its officers, agents, and employees from all claims, suits, or actions to the extent caused by the alleged negligent or otherwise wrongful acts or omissions of Consultant or its subcontractors, sub-Consultants, agents or employees under this Agreement. This indemnification does not extend to indemnification for negligent or otherwise wrongful acts or omissions of the City. If any aspect of this indemnity shall be found to be illegal or invalid for any reason whatsoever, the illegality or invalidity shall not affect the validity of the remainder of this indemnification.

C. Consultant shall save and hold harmless the City, its officers, agents, and employees from all claims, suits, or actions and all expenses incidental to the investigation and defense thereof, to the extent caused by the professional negligent acts, errors or omissions of Consultant or its subcontractors, sub-Consultants, agents or employees in performance of professional services under this Agreement. Any design work by Consultant that results in a design of a facility that does not comply with applicable laws including accessibility for persons with disabilities shall be considered a professionally negligent act, error or omission.

D. As used in subsections B and C of this section, a claim for professional responsibility is a claim made against the City in which the City's alleged liability results directly or indirectly, in whole or in part, from the quality of the professional services provided by Consultant, regardless of the type of claim made against the City. A claim for other than professional responsibility is a claim made against the City in which the City's alleged liability results from an act or omission by Consultant unrelated to the quality of professional services provided by Consultant.

8. Insurance

Consultant and its subcontractors shall maintain insurance acceptable to City in full force and effect throughout the term of this Agreement as detailed in this section. The insurance shall cover all risks arising directly or indirectly out of Consultant's activities or work hereunder, including the operations of its subcontractors of any tier.

The policy or policies of insurance maintained by the Consultant and its subcontractors shall provide at least the following limits and coverages:

A. Commercial General Liability Insurance

Commercial General Liability Insurance covering Bodily Injury and Property Damage on an "occurrence" form with policy limits of at least per occurrence. This coverage shall include Contractual Liability insurance for the indemnity provided under this Agreement subject to policy terms and conditions in an amount of $2,000,000.

B. Professional Liability

Professional Liability Insurance covering any damages caused by a negligent act, error, or omission. Combined single limit per claim shall not be less than $1,300,000, or the equivalent. Annual aggregate limit shall not be less than $2,000,000 and filed on a "claims-made" form.

C. Commercial Automobile Insurance

Commercial Automobile Liability coverage on a "per accident" basis including coverage for all owned, hired, and non-owned vehicles. The Combined Single Limit per accident shall not be less than $1,300,000.

D. Workers' Compensation Insurance

The Consultant, its subcontractors, if any, and all employers providing work, labor or materials under this Agreement are subject employers under the Oregon Workers' Compensation Law and shall comply with ORS 656.017, which requires them to provide workers' compensation coverage that satisfies Oregon law for all their subject workers. Out-of-state employers must provide Oregon workers' compensation coverage for their workers who work at a single location within Oregon for more than 30 days in a calendar year. Consultants who perform work without the assistance or labor of any employee need not obtain such coverage.

E. Additional Insured Provision

The Commercial General Liability Insurance Policy shall include the City its officers, directors, and employees as additional insureds with respect to this Agreement. Coverage will be endorsed to provide a per project aggregate.

F. Extended Reporting Coverage

If any of the liability insurance is arranged on a "claims made" basis, Extended Reporting coverage will be required at the completion of this Agreement to a duration of 24 months or the maximum time period the Consultant's insurer will provide if less than 24 months. Consultant will be responsible for furnishing certification of Extended Reporting coverage as described or continuous "claims made" liability coverage for 24 months following Agreement completion. Continuous "claims made" coverage will be acceptable in lieu of Extended Reporting coverage, provided its retroactive date is on or before the effective date of this Agreement.

G. Notice of Cancellation

There shall be no cancellation, material change, exhaustion of aggregate limits or intent not to renew insurance coverage without 30 days' written notice to the City. Any failure to comply with this provision will not affect the insurance coverage provided to the City. The 30 days' notice of cancellation provision shall be physically endorsed on to the policy.

H. Insurance Carrier Rating

Coverage provided by the Consultant must be underwritten by an insurance company deemed acceptable by the City. The City reserves the right to reject all or any insurance carrier(s) with an unacceptable financial rating.

I. Certificates of Insurance

As evidence of the insurance coverage required by the Agreement, the Consultant shall furnish a Certificate of Insurance to the City. No Agreement shall be effected until the required certificates have been received and approved by the City. The certificate will specify and document all provisions within this Agreement. A renewal certificate will be sent to the address below ten days prior to coverage expiration.

J. Primary Coverage Clarification

The parties agree that Consultant's coverage shall be primary to the extent permitted by law and except for Workers' Compensation and Professional Liability policies. The parties further agree that other insurance maintained by the City is excess and not contributory insurance with the insurance required in this section.

K. Certificate of Insurance

A cross-liability clause or separation of insureds clause will be included in the general liability policy required by this Agreement. Consultant shall furnish City with at least 30-days written notice of cancellation of, or any modification to, the required insurance coverages. A certificate in form satisfactory to City certifying to the issuance of such insurance shall be forwarded to:

Chris Janigo, PE
Acting City Engineer
City of Newport
169 SW Coast Highway
Newport, OR 97365

Thirty days' cancellation notice shall be provided City by mail to the name at the address listed above in event of cancellation or non-renewal of the insurance. The procuring of the required insurance shall not be construed to limit Consultant's liability under this agreement. The insurance does not relieve Consultant's obligation for the total amount of any damage, injury, or loss caused by negligence or neglect connected with this Agreement.

9. Termination Without Cause

At any time and without cause, City shall have the right in its sole discretion, to terminate this Agreement by giving notice to Consultant. If City terminates the Agreement pursuant to this section, Consultant shall be entitled to payment for services provided prior to the termination date.

10. Termination with Cause

A. City may terminate this Agreement effective upon delivery of written notice to Consultant, or at such later date as may be established by City, under any of the following conditions:

1) If City funding from federal, state, local, or other sources is not obtained and continued at levels sufficient to allow for the purchase of the indicated quantity of services. This Agreement may be modified to accommodate a reduction in funds.

2) If Federal or State regulations or guidelines are modified, changed, or interpreted in such a way that the services are no longer allowable or appropriate for purchase under this Agreement.

3) If any license or certificate required by law or regulation to be held by Consultant, its subcontractors, agents, and employees to provide the services required by this Agreement is for any reason denied, revoked, or not renewed.

Any termination of this agreement under paragraph (A) shall be without prejudice to any obligations or liabilities of either party already accrued prior to such termination.

B. City, by written notice of default (including breach of Agreement) to Consultant, may terminate this Agreement:

1) If Consultant fails to provide services called for by this Agreement within the time specified, or

2) If Consultant fails to perform any of the other provisions of this Agreement, or fails to pursue the work as to endanger performance of this Agreement in accordance with its terms, and after receipt of written notice from City, fails to correct such failures within ten days or such other period as City may authorize.

C. If City terminates this Agreement, it shall pay Consultant for all undisputed invoices tendered for services provided prior to the date of termination.

D. Damages for breach of Agreement shall be those allowed by Oregon law, reasonable and necessary attorney fees, and other costs of litigation at trial and upon appeal.

11. Non-Waiver

The failure of City to insist upon or enforce strict performance by Consultant of any of the terms of this Agreement or to exercise any rights hereunder, should not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights on any future occasion.

12. Notice

All notices, bills and payments shall be made in writing and may be given by personal delivery, mail, or by fax. Payments may be made by personal delivery, mail, or electronic transfer. The following addresses shall be used to transmit notices, bills, payments, and other information:

IF TO CITY OF NEWPORT	IF TO CONSULTANT
Chris Janigo, PE	Josh Johnson, PE
Acting City Engineer	Brown and Caldwell, Inc.
City of Newport	6500 SW Macadam Ave
169 SW Coast Highway	Suite 300
Newport, OR 97365	Portland, OR 97239
541-574-3366	503-244-7005
c.janigo@newportoregon.gov	jjohnson@brwncald.com

The date of deposit in the mail shall be the notice date for first class mail. All other notices, bills and payments shall be effective at the time of actual delivery. Changes may be made in the names and addresses of the person to whom notices, bills and payments are to be given by giving written notice pursuant to this paragraph.

13. Merger

This writing is intended both as a final expression of the Agreement between the parties with respect to the included terms and as a complete and exclusive statement of the terms of the Agreement. No modification of this Agreement shall be effective unless and until it is made in writing and signed by both parties.

14. Force Majeure

Neither City nor Consultant shall be considered in default because of any delays in completion and responsibilities hereunder due to causes beyond the control and without fault or negligence on the part of the parties so disenabled, including but not restricted to, an act of God or of a public enemy, civil unrest, volcano, earthquake, fire, flood, epidemic, quarantine restriction, area-wide strike, freight embargo, unusually severe weather or delay of subcontractors or supplies due to such cause; provided that the parties so disenabled shall within ten days from the beginning of such delay, notify the other party in writing of the cause of delay and its probable extent. Such notification shall not be the basis for a claim for additional compensation. Each party shall, however, make all reasonable efforts to remove or

eliminate such a cause of delay or default and shall, upon cessation of the cause, diligently pursue performance of its obligation under the Agreement.

15. Non-Discrimination

Consultant agrees to comply with all applicable requirements of federal and state statutes, rules, and regulations. By way of example only, Consultant also shall comply with the Americans with Disabilities Act of 1990, ORS 659A.142, and all regulations and administrative rules established pursuant to those laws.

16. Errors

Consultant shall perform such additional work as may be necessary to correct errors in the work required under this Agreement without undue delays and without additional cost.

17. Extra Work

Extra work or work on Contingency Tasks is not authorized unless the City authorizes the additional or contingency work in writing. Failure of Consultant to secure written authorization for extra work shall constitute a waiver of all right to adjustment in the Agreement price or Agreement time due to unauthorized extra work and Consultant shall be entitled to no compensation for the performance of any extra work not authorized in writing.

18. Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the State of Oregon, without regard to conflict of law principles. Any action or suits involving any question arising under this Agreement must be brought in the appropriate court of the State of Oregon, and the parties hereby consent to venue in Lincoln County Circuit Court, Oregon, unless exclusive jurisdiction is in federal court, in which case venue shall be in federal district court for the District of Oregon.

19. Compliance with Applicable Law

Consultant shall comply with all federal, state, and local laws and ordinances applicable to the work under this Agreement, including but not limited to those set forth in ORS 279A, 279B and 279C. While all required contractual provisions are included in Exhibit B, Consultant shall be familiar with and responsible for compliance with all other applicable provisions of the Oregon Public Contracting Code.

20. Conflict Between Terms

This document shall control in the event of any conflict in terms between this document and the RFP and/or proposal.

21. Access to Records

City shall have access to the books, documents, papers and records of Consultant that are directly pertinent to this Agreement for the purpose of making audit, examination, excerpts and transcripts.

22. Audit

Consultant shall maintain records to assure conformance with the terms and conditions of this Agreement, and to assure adequate performance and accurate expenditures within the Agreement period. Consultant agrees to permit City or its duly authorized representatives to audit all records pertaining to this Agreement to assure the accurate expenditure of funds.

23. Severability

In the event any provision or portion of this Agreement is held to be unenforceable or invalid by any court of competent jurisdiction, the validity of the remaining terms and provisions shall not be affected to the extent that it did not materially affect the intent of the parties when they entered into the Agreement.

24. Industrial Accident Fund Payment

Consultant shall pay all contributions or amount due the Industrial Accident Fund that Consultant or subcontractors incur during the performance of this Agreement.

25. Arbitration

All claims, disputes, and other matters in question between the City and Consultant arising out of, or relating to this Contract, including rescission, reformation, enforcement, or the breach thereof except for claims which may have been waived by the making or acceptance of final payment, may be decided by binding arbitration or mediation, as mutually agreed, in accordance with the Oregon Uniform Arbitration Act, ORS 36.600, et seq. and any additional rules mutually agreed to by both parties. If the parties cannot agree on rules within ten (10) days after the notice of demand, the presiding judge of the Lincoln County Circuit Court will establish rules to govern the arbitration.

A claim by Consultant arising out of, or relating to this Contract must be made in writing and delivered to the City Administrator not less than 30 days after the date of the occurrence giving rise to the claim. Failure to file a claim with the City Administrator within 30 days of the date of the occurrence that gave rise to the claim shall constitute a waiver of the claim. A claim filed with the City Administrator will be considered by the City Board at the Board's next regularly scheduled meeting. At that meeting the Board will render a written decision approving or denying the claim. If the claim is denied by the Board, the Consultant may file a written request for arbitration with the City Administrator. No demand for arbitration shall be effective until the City Board has rendered a written decision denying the underlying claim. No demand for arbitration shall be made later than thirty (30) days after the date on which the City has rendered a written decision on the underlying claim. The failure to demand arbitration within said 30 days shall result in the City Board's decision being binding upon the City and Consultant.

Notice of demand for arbitration shall be filed in writing with the other party to the agreement, subject to applicable statutes of limitation, except as set forth above. The City, if not the party demanding arbitration, has the option of allowing the matter to proceed with binding arbitration or by written notice within five (5) days after receipt of a demand for arbitration, to reject arbitration and require the Consultant to proceed through the courts for relief. If arbitration is followed, the parties agree that the award rendered by the arbitrators will be final, judgment may be entered upon it in any court having jurisdiction thereof, and will not be subject to modifications or appeal except to the extent permitted by

Oregon law.

26. Attorney Fees

If suit, action or arbitration is brought either directly or indirectly to rescind, reform, interpret or enforce the terms of this contract, the prevailing party shall recover and the losing party hereby agrees to pay reasonable attorney fees incurred in such proceeding, in both the trial and appellate courts, as well as the costs and disbursements. Further, if it becomes necessary for City to incur the services of an attorney to enforce any provision of this contract without initiating litigation, Consultant agrees to pay City's attorney fees so incurred. Such costs and fees shall bear interest at the maximum legal rate from the date incurred until the date paid by losing party.

27. Complete Agreement

This Agreement and any exhibit(s) hereto and any and all Task Orders executed by the parties constitute the entire agreement between the parties. No waiver, consent, modification, or change of terms of this Agreement shall bind either party unless in writing and signed by both parties. Any waiver, consent, modification, or change if made, shall be effective only in specific instances and for the specific purpose given. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Agreement. In the event of a conflict between the documents comprising this Agreement, interpretation shall occur in the following manner: 1) each individual Task Order; 2) this Agreement and any exhibits hereto; and 3) the RFP and Response. The following exhibits are attached to and incorporated into this Agreement:

A. Exhibit A – Consultant's Fee Schedule
B. Exhibit B – Oregon Public Contracting Code/required contractual provisions
C. Exhibit C – Consultant of Record RFP and Consultant's Proposal

28. Miscellaneous

A. Consultant agrees that news releases and other publicity relating to the subject of this Agreement will be made only with the prior written consent of City.
B. Consultant shall comply with all virus-protection, access control, back-up, password, and other security and other information technology policies of City when using, having access to, or creating systems for any of City's computers, data, systems, personnel, or other information resources.
C. Consultant will include in all contracts with subcontractors appropriate provisions as required by ORS 279C.580.
D. Consultant will comply with environmental and natural resources regulations as set forth in ORS 279B.225 and regulations relating to the salvaging, recycling, composting or mulching yard waste material, and salvage and recycling of construction and demolition debris as set forth in ORS 279B.225 and 279C.510.

By their signatures hereunder, the parties acknowledge they have read and understand this Agreement and agree to be bound by its terms. This Agreement is effective on the date last signed below by a party below:

CITY OF NEWPORT:

Spencer R. Nebel, City Manager

Date: 6-11-21

Brown and Caldwell, Inc.:

By: Bryan K Paulson

Its: Vice President

Date: 4-20-21

EXHIBIT A
CONSULTANT'S FEE SCHEDULE

Brown and Caldwell, Inc. Schedule of Hourly Rates

Level	Engineering	Technical/Scientific	Administrative	Hourly Rate
A			Office/Support Services I	$67
B			Office/Support Services II Project Aide	
	Drafter Trainee	Field Service Technician I	Word Processor I	$75
C	Assistant Drafter		Office/Support Services III Sr. Project Aide	
	Intern II	Field Service Technician II	Word Processor II	$85
D	Drafter		Accountant I Office/Support Services IV Project Analyst I	
	Engineering Aide		Project Coordinator I	
	Inspection Aide	Field Service Technician III	Word Processor III	$100
E	Engineer I Senior Drafter Senior Illustrator	Geologist/ Hydrogeologist I Scientist I	Admin Coordinator Accountant II Project Analyst II Project Coordinator II	
	Inspector I	Senior Field Service Technician	Word Processor IV	$114
F	Designer Engineer II Inspector II Lead Drafter Lead Illustrator	Geologist/ Hydrogeologist II Scientist II	Accountant III Administrative Supervisor Area Business Operations Mgr. Project Analyst III Sr Project Coordinator Sr Health & Safety Specialist Technical Writer Word Processing Supervisor	$131
G	Engineer III Inspector III Senior Designer Supervising Drafter Supervising Illustrator	Geologist/ Hydrogeologist III Scientist III	Accountant IV Administrative Manager Graphic Design Manager PA Manager I	$150
H	Senior Engineer Principal Designer Senior Construction Engineer Senior Engineer	Senior Business Consultant Senior Geologist/ Hydrogeologist Senior Scientist	Health & Safety II Senior Technical Writer	$174
I	Principal Engineer Principal Construction Engr Supervising Designer	Principal Geologist Principal Hydrogeologist Principal Scientist	Health & Safety Risk Mgr III Corp. Contract Administrator	$202
J	Supervising Engineer Supervising Constr. Engineer Supervising Engineer	Supervising Business Consultant Supervising Scientist Supervising Geologist Supervising Hydrogeologist	Assistant Controller	$239
K	Managing Engineer	Managing Business Consultant Managing Geologist Managing Hydrogeologist Managing Scientist	Area Bus Ops Mgr. IV	$273
L - N	Chief Engineer Executive Engineer Vice President Senior Vice President	Chief Scientist Chief Geologist Chief Hydrogeologist	Corp. Marketing Comm. Mgr.	$296

Notes

1. Rates valid through December 31, 2021.
2. The rate schedule may be updated annually for escalation of rates.
3. Miscellaneous project expenses (CAD computers and printers, software licenses, color graphics, copying, printing, etc.) are included in the hourly rates and not billed separately.
4. Mileage costs are based on the IRS standard mileage rate, currently $0.56 per mile.
5. Subconsultant work is subject to a 5% markup.

Brown and Caldwell, Inc.
6500 S Macadam Ave, Suite 200
Portland, OR 97239

EXHIBIT B
Oregon Public Contracting Requirements
ORS CHAPTERS 279B AND 279C REQUIREMENTS

(1) Contractor shall pay promptly, as due, all persons supplying labor or materials for the prosecution of the work provided for in the contract, and shall be responsible for such payment of all persons supplying such labor or material to any Subcontractor. ORS 279B.220(1); 279C.505(1)(a)

(2) Contractor shall promptly pay all contributions or amounts due the Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the contract. ORS 279B.220(2); 279C.505(1)(b)

(3) Contractor shall not permit any lien or claim to be filed or prosecuted against the Contracting Agency on account of any labor or material furnished and agrees to assume responsibility for satisfaction of any such lien so filed or prosecuted. ORS 279B.220(3); 279C.505(1)(c)

(4) Contractor and any Subcontractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167. ORS 279B.220(4); 279C.505(1)(d)

(5) Contractor agrees that if Contractor fails, neglects or refuses to make prompt payment of any claim for labor or materials furnished to the Contractor or a Subcontractor by any person in connection with the contract as such claim becomes due, the City may pay such claim to the persons furnishing the labor or material and charge the amount of payment against funds due or to become due Contractor by reason of the contract. The payment of a claim in the manner authorized hereby shall not relieve the Contractor or his surety from his or its obligation with respect to any unpaid claim. If the City is unable to determine the validity of any claim for labor or material furnished, the City may withhold from any current payment due Contractor an amount equal to said claim until its validity is determined and the claim, if valid, is paid. ORS 279C.515

(6) Contractor shall promptly, as due, make payment to any person, copartnership, association, or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all monies and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service. ORS 279B.230(1); 279C.530(1)

(7) All subject employers working under the contractor are either employers that will comply with ORS 656.017, or employers that are exempt under ORS 656.126. ORS 279B.230(2); 279C.530(2)

(8) Contractor shall pay employees for overtime work performed under the contract in accordance with ORS 653.010 to 653.261 and the Fair Labor Standards Act of 1938 (29 USC 201, et seq). ORS 279B.235(3); 279C.520(3)

(9) The Contractor must give notice to employees who work on this contract in writing, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and the days per week that

the employees may be required to work. ORS 279B.235(2); 279C.520(2)

(10) All sums due the State Unemployment Compensation Fund from the Contractor or any Subcontractor in connection with the performance of the contract shall be promptly so paid. ORS 701.430

(11) The contract may be canceled at the election of City for any willful failure on the part of Contractor to faithfully perform the contract according to its terms.

(12) Contractor certifies compliance with all applicable Oregon tax laws, in accordance with ORS 305.385.

(13) Contractor certifies that it has not discriminated against minorities, women, service-disabled veterans, or emerging small business or disadvantaged business enterprises in obtaining any required subcontractors. ORS 279A.110

(14) As used in this section, "nonresident contractor" means a contractor that has not paid unemployment taxes or income taxes in the state of Oregon during the 12 calendar months immediately preceding submission of the bid for the contract, does not have a business address in this state, and stated in the bid for the contract that it was not a "resident bidder" under ORS 279A.120. When a public contract is awarded to a nonresident contractor and the contract price exceeds $10,000, the contractor shall promptly report to the Department of Revenue on forms to be provided by the department the total contract price, terms of payment, length of contract and such other information as the department may require before the bidder may receive final payment on the public contract. ORS 279A.120

EXHIBIT C

Consultant of Record RFP and Consultant's Proposal

REQUEST FOR PROPOSALS
CIVIL ENGINEERING, INTEGRATION, AND OTHER RELATED PROFESSIONAL SERVICES

Envelope(s) shall be sealed and marked with **REQUEST FOR PROPOSALS, CIVIL ENGINEERING, INTEGRATION, AND OTHER RELATED PROFESSIONAL SERVICES**. Respondents must submit one (1) original and three (3) complete hard copies of their proposal and one (1) pdf copy on CD/USB. Proposal must be received by the City by the proposal deadline. Late proposals will not be considered. There will be no formal bid opening.

DEADLINE FOR RECEIPT OF PROPOSAL: December 15, 2020 by 5:00 P.M.

SUBMIT MAILED PROPOSAL TO:
Chris Janigo, PE
Acting City Engineer
City of Newport
169 SW Coast Highway
Newport, OR 97365

DELIVER PROPOSAL TO:
Public Works Counter
Newport City Hall
169 SW Coast Highway
Newport, OR 97365

INFORMATION CONTACT:
Chris Janigo, PE
(541) 574-3376
c.janigo@newportoregon.gov

This request for proposal may be cancelled or any or all proposals may be rejected for failure to comply with procedures or requirements or if the City determines it is in the public interest to do so.

[Publish at least once in one newspaper of general circulation, at least 14 days before closing date, and in as many other issues/publications as the City desires. City Rule 137-0488-0220(2)]

CITY OF NEWPORT, OR
REQUEST FOR PROPOSALS FOR
CIVIL ENGINEERING, GEOTECHNICAL, STRUCTURAL, ARCHITECTURE, AND OTHER RELATED PROFESSIONAL SERVICES

Pursuant to City Rule 137-048-0220, the City of Newport (City) is conducting a formal qualification-based selection procedure to select qualified firms or individuals to provide professional engineering services. The full Request for Proposals may be obtained from orpin.oregon.gov or contact:

LeAnn Prchal, Administrative Assistant
City of Newport
169 SW Coast Highway
Newport, OR 97365
Telephone: 541-574-3366
Email: l.prchal@newportoregon.gov

Proposals will be received by the City until closing, 5:00 pm, **December 15, 2020**. Responses received after this time will be rejected as non-responsive. Proposers shall submit proposals in a sealed envelope, plainly marked "**REQUEST FOR PROPOSALS, CIVIL ENGINEERING, GEOTECHNICAL, STRUCTURAL, ARCHITECTURE, AND OTHER RELATED PROFESSIONAL SERVICES**" to the Public Works Director's Office at the below address. Faxed and emailed proposals will be rejected as non-responsive.

Chris Janigo. PE
Acting City Engineer
City of Newport
169 SW Coast Highway
Newport, OR 97365

This request for proposal may be cancelled or any or all proposals may be rejected for failure to comply with procedures or requirements or if the City determines it is in the public interest to do so.

TABLE OF CONTENTS

SECTION 1 – INTRODUCTION

1.1 Introduction

The City of Newport (City), Oregon is located on the central Oregon Coast at the mouth of the Yaquina River. The City has approximately 10,200 permanent residents and many vacation properties and seasonal visitors. In addition, the City of Newport hosts a significant commercial industrial base including: the largest fishing fleet on the Oregon coast, numerous fish processing facilities, the Rogue Brewery, a large marine research community including the NOAA Pacific Fleet Headquarters, Hatfield Marine Science Center, OMSI Camp Gray, and the Oregon Coast Aquarium. Additional information about the community can be obtained on the City of Newport's webpage: http://www.newportoregon.gov and at the City of Newport Chamber of Commerce webpage: http://www.newportchamber.org/ .

The City owns and operates a number of public facilities including the following:

1. 5 MGD water treatment plant and distribution system including 6 water booster stations, 7 water storage tanks, and a raw water reservoir system of 2 reservoirs/dams impounding approximately 1,200 AC-FT
2. 5 MGD wastewater treatment plant and collection system including 26 pump stations
3. Transportation system including roadways, sidewalks, bridges, trails, etc.
4. Storm water system including catch basins, culverts, outfalls, etc.
5. Municipal airport
6. Recreation Center and Aquatic Center
7. Performing Arts and Visual Arts Centers
8. City Hall

The City requires the services of professional consulting services to assist in the execution of the Capital Improvement Plan in a variety of disciplines. For the past 5 years the City has retained several consulting firms as Consultants of Record (COR) specializing in specific disciplines. The City intends to modify its pool of approximately 8 qualified consultants to perform general professional civil engineering, geotechnical, structural, architecture, and other related professional services primarily in water treatment and distribution, wastewater collection, street and storm sewer improvements, bridges and building renovations. The actual number of firms selected will depend upon the qualifications of those responding to this RFP. There are several specialty discipline contracts awarded through previous qualification-based selection RFP's including grant consulting and dam seismic analysis and design that the City intends to maintain.

The City plans to undertake a number of projects in the next several years and wishes to work with consultants of record to perform work under a price agreement. Services will be provided under renewable contracts with an initial contract period of three (3) years with up to a maximum of two (2) additional one (1) year renewal periods. Under these contracts, work will be assigned on a project-by-project basis. This process will provide the City with another mechanism to procure professional services. It is anticipated this method of procurement may be used to assist in handling peak workloads in the design and construction of Capital Improvement Program (CIP) projects as well as other unanticipated projects. Additionally, these services may be used to provide technical expertise not possessed by City staff as needed for various assignments. It is also expected that other City Departments will use these contracts on a limited basis as approved by the Contract Administrator. There are no predetermined, known project assignments at the time of the RFP.

1.2 Process Description

The first step in the selection process is this request for proposals (RFP).

Second is the submission of proposals by consulting firms who wish to, and are capable of, performing the professional services the City needs. A proposing consultant may seek to be considered for one, several, or all project areas discussed in this RFP (See Section 2).

Third, a City selection committee will review and rank the proposals. The committee may interview any number of proposers if it determines that interviews would assist the decision-making process.

The final step in the RFP process is completion of price agreements with one or more engineering consultants. The City anticipates that the price agreements will be for three years, with the possibility of two additional one-year extensions. Once a price agreement is entered into with a consultant, the City may, consistent with the price agreement, contract with the consultant of record directly without further competitive processes. The price agreements may include a formula for price adjustments on an annual basis (1.5).

The intent of this RFP is to pre-qualify a group of professional service firms as resources the City, at its sole discretion, can select from to provide general civil, structural, geotechnical, and design services for typical public works infrastructure and facility projects. Projects can range from very small utility projects to projects with a multi-million-dollar construction value for utility, street, or building improvement. Therefore, the City will consider small and large firms for these contracts.

The City also reserves the right to use other means of procurement (such as individual formal RFP's) at its sole discretion (1.3).

1.3 Qualification Based Selection (QBS)

The City, via this competitive RFP process, intends to revise the current consultants named as the Consultants of Record (COR). The City, at its sole preference and in accordance with City procurement rules, may, based on evaluation results, select more, or fewer proposers, from the number of proposals submitted.

Each team working on City projects shall have an Oregon licensed professional in the COR contract area responsible for reviewing and finalizing project material.

1.4 No Guarantee

There will be no guarantee as to the amount of work or size of any project assignment, if any, that a COR may be given under these contracts.

1.5 Rates and Fees

Finalized contracts will include set hourly rate and fee schedules for the term of the contract set by each firm following successful consultant selection. Rates may be increased as approved by the City, for each annual contract renewal, at a rate no greater than the inflationary rate for the preceding contract year

(July 1 to June 30) as calculated by the Consumer Price Index for the Portland area for Urban Wage Earners as published by the U.S. Department of Labor, Bureau of Labor Statistics. Firms must request increases at the time of contract renewal for next fiscal year.

SECTION 2 - SCOPE OF SERVICES

2.1 Project Assignment Process

The CORs shall provide professional services on a task order basis and for a "not to exceed" fee based on fee schedule. The City makes no guarantee as to the volume of work, if any, that will be assigned in any given contract year. Each project assignment will consist of a specific scope of services; however, services shall include, but not be limited to, the general scope as shown in subsection 2.5.

2.2 Project Assignment

City will negotiate all project assignments.

- If the estimated fee of an individual project assignment is under $100,000, the project assignment may be by direct appointment to one of the qualified CORs. The City, as its choses, may directly appoint the COR most qualified and the best fit for the individual project assignment.
- If the estimated fee of an individual project assignment is between $100,000 and $250,000, the project assignment shall be made using an informal or formal RFP process, where an informal RFP shall be issued to at least three (3) qualified CORs established by this RFP. However, if less than three (3) qualified CORs are established by this RFP process, the informal RFP shall be issued to all CORs.
- If the estimated fee of an individual project assignment is more than $250,000, up to $1,000,000, the project assignment shall be made using an informal or formal RFP process, where an informal RFP shall be issued to at least five (5) qualified CORs established by this RFP. However, if less than five (5) qualified CORs are established by this RFP process, the informal RFP shall be issued to all CORs.
- If the estimated fee of an individual project assignment is $1,000,000 or more, the project assignment shall be made using another formal RFP process, including advertisement of the RFP.

The City expressly reserves the right to:

1. Assign any work to any proposer that it enters into an agreement with, based on the City's discretionary determination as to which contractor is best suited for the particular work, considering capability, capacity and price.

2. Solicit professional services with a formal RFP for a major project, such as a water treatment plant.

2.3 Key Staff

The COR shall designate a key staff person to be the City's primary contact for the duration of the

contract. Substitution of these persons shall be by written request and subsequent approval by the City. The City expects CORs to strive to maintain the same project managers and key team members through the duration of the Contract.

2.4 Sub-Consultants

Because of the diverse and complex nature of potential project assignments, utilization of sub-consultants on the project team may be expected. Sub-consultants shall be approved by the City prior to execution of a task order for a project assignment. Contracted CORs will be responsible for coordinating all work with project team sub-consultants with minimal involvement from the City.

2.5 General Scope

Services under this contract shall consist of general civil engineering, structural, geotechnical, and architecture services, including but not limited to, preliminary reports, project development, design surveys, preliminary and/or final design, preparation of environmental permitting compliance documentation and coordination of environmental project requirements with other consultants, preparation of bid documents, bid and award assistance and construction services for typical CIP projects, including disciplinary categories such as water, sewer, storm water, streets, pump stations, lift stations, reservoirs, buildings, and water and wastewater treatment facility improvements. Services may also include project management, construction management, construction administration, inspection services, construction staking, general consultation, analysis, studies, alternatives review, calculations, report writing, and quality control review of design and bid documents done by City staff or other consultants. If a sub-consultant is necessary to perform any of these services, then the sub-consultant qualifications and rates shall be made a part of the proposal submitted with each individual project. Additionally, if a multi-disciplinary civil firm has other capabilities including but not limited to survey, geotechnical, architecture, traffic, structural and electrical engineering, these services may be utilized.

2.6 Professional Standards

Each COR selected shall be expected to meet or exceed the standards of professional quality for the consultant's profession and certain minimum standards for professionalism, customer service, and quality control. These standards include, but are not limited to, the following:

- Completeness, clarity, and accuracy of delivered materials, such as plans, specifications, and reports. All designs, materials and specifications shall fully comply with pertinent federal, state and agency applicable standards and requirements. Delivered materials which, in the opinion of the City's Project Manager, have not been reviewed or checked properly, will be returned without further review.
- Accuracy of estimates and calculations. Formulas used, and the basis for each calculation, shall be clearly stated.
- Adherence to project schedules. Schedules shall remain in force, unless the project scope changes or the City revises the schedule in writing.
- All delivered materials shall be fully compatible with the City's current software programs.
- Assigned Project Managers and Project team members shall have experience with the type and scope of project being proposed. It will not be acceptable for a COR to assign staff who are not experienced with the particular type of project being proposed.

- Timely response to RFIs, staking requests, and other construction issues.
- Constructability of details and other drawings.
- Completeness of responses to the City's review comments. Example: Red lined plans shall be returned with all comments either checked off or addressed.
- Alternatives analyses are thoroughly and logically performed and presented. Alternatives analyses which are not comprehensive and thorough will not be accepted.

The above need not be addressed in the proposal. They are provided to clearly communicate the City's expectations of COR's performance.

2.7 Performance Appraisals

The City may appraise each COR on a yearly basis as to their prior year's performance. This Performance Appraisal may include the specific items mentioned in subsection 2.6, as well as general items, such as:

- Qualifications, experience, and skills of staff assigned to projects
- Timeliness
- Quality Control
- Verbal and Written Communications
- Project approach yielding best Cost Control
- Responsiveness to Issues and Requests
- Public Interaction
- Ability to Propose and Evaluate Alternatives

SECTION 3 - RFP PROCESS

3.1 RFP Schedule

The approximate schedule for the RFP is as follows:

Advertisement of RFP ..... November 18, 2020
RFP Available online..... November 18, 2020
Proposals due..... December 15, 2020
Execution of Retainer Agreements ..... January 15, 2021

3.2 Reimbursement

All costs for preparing proposals, attending interviews (if applicable), and other efforts in pursuit of this RFP are the proposer's responsibility.

3.3 Further information

Additional information may be obtained from:

Chris Janigo, PE
Acting City Engineer

City of Newport
169 SW Coast Hwy
Newport, OR 97365
(541) 574-3376
(541) 265-3301 fax
c.hjanigo@newportoregon.gov

3.4 Proposal Withdrawal

Any proposer may withdraw its proposal prior to the final deadline for submission by providing the City with a written request stating the desire to withdraw. Withdrawal of a proposal will not prejudice the right of a firm to file a new proposal before the deadline.

3.5 Rejection or Acceptance of Proposals

The City expressly reserves the right to reject any or all proposals.

Publishing this RFP does not commit the City to any contract, project award, or financial obligation to any of the respondents. The City reserves the right to use whatever means it considers appropriate and prudent when determining which firms are offered projects.

3.6 Protests

Protests are subject to and must comply with the City's Public Contracting Rules available on the City's webpage at http://www.newportoregon.gov/dept/adm/documents/PublicContractingRules-2012.pdf

3.7 Public Records

Any information submitted through this RFP process shall be a public record. However, during the evaluation period, the proposals shall be considered as confidential information. If any proposal contains information that is considered a trade secret under ORS 192.501(2), each sheet containing proprietary information should be marked as follows:

"This data constitutes a trade secret and shall not be disclosed except in accordance with Oregon Public Records Law, ORS Chapter 192."

The City accepts no liability for the inadvertent or unavoidable release of any confidential information submitted, and claims arising out of any public record request for such information shall be at the consultant's expense.

Identifying the proposal in whole as a trade secret is not acceptable. Failure to identify a portion of the proposal as a trade secret shall be deemed a waiver of any future claim of that information as a trade secret.

3.8 Tax ID Numbers

Proposers must provide their Federal and State of Oregon Taxpayer ID Number.

3.9 Recycled Products Statement

In accordance with ORS 279 A.125, respondents shall use recyclable products to the maximum extent economically feasible in the performance of the contract work under this RFP.

3.10 Local/State/Federal Requirements

The selected proposer(s) shall comply with all federal, state and local laws, regulations, executive orders and ordinances applicable to the work under this contract, including, without limitation, the provisions of ORS 279 A, B & C. In addition, the proposers agree to comply with: (1) Title VI of the Civil Rights Act of 1964; (ii) Section V of the Rehabilitation Act of 1973; (iii) the Americans with Disabilities Act of 1991 and ORS 659.425; (iv) all regulations and administrative rules established pursuant to the foregoing laws; and (v) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules, and regulations. Proposer is subject to the Oregon Worker's Compensation Law and shall comply with ORS 656.017, which requires the provision of Worker's Compensation coverage for all employees working under any contract resulting from this RFP. The City of Newport's programs, services, employment opportunities and volunteer positions are open to all persons without regard to race, religion, color, national origin, sex, age, marital status, disability or political affiliation.

SECTION 4 – PROPOSAL CONTENT REQUIREMENTS

4.1 Length and Format of Proposal

The City is imposing a page ten (10) page limit on proposals, not including a one- to two--page introduction letter. The City is not interested in boilerplate information or company brochures. All firms responding to this RFP are directed to provide relevant information that will be useful to the selection committee.

Proposals should include the information described in this section. Additional information may be provided only if it is relevant, if it provides special insight or information about a proposer's capabilities, and fits within the ten-page proposal limit.

Proposals should be prepared economically and simply. No consideration will be given to special bindings, color displays, promotional materials, etc. Emphasis should be on completeness, relevance, and clarity of content.

4.2 Proposal Requirements

The proposal should describe the proposer's qualifications, abilities, resources, performance examples, and other information related to the proposer's declared area(s) of expertise. Each proposal should include the following basic components and information:

- A brief description of the proposer's professional experience, including public infrastructure project involvement and regulatory agency interactions.
- The specific engineering, geotechnical, or architecture disciplines for which the proposer wishes to be considered.

- A description of the proposer's capability in providing the professional service(s) for the aforementioned disciplines
- A list of the key professionals with resumes including highlighted projects and their role, who will provide services in each discipline category listed in the proposal, and Oregon licensing information.
- The name and contact information for the primary contact person and team leaders and/or project managers.
- Other information that may assist the City in making its selection of qualified professionals.
- A fee schedule (list of hourly rates). List each member or classification and their normal billing rates. Indicate the dates for which the indicated rate schedule will be effective and describe how rate adjustments are to occur. Rate adjustments shall not be made more frequently than annually.
- A statement confirming the proposer agrees to abide by the conditions of the City's Professional Services agreement attached to this RFP as Attachment A.
- A statement verifying that the proposer has the ability to provide insurance coverage as follows:
  A. Commercial General Liability Insurance - Comprehensive General Liability Insurance covering Bodily Injury and Property Damage on an "occurrence" form with policy limits of at least per occurrence. This coverage shall include Contractual Liability insurance for the indemnity provided under this Agreement in an amount of $2,000,000.
  B. Professional Liability - Professional Liability Insurance covering any damages caused by an error, omission or any negligent acts. Combined single limit per claim shall not be less than $1,300,000, or the equivalent. Annual aggregate limit shall not be less than $2,000,000 and filed on a "claims-made" form.
  C. Commercial Automobile Insurance - Commercial Automobile Liability coverage on an "occurrence" form including coverage for all owned, hired, and non-owned vehicles. The Combined Single Limit per occurrence shall not be less than $1,300,000.
  D. Workers' Compensation Insurance - The Consultant, its subcontractors, if any, and all employers providing work, labor or materials under this Agreement are subject employers under the Oregon Workers' Compensation Law and shall comply with ORS 656.017, which requires them to provide workers' compensation coverage that satisfies Oregon law for all their subject workers. Out-of-state employers must provide Oregon workers' compensation coverage for their workers who work at a single location within Oregon for more than 30 days in a calendar year. Consultants who perform work without the assistance or labor of any employee need not obtain such coverage.

4.3 *Specific Proposal Sections and Requirements*

4.3.1 Introductory Letter (10 points)

Each proposal shall include an introductory or cover letter. The consultant may use this section to introduce the proposal and the key provisions of the submittal.

The introductory letter shall include, but not be limited to the following information:

- The name of the firm
- Signature, printed name, and title of a company officer who is authorized to represent the firm.

- Address, phone, email, and other contact information for the firm.
- Federal and state tax ID numbers.
- The following statement: *"The consultant accepts all the terms and conditions contained in the Request for Proposals and that this proposal shall be considered valid for 120 days after the submission deadline."*
- The following statement: *"All materials and documents acquired or produced by the consultant in conjunction with a resulting contract shall be delivered to and become property of the City of Newport without restriction or limitation of their future use."* Please note the requirements pertaining to confidential information in section 3.7 of this RFP.

4.3.2 Understanding and Approach (30 Points)

The *Understanding and Approach* section is designed to communicate Proposer's preparation and expertise in each discipline category they declare. Include descriptions of Proposer's knowledge as it relates to each discipline category in a general sense. Any knowledge or information specific to Newport should be summarized. Proposer should also describe his team's experience performing similar tasks and the chief issues considered in the work.

Proposer should illustrate an understanding of common approaches and techniques for each discipline category. It is important that the proposer demonstrate an ability to synthesize technical information and communicate this information in verbal, written or graphic form.

Proposer should outline the approach to an example or specific project and how key issues were or would be identified and addressed. Summary should include a brief description of major tasks to be completed as well as resources proposed to complete each task.

Potential elements to this section include:

- Proposer's overall approach to one example project from the declared category(s).
- A general work plan that describes how the proposer will organize and conduct a task. Identify critical milestones and major phases for a particular activity.
- A description of the proposer's approach to and methodology of managing workload, coordination, sequencing and control of resources, and how projects will be tracked and kept on schedule.
- A description of how the project team will interact with City staff and what level of support will be anticipated or expected from the City.
- A description of Proposer's process for managing scope, schedule, and budget issues.

This list should not be considered complete and the consultant should include other aspects Proposer considers important.

4.3.3 Key Personnel Qualifications (30 Points)

Proposal should include information on key personnel who will be assigned to City projects. Relevant information for individuals should include education, training, experience, certification, and demonstrated excellence in their particular field.

Potential areas that should be addressed in the proposal with regard to personnel include:

- An organizational chart listing all key people and illustrating the lines of communication.
- A list of the project principal, project managers, discipline leads, key staff, and sub-consultants to be utilized to provide services, and a list of their typical duties.
- Qualifications, registrations, certifications, and relevant individual experience of key personnel, including sub-consultants.
- A list of each project manager's experience with managing interdisciplinary teams and working with public agencies on public infrastructure projects. Include pertinent project examples and role of the individual in each project.
- A description of the proposer's ability to deliver projects on time and within budget.

4.3.4 Consultant Team References and Past Performance (30 Points)

Provide a project history for all relevant project categories where the project team has completed similar or related work.

The response information for this section may include the following:

- Description of similar projects, by name, scope, location, and date, performed within the last 5 years which best characterize work quality and the capabilities of the Proposer. Detail the type of work that was done that supports the proposition that the team is capable of performing similar work.
- A public agency client list including contact names and phone numbers for projects undertaken in the last five years or the last 10 clients, whichever is least.
- A description of specific experience understanding design and construction oversight of relevant projects.
- A description of the Proposer's ability to deliver projects on time and within budget.

The Proposer's past performance on City projects will also be considered in this scoring section, if applicable.

4.3.5 Fee Schedule (Pass/Fail)

Provide a fee schedule outlining a list of the commonly recommended key personnel, staff categories, individuals, or sub-consultants making up the project team. Include a forecasted 2021 listing of individual billing rates that would be used for the 2021 calendar year.

4.3.6 Support Information (No points)

The proposer may provide supporting material that it believes will assist the Selection Committee in the decision process. Only relevant information should be submitted. Items that may be included in the Appendix as support material include:

- Graphs and figures.
- Additional resumes beyond key staff.

- Additional references.
- Project photos.
- Insurance certificate.

If the consultant does not wish to include support information in the Appendix, please include a page indicating that "*No additional support material has been provided*."

4.4 *Summary of Selection Criteria*

This section shall summarize the selection criteria that will be used for selecting those entities that the City will contract with. The table below summarizes the criteria that will be utilized:

Content and Evaluation Criteria	**Maximum Score Possible**
Introduction Letter (4.3.1)	10
Project Category(s) – Understanding and Approach (4.3.2)	30
Key Personnel Qualifications (4.3.3)	30
Consultant Team References and Past Performance (4.3.4)	30
Fee Schedule (4.3.5)	Pass/Fail
Support Information (4.3.6)	No points
Total	100

ATTACHMENT A

DRAFT CONSULTANT OF RECORD PROFESSIONAL SERVICES AGREEMENT
<CONTRACT NAME>

THIS AGREEMENT is between the City of Newport, an Oregon municipal corporation (City), and _____, a <STATE> corporation, which is registered to practice <DISCIPLINE> in the State of Oregon (Consultant).

RECITALS

A. Pursuant to City Rule 137-048-0220, the City of Newport (City) solicited proposals for professional Consulting services to assist the City in _____.

B. After reviewing all proposals, the City has selected _____ (Consultant) as a Consultant of Record to provide the proposed services.

C. Consultant is willing and qualified to perform such services.

TERMS OF AGREEMENT

1. Consultant's Scope of Services

Consultant shall perform professional Consulting services related to _____
The City is free to utilize other Consultants or consultants as it deems appropriate.

2. Effective Date and Duration

This agreement is effective on execution by both parties and shall expire, unless otherwise terminated or extended, after three years. The parties may extend the term by mutual agreement.

3. Consultant's Fee and Schedules

A. Fee

Fees for services under this Agreement shall be based on time and materials and pursuant to the rates shown in Exhibit A, up to a maximum amount payable of $_____. Consultant may increase the rates shown in Exhibit A on an annual basis, subject to the written approval of the City. Consultant will alert the City when Consultant is increasing its fees. Consultant will bill for progress payments on a monthly basis. In order to determine the maximum monetary limit for each task, Consultant will submit a schedule and a labor hour estimate based on the rates shown in Exhibit A. Consultant will invoice monthly progress payments based on actual time worked on the project. The maximum monetary limit will not be exceeded without prior written approval by the City. Projects partially completed may be paid for in proportion to the degree of completion.

Consultant will be reimbursed for direct charges such as the cost of printing, postage, delivery services, and sub-consultant fees. Unless specifically noted in the Task Order, direct charges will be billed at cost without any markup. Office expenses such as computer cost, telephone calls, and overhead expenses are incidental and are included in the hourly rates shown in Exhibit A.

B. Payment Schedule for Basic Fee

Payments shall be made within 30 days of receipt of monthly billings based on the work completed. Payment by the City shall release the City from any further obligation for payment to the Consultant for service or services performed or expenses incurred as of the date of the statement of services. Payment shall be made only for work actually completed as of the date of invoice. Payment shall not be considered acceptance or approval of any work or waiver of any defects therein.

C. Payment for Contingency Tasks

When agreed to in writing by the City, the Consultant shall provide services described as Contingency Tasks in a Task Order.

D. Certified Cost Records

Consultant shall furnish certified cost records for all billings to substantiate all charges. Consultant's accounts shall be subject to audit by the City. Consultant shall submit billings in a form satisfactory to the City. At a minimum, each billing shall identify the Task Order under such work is performed, work completed during the billing period, percentage of work completed to date, and percentage of budget used to date for each task.

E. Identification

Consultant shall furnish to the City its employer identification number.

F. Payment – General

1) Consultant shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.167.

2) Consultant shall pay employees at least time and a half pay for all overtime worked in excess of 40 hours in any one week except for individuals under the contract who are excluded under ORS 653.010 to 653.261 or under 29 USC sections 201 to 209 from receiving overtime. Any subcontractors utilized by Consultant under this Agreement will be paid according to the then prevailing wage.

3) Consultant shall promptly, as due, make payment to any person, co-partnership, association or corporation, furnishing medical, surgical and hospital care or other needed care and attention incident to sickness or injury to the employees of Consultant or all sums which Consultant agrees to pay for such services and all moneys and sums which Consultant collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service.

4) Consultant shall make payments promptly, as due, to all persons supplying

services or materials for work covered under this contract. Consultant shall not permit any lien or claim to be filed or prosecuted against the City on any account of any service or materials furnished.

5) If Consultant fails, neglects or refuses to make prompt payment of any claim for labor, materials, or services furnished to Consultant, sub-consultant or subcontractor by any person as such claim becomes due, City may pay such claim and charge the amount of the payment against funds due or to become due to the Consultant. The payment of the claim in this manner shall not relieve Consultant or its surety from obligation with respect to any unpaid claims.

G. Schedule

Consultant shall provide services under this Agreement in accordance with the Project Schedule.

4. Ownership of Plans and Documents: Records; Confidentiality

A. Definitions. As used in this Agreement, the following terms have the meanings set forth below:

1) Consultant Intellectual Property means any intellectual property owned by Consultant and developed independently from this Agreement that is applicable to the Services or included in the Work Product.

2) Third Party Intellectual Property means any intellectual property owned by parties other than City or Consultant that is applicable to the Services or included in the Work Product.

3) Work Product means the Services Consultant delivers or is required to deliver to City under this Agreement. Work Product includes every invention, discovery, work of authorship, trade secret or other tangible or intangible item and all intellectual property rights therein, and all copies of plans, specifications, reports and other materials, whether completed, partially completed or in draft form.

B. Work Product

1) Except as provided elsewhere in this Agreement, all Work Product created by Consultant pursuant to this Agreement, including derivative works and compilations, and whether or not such Work Product is considered a "work made for hire" or an employment to invent, shall be the exclusive property of City. City and Consultant agree that such original works of authorship are "work made for hire" of which City is the author within the meaning of the United States Copyright Act. To the extent that City is not the owner of the intellectual property rights in such Work Product, Consultant hereby irrevocably assigns to City any and all of its rights, title, and interest in all original Work Product created pursuant to this Agreement, whether arising from copyright, patent, trademark, trade secret, or any other state or federal intellectual property law or doctrine. Upon City's reasonable request, Consultant shall execute such further documents and

instruments necessary to fully vest such rights in City. Consultant forever waives any and all rights relating to original Work Product created pursuant to this Agreement, including without limitation, any and all rights arising under 17 USC §106A or any other rights of identification of authorship or rights of approval, restriction or limitation on use or subsequent modifications.

2) In the event Consultant Intellectual Property is necessary for the use of any Work Product, Consultant hereby grants to City an irrevocable, non-exclusive, non-transferable, perpetual, royalty-free license to use Consultant Intellectual Property, including the right of City to authorize contractors, Consultants and others to use Consultant Intellectual Property, for the purposes described in this Agreement.

3) In the event Third Party Intellectual Property is necessary for the use of any Work Product, Consultant shall secure on City's behalf and in the name of City, an irrevocable, non-exclusive, non-transferable, perpetual, royalty-free license to use the Third Party Intellectual Property, including the right of City to authorize contractors, Consultants and others to use the Third Party Intellectual Property, for the purposes described in this Contract.

4) In the event Work Product created by Consultant under this Agreement is a derivative work based on Consultant Intellectual Property or is a compilation that includes Consultant Intellectual Property, Consultant hereby grants to City an irrevocable, non-exclusive, non-transferable, perpetual, royalty-free license to use the pre-existing elements of Consultant Intellectual Property employed in the Work Product, including the right of City to authorize contractors, Consultants and others to use the pre-existing elements of Consultant Intellectual Property employed in a Work Product, for the purposes described in this Agreement.

5) In the event Work Product created by Consultant under this Agreement is a derivative work based on Third Party Intellectual Property, or a compilation that includes Third Party Intellectual Property, Consultant shall secure on City's behalf and in the name of City an irrevocable, non-exclusive, non-transferable, perpetual, royalty-free license to use the pre-existing elements of the Third Party Intellectual Property, including the right to authorize contractors, Consultants and others to use the pre-existing elements of the Third Party Intellectual Property, for the purposes described in this Agreement.

6) To the extent permitted by the Oregon Constitution and by the Oregon Tort Claims Act, Consultant shall be indemnified and held harmless by City from liability arising out of re-use or alteration of the Work Product by City which was not specifically contemplated and agreed to by the Parties in this Agreement.

7) Consultant may refer to the Work Product in its brochures or other literature that Consultant utilizes for advertising purposes and, unless otherwise specified, Consultant may use standard line drawings, specifications and calculations on other, unrelated projects.

C. Confidential Information

1) Consultant acknowledges that it or its employees, Sub-Consultants, subcontractors or agents may, in the course of performing their responsibilities under this Agreement, be exposed to or acquire information that is the confidential information of City or City's residents. Any and all information provided by City and marked confidential, or identified as confidential in a separate writing, that becomes available to Consultant or its employees, Sub-Consultants, subcontractors or agents in the performance of this Agreement shall be deemed to be confidential information of City ("Confidential Information"). Any reports or other documents or items, including software, that result from Consultant's use of the Confidential Information and any Work Product that City designates as confidential are deemed Confidential Information. Confidential Information shall be deemed not to include information that: (a) is or becomes (other than by disclosure by Consultant) publicly known; (b) is furnished by City to others without restrictions similar to those imposed by this Agreement; (c) is rightfully in Consultant's possession without the obligation of nondisclosure prior to the time of its disclosure under this Agreement; (d) is obtained from a source other than City without the obligation of confidentiality; (e) is disclosed with the written consent of City; or (f) is independently developed by employees or agents of Consultant who can be shown to have had no access to the Confidential Information; or (g) is required to be disclosed by law, subpoena, or other court order.

2) Consultant agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Consultant uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purposes whatsoever other than the provision of Services to City under this Agreement, and to advise each of its employees, Sub-Consultants, subcontractors and agents of their obligations to keep Confidential Information confidential. Consultant shall use its best efforts to assist City in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limiting the generality of the foregoing, Consultant shall advise City immediately in the event Consultant learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Agreement and Consultant will at its expense cooperate with City in seeking injunctive or other equitable relief in the name of City or Consultant against any such person. Consultant agrees that, except as directed by City, Consultant will not at any time during or after the term of this Agreement disclose, directly or indirectly, any Confidential Information to any person, except in accordance with this Agreement, and that upon termination of this Agreement or at City's request, Consultant will turn over to City all documents, papers, and other matter in Consultant's possession that embody Confidential Information.

3) Consultant acknowledges that breach of this Section 4, including disclosure of any Confidential Information, will give rise to irreparable injury to City that is

inadequately compensable in damages. Accordingly, City may seek and obtain injunctive relief against the breach or threatened breach of this Section 4, in addition to any other legal remedies that may be available. Consultant acknowledges and agrees that the covenants contained herein are necessary for the protection of the legitimate business interests of City and are reasonable in scope and content.

5. Assignment/Delegation

Neither party shall assign or transfer any interest in or duty under this Agreement without the written consent of the other. If City agrees to assignment of tasks to a subcontractor, Consultant shall be fully responsible for the acts or omissions of any subcontractors. Any approval of a subcontractor does not create a contractual relationship between the subcontractor and City.

6. Consultant is Independent Contractor

A. The City's project director, or designee, shall be responsible for determining whether Consultant's work product is satisfactory and consistent with this Agreement, but Consultant is not subject to the direction and control of the City. Consultant shall be an independent contractor for all purposes and shall not be entitled to compensation other than the compensation provided for under Section 3 of this Agreement. The City's acceptance of the work product as satisfactory does not relieve the Consultant from responsibility for any errors in the work product.

B. Consultant is an independent contractor and not an employee of City. Consultant acknowledges Consultant's status as an independent contractor and acknowledges that Consultant is not an employee of the City for purposes of workers compensation law, public employee benefits law, or any other law. All persons retained by Consultant to provide services under this Agreement are employees of Consultant and not of City. Consultant acknowledges that it is not entitled to benefits of any kind to which a City employee is entitled and that it shall be solely responsible for workers compensation coverage for its employees and all other payments and taxes required by law. Furthermore, in the event that Consultant is found by a court of law or an administrative agency to be an employee of the City for any purpose, City shall be entitled to offset compensation due, or to demand repayment of any amounts paid to Consultant under the terms of the Agreement, to the full extent of any benefits or other remuneration Consultant receives (from City or third party) as a result of the finding and to the full extent of any payments that City is required to make as a result of the finding.

C. The Consultant represents that no employee of the City or any partnership or corporation in which a City employee has an interest, has or will receive any remuneration of any description from the Consultant, either directly or indirectly, in connection with the letting or performance of this Agreement, except as specifically declared in writing.

D. Consultant and its employees, if any, are not active members of the Oregon Public Employees Retirement System.

E. Consultant certifies that it currently has a City business license or will obtain one prior to

delivering services under this Agreement.

F. Consultant is not an officer, employee, or agent of the City as those terms are used in ORS 30.265.

7. Indemnity

A. The City has relied upon the professional ability and training of the Consultant as a material inducement to enter into this Agreement. Consultant represents to the City that the work under this Agreement will be performed in accordance with the professional standards of skill and care ordinarily exercised by members of the <DISCIPLINE> profession under similar conditions and circumstances as well as the requirements of applicable federal, state and local laws, it being understood that acceptance of a Consultant's work by the City shall not operate as a waiver or release. Acceptance of documents by City does not relieve Consultant of any responsibility for design deficiencies, errors or omissions.

B. Consultant shall defend, hold harmless and indemnify the City, its officers, agents, and employees from all claims, suits, or actions to the extent caused by the alleged negligent or otherwise wrongful acts or omissions of Consultant or its subcontractors, sub-Consultants, agents or employees under this Agreement. This indemnification does not extend to indemnification for negligent or otherwise wrongful acts or omissions of the City. If any aspect of this indemnity shall be found to be illegal or invalid for any reason whatsoever, the illegality or invalidity shall not affect the validity of the remainder of this indemnification.

C. Consultant shall save and hold harmless the City, its officers, agents, and employees from all claims, suits, or actions and all expenses incidental to the investigation and defense thereof, to the extent caused by the professional negligent acts, errors or omissions of Consultant or its subcontractors, sub-Consultants, agents or employees in performance of professional services under this Agreement. Any design work by Consultant that results in a design of a facility that does not comply with applicable laws including accessibility for persons with disabilities shall be considered a professionally negligent act, error or omission.

D. As used in subsections B and C of this section, a claim for professional responsibility is a claim made against the City in which the City's alleged liability results directly or indirectly, in whole or in part, from the quality of the professional services provided by Consultant, regardless of the type of claim made against the City. A claim for other than professional responsibility is a claim made against the City in which the City's alleged liability results from an act or omission by Consultant unrelated to the quality of professional services provided by Consultant.

8. Insurance

Consultant and its subcontractors shall maintain insurance acceptable to City in full force and effect throughout the term of this Agreement as detailed in this section. The insurance shall cover all risks arising directly or indirectly out of Consultant's activities or work hereunder, including the operations of its

subcontractors of any tier.

The policy or policies of insurance maintained by the Consultant and its subcontractors shall provide at least the following limits and coverages:

A. Commercial General Liability Insurance

Comprehensive General Liability Insurance covering Bodily Injury and Property Damage on an "occurrence" form with policy limits of at least per occurrence. This coverage shall include Contractual Liability insurance for the indemnity provided under this Agreement in an amount of $2,000,000.

B. Professional Liability

Professional Liability Insurance covering any damages caused by an error, omission or any negligent acts. Combined single limit per claim shall not be less than $1,300,000, or the equivalent. Annual aggregate limit shall not be less than $2,000,000 and filed on a "claims-made" form.

C. Commercial Automobile Insurance

Commercial Automobile Liability coverage on an "occurrence" form including coverage for all owned, hired, and non-owned vehicles. The Combined Single Limit per occurrence shall not be less than $1,300,000.

D. Workers' Compensation Insurance

The Consultant, its subcontractors, if any, and all employers providing work, labor or materials under this Agreement are subject employers under the Oregon Workers' Compensation Law and shall comply with ORS 656.017, which requires them to provide workers' compensation coverage that satisfies Oregon law for all their subject workers. Out-of-state employers must provide Oregon workers' compensation coverage for their workers who work at a single location within Oregon for more than 30 days in a calendar year. Consultants who perform work without the assistance or labor of any employee need not obtain such coverage.

E. Additional Insured Provision

The Commercial General Liability Insurance Policy shall include the City its officers, directors, and employees as additional insureds with respect to this Agreement. Coverage will be endorsed to provide a per project aggregate.

F. Extended Reporting Coverage

If any of the liability insurance is arranged on a "claims made" basis, Extended Reporting coverage will be required at the completion of this Agreement to a duration of 24 months or the maximum time period the Consultant's insurer will provide if less than 24 months. Consultant will be responsible for furnishing certification of Extended Reporting coverage as described or continuous "claims made" liability coverage for 24 months following Agreement completion. Continuous "claims made" coverage will be acceptable in lieu of Extended Reporting coverage,

provided its retroactive date is on or before the effective date of this Agreement. Coverage will be endorsed to provide a per project aggregate.

G. Notice of Cancellation

There shall be no cancellation, material change, exhaustion of aggregate limits or intent not to renew insurance coverage without 30 days' written notice to the City. Any failure to comply with this provision will not affect the insurance coverage provided to the City. The 30 days' notice of cancellation provision shall be physically endorsed on to the policy.

H. Insurance Carrier Rating

Coverage provided by the Consultant must be underwritten by an insurance company deemed acceptable by the City. The City reserves the right to reject all or any insurance carrier(s) with an unacceptable financial rating.

I. Certificates of Insurance

As evidence of the insurance coverage required by the Agreement, the Consultant shall furnish a Certificate of Insurance to the City. No Agreement shall be effected until the required certificates have been received and approved by the City. The certificate will specify and document all provisions within this Agreement. A renewal certificate will be sent to the address below ten days prior to coverage expiration.

J. Primary Coverage Clarification

The parties agree that Consultant's coverage shall be primary to the extent permitted by law. The parties further agree that other insurance maintained by the City is excess and not contributory insurance with the insurance required in this section.

K. Copy of Policy or Certificate of Insurance

A cross-liability clause or separation of insureds clause will be included in the general liability policy required by this Agreement. Consultant shall furnish City with at least 30-days written notice of cancellation of, or any modification to, the required insurance coverages. A copy of each insurance policy, certified as a true copy by an authorized representative of the issuing insurance company, or at the discretion of City, in lieu thereof, a certificate in form satisfactory to City certifying to the issuance of such insurance shall be forwarded to:

Chris Janigo, PE
Interim City Engineer
City of Newport
169 SW Coast Highway
Newport, Oregon 97365

Thirty days' cancellation notice shall be provided City by certified mail to the name at the address listed above in event of cancellation or non-renewal of the insurance. The procuring of the required insurance shall not be construed to limit Consultant's liability under this agreement. The

insurance does not relieve Consultant's obligation for the total amount of any damage, injury, or loss caused by negligence or neglect connected with this Agreement.

9. Termination Without Cause

At any time and without cause, City shall have the right in its sole discretion, to terminate this Agreement by giving notice to Consultant. If City terminates the Agreement pursuant to this section, Consultant shall be entitled to payment for services provided prior to the termination date.

10. Termination with Cause

A. City may terminate this Agreement effective upon delivery of written notice to Consultant, or at such later date as may be established by City, under any of the following conditions:

1) If City funding from federal, state, local, or other sources is not obtained and continued at levels sufficient to allow for the purchase of the indicated quantity of services. This Agreement may be modified to accommodate a reduction in funds.

2) If Federal or State regulations or guidelines are modified, changed, or interpreted in such a way that the services are no longer allowable or appropriate for purchase under this Agreement.

3) If any license or certificate required by law or regulation to be held by Consultant, its subcontractors, agents, and employees to provide the services required by this Agreement is for any reason denied, revoked, or not renewed.

Any termination of this agreement under paragraph (A) shall be without prejudice to any obligations or liabilities of either party already accrued prior to such termination.

B. City, by written notice of default (including breach of Agreement) to Consultant, may terminate this Agreement:

1) If Consultant fails to provide services called for by this Agreement within the time specified, or

2) If Consultant fails to perform any of the other provisions of this Agreement, or fails to pursue the work as to endanger performance of this Agreement in accordance with its terms, and after receipt of written notice from City, fails to correct such failures within ten days or such other period as City may authorize.

C. If City terminates this Agreement, it shall pay Consultant for all undisputed invoices tendered for services provided prior to the date of termination.

D. Damages for breach of Agreement shall be those allowed by Oregon law, reasonable and necessary attorney fees, and other costs of litigation at trial and upon appeal.

11. Non-Waiver

The failure of City to insist upon or enforce strict performance by Consultant of any of the terms of this Agreement or to exercise any rights hereunder, should not be construed as a waiver or relinquishment to any extent of its rights to assert or rely upon such terms or rights on any future occasion.

12. Notice

All notices, bills and payments shall be made in writing and may be given by personal delivery, mail, or by fax. Payments may be made by personal delivery, mail, or electronic transfer. The following addresses shall be used to transmit notices, bills, payments, and other information:

IF TO CITY OF NEWPORT

Chris Janigo, PE
Interim City Engineer
City of Newport
169 SW Coast Highway
Newport, OR 97365
541-574-3366
c.janigo@newportoregon.gov

IF TO CONSULTANT:

The date of deposit in the mail shall be the notice date for first class mail. All other notices, bills and payments shall be effective at the time of actual delivery. Changes may be made in the names and addresses of the person to whom notices, bills and payments are to be given by giving written notice pursuant to this paragraph.

13. Merger

This writing is intended both as a final expression of the Agreement between the parties with respect to the included terms and as a complete and exclusive statement of the terms of the Agreement. No modification of this Agreement shall be effective unless and until it is made in writing and signed by both parties.

14. Force Majeure

Neither City nor Consultant shall be considered in default because of any delays in completion and responsibilities hereunder due to causes beyond the control and without fault or negligence on the part of the parties so disenabled, including but not restricted to, an act of God or of a public enemy, civil unrest, volcano, earthquake, fire, flood, epidemic, quarantine restriction, area-wide strike, freight embargo, unusually severe weather or delay of subcontractors or supplies due to such cause; provided that the parties so disenabled shall within ten days from the beginning of such delay, notify the other party in writing of the cause of delay and its probable extent. Such notification shall not be the basis for a claim for additional compensation. Each party shall, however, make all reasonable efforts to remove or eliminate such a cause of delay or default and shall, upon cessation of the cause, diligently pursue performance of its obligation under the Agreement.

15. Non-Discrimination

Consultant agrees to comply with all applicable requirements of federal and state statutes, rules, and regulations. By way of example only, Consultant also shall comply with the Americans with Disabilities Act of 1990, ORS 659.425, and all regulations and administrative rules established pursuant to those laws.

16. Errors

Consultant shall perform such additional work as may be necessary to correct errors in the work required under this Agreement without undue delays and without additional cost.

17. Extra Work

Extra work or work on Contingency Tasks is not authorized unless the City authorizes the additional or contingency work in writing. Failure of Consultant to secure written authorization for extra work shall constitute a waiver of all right to adjustment in the Agreement price or Agreement time due to unauthorized extra work and Consultant shall be entitled to no compensation for the performance of any extra work not authorized in writing.

18. Governing Law

The Agreement is subject to Oregon law. Any action or suits involving any question arising under this Agreement must be brought in the appropriate court in Lincoln County, Oregon.

19. Compliance with Applicable Law

Consultant shall comply with all federal, state, and local laws and ordinances applicable to the work under this Agreement, including but not limited to those set forth in ORS 279A, B & C. While all required contractual provisions are included in Exhibit B, Consultant shall be familiar with and responsible for compliance with all other applicable provisions of the Oregon Public Contracting Code.

20. Conflict Between Terms

This instrument shall control in the event of any conflict between terms between this document and the RFP and/or proposal.

21. Access to Records

City shall have access to the books, documents, papers and records of Consultant that are directly pertinent to this Agreement for the purpose of making audit, examination, excerpts and transcripts.

22. Audit

Consultant shall maintain records to assure conformance with the terms and conditions of this Agreement, and to assure adequate performance and accurate expenditures within the Agreement period. Consultant agrees to permit City or its duly authorized representatives to audit all records pertaining to this Agreement to assure the accurate expenditure of funds.

23. Severability

In the event any provision or portion of this Agreement is held to be unenforceable or invalid by any court of competent jurisdiction, the validity of the remaining terms and provisions shall not be affected to the extent that it did not materially affect the intent of the parties when they entered into the Agreement.

24. Industrial Accident Fund Payment

Consultant shall pay all contributions or amount due the Industrial Accident Fund that Consultant or subcontractors incur during the performance of this Agreement.

25. Arbitration

All claims, disputes, and other matters in question between the City and Consultant arising out of, or relating to this Contract, including rescission, reformation, enforcement, or the breach thereof except for claims which may have been waived by the making or acceptance of final payment, may be decided by binding arbitration in City's sole discretion, in accordance with the Oregon Uniform Arbitration Act, ORS 36.600, et seq. and any additional rules mutually agreed to by both parties. If the parties cannot agree on rules within ten (10) days after the notice of demand, the presiding judge of the Lincoln County Circuit Court will establish rules to govern the arbitration.

A claim by Consultant arising out of, or relating to this Contract must be made in writing and delivered to the City Administrator not less than 30 days after the date of the occurrence giving rise to the claim. Failure to file a claim with the City Administrator within 30 days of the date of the occurrence that gave rise to the claim shall constitute a waiver of the claim. A claim filed with the City Administrator will be considered by the City Board at the Board's next regularly scheduled meeting. At that meeting the Board will render a written decision approving or denying the claim. If the claim is denied by the Board, the Consultant may file a written request for arbitration with the City Administrator. No demand for arbitration shall be effective until the City Board has rendered a written decision denying the underlying claim. No demand for arbitration shall be made later than thirty (30) days after the date on which the City has rendered a written decision on the underlying claim. The failure to demand arbitration within said 30 days shall result in the City Board's decision being binding upon the City and Consultant.

Notice of demand for arbitration shall be filed in writing with the other party to the agreement, subject to applicable statutes of limitation, except as set forth above. The City, if not the party demanding arbitration, has the option of allowing the matter to proceed with binding arbitration or by written notice within five (5) days after receipt of a demand for arbitration, to reject arbitration and require the Consultant to proceed through the courts for relief. If arbitration is followed, the parties agree that the award rendered by the arbitrators will be final, judgment may be entered upon it in any court having jurisdiction thereof, and will not be subject to modifications or appeal except to the extent permitted by Oregon law.

26. Attorney Fees

If suit, action or arbitration is brought either directly or indirectly to rescind, reform, interpret or enforce the terms of this contract, the prevailing party shall recover and the losing party hereby agrees to pay reasonable attorney's fees incurred in such proceeding, in both the trial and appellate courts, as well as the costs and disbursements. Further, if it becomes necessary for City to incur the services of an attorney to enforce any provision of this contract without initiating litigation, Consultant agrees to pay City's attorney's fees so incurred. Such costs and fees shall bear interest at the maximum legal rate from the

date incurred until the date paid by losing party

27. Complete Agreement

This Agreement and any exhibit(s) hereto and any and all Task Orders executed by the parties constitute the entire agreement between the parties. No waiver, consent, modification, or change of terms of this Agreement shall bind either party unless in writing and signed by both parties. Any waiver, consent, modification, or change if made, shall be effective only in specific instances and for the specific purpose given. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Agreement. In the event of a conflict between the documents comprising this Agreement, interpretation shall occur in the following manner: 1) each individual Task Order; 2) this Agreement and any exhibits hereto; and 3) the RFP and Response. The following exhibits are attached to and incorporated into this Agreement:

A. Exhibit A – Fees;
B. Exhibit B – Oregon Public Contracting Code/required contractual provisions
C. Exhibit C – Consultant of Record RFP and Consultant's Proposal.

28. Miscellaneous

A. Consultant agrees that news releases and other publicity relating to the subject of this Agreement will be made only with the prior written consent of City.
B. Consultant shall comply with all virus-protection, access control, back-up, password, and other security and other information technology policies of City when using, having access to, or creating systems for any of City's computers, data, systems, personnel, or other information resources.
C. Consultant will include in all contracts with sub-contractors appropriate provisions as required by ORS 279C.580.
D. Consultant will comply with environmental and natural resources regulations as set forth in ORS 279B.525 and regulations relating to the salvaging, recycling, composting or mulching yard waste material, and salvage and recycling of construction and demolition debris as set forth in ORS 279B.225 and 270C.510.

By their signatures hereunder, the parties acknowledge they have read and understand this Agreement and agree to be bound by its terms. This Agreement is effective on the date last signed below by a party below:

CITY OF NEWPORT:

_____
Spencer Nebel, City Manager

Date: _____

<CONSULTANT>:

By: _____

Its: _____

Date: _____

EXHIBIT B
Oregon Public Contracting Requirements
ORS CHAPTER 279B PUBLIC CONTRACTING REQUIREMENTS
FOR THE PURCHASE OF GOODS AND SERVICES

(1) Contractor shall pay promptly, as due, all persons supplying labor or materials for the prosecution of the work provided for in the contract, and shall be responsible for such payment of all persons supplying such labor or material to any Subcontractor. ORS 279B.220(1).

(2) Contractor shall promptly pay all contributions or amounts due the Industrial Accident Fund from such Contractor or Subcontractor incurred in the performance of the contract. ORS 279B.220(2).

(3) Contractor shall not permit any lien or claim to be filed or prosecuted against the Contracting Agency on account of any labor or material furnished and agrees to assume responsibility for satisfaction of any such lien so filed or prosecuted. ORS 279B.220(3).

(4) Contractor and any Subcontractor shall pay to the Department of Revenue all sums withheld from employees pursuant to ORS 316.617. ORS 279B.220(4).

(5) Contractor agrees that if Contractor fails, neglects or refuses to make prompt payment of any claim for labor or materials furnished to the Contractor or a Subcontractor by any person in connection with the contract as such claim becomes due, the City may pay such claim to the persons furnishing the labor or material and charge the amount of payment against funds due or to become due Contractor by reason of the contract. The payment of a claim in the manner authorized hereby shall not relieve the Contractor or his surety from his or its obligation with respect to any unpaid claim. If the City is unable to determine the validity of any claim for labor or material furnished, the City may withhold from any current payment due Contractor an amount equal to said claim until its validity is determined and the claim, if valid, is paid.

(6) Contractor shall promptly, as due, make payment to any person, co-partnership, association, or corporation, furnishing medical, surgical and hospital care or other needed care and attention, incident to sickness or injury, to employees of such Contractor, of all sums which the Contractor agrees to pay for such services and all monies and sums which the Contractor collected or deducted from the wages of employees pursuant to any law, contract or agreement for the purpose of providing or paying for such service. ORS 279B.230(1).

(7) All subject employers working under the contractor are either employers that will comply with ORS 656.017, or employers that are exempt under ORS 656.126. ORS 279B.230(2).

(8) Contractor shall pay employees for overtime work performed under the contract in accordance with ORS 653.010 to 653.261 and the Fair Labor Standards Act of 1938 (29 USC 201, et seq). ORS 279B.235(3).

(9) The Contractor must give notice to employees who work on this contract in writing, either at the time of hire or before commencement of work on the contract, or by posting a notice in a location frequented by employees, of the number of hours per day and the days per week that the employees may be required to work. ORS 279B.235(2).

(10) All sums due the State Unemployment Compensation Fund from the Contractor or any Subcontractor in connection with the performance of the contract shall be promptly so paid. ORS 701.430.

(11) The contract may be canceled at the election of City for any willful failure on the part of Contractor to faithfully perform the contract according to its terms.

(12) Contractor certifies compliance with all applicable Oregon tax laws, in accordance with ORS 305.385.

(13) Contractor certifies that it has not discriminated against minorities, women or emerging small business enterprises in obtaining any required subcontractors. ORS 279A.110.

(14) As used in this section, "nonresident contractor" means a contractor that has not paid unemployment taxes or income taxes in the state of Oregon during the 12 calendar months immediately preceding submission of the bid for the contract, does not have a business address in this state, and stated in the bid for the contract that it was not a "resident bidder" under ORS 279A.120. When a public contract is awarded to a nonresident contractor and the contract price exceeds $10,000, the contractor shall promptly report to the Department of Revenue on forms to be provided by the department the total contract price, terms of payment, length of contract and such other information as the department may require before the bidder may receive final payment on the public contract. ORS 279A.120.

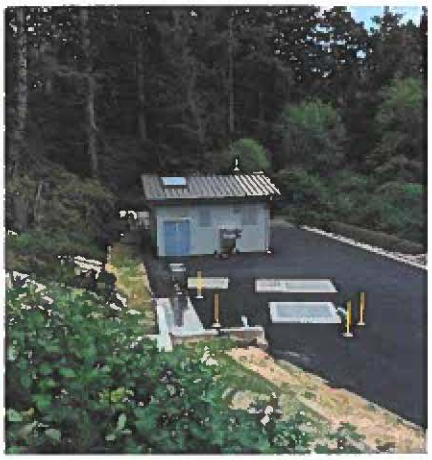
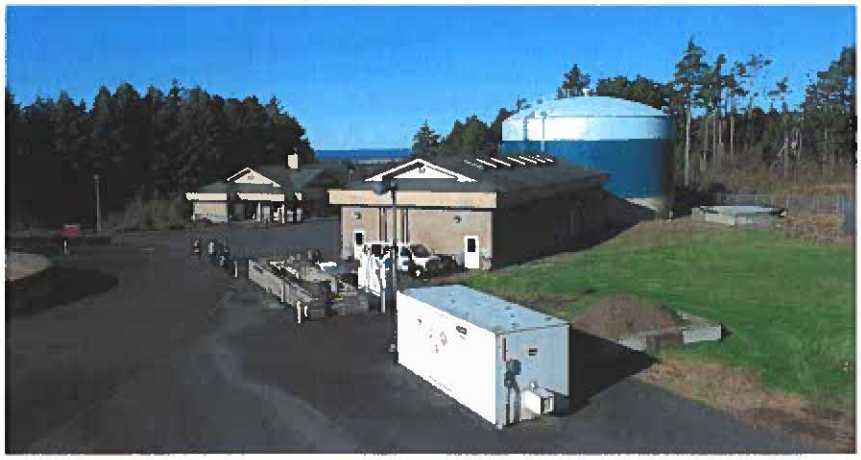
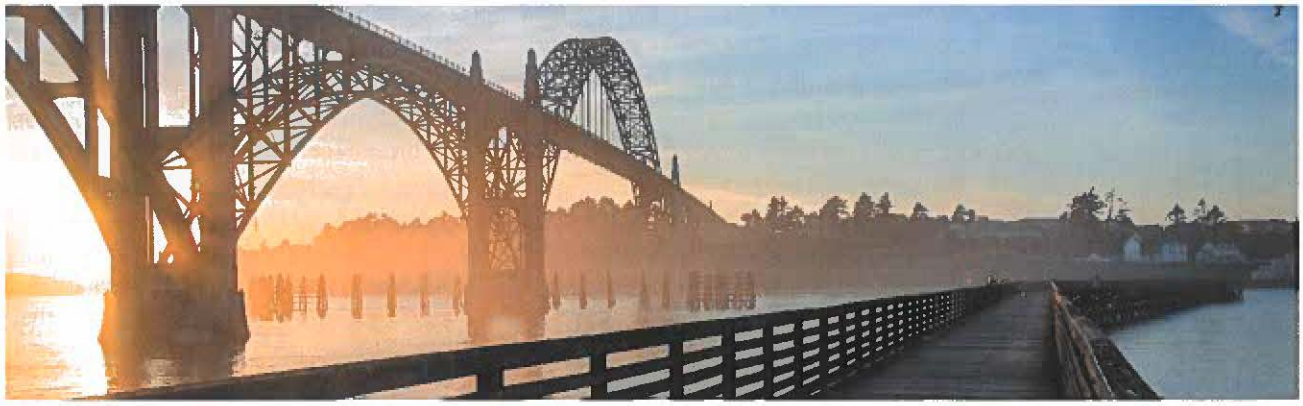
Brown AND Caldwell

PROPOSAL | Prepared for City of Newport

Civil Engineering, Integration, and Other Related Professional Services

December 15, 2020 | ORIGINAL



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Tel: 503.244.7005
www.brownandcaldwell.com

December 15, 2020

Chris Janigo, Acting City Engineer
City of Newport
169 SW Coast Highway
Newport, Oregon 97365

RFP – Civil Engineering, Integration, and Other Professional Services

Dear Mr. Janigo,

The City of Newport (Newport) provides services and utilities to a diverse community that includes year-round residents; seasonal visitors; and a working waterfront that includes commercial fishing, industry, scientific research, and educational facilities. Newport is seeking consulting engineering services to help deliver its Capital Improvement Plan in a variety of disciplines.

Brown and Caldwell (BC) has supported Newport with on-call engineering services since 2010, and are pleased to submit the attached proposal for civil engineering services. Specifically, we are seeking to support Newport on wastewater treatment, wastewater collection, water treatment and distribution, and stormwater projects, as well as discipline engineering work in structural engineering, electrical engineering, project management, and construction management associated with these projects. Where appropriate, we have included subconsultants to supplement our in-house staff, enabling us to deliver a full-service team for projects in our focus areas.

We offer an approach that is responsive, right-sized, and equipped with depth of knowledge:

Responsive. We understand that Newport staff are tasked with doing a lot, and that time and resources are scarce. An effective, collaborative consultant must be able to take things off Newport's plate. This includes being available and responding quickly, understanding your lines of communication, and quickly executing task orders. We strive to handle the details so that your staff can focus their energy on important decisions.

Right-Sized. Our staff includes experienced engineers as well as rising professionals. By pairing experienced mentors with talented mid-level engineers, we "right-size" and structure our teams to deliver the best value to Newport. Leveraging the lower billing rates of rising professionals reduces the overall cost of service, while still retaining the experience-based knowledge of our senior staff.

Depth of Knowledge. While our core delivery team is local, BC provides access to nationally-recognized experts in areas such as emerging biosolids contaminants, force main inspection, and industrial pretreatment. We can quickly mobilize these experts on Newport's projects.

BC offers experienced local team members to lead and support your efforts, as well as technical specialists. Josh Johnson and Don Whitehead will serve as the primary points of contact for City staff. Task orders and projects will be managed by Josh and Don, as well as experienced PMs such as Greg Humm, Tim Mills, and Angela Richardson, all of whom have experience working with Newport. Our project managers are supported by a deep bench that includes BC's design specialists, nationally-recognized subject matter experts, and a diverse group of subconsultants.

Additional Cover Letter Requirements

- The consultant accepts all terms and conditions contained in the Request for Proposals and that this proposal shall be considered valid for 120 days after the submission deadline.
- All materials and documents acquired or produced by the consultant in conjunction with a resulting contract shall be delivered to and become the property of the City of Newport without restriction or limitation for their future use.
- BC has reviewed the draft Professional Services Agreement and finds the terms and conditions generally acceptable. If awarded a contract, we respectfully request the opportunity to raise several revisions, the majority of which have been previously accepted by the City and are incorporated within our current agreement, executed by the City Manager on March 9, 2017.
- BC can meet the insurance requirements set forth on page 11 of the RFP, with the following clarifications:
  - Our General Liability policy will be evidenced as Commercial General Liability (not Comprehensive) and the contractual liability will be subject to policy terms and conditions.
  - Our Business Automobile Liability Policy will evidence liability coverage for bodily injury and property damage as "each accident" rather than "occurrence."

We are enthusiastic about this opportunity and look forward to continuing our strong partnership with Newport. Should you have any questions about the information presented in this proposal, please do not hesitate to contact either Josh Johnson at 503.977.6624 / jjohnson@brwncald.com or Kelly Kimball at 503.977.6646 / kkimball@brwncald.com.

Very truly yours,

Brown and Caldwell

Josh Johnson, PE
Point of Contact

Kelly Kimball, PE
Project Delivery Officer

Section 2 : **Understanding and Approach**

The City of Newport (Newport) is the heart of the Oregon coast, and the community takes pride in its stewardship of the ocean, beaches, and bay that make up its coastal environment. Newport's vision for the future includes making sustainable investments to upgrade and modernize its wastewater, water, and stormwater infrastructure. At Brown and Caldwell (BC), we share your commitment to providing clean water, safeguarding community health, and protecting the environment. We also understand the challenges that come with balancing these commitments, economic needs, and fiscal responsibility. BC will continue partnering with you to create a resilient future for Newport.

Understanding

Newport provides services and utilities to a diverse community that includes year-round residents; seasonal visitors; and a working waterfront that includes commercial fishing, industry, scientific research, and educational facilities. BC focuses on water and wastewater treatment, wastewater collections, and water resources. BC has supported Newport through on-call engineering services since 2010 and seeks to continue supporting Newport's wastewater treatment, wastewater collection, water treatment and distribution, and stormwater projects. We are submitting this proposal to provide civil engineering services.

Over the last decade, Newport has made significant investments in its infrastructure, with projects to modernize, increase capacity, and improve water quality. We have been privileged to support Newport along the way on projects such as the Agate Beach Pump Station, Big Creek Pump Station and force main, Olsson Creek sewer improvements, and sanitary sewer master plan. Through our work and discussions with your staff, we have developed an understanding of goals for the next phase of infrastructure investment. While these projects are diverse, common threads are the need to make financially sound investments that carefully weigh and evaluate options and deliver the highest value return while planning for the future. We summarize our understanding of Newport's goals and issues in **Figure 1**.

1. CCTV: Continue annual CCTV inspections/rehab
2. Nye Beach PS: Instrumentation/controls replacement; possible conversion to dry well/wet well
3. Northside PS: Feasibility study/design to improve redundancy and seismic resiliency; improve grit and suction piping
4. Northside to Bayfront force main: Potential for realignment
5. Bayfront PS: Potential to tie in directly to bay crossing; potential expansion for international port terminal
6. Bay crossing force mains: Potential to tie in directly to bay crossing; potential expansion for international port terminal
7. Pretreatment: Continue program development
8. Master Plan: Complete Phase II of the Master Plan
9. Biosolids: Potential shift to composting
10. Vactor and Decant Facilities: Improvements to resolve screening and maintenance issues

Figure 1 // BC's deep understanding of your goals and issues leads to better projects.

One goal is to continue to invest in and revitalize the backbone of the wastewater collection and treatment system. Improvements include the Northside Pump Station (PS), the bay crossing force mains (FM), and the wastewater treatment plan. Eventually, upgrades can also encompass upland FM alignment and the connection between the Bayfront and Northside PS.

Continuing implementation of the pretreatment program will reduce loading at the wastewater treatment plant, one of your key goals. Other potential projects at the wastewater treatment plant (WWTP) address the sources of operations and maintenance (O&M) issues with the biosolids processing system, vactor and decant areas, and possible changes to biosolids composting. Once the pretreatment program is implemented and a new plant baseline load is established, completion of the plant master plan will guide the next phase of the investment.

Elsewhere in the collection system, Newport has a goal to continue inspection and rehabilitation of the system. We have supported Newport on CCTV inspections, inspecting approximately 50 percent of the collection system. We understand Newport wishes to continue this work and to identify and implement additional rehabilitation projects as funds become available. Other potential projects include investments to address issues at the Nye Beach PS.

On the stormwater side, there are opportunities for projects to improve water quality. One potential project is relocating the Schooner Landing storm sewer, which is located in a landslide area and needs frequent repairs. A final key goal is securing Newport's water supply by addressing seismic resiliency issues at the Big Creek Reservoirs. We understand that Newport intends to continue its current specialty contracts for this project. BC is ready to support related water supply work through planning and potable water treatment and distribution.

Approach

In 10 years working with Newport, we have developed relationships with your staff and learned your lines of communication and contracting dynamics. We have an established track record of quickly moving task orders from initiation to delivery, taking things off your plate. Our approach is to deliver with responsiveness, build right-sized teams tailored to each task order, and provide the depth of knowledge through our national network of subject matter experts—with the overall goal of delivering services in a timely and cost-effective manner.

Responsive. We can quickly initiate work on task orders because of our knowledge of Newport's communication processes and program goals and our relationships with your staff. We will continue our practice of being responsive by working in partnership with Newport from start to finish, keeping Newport project managers informed and engaged, and openly communicating to manage change effectively. Newport staff benefit by having a team that can take on work quickly with a minimum of administrative back-and-forth, enabling you to devote your valuable time to your highest priorities.

Right-Sized Teams. Our staff includes experienced engineers as well as mid-level "rising professionals" who are building their expertise. By pairing experienced mentors with talented mid-level engineers, we "right-size" and structure our teams to deliver the best value to Newport. Newport benefits from the experience-based knowledge of our senior staff, while the lower billing rates of rising professionals reduces the overall cost of service.

Depth of Knowledge. BC believes our subject matter experts are a core element of how we add value. BC established a company-wide philosophy that expertise is available for projects of any size throughout the company, regardless of where our experts physically reside. This philosophy gives Newport access to nationally recognized experts in areas directly relevant to your issues, including biosolids management, PFAS, FM inspection, and industrial pretreatment.

Example Project Approach and General Work Plan

Our approach to performing work through on-call agreements is to focus on managing the scope, budget, schedule, and quality of the task orders such that there are no surprises. These agreements typically deliver multiple task orders concurrently, some of which require a quick turnaround. Our primary points of contact, Josh Johnson and Don Whitehead are experienced with Newport projects and procedures, demonstrating that they proactively communicate project status and work effectively to provide high-quality deliverables.

We outline our approach to an example task order for FM inspection in **Table 1**. Upon initiation of a task order by Newport, Josh or Don will work to identify an appropriate project manager (PM) from our pool of local task leaders. Our PM will work with Newport to understand drivers and desired outcomes, outline project risks, and strategize an approach. Our PM will assemble a right-sized team that can successfully deliver the task assignment, drawing on our local staff, design specialists, company technical experts, and subconsultants to match our strengths with your project needs. If unforeseen changes surface during project execution, our deep bench of resources will accommodate project needs. Once the team has agreed on the scope, we will negotiate fees with Newport's PM. For urgent task orders, we seek to negotiate and finalize task orders within 10 working days of initiation by Newport and will start work no later than 5 calendar days from notice to proceed.

Consultant of record task orders includes a wide range of projects and support service needs that are typically associated with wastewater treatment and collection systems, water treatment and distribution, and stormwater. While specific work by the team will vary from task to task, we incorporate the outlined principles into the execution of every task order.

QA/QC

All design drawings are independently reviewed by an experienced QC reviewer and cross-checked to coordinate between engineering disciplines. All calculations are independently reviewed. Additionally, all written deliverables undergo technical and readability reviews. Work products will be submitted to Newport only when they pass these QC checks and are ready for Newport review. We demonstrated our rigorous use of this QC process in recent projects, such as the Agate Beach PS. We believe that our QA/QC process strengthens the quality of design products and written deliverables.

Table 1 // Example Task Order Work Plan: Force Main Inspection

Phase	Activities
Ongoing	**BC:** – QA/QC: Independent review of all calculations, cost estimates, and written reports Continually manage workload, schedule, resources, and budget – Prepare regular updates for Newport **Newport and BC:** – Regular discussion of progress, issues, key decisions, budget, and change management
Task Order Initiation, Scoping, and Work Plan Development	**Newport:** – Initiate Task Order Request – Provide requested data **BC:** – Identify PM, team, and experts – Identify key milestones and draft scope, schedule, and budget – Develop project management plan, risk register, QA/QC plan, and health and safety plan – Identify key assumptions, criteria, and data needs **Newport and BC:** – Discuss risks, strategy, and project success factors – Agreement on reasonable fee – Discuss assumptions and criteria
Alternatives Analysis	**BC:** – Develop several options for inspection, ranging from lowest cost / lowest data resolution to highest cost / highest data resolution – Gather proposals / estimates from specialized inspection subs – Subject matter expert review of sub proposals – Estimate additional costs not captured in proposals – traffic control, construction of access, impacts to plant operations, etc. – Recommend an option based on Newport needs – Document work in a written memo
Milestone Workshop 1	**Newport and BC:** – Discuss the inspection alternatives analysis – Confirm Newport wants to proceed with the recommended inspection option
Develop Inspection Plan	**BC:** – Develop detailed step-by-step inspection plan with schedule and actions, including roles and responsibilities for BC, Newport, and the inspection sub, as well as any other specialized contractors – Update cost estimate
Milestone Workshop 2	**Newport and BC:** – Discuss plan, including help provided by Newport crews and how to mitigate impacts to services during inspection – Discuss updated estimate
Inspection and Reporting	**BC:** – Contract with inspection sub – Oversee inspection / lead coordination between Newport and inspector – Review inspection data and report from sub upon completion – Prepare summary report, including analysis of inspection sub findings and implications for future service / capital improvements

Project Management

We will continue our practice of being responsive by working in partnership with Newport from start to finish, keeping project managers informed and engaged, and openly communicating to manage change effectively. Our approach for resource management during project execution is based on project management best practices as shown in **Figure 2.**

Figure 2 // Project Management Best Practices

- ☑ Understand Newport's critical success factors, established through early discussions with your team
- ☑ Use a consistent work breakdown structure for scope, budget, and schedule so that task leads clearly understand task budget
- ☑ Check leading indicators to assess how quality is managed
- ☑ Plan and document project management activities in a project management plan (PMP) developed at the start of the project and updated regularly
- ☑ Develop and periodically update a project risk register
- ☑ Develop a Gantt chart project schedule that is coordinated with the work breakdown structure (including milestones, key deliverable and meeting/workshop dates, and Newport review periods) and updated regularly
- ☑ At the project kickoff meeting, include a discussion of issues and lessons learned from Newport's previous projects
- ☑ Use a design gate process– a checklist of progress milestones broken down by task and engineering discipline for each deliverable
- ☑ Regularly review project financial status to verify that effort spent is consistent with the schedule

Section 3: **Key Personnel**

BC has been working side by side with Newport for more than a decade in a variety of engineering roles and has successfully provided planning, design, and construction services. We work collaboratively with Newport's engineering, operations, and maintenance staff and have gained firsthand knowledge of Newport's wastewater and stormwater systems. We understand your culture, standards, and practices through our long project history with Newport and are committed to providing responsive, high-quality service to meet your future needs.

BC's proven strategy working with Newport will result in the continued successful delivery of public improvement projects. Our primary points of contact, Josh Johnson and Don Whitehead will work closely with Newport to develop thorough project understandings, identify appropriate team members, and define clear scopes of work that can be executed efficiently.

Our team provides adequate bench depth, specialized expertise, and familiarity with Newport to achieve your project- and program-level goals. The roles and responsibilities of our proposed staff are shown in the organization chart below, followed by brief biographies for key team members.

QA/QC
Bryan Paulson
Tim Mills

PRIMARY POINTS OF CONTACT
Josh Johnson
Don Whitehead

PROJCT DELIVERY OFFICER
Kelly Kimball

TREATMENT PLANT
Josh Johnson (PM)
Greg Humm (PM)
Tim Mills (PM)

COLLECTION SYSTEM
Don Whitehead (PM)
Angela Richardson (PM)

WATER RESOURCES
Ryan Retzlaff (PM)
Janice Bell (PM)

Josh Johnson, P.E.

Primary Point of Contact, Treatment PM

Portland, Oregon | Professional Chemical Engineer, Oregon 95580

Josh has been a project team member on a wide variety of projects, focusing on planning and design for wastewater treatment, water reuse, and industrial water quality. Josh has worked in all phases of the project lifecycle, including sewer and treatment plant modeling, development of facility plans and capital improvement programs, preliminary and detailed design, and construction management. Other work has included the planning and design of wastewater conveyance facilities, hydraulic modeling of sewer networks, and stormwater system planning and design.

Roles and Relevant Experience on Related Projects

- **Forest Grove Secondary Clarifier Design, Clean Water Services, Oregon // Project Manager**
- **Industrial Pretreatment Program, City of Newport, Oregon //Project Manager**

Don Whitehead, P.E.

Primary Point of Contact, Collections PM

Portland, Oregon | Professional Civil Engineer, Oregon 16,105

Don is an effective communicator and collaborator on all levels—from working with client staff to coordinating his project team—to interacting with project stakeholders. He will apply this transparent, collaborative approach serving as Newport's primary point of contact and managing team resources, schedule, quality, and budget to facilitate a collaborative partnership with Newport. He is a recognized expert in all aspects of pipeline design, including siting options, alignment evaluations, permitting, and pipeline hydraulics. Don brings 33 years of experience managing interdisciplinary teams, including multiple subconsultants and stakeholders.

Roles and Relevant Experience on Related Projects

- **Agate Beach Pump Station, City of Newport, Oregon // Project Manager**
- **Olsson Creek Storm and Sanitary Sewer Pipe Re-Alignment, City of Newport, Oregon // Senior Engineer**

Name/Role	Experience and Typical Duties	Related Experience
KELLY KIMBALL, P.E. Project Delivery Officer Professional Engineer (Electrical) 74411PE, OR	Responsible for overseeing project delivery, client service, management of resources, operations, and project quality and performance.	– **Biosolids Evaluation, City of Eureka, California** // Principal-in-Charge – **Durham WWTP FOG Tanks, Clean Water Services, Oregon** // Principal-in-Charge
BRYAN PAULSON, P.E QA/QC Civil Engineer, 10899, OR	Responsible for overseeing the QA/QC process, including coordinating and providing QC activities.	– **Aeration Basin Improvements, Medford, City of Medford, Oregon** // Technical Advisor – **Phase II Sewer Rehabilitation Program, BES, City of Portland, Oregon** // Project Delivery Officer
GREG HUMM, P.E. Treatment Plant PM Professional Civil Engineer, 18162, OR	Greg will serve as a wastewater treatment PM. Greg brings 40 years of experience in wastewater treatment and pumping station planning, design, and construction management services.	– **Southwest 86th Avenue Pump Station, City of Portland, Oregon** // Project Manager – **Rock Creek Wastewater Treatment Plant Sludge Transfer Conveyor Design, Clean Water Services, Oregon** // Project Manager
ANGELA RICHARDSON Collection System PM NASSCO, PACP, MACP, and LACP, U-0617-07008169	Angela will serve as a collection system PM. Angela's experience includes condition assessment, sewer rehabilitation, wastewater and storm drainage master planning, and hydraulic modeling task orders.	– **CCTV Sewer Inspection Project, City of Newport, Oregon** // Project Manager – **Olsson Creek Storm and Sanitary Sewer Pipe Re-Alignment, City of Newport, Oregon** // Project Engineer
TIM MILLS, P.E. Treatment Plant PM, QA/QC Professional Civil Engineer, 72538, OR	Tim will provide oversight for the QA/QC process, as well as serving as a wastewater treatment PM. Tim's experience includes solids processing, digestion, solids thickening, pumping, odor control, energy efficiency, dewatering, and renewable energy task orders.	– **Biosolids Evaluation, City of Newport** // Project Manager – **Solids Process Improvements, Gresham Wastewater Treatment Plant (WWTP), City of Gresham, Oregon** // Project Manager
RYAN RETZLAFF Water Resources PM	Ryan will serve as PM for stormwater-related task orders including hydrologic and hydraulic assessments, flooding studies, stormwater quality management and treatment designs, low impact development (LID) technologies implementation, master planning, and stormwater management assessment and design.	– **Olsson Creek Storm and Sanitary Sewer Pipe Re-Alignment, City of Newport, Oregon** // Project Manager – **Burlingame Creek Flood Reduction Study, City of Gresham, Oregon** // Modeling and Technical Lead
JANICE BELL, P.E. Water Resources PM Professional Engineer 81010PE, OR	Janice is an engineer and PM with experience conducting hydraulic and hydrologic analyses on stormwater and riverine systems and assisting with water, wastewater and ecological planning and design. Janice will manage potable water projects and stormwater planning projects.	– **Central Point Joint Modeling and Water System Master Plan, City of Central Point, Oregon** // Assistant Project Manager – **Stormwater Master Plan, City of Central Point, Oregon** // Project Engineer/Assistant Project Manager

Task Order Resources

Along with our identified team members, BC has a full-service Portland office and additional staffing capabilities by drawing upon our Seattle and Tacoma offices and our nationwide network of professional staff. Sharing resources nationally in a streamlined and effective way—the hallmark of BC—allows us to fortify and supplement the capabilities of onsite staff members as needed to meet quick deadlines and be responsive to multiple, sequential task orders. Along with BC's staff capabilities, our subconsultants provide additional staffing resources should the need arise (**Table 2**). Resumes, including qualifications and certifications for our task order resources, are provided in the Appendix.

BC has the availability to be committed to Newport and still perform additional assignments. Collectively, our team includes some redundancy to provide flexibility when handling each project's schedule. This combined pool of resources also allows for project continuity and our commitment to working in collaboration with Newport as an extension of its staff.

Table 2 // Task Order Support and Resources

Design Support	Technical Expertise	Subconsultants
Marc Maisonville Electrical I&C Lead	**Natalie Sierra** Biosolids/PFAS	**Foundation Engineering** Geotechnical
Jon Harper Structural Lead	**Josh Balentine** Pretreatment	**MWA Architects** Architecture
Catherine Dummer Cost Estimation	**Adam Klein** Wastewater Process	**Westlake Consultants** Surveying
Darrell Buhman Building Mechanical	**Gary Skipper** Force Main Inspection	**Pacific Habitat Services** Environmental Permitting
Michael Glass Wastewater/ Stormwater Engineer	**Brandon Billing** Hydraulics	**Water Dude Solutions** Plant Operations Analysis / Condition Assessment
Scott Bellis Structural Engineer	**Bob Jacobsen** Collections Rehab	**Terre-Source LLC** Biosolids Composting
Nila Molodih Electrical Support		**Nemariam Engineering** Traffic Control

Section 4 : **Consultant Team References and Past Performance**

Qualifications related to scope of work

As a multidisciplinary environmental firm, BC offers many services under one roof. Our Portland office has multidisciplinary resources locally and ready to effectively deliver on-call projects. Our local team, including water, wastewater, stormwater, civil, mechanical, electrical, structural, instrumentation, and cost estimating engineers, has the skill set to deliver large and small projects requiring a broad range of skills to meet project complexities. The following examples describe how our capabilities are an excellent match for Newport's needs. **Table 3** includes a public agency client list for similar project work within the last five years.

On-Call Services, City of Newport

Project Duration // 2010-Current

BC has provided on-call engineering services to the City of Newport since 2010. Engineering services within the last 10 years have included the following described projects.

BC prepared the Wastewater Treatment Master Plan for the City of Newport. The plan included an equipment condition assessment component and modeling of the biological process to identify treatment capacity bottlenecks. These efforts resulted in a prioritized list of capital improvements for the plant and the development of a pretreatment/source control program for several high strength dischargers within the service area. These programs allowed Newport to defer the expansion of the plant to handle the organic load.

Agate Beach Improvements. BC prepared preliminary and final design documents to replace two wastewater collection system PS in Newport. The pump stations are relatively deep submersible style stations that required significant shoring and groundwater control, as well as some rock removal. BC worked with Newport to develop site layouts for multiple sites and configurations. Multiple projects required involvement from public agencies and private stakeholders in the development of the site and pipeline configurations, environmental permitting, property acquisition, and right-of-way permitting. In addition to geometric constraints for each site, high groundwater, construction in state highways, and the need to maintain full operation during the construction of new PS and FM required detailed sequencing plans. BC worked closely with Newport operations staff to incorporate specific "user-friendly" features in the design.

Olsson Creek Sewer Alignment. BC completed a feasibility study, then 50 percent, 90 percent, and final drawings for the relocation of a parallel storm and sanitary pipe under a wetland and roadway using a jack and bore construction to minimize potential impacts to sensitive areas and the adjacent homes. The design included reuse of a decommissioned pump station, coordination of all environmental permits, decommission of lines not used associated with the PS, and the construction of the new storm and sanitary pipes with new alignment to 4th Street.

Pretreatment Program. BC worked with Newport to develop permit conditions for high-strength discharges from Significant Industrial Users. BC reviewed industrial user surveys, created a sampling and analysis plan for local limits, and developed limits following completion of sampling. Other aspects of the program that BC assisted with included coordination with DEQ, program elements developed by Newport staff, and industrial users.

CCTV Inspection. Newport and BC developed the sewer inspection program to inspect the gravity sanitary sewer collection system over several years. Since its implementation in 2015, BC has been assisting Newport with the inspections, coordinating the subconsultants work, and reviewing the gathered inspection data. For the approximately 50,000 linear feet inspected, BC has also provided condition assessment and rehabilitation recommendations.

Wastewater On-Call, Clean Water Services

Project Duration // 2009- Current

BC has been assisting Clean Water Services (CWS) through an on-call/COR contract since 2009. Significant projects within the last five years include:

Durham FOG Tank Replacement Project. After experiencing multiple tank coating failures, BC evaluated lining types for the tank. Because of the drawbacks to available lining methods, full replacement of the tanks became the preferred alternative. We are currently completing the detailed design to demolish the existing concrete tanks and replace them with cone-bottom stainless-steel tanks.

Rock Creek Dewatered Biosolids Transfer Conveyor. BC prepared the design of a new biosolids transfer conveyor to improve redundancy. Dewatered and digested sludge is conveyed by screw conveyors to storage hoppers, then loaded into trucks and hauled off-site. BC installed two screw conveyor systems, each with three individual conveyors (horizontal - vertical - horizontal). Each conveyance system is dedicated to a single storage hopper. In the event one of the individual conveyors is out of service, the plant is unable to fill the storage hopper associated with that conveyance system. The new transfer conveyor allows sludge from one conveyor system to be transferred into the other system such that both hoppers can be used for storage thereby increasing redundancy for system maintenance without loss of operations.

Forest Grove UV Disinfection Evaluation. BC designed piping and structural modifications to an existing UV disinfection and sodium hypochlorite system to add walls on two sides, upgrade the electrical system, and improve operator safety.

Southwest 86th Avenue Pump Station and Force Main, City of Portland Bureau of Environmental Services (BES), Oregon

Project Duration // 2011-2017

BC assisted BES on a suite of projects related to the Fanno Basin Collection System that included the complete replacement of the 3-mile-long, 30-inch diameter polyvinyl chloride (PVC) FM with twin steel/ductile iron pipes and construction of a new pumping and surge protection facility.

BC led an alternatives analysis and subsequently designed a new 10 million gallon per day (mgd) pumping facility that will handle all dry weather flows and flows generated by small storm events. The technically complex design involved a high-head, two-stage pumping system with tanks for surge protection.

BC assisted BES in moving seamlessly through the permitting and design process for this PS expansion that required a robust outreach effort for the highly visible project. BC coordinated a series of meetings to educate the public and solicit input. Permitting was also challenging because portions of the project were located within the 100-year floodplain of Fanno Creek and sensitive natural resource areas.

BC's outreach efforts paid special attention to the highly active stakeholders' needs as required to gain land use approval and appease neighboring residents.

Scattering Canyon Design, City of Oregon City, Oregon

Project Duration // 2019- Current

BC is managing design for a stormwater management and stream restoration facility at the upstream end of a tributary to Newell Creek to address significant erosion and down cutting occurring in the channel at an outfall discharge point. Aesthetics are an important aspect of this project, given its proximity to a cemetery and use as a spiritual space. BC has managed multiple subcontractors to conduct a survey, wetland delineation, cultural resources assessment, Phase I site assessment, and production of 30 percent design and landscape renderings. The project sits near a historic landslide and upstream of a known area of instability, requiring specialized expertise to confirm that the resulting project enhances, stabilizes, and causes no harm to the system.

Cogen and Biosolids Evaluation // City of Eureka, California

Project Duration: 2018-2019

BC is helping the City of Eureka evaluate replacing and upsizing the existing cogeneration engines at the Elk River Wastewater Treatment Plant with a modern and energy-efficient unit and backup boiler. The two existing cogeneration engines are more than 30 years old and nearing the end of their useful service life. Spare parts are becoming extremely scarce and available parts are costly. These engines burn digester gas and produce both electricity and hot water. The hot water heats and maintains a digester temperature around 98° to 99°F and to heat the administration building. The electricity produced is used to offset power purchased from Pacific Gas & Electric. The engines are a critical part of the overall plant operation. These newer and more efficient engines are designed to produce more electricity per cubic foot of digester gas produced; initial projections for annual cost savings from installing the new engine estimate at $90,000.

Table 3 // Firm Experience

Project	ENGINEERING				RELATED SERVICES							
	Wastewater Treatment	Wastewater Collections	Potable Water	Stormwater	Facilities/Master Planning	Preliminary/Detailed Design	Owners Representation	Modeling	Cost Estimating	Construction Management	Pipeline Inspection	Project Management
ON-CALL SERVICES City of Newport, OR Reference // Chris Janigo, c.janigo@newportoregon.com, 541.574.3376	●	●		●	●	●	●	●	●	●	●	●
WASTEWATER ON-CALL Clean Water Services, OR Reference // Rick Shanley, shanleyr@cleanwaterservices.org, 503.547.8178	●	●				●			●	●		●
SOUTHWEST 86TH AVENUE PUMP STATION AND FORCE MAIN City of Portland Bureau of Environmental Services (BES), OR Reference // Brenda Sherwood, brenda.sherwood@portlandoregon.gov, 503.823.2632		●		●	●	●	●	●	●	●		●
SCATTERING CANYON DESIGN City of Oregon City, OR Reference // John Lewis, jlewis@orcity.org, 503.657.0891				●	●	●						●
COGEN AND BIOSOLIDS EVALUATION City of Eureka, CA Reference // Kelly Allen, kallen@ci.eureka.ca.gov, 707.268.5253	●				●	●			●			●
ON-CALL ASSET REHABILITATION AND RESTORATION City of Gresham, OR Reference // Alan Johnston, alan.johnston@greshamoregon.gov, 503.618.3454	●			●		●			●			●
FORCE MAIN SIPHON CONDITION ASSESSMENT Metro Water Reclamation District, CO		●									●	●
AGATE BEACH SYSTEM IMPROVEMENTS City of Newport, OR		●				●	●		●	●	●	●
OLSSON CREEK SEWER AND STORM IMPROVEMENTS City of Newport, OR		●		●		●	●		●			●
WATER SYSTEM MASTER PLAN UPDATE City of Central Point, OR			●		●							●

Ability to complete tasks on schedule and budget

On-call projects need engaged teams to provide flexible solutions to a variety of project challenges. Multiple concurrent task orders can lead to competing deadlines and priorities. To address this challenge, we have built redundancy into our teams by including both key and support staff with design experience across all on-call project types. In particular, we plan to allow all team members to learn new skills and gain project-related experiences that might be outside their current expertise. This flexibility will also allow us to maintain our inclusion commitments by tapping into the breadth of existing skillsets across the team as well as building new skills throughout this on-call contract. Another benefit of a large team is that dynamic team roles allow for opportunities for mentorship and growth for all team members.

BC has the availability to be committed to Newport and still perform additional assignments. Collectively, our team includes some redundancy to provide flexibility when handling each project's schedule. The combined pool of resources allows for project continuity and our commitment to working in collaboration with Newport as an extension of its staff.

Section 5 : **Fee Schedule**

The table below presents the hourly rates for the BC team members for projects associated with all service categories.

Labor Classification	Key Staff	Hourly Rate
Engineer I	Nila Molodih	$114
Engineer II	Michael Glass, Scott Bellis	$131
Engineer III		$150
Senior Engineer Senior Construction Engineer	Angela Richardson, Janice Bell	$174
Principal Engineer Principal Construction Engineer	Josh Johnson, Ryan Retzlaff	$202
Supervising Engineer Supervising Constr. Engineer	Jon Harper, Darrell Buhman	$239
Managing Engineer	Greg Humm, Kelly Kimball, Tim Mills, Don Whitehead, Marc Maisonville	$273
Chief Engineer Executive Engineer		$296
Vice President	Bryan Paulson	$296

Section 6 : **Appendix**

Supporting information in this section includes team resumes detailing certifications and prior relevant experience.

Senior Associate

Joshua D. Balentine

Experience Summary

Josh has over 10 years of experience specializing in Industrial Pretreatment Programs (IPPs). He has a unique perspective covering all angles, as he has managed one of the largest IPPs in the country, served as a consulting engineer for numerous IPPs and industrial users, and supported the U.S. EPA and various states as a contract regulator of industrial pretreatment programs. While working on behalf of the U.S. EPA, he was a credential inspector holding a U.S. EPA Inspection Security Clearance and performed more than 100 pretreatment program compliance audits and inspections and more than 500 industrial user inspections. He also holds a Grade 4 Wastewater Treatment Plant Operators license in Arizona and Tennessee.

Assignment

Pretreatment

Education

B.S., Civil Engineering, University of Memphis, 2010

Registration

Wastewater Treatment Plant Operator, Grade 4, AZ

Wastewater Treatment Plant Operator, Grade 4, TN

Experience

10 years

Joined Firm

2019

Relevant Expertise

- *Industrial Pretreatment Program Management*
- *Local Limits*
- *Enhanced Source Control*
- *Wastewater Treatment*
- *IoT Water Quality Sensors*

Pretreatment Program Support, City of Newport, Oregon

Subject Matter Expert. Assisted in the development of an escalated enforcement action for a significant industrial user in a recurring violation status. This included review or permit, municipal code, discharge data, and previous enforcement actions. Developed a draft Administrative Order for the City to issue to the industrial user in an effort to assist the user in achieving permit compliance.

Implementation Manual Update, Clean Water Services, Hillsboro, Oregon

Project Manager and Technical Lead. Served both the project manager and technical lead updating the Pretreatment Program Implementation Manual. This includes the Implementation Manual, development of a new Enforcement Response Plan and Hauled Waste Plan and updating of various departmental Standard Operating Procedures (SOPs).

Pretreatment Ordinance Update, Oak Lodge Water Services. Oak Grove, Oregon

Pretreatment Program Subject Matter Expert. Performed review and update of the Pretreatment Ordinance for Oak Lodge Water Services. Specifically addressing concerns with regulating high-strength organic wastes (BOD, COD, TSS) which may cause pass through, interference, or disruption of the POTW. Changes were proposed to give Oak Lodge Water Services the legal authority to recoup additional treatment charges (ATCs) for high-strength industrial waste and improved their enforcement capabilities.

Pretreatment Staff Training, City of Nampa, Idaho

Lead Instructor. Developed and presented a pretreatment training module for the City of Nampa. Topics included *Source Control, Enhanced Source Control, Industrial User Sampling,* and *Smart Sensor Monitoring Stations at Industrial Users.*

Pure Water San Diego Enhanced Local Limits, City of San Diego, California

Senior Technical Lead. Serving as the Senior Project Technical Lead for developing enhanced local limits for the Pure Water San Diego project, which will recycle 85 mgd of pure water for potable reuse by 2035. The enhanced local limits will take into consideration NPDES permit limits, water reuse limits, water quality standards, constituents of emerging concerns (including PFAS and PFOA).

Pure Water Soquel Program, Soquel Creek Water District, California

Enhanced Source Control Technical Lead. Served as the enhanced source control lead for the Pure Water Soquel Program. Joshua's duties include

developing pollutants of concern, sampling plan in order to perform the development of enhanced local limits.

General Pretreatment Program Support, City of Memphis, Memphis, Tennessee
Technical Lead. Served as Technical Lead supporting the City of Memphis Industrial Monitoring and Pretreatment Program on numerous tasks including the following: Sewer Use Ordinance review and updates including Cross Media Electronic Reporting Rule (CROMERR) requirements, Enforcement Response Plan review and updates including the development of a Civil Penalty Matrix, hauled waste program modifications and training.

Calculation and Evaluation of Local Limits, Multiple Client Nationwide
Project Manager & Technical Lead. Performed all data gathering, calculations, and regulatory review of the local limits. Clients include the City of San Diego (CA), Lexington-Fayette Urban County Government (KY), City of Ocala (FL), City of Memphis (TN), Town of Arlington (TN).

Pretreatment Program Toolbox and Training, U.S. EPA and Border Environmental Cooperation Commission (BECC), Various Cities in Mexico, Arizona, & California
Project Engineer. Developed a Pretreatment Program Toolbox on behalf of the U.S. EPA and BECC for municipalities on the Mexico and United States border. This consisted of sewer use ordinance, annual report, enforcement response plan, permit and fact sheet, and inspection form templates. Additionally, modifications and updates were made to the sewer use ordinance, permits, and enforcement response plan for the Douglas, Holtville, Nogales, and Wilcox, AZ.

U.S. EPA Guidance Manual Development, U.S. EPA Headquarters, Washington D.C.
Technical Author & Reviewer. Served as a technical author and reviewer and editor of the January 2017 U.S. EPA *Industrial User Inspection and Sampling Manual for Publicly Owned Treatment Works*, *Hauled Waste to Energy* (draft), and various appendices for the *Industrial User Permitting Guidance Manual* (draft).

Municipal Pretreatment Program Oversight, U.S. EPA Headquarters & U.S. EPA Regions 1, 2, 3 4, 5, & 9, Nationwide Locations
Project Engineer & Lead Inspector. Provided municipal pretreatment program compliance oversight on behalf of the U.S. EPA Headquarters jointly with U.S. EPA Regions 1, 2, 3, 4, 5, & 9. Conducted pretreatment compliance audits and inspections, industrial user inspections, and technical evaluations of local limits, sewer use ordinances, industrial user permits, program implementation manuals, hauled waste plans and enforcement response plans for more than 60 municipal pretreatment programs in the following states: CT, NY, DE, PA, MD, SC, TN, IN, IL, & CA. Additionally, introductory and advanced pretreatment training modules/courses were developed and facilitated at numerous sites throughout the nation.

Municipal Pretreatment 101 Training, U.S. EPA Region 9, San Francisco, California
Lead Instructor. Developed and facilitated introductory municipal pretreatment program training modules in both northern and southern California. Topics included *Introduction to the Pretreatment Program, Overview of Pretreatment Standards, Industrial User Sampling and Pollutant* Sources, *Industrial User Inspections, Regulating Non-Significant Industrial Users, Metal Finishing Application, Industrial User Survey, Evaluating and Developing Local Limits,* and *Industrial User Enforcement.*

Pretreatment Program Management, City of Memphis, Memphis, Tennessee
Program Manager. Managed a team of Engineers, Scientists, Technicians, and support staff who worked together to implement the largest pretreatment program in EPA Region 4 and one of the largest in the United States, with over 100 significant industrial users. Conducted and provided management support for industrial user sampling, inspections, permitting, enforcement, and annual reporting to the State of Tennessee. Made updates and revisions to the program's Standard Operating Procedures, permits, inspection forms and procedures, hauled waste program, enforcement response plan. Additionally, I served in a lead role in the evaluation, selection, and implementation of a Pretreatment Information Management System, LinkoCTS.

Janice M. Bell, P.E.

Experience Summary

Janice Bell is a project manager and planner with 9 years of experience assisting with water, stormwater, wastewater and ecological planning and design. Her current planning work includes master planning and design of proposed alternatives. Janice's drinking water planning and preliminary design has incorporated water quality and water age evaluations, seismic risk analyses and pump station system head curve development to support clients in meeting level of service goals. She is also working on stormwater master planning and design projects that incorporate water quality features and channel restoration.

Assignment

Water Resources PM

Education

B.S., Environmental Engineering, Oregon State University, 2008

Registration

Professional Engineer No. 81010PE, Oregon, 2013

Professional Engineer No. C78824, California, 2011

Experience

9 years

Relevant Expertise

- *Master Planning*
- *Stormwater Retrofit Design*
- *Fish Passage Improvements*
- *Hydrologic/Hydraulic Modeling*
  - *Proficient:*
    - *PCSWMM*
    - *XPSWMM*
    - *InfoSWMM*
    - *InfoWater*
    - *EPASWMM*
    - *HEC-RAS*
    - *WaterGEMS*
    - *FOR-TRAN*

Central Point Water System Master Planning, City of Central Point, Oregon

Project Manager. Janice is currently working on the development of the Central Point Water System Master Plan Update and assisted in the Joint Modeling and Water System Master Plan in 2009. The master plan update project included facilitation of discussions between the City and their wholesale water supplier and evaluation of project alternatives to improve seismic resiliency by relocating a seismically unstable storage tank and pump station. Janice also assisted in hydraulic modeling efforts to calibrate the City's existing model, calculate future potable water system demands and determine potential capital improvements projects for the City.

Indian Bend Well Evaluation, City of Tempe, Arizona

Project Engineer. Janice assisted evaluation of a new well installation in Tempe, Arizona. She utilized the City's existing InfoWater model to evaluate the impact that the proposed well would have on existing water distribution system pressures and velocities and developed system head curves to support pump selection.

Hillview Terrace Pressure Evaluation, Friday Harbor, Washington

Project Engineer. Janice completed a pressure evaluation and project alternatives analysis to develop solutions to address high pressures within the Hillview Terrace neighborhood, which is currently experiencing maximum pressures exceeding 160 psi.

Vilas Storage Reservoir and Pump Station, City of Central Point, Oregon

Project Manager. The Vilas Storage Reservoir and Pump Station project was identified in the City's 2009 Water System Master Plan to assist the City in meeting their wholesale water supply contract terms while maintaining adequate system pressures and emergency storage. Janice led the project team from preliminary design through the bid phase to develop a project concept that met the City's level of service goals and fit into the existing park setting.

Thompson Reservoir Pump Station Preliminary Design, Tualatin Valley Water District (TVWD), Oregon

Project Engineer. This project included the preliminary design of a new pump station and transmission main on Thompson Road. Janice assisted in the site civil design including grading and stormwater treatment and assisted with county permitting for the pump station. She also assisted with layout of the transmission main alignment.

Stormwater Master Plan, City of Gresham, Oregon

Project Engineer. Janice assisted with the Fairview Creek evaluation within the City using XPSWMM. Janice assisted in the hydraulic system evaluation and in the development of system capacity and water quality improvement projects.

Stormwater Master Plan, City of Nampa, Oregon

Project Engineer. Janice led model development and project planning activities for this project, which is currently in the capital improvement project development phase. This project utilized InfoSWMM and was the first city-wide modeling effort conducted by the City.

Stormwater Master Plan, City of Medford, Oregon

Project Engineer. Janice is currently working on field data requests and model planning and development for the City-wide stormwater master plan, which is projected to continue through 2021.

Stormwater Master Plan, City of Central Point, Oregon

Project Engineer/Assistant Project Manager. This multi-objective stormwater master plan to address stormwater quantity, stormwater quality, regulatory objectives, and stormwater management provisions in the 2013 National Flood Insurance Program (NFIP) Community Rating System (CRS) Manual. The plan identifies and prioritizes flood control and water quality projects for a 20-year planning period. The plan also includes recommendations for code changes to eliminate barriers to LID and design standard changes to maximize stormwater management points as practicable in the City's NFIP CRS.

Elligsen Pump-to-Waste Evaluation, City of Wilsonville, Oregon

Project Manager. Janice used the City's existing InfoSWMM model to evaluate the stormwater conveyance system downstream of the Elligsen well to determine if the system had capacity to receive pump-to-waste discharge.

Stormwater Master Plan, City of Milwaukie, Oregon

Project Engineer. This master plan update included updated system modeling to identify capacity deficiencies, identification of water quality retrofit opportunities, maintenance and staffing analyses and a financial evaluation. Janice assisted in the hydraulic system evaluation and in the development of system capacity and water quality improvement projects.

South Troutdale Storm Drainage Master Plan, City of Troutdale, Oregon

Project Engineer. This project included development of an integrated (flood control and water quality) stormwater master plan for the City of Troutdale that identifies and prioritizes capital improvement projects (CIPs) for a 20-year planning period. The study area consisted of the southern portion of the city that is a tributary to Beaver Creek and the Sandy River, both of which are water quality limited with a total maximum daily load (TMDL) for bacteria.

Water Master Plan Update and Stormwater Master Plan Development, City of Gladstone, Oregon

Project Engineer. Janice assisted in the development of the Gladstone water system and stormwater system master plans. She reviewed system-wide mapping and developed models in InfoWater and PC SWMM, respectively. Model development was followed by system assessments, and capital project identification.

Happy Valley Park Culvert Replacement, City of Happy Valley, Oregon

Project Engineer. Janice completed the site civil design and construction management for the replacement of a culvert in Happy Valley Park on Mt. Scott Creek with a pre-fabricated wooden bridge to improve fish passage and a constructed riffle system with natural log placement for grade control and habitat improvements.

Wastewater Outfall Relocation, Halsey, Oregon

Project Engineer. Janice led the alternatives analysis and preliminary design of a 42-inch effluent outfall relocation for a private client near Halsey, Oregon. The design involved close coordination with in-water contractors in the area to obtain cost estimates and methods of construction for the new outfall which, is planned to discharge at the base of a 45-foot vertical cliff.

Experience Summary

Scott is a project engineer in BC's structural engineering group and located in BC's Portland, Oregon office. He brings structural engineering experience for design, submittal reviews, and construction services support for water and wastewater infrastructure and treatment facility projects.

Assignment

Structural Engineer

Education

M.S., Structural Engineering, Northwestern University, Evanston, Illinois, 2013

B.S., Civil Engineering, Northwestern University, Evanston, Illinois, 2012

National Science Foundation Research Fellow, China, 2010

Registration

Professional Engineer Oregon No. 93333, 2017

Professional Engineer California No. 86949, 2016

Fall Protection Authorized Person, 2018

Experience

6 years

Joined Firm

2019

Relevant Expertise

- *Structural design, industrial and wastewater facilities*
- *Structural steel and reinforced concrete design*
- *Pipe support design*

Biological Nutrient Removal Design, Central Valley Water Reclamation Facility (CVWRF), Salt Lake City, Utah

Project Engineer. As part of an adaptive management strategy to address nutrients in Utah waters, the Utah Division of Water Quality (DWQ) has promulgated a Technology-Based Phosphorus Effluent Limit (TBPEL). DWQ has also indicated a technology-based limit for Total Inorganic Nitrogen (TIN) is likely in the future. In order to meet the 2025 compliance deadline, Central Valley has started the preliminary phases of the design. BC has provided preliminary design and design services for this nutrient design project. Scott provided structural design of retrofit concrete infill walls to repurpose an existing concrete basin and concrete connector structures between existing and new concrete basins. Scott also designed steel support bridges supporting and providing maintenance access to basin mixers.

Construction Services, Central Valley Water Reclamation Facility, Salt Lake City, Utah

Project Engineer. BC is providing construction management and construction administrative services to CVWRF during the construction and installation of a variety of projects at the WRF. This will include on-site and offsite coordination for construction activities to monitor compliance with design documents, coordinate plant shutdowns, start-ups and commissioning of equipment with CVWRF and contractors, and provide document control for RFI resolution, installation, testing, commissioning of the new facilities. Scott provided structural design of pipe supports for an addendum and will be assisting with construction administration services.

Davis Aqueduct Reach 1 Design and Construction Management, Weber Basin Water Conservancy District (WBWCD), Utah

Structural Lead. WBWCD completed an alignment study for a parallel pipe for the Davis Aqueduct (DA) Reach 1 (R1). This scope of work includes design and construction services for the 2.2-mile 63-inch steel pipeline and modifications to existing support structures and design of new support structures. A new valve vault on the west side of Hwy 89 near the intersection of 2700 E and Deer Run drive will provide a future connection to a pumped pipeline from the Weber River. A new vent structure will accommodate the new redundant pipeline for R1 and future R2 (78"), future realignment/replacement of existing R1 and R2 pipelines (72" and 78", respectively), and a future 48" overflow pipeline to Hobbs Reservoir. Scott is providing structural design of several large cast-in-place vault structures, modifications to an existing underground concrete structure, and retaining wall design.

Solids Processing Building Improvements, Metro Wastewater Reclamation District, Colorado

Project Engineer. This project is for construction related to the rehabilitation of the dewatering facilities at the Robert W. Hite Treatment Facility (RWHTF) to improve dewatering operations reliability and redundancy, increase dewatering capacity to meet additional solids loadings from future changes in liquid stream processes and addition of tertiary treatment facilities, and improve overall

dewatered solids truck loading operations. Scott assisted with submittal review related to cable tray and pipe supports as well as access hatches and ladders. Scott also provided re-design of steel mixer support frames to coordinate with deferred tank submittals.

Western Navajo Pipeline Phase 1, Navajo Nation, Arizona

Project Engineer. The Western Navajo Pipeline Phase I is the umbrella project for six individual projects that will provide a solution to the mid and long-term water demands for the western portion of the Navajo Nation and the City of Page, Arizona. The six projects include the Lake Powell Intake – Western Navajo Pipeline Reach 1 Feasibility Study, City of Page Water Treatment Plant Expansion, Page to LeChee Pipeline and Booster Pump Station, Bodaway-Gap Supply Well and Pipeline, Cedar Ridge Booster Pump Stations and Pipeline, and Cameron Booster Pump Stations. Scott provided structural design of two one story masonry pump stations and helped coordinate anchorage and foundation design of welded steel tanks.

Agate Beach System Improvements, City of Newport, Oregon

Project Engineer. As part of an on-call engineering services agreement, BC is preparing a preliminary design report to evaluate construction packaging and cost saving alternatives for the Schooner Creek Pump Station and Force Main, the 48th Street Pump Station and Force Main, and the Coast Highway Gravity Sewer projects. These improvements to the wastewater collection system will help meet current and future conveyance capacity needs and are being funded with a state revolving fund loan. The evaluation will assess cost saving measures to maximize use of loan funds. BC provided the site selection evaluation; coordination of environmental assessment and permitting; pump selection, site layouts, and specifications for the system improvements. Scott assisted with submittal review related to wet wells, precast utility vaults, equipment anchorage, and ultra block retaining walls.

Secondary Clarifiers Improvement Project, Forest Grove WWTF, Clean Water Services, Washington County, Oregon

Project Engineer. BC provided planning level services to identify feasible alternatives to improve secondary clarifier capacity at the Forest Grove Wastewater Treatment Facility. In collaboration with the District, BC has selected alternatives and are now providing design services to increase secondary clarifier capacity at the facility with the construction of a new clarifier and providing upgrades to the two existing clarifiers. Scott provided structural design of pipe supports and miscellaneous structures including aluminum platforms and concrete infill walls.

Headworks and Fermenter Odor Control Engineering Services during Construction, Central Valley Water Reclamation Facility (CVWRF), Salt Lake City, Utah

Project Engineer. BC is the engineering consultant on this project and has been tasked with oversight of the construction of a new odor control system to treat foul air from various plant processes including, headworks, grit and screenings room and grit basins, thickened sludge mixing tank, fermenter tanks, and rotary drum thickener facility. This project includes engineering and document control services during the construction installation, and commissioning of the Odor Control System. Scott provided construction administration services including submittal review for railings, stairs, and pipe supports.

Principal Engineer

Brandon Billing, P.E.

Experience Summary

Brandon Billing has 13 years of experience in water and wastewater conveyance engineering, specializing in hydraulic and hydrologic modeling and surge analysis. He has experience on a variety of projects requiring detailed analysis using both numerical and physical modeling as well as desktop hydraulic analysis methods. He has developed solutions to a range of hydraulic problems including combined sewer overflow (CSO) decommissioning analysis, hydraulic and hydrologic model calibration, water hammer analysis, and hydraulic analysis of pressurized pipelines and pumping systems. Brandon has a strong background in open channel and pressurized hydraulics in wastewater conveyance and treatment systems. His technical expertise includes proficiencies with modeling software such as SWMM, MIKE URBAN, HEC-RAS, Water GEMS, HAMMER. InfoSurge, and Visual Hydraulics. He is a leader in BC's national Surge Analysis group, which implements best practices and quality control for surge modeling, analysis, and mitigation.

Assignment

Hydraulic Modeling Lead

Education

M.S., Hydraulic (Civil) Engineering, The University of Iowa, 2007

B.S., Civil and Environmental Engineering, Washington State University, 2005

Registration

Professional Engineer 48785, Washington, 2011

Professional Engineer 18866, Idaho, 2019

Experience

13 years

Joined Firm

2010

Relevant Expertise

- *Treatment Plant Hydraulics*
- *Pumping System Hydraulics*
- *Hydraulic Numerical Modeling*
- *Hydraulic Surge Analysis and Modeling*
- *Hydrologic Modeling*
- *Physical Hydraulic Modeling*
- *GIS Applications in Water Resources*

Big Creek Pump Station Design, City of Newport, Oregon

Analytical Engineer. The 1.3 mgd Big Creek Pump Station is located on a small site with a nearby creek, hotel, and roadways. The existing wetwell/dry pit pump station was undersized for existing and projected future flows, and replacement was required. Brandon performed the hydraulic surge modeling for the pump station and force main design projects. He used the numerical modeling program, HAMMER, to identify an array of surge pressure mitigation alternatives and worked with the design team and owner to implement a cost-effective and low-maintenance solution. Brandon provided design support and input on the specification for installing a 500-gallon bladder surge tank at the pump station to mitigate harmful transient pressures associated with pump cycling and power failure.

Agate Beach System Improvements, City of Newport, Oregon

Analytical Engineer. As part of the Schooner Creek and NW 48th Street pump station replacement and rehabilitation projects, Brandon developed hydraulic and transient pressure models to evaluate the impacts of transient pressures in each system. Based on the modeling evaluation, small bladder surge tanks and combination air and vacuum valves were implemented at each pump station to mitigate transient pressures at both pump stations.

Force Avenue Wastewater Pump Station, BES, City of Portland, Oregon

Hydraulic Engineer. Brandon used pressurized flow modeling software to develop a system curve and assess pump replacement alternatives for the 1,400 gpm pump station and force main system. The analysis also included hydraulic transient modeling to develop recommendations for mitigating surge pressures in the system. Brandon provided recommendations for mitigating surge pressures using combination air release and vacuum breaker valves at strategic locations.

Port Angeles Combined Sewer Overflow Reduction Program, City of Port Angeles, Washington

Project Engineer. Brandon calibrated King County's West Duwamish combined sewer collection system model using the MIKE URBAN hydraulic and hydraulic modeling platform. Brandon reviewed existing models from Seattle Public Utilities (SPU) and King County and evaluated rainfall, flow monitoring, and depth monitoring data, then calibrated the model to measure flow and depth meters throughout the basin using manual and automated calibration techniques.

Stormwater Modeling On-Call Services, City of Auburn, Washington
Project Engineer. As part of an on-call modeling contract, Brandon has calibrated the City of Auburn's MIKE URBAN stormwater models. These models employ the SWMM engine within the MIKE URBAN interface to perform model calculations. During model calibration, Brandon used an HSPF model to estimate active groundwater in the basin.

Mill Creek Basin Plan, City of Auburn, Washington
Project Engineer. Brandon developed a HEC-RAS model for predicting the impacts of potential flow increases in the Mill Creek Basin because of potential new development. The intent of the analysis was to evaluate a basin-specific flow control requirement for new development, involving close coordination with the City of Auburn and Washington State Department of Ecology.

Brightwater Influent Pump Station Hydraulic Modeling, King County, Seattle, Washington
Hydraulic Engineer. Brandon developed a detailed hydraulic transient pressure model to assess various alternatives for mitigating surge pressures in the system, including surge tanks, flywheels, and a bypass mechanism, also assessing the impacts of trapped air and wave speed variations on transient modeling results. The analysis resulted in the selection of integral flywheels on the pump motors to mitigate downsurge pressures. Following installation of the flywheels, Brandon assisted in developing and executing a surge analysis field test program to verify the performance of the installed mitigation. He gathered transient pressure measurements for a range of operating conditions, and analyzed the data to fully calibrate the transient pressure model and confirm the adequacy of the installed flywheels for mitigating surge pressures over a range of operations.

West Duwamish CSO System Model Calibration, King County, Seattle, Washington
Project Engineer. Brandon calibrated King County's West Duwamish combined sewer collection system model using the MIKE URBAN hydraulic and hydraulic modeling platform. Brandon reviewed existing models from Seattle Public Utilities (SPU) and King County and evaluated rainfall, flow monitoring, and depth monitoring data, then calibrated the model to measure flow and depth meters throughout the basin using manual and automated calibration techniques.

Portage Bay CSO Decommissioning Analysis, SPU, Seattle, Washington
Project Engineer. Brandon conducted a modeling study using SWMM to determine the impacts of decommissioning three CSO structures in the Portage Bay basin. Modeling tasks included verification of CSO structure critical elevations and refinement of boundary conditions, selection of key wet weather events using statistical methods, and developing modeling scenarios to isolate worst-case conditions. Based on the modeling, Brandon provided recommendations to SPU describing the impacts of decommissioning each or all of three separate CSO structures.

Meridian Wastewater Treatment Plant (WWTP) Liquid Stream Expansion, City of Meridian, Idaho
Hydraulic Engineer. Brandon developed the hydraulic profile model for the liquid stream design using Visual Hydraulics' flow balancing alternatives. Analysis included assessment of hydraulic control structures, flow splitting, cutthroat flume dimensions, weir sizing, and optimization of hydraulic losses through the liquid stream processes. This project is an expansion of the City of Meridian WWTP from 30 to 65 mgd, including the detailed design, construction management, and startup.

Kailua Tunnel Influent Pump Station (TIPS) and Headworks, City and County of Honolulu, Hawaii
Hydraulic Engineer. Brandon conducted a surge analysis for the pump station and force main at the 45 mgd Kailua TIPS. The new TIPS features a total of six pumps in dual wetwells and has dual drywells for flood protection. The TIPS is located at the end of the new Kaneohe-Kailua tunnel and lifts flows to the Kailua Regional WWTP Headworks Facility. Brandon's analysis demonstrated that installing high-capacity CARVs at the pump station discharge would sufficiently mitigate transient pressures associated with pump shutdown and power failure.

Supervising Mechanical Engineer

Darrell Buhman, P.E.

Experience Summary

Darrell Buhman is a licensed Mechanical Engineer with 16 years of engineering experience during which he has served as the lead mechanical engineer and project manager for cogeneration design projects and digester gas conditioning facilities; as well as for plant heating systems utilizing both combined heat and power systems and dual-fuel gas boilers. He has also served as the lead mechanical design engineer for a large variety of other mechanical engineering projects, including stand-by engine-generator facilities; gas conveyance; HVAC systems for wastewater facilities; and odor control facilities.

Assignment

Mechanical

Education

B.S., Mechanical Engineering, Texas A&M University, 2004

Registration

Professional Engineer No. 81075, Mechanical Engineering, Oregon 2008

Experience

16 years

Joined Firm

2009

Relevant Expertise

- *Cogeneration and digester gas conditioning*
- *Plant/sludge heating systems using dual fuel boilers*
- *Mechanical systems design for standby engine-generators*
- *Waste gas burner layout and gas piping conveyance design*
- *HVAC design for wastewater treatment plants, pump stations, and laboratories*
- *Pump station and plant utility water and drainage systems including: seal water systems, sump pumps, and process drainage*
- *Odor Control*

Agate Beach Pump Stations, City of Newport, Oregon

Mechanical Engineer. Darrell was responsible for the standby generator and building mechanical design for the 48th Street and Schooner Pump Stations. The standby generators consisted of diesel driven gensets with sub-base fuel tanks and critical grade rated silencers.

Big Creek Pumping Station, City of Newport, Oregon

Mechanical Engineer. Darrell designed the mechanical systems for a standby generator and the HVAC system for this sewage pump stations for the City of Newport.

SW 86th Avenue Pump Station, City of Portland, Oregon

Project Engineer. Darrell designed the odor control and HVAC systems, wastewater pump seal water system, sump pumps, process drainage, utility water, and plumbing system for this pump station located in Southwest Portland. The odor control system utilizes a 30-horsepower dual-speed FRP fan capable of ventilating the wet well at 6 or 12 air changes per hour. Special consideration to noise mitigation was required due to the proximity of the pump station to a residential neighborhood and paved hiking trail.

Regional Water and Reclamation Facility (RWRF) – Cogeneration and Gas Conditioning, City of Medford, Oregon

Mechanical Engineer. This project included the demolition of an existing 340-kW cogeneration system and replacement with a new 750 kW engine-generator system along with an entirely new digester gas conditioning system. Darrell was responsible for performing the mechanical design calculations and for developing the construction drawings and P&IDs, and technical specifications. Additionally, Darrell prepared grant funding applications that led to $1.3 million awarded to the City to complete the project.

Cogeneration Feasibility Study, Klamath Falls, Oregon

Mechanical Engineer. Darrell performed a predesign and life cycle cost analysis for installation of a new 150 kW cogeneration system and associated gas conditioning equipment at the Spring Street Wastewater Treatment plant. The predesign consisted of a lean-burn turbo-charged engine, hydrogen sulfide removal, moisture removal, a booster blower, and activated carbon for siloxane removal.

Biogas Upgrade Feasibility Analysis, City of Nampa, Idaho

Mechanical Engineer, Lead. Darrell was the lead mechanical engineer responsible for the business case evaluation comparing cogeneration, renewable natural gas for injection into the natural gas pipeline, and compressed natural gas for use in vehicle fuels. Each technology would beneficially reuse the wastewater treatment plant's digester gas produced from the anaerobic digester process on-site.

Metropolitan Wastewater Management Commission (MWMC) Water Pollution Control Facility Cogeneration Upgrade, City of Eugene, Oregon
Project Manager and Lead Process Mechanical Engineer. The MWMC's existing 800-kW Cogeneration unit was at the end of its useful life and Darrell designed a system to replace it with a larger capacity, highly efficient 1,200 kW engine-generator. The existing Cogeneration system and supporting equipment was to be replaced entirely with new equipment; including new heat recovery, engine cooling, hot water systems, new switchgear and controls, and an upgraded gas conditioning system for hydrogen sulfide, moisture, and siloxane removal. Darrell was the process mechanical design lead responsible for the entire mechanical design. Also, as Project Manager, Darrell was responsible for the budget, schedule, all direct coordination with the client, and internal team coordination.

Thompson Reservoir Pump Station, Tualatin Valley Water District, Oregon
Mechanical Engineer. The Thompson Reservoir Pump Station is a potable water pumping station that consists of three 200-hp pumps designed to pump water to a storage tank located approximately 400 feet above the pump station. Darrell designed the standby engine-generator and building mechanical (HVAC and plumbing) systems. The engine-generator design consists of an internal, water-to-water-cooled 500 kW engine-generator with a 660-gallon sub-base diesel fuel storage tank. Special design considerations include providing non-potable utility water for the charge air and jacket water cooling heat exchangers and a recessed fuel tank.

Metropolitan Wastewater Management Commission (MWMC) Water Pollution Control Facility Digester Complex Expansion, Eugene, Oregon
Lead Mechanical Engineer. Darrell designed an entirely new digester gas conveyance system and new plant/sludge heating system as part of the addition of a fourth digester at the WPCF in Eugene. The existing plant heating system, boiler, and gas handling systems were demolished and replaced with an updated modern layout and larger capacity systems. The new digester utilized draft tube mixers with jacket heat exchangers for sludge heating. As part of the new gas conveyance system, Darrell designed two new waste gas burners to replace the existing waste gas burner. In addition, Darrell designed a new air-to-water cooling system for the facility's existing plant water cooled cogeneration system, helping to reduce plant effluent temperatures.

Gresham Wastewater Treatment Plant, Gresham, Oregon
Mechanical Engineer. Darrell designed a new plant heating system that could accommodate both the current heating demands at mesophilic digestion temperatures, and future heating demands at thermophilic temperatures if the plant updates its digestion temperature in the future. The new pumps, hot water piping, and controls were designed such that they won't need to be replaced or updated to meet the higher temperature heating demands. Additionally, Darrell designed a new Cogeneration waste heat system to simplify the dual cogeneration waste heating controls. Darrell was also responsible for the new waste gas burner design and updated digester gas conveyance system. Darrell updated the plant's heating and digester gas control strategies for smoother and more seamless operation requiring less plant staff intervention.

Gresham Wastewater Treatment Plant, Gresham, Oregon
Mechanical Engineer. Darrell modeled the digester gas piping and calculated the pressure drop associated with the piping system at a range of digester gas flow rates to pinpoint a potential blockage in the line, causing the digester cover pressure relief valves to vent irregularly and other operational issues. After completion of the calculation, a technical memorandum was written and detailed the potential problem location. The location was investigated and blockage of up to 90-percent was discovered as predicted by the calculations. After clearing the blockage, the piping system now operates as the calculation model indicated it should.

Durham AWWTF Digester Gas Conveyance System Modeling, Clean Water Services, Oregon
Mechanical Engineer. Mechanical Engineer. Darrell modeled the entire digester gas conveyance system using AFT Arrow to determine bottlenecks and potential system improvements to help improve system capacity and control. A subsequent technical memorandum detailed the results of the modeling exercise and BC's recommendations to improve capacity and control of the plant's digester gas.

Experience Summary

Catherine Dummer is a principal engineer with BC's Estimating and Scheduling group. She is based in Portland, Oregon, and has 21 years of consulting experience and more than 25 years in the industry. During her career she has focused primarily on wastewater system evaluation and design with an emphasis on both wastewater treatment plant (WWTP) operations and drafting and design production. As a member of the Estimating and Scheduling group, she has worked on a variety of projects with an emphasis on local wastewater projects.

Assignment

Cost Estimator

Education

M.S., Environmental Engineering, Washington State University, 1996

B.S., Mechanical Engineering, Oregon State University, 1993

Registration

Professional Engineer 58548, Oregon, 2015

Experience

25 years

Joined Firm

2008

Relevant Expertise

- *Cost estimation*
- *System evaluation*
- *Design engineering*
- *Wastewater treatment*
- *Scheduling*

Agate Beach Pump Stations, City of Newport, Oregon

Lead Estimator. Catherine was responsible for developing 90 and 100 percent cost estimates for two wastewater collection system pump station replacements in Newport. The pump stations are relatively deep submersible style stations that will require significant shoring and groundwater control, as well as some rock removal. A support building with surge tank and standby generator are located on site. Both stations also include replacement of portions of their gravity intake and discharge force mains, including approximately 1,000 feet of 24-inch diameter casing jack/bore and 3,000 feet of 10-inch diameter horizontal directional drill.

Olsson Creek Sanitary Improvements, City of Newport, Oregon

Estimator. Catherine developed a final design cost estimate for improvements to a portion of the sanitary sewer system. Improvements include demolition of a small pump station, construction of 180 lineal feet of open cut 8" PVC pipe and associated manholes, and construction of 126 lineal feet of jack/bore 8" PVC pipe inside a 18" steel casing. The work also includes improvements to the storm sewer system including one new manhole and construction of 153 lineal feet of 24" PVC pipe inside a 36" steel casing.

Digester Improvements, Columbia Boulevard Wastewater Treatment Plant (CBWTP), Bureau of Environmental Services (BES), City of Portland, Oregon

Estimator. Developed cost estimate for 90 percent design improvements to the digesters 5–10 complex including electrical room modifications for increased occupancy, replacement of automatic drip traps with static drip traps, replacing valves and adding flushing for improved standpipe performance, and installation of instrumentation on existing floating covers to sense cover imbalance.

Lander Street Wastewater Treatment Facility Evaluation, City of Boise, Idaho

Lead Estimator. Developed planning level estimates for a suite of alternatives that were designed to address long term effluent quality requirements at the two main treatment facilities in Boise, ID. Three alternatives were estimated to convey effluent to offsite infiltration basins ranging in size from 46 acres to 1,200 acres. The conveyance systems consisted of up to 20 miles of 36-inch to 54-inch diameter steel forcemain. In each alternative the forcemains were served by two pump stations. The forcemain alignments included trenchless construction under major highways and railroads, pipe bridges to cross major

waterways and canals, and pipe encasement where shallow construction might be required.

Cleveland Way Pump Station, City of Tacoma, Washington
Lead Estimator. Developed the final design estimate for a stormwater pump station. The project included replacement of two 400 horsepower (hp) engine-driven pumps, two 75 hp motor-driven pumps, associated piping, installation of a new temporary generator, and minor site improvements.

Auburn M&O Stormwater Improvements, Auburn, Washington
Lead Estimator. Developed 30 percent design level estimate for site stormwater improvements at a city-owned facility in Auburn. Improvements include stormwater bioretention and bioinfiltration swales, modifications

Sewerage Lift Stations Renovation, Olympia, Washington
Staff Estimator. Developed planning level cost estimates for renovations at 16 lift stations ranging from pump replacement only through complete station replacement. Existing stations were packaged wet/well dry well stations with limited accessibility.

Increase Digestion Capacity, Metropolitan Wastewater Management Commission (MWMC), Eugene, Oregon
Lead Estimator. Developed cost estimates for 30, 60, and 90 percent designs of one new anaerobic digester (digester 4) and various improvements to the gas; hot water; and heating, ventilation, and air conditioning (HVAC) systems for three existing anaerobic digesters and support facilities. The new digester will be 1.1-million-gallon (MG) cast-in-place concrete with concrete cover to match the existing digesters. Various alternatives were evaluated at 30 percent and 60 percent design to consider alternate layouts for electrical equipment, HVAC improvements, lining alternatives, and other improvements to existing facilities.

Biogas Cogeneration Replacement, Metropolitan Wastewater Management Commission, Eugene, Oregon
Lead Estimator. Developed cost estimate for 50 percent design a project to remove of an existing digester gas cogeneration system and replace it with a new, 1,200-kilowatt (kW), lean-burn, low-emission engine-generator. Other aspects of the project included a waste heat radiator and gas filter water chiller replacement, the addition of a new siloxane filter, iron sponge vessel upgrades, boiler room HVAC upgrades, and providing variable-frequency drives (VFDs) for the new gas compressors.

Lower Blower Building Rehabilitation, Gresham WWTP, City of Gresham, Oregon
Lead Estimator. Developed 10, 50, and 90 percent level cost estimates for various improvements to the existing treatment facilities. Areas addressed included return activated sludge (RAS) and waste activated sludge (WAS) pumping systems, thickened sludge pumping, headworks, and safety improvements to the anaerobic digesters.

Solids Improvements Project, City of Gresham, Oregon
Lead Estimator. Developed cost estimates for planning level, 50, 90, and 100 percent designs to improve the operation of the digesters. Final elements of the project include replacement of a waste gas burner, replacement of digester gas piping from the digesters to the burner, replacement and addition of gas safety equipment on the digester covers, replacement of hot water system pumps and piping, and replacement of existing unit heaters in the maintenance facility with hydronic unit heaters. Cost estimates were used to adjust project scope at every deliverable.

Kellogg Creek Water Pollution Control Plant Improvements, Clackamas County WES, Milwaukie, Oregon
Lead Estimator. Developing planning-level estimates for proposed plant-wide improvements. Estimates will be used to define and select a scope of work to be performed as a contractor-at-risk-style project. Project elements include influent pump station improvements, primary sludge pump replacement and piping improvements, aeration blower replacement, aeration basin cover and odor control system improvements, return activated sludge (RAS)/waste activated sludge (WAS) pump replacement and piping improvements, WAS thickening equipment replacement, various modifications to restore peak hydraulic capacity, and plant water system improvements.

Michael Glass, P.E.

Experience Summary

Michael has more than six years of experience supporting client projects with feasibility studies, alternative analyses, modeling efforts, and detailed design. His most recent experience has focused on stormwater master planning and basin modeling efforts, including hydrologic/hydraulic model development, calibration, and results documentation. From the modeling results, Michael has supported the development of capital improvement projects for client adoption. As part of this process he has produced numerous fact sheets, conceptual level designs, and cost estimates to characterize each project.

Assignment

Wastewater/Water Resources Engineer

Education

M.S., Civil Engineering (Environmental Engineering Emphasis), University of California at Los Angeles, 2014

B.S., Environmental Science (Environmental Engineering Minor), University of California at Los Angeles, 2012

Registration

Professional Civil Engineer, Oregon 94214

Professional Civil Engineer, California 89240

Experience

6 years

Joined Firm

2018

Relevant Expertise

- *Hydraulic/ Hydrologic modeling*
- *Wastewater treatment design*
- *Stormwater Master Planning*
- *Stormwater design and permitting*
- *MS4 and NPDES permit compliance*
- *GIS*

Stormwater Master Plan, City of Gresham, Oregon

Project Designer. Michael is currently providing GIS and XPSWMM modeling support for the development of a Stormwater Master Plan for the City of Gresham. This Stormwater Master Plan will incorporate information from several existing plans within the City of Gresham into an updated, comprehensive document. Modeling tasks for this master plan included model development and model updates for the several major watersheds within the City. Michael is the lead modeler for three out of the five major basins modeled, which all simulate large (+2,500 Acre) urbanized systems. Model results were used to identify and validate observed flooding and capacity issues throughout the City. Based on this information and City staff input, capital improvement projects and alternatives were developed to alleviate modeled capacity issues. These projects were developed to a conceptual level with accompanying fact sheets and cost estimates. The master plan currently is in the documentation phase, where Michael is compiling narrative, figures, and tables for production in the final report.

Clear Lake UGB Expansion Area Modeling, City of Eugene, Oregon

Project Designer. BC is building a hydraulic and hydrologic model for the Clear Lake UGB expansion area within the city of Eugene. This expansion area is primarily comprised of undeveloped lands that will develop in the near future. Michael is developing an XPSWMM model to inform the City of how this future development will impact future stormwater flows. BC will ultimately provide planning level stormwater infrastructure projects and alternatives to the expansion area to meet the City's water quality and conveyance capacity objectives. Additionally, BC will provide conceptual designs of future detention facilities to comply with the City's flow control requirements.

East Santa Clara Waterway Modeling Update, City of Eugene, Oregon

Project Designer. BC is updating an existing hydraulic and hydrologic XPSWMM model for the East Santa Clara Waterway that is located within an urbanized area within the city of Eugene. This open waterway has seen several hydrologic and hydraulic modifications since the original XPSWMM model was developed. These changes include alterations to channel geometry, addition of groundwater sump pump flows, and piped infrastructure clean out efforts and reconfiguration that are all currently being addressed as part of the model update. Michael is updating the XPSWMM model to identify and validate current flooding concerns and propose capital improvement projects along the waterway for the City.

Drainage Master Plan, Multnomah County Drainage District, Oregon

Staff Engineer. Michael provided XPSWMM support for the development of this drainage master plan. The drainage district and model covers over 8,500 acres with a unique stormwater conveyance system that relies on a system of surface water pumps to convey surface water and provide flood protection for

its residents. Michael's primary tasks involved the modeling of the existing system of large surface water pumps as well as alternative scenarios to simulate pumps out of service and the addition of new pumps. Model results from this analysis helped inform the District of the benefits of additional pumping redundancy. Part of the master plan analysis also included comparing simulated water elevations from different design storm events to District provided critical elevations throughout the system.

Secondary Clarifier Improvement Project, Forest Grove WWTF, Clean Water Services, Washington County, Oregon
Project Engineer. BC provided design services to increase secondary clarifier capacity at the Forest Grove Wastewater Treatment Facility with the construction of a new clarifier and providing upgrades to the two existing clarifiers. Michael was part of the process mechanical team coordinating with equipment vendors, sizing wastewater pumps, and producing mechanical drawing sheets. Michael was primarily involved with the design of the Return Activated Sludge (RAS) process, including the pump station and associated valving, metering, and piping.

Surface Water and Sanitary Master Plan, City of West Linn, Oregon
Staff Engineer. Provided support for the surface water component of the Master Plan. This included the development of water quality capital improvement projects, with preliminary concept design and cost estimating. Michael produced several GIS figures that are included as part of the final Master Plan document.

Sanitary and Stormwater Rules and Standards Update, Clackamas County Water Environment Services, Oregon
Project Engineer. BC is merging and updating sanitary and stormwater rules and standards from the previously independent service districts that now are part of Clackamas County Water Environment Services. Michael prepared policy/technical issue matrices to compare the current rules and standards with other local jurisdictions. Michael also helped facilitate workshops with the County and other stakeholders to decide on key policy issues addressing facility design, flow control, infiltration requirements, water quality and fiscal policy.

West 9th Ave. Reconstruction Stormwater Services, City of Oshkosh, Wisconsin
Project Designer. Michael created a 1D/2D hydraulic and hydrologic XPSWMM model as part of a roadway reconstruction project. Roadway reconstruction included the removal of roadside ditches and installation of approximately 4,000 LF of stormwater piping along the roadway alignment. Model development included the integration of City GIS data, open channel cross-sections, and 2D roadway surfaces to evaluate both existing and proposed conditions against the City's design storm requirements.

Illicit Discharge Detection and Elimination (IDDE) Program, Bureau of Environmental Services, Portland, Oregon
Project Engineer. BC evaluated BES's current IDDE Outfall Basin Investigation Program and provided a comprehensive standard operating procedure (SOP) manual to aid BES staff in future implementation of the program. Michael compared current IDDE procedures to similar BES Field Ops SOPs as well as national guidance documents to identify procedure discrepancies and identify recommendations. Results of this comparison were tabulated in a matrix and integrated into the final IDDE SOP manual.

TMDL and NPDES Support, City of Everett, Washington
Project Engineer. Michael reviewed the City's historical (1996-2018) water quality data from their monitoring program for over 1,000 sampling events from fourteen different streams sampled. From this raw data summary statistics, trends and charts were produced to identify constituents of interest that were consistently exceeding their respective water quality criteria levels. This analysis helped to eliminate unnecessary sampling of constituents that historical had very low or non-detect readings, and allowed the City to focus on more prevalent constituents that better represented stream health.

NPDES MS4 Annual Monitoring Report, Clackamas County Water Environment Services, Oregon
Project Engineer. Michael provided evaluation and analysis of instream and stormwater monitoring results for the County for both the 2017-2018 and 2018-2019 Annual Monitoring Reports. Results were presented in tables, figures, and charts to provide a summary overview of reporting period results and evaluate compliance with the County's NPDES MS4 Permit.

Principal, Structural Engineering

Jonathan F. Harper, P.E., S.E.

Experience Summary

Jon is a structural design engineer with 19 years of experience in wood, steel, masonry, and reinforced concrete design pertaining to building structures and related site structures. As a structural design engineer, his duties include design, analysis, construction administration, project management, peer review, structural observation, and field inspections. Among many organizations, Jon is currently serving as a volunteer for the National Council of Examiners for Engineering and Surveying (NCEES). As part of this duty, Jon is part of a group that meets biannually to grade the 16-hour national structural engineering exam.

Assignment

Structural Lead

Education

B.S., Civil Engineering, Oregon State University, 2002

Registration

Structural Engineer, Oregon 70738PE, 2017

Structural Engineer, Washington 49638, 2017

Structural Engineer, Idaho, P-16199

Structural Engineer, Utah, 10436421-2203

Professional Engineer, Colorado, PE.0052145

Professional Engineer, Arizona, 70234

Experience

19

Joined Firm

2008

Relevant Expertise

- *Structural design, water, and WWTPs*
- *Pumping station and utility building design*
- *Above- and below-grade liquid containment structures*
- *Quality control reviews*
- *Seismic evaluation and design*

Memberships

Structural Engineers Association of Oregon (SEAO)

American Society of Civil Engineers (ASCE)

American Institute of Steel Construction (AISC)

American Concrete Institute (ACI)

NCEES

Agate Beach Pump Station, City of Newport, Oregon

Lead Structural Engineer. BC prepared preliminary and final design for the Schooner Creek Pump Station and Force Main and the 48th Street Pump Station and Force Main. These improvements to the wastewater collection system will help meet current and future conveyance capacity needs. The project included below grade concrete wet-well structures, as well as one-story concrete masonry buildings at each site. The buildings consisted of concrete slab-on-grade foundations with wood framed roof systems.

Big Creek Pump Station, City of Newport, Oregon

Lead Structural Engineer. Jon provided structural design and construction administration for the Big Creek Pump Station project, which consisted of a below grade concrete wet-well structure, as well as a one-story concrete masonry building. There site design also included several precast concrete below grade vault structures. The building consisted of concrete slab-on-grade foundations with wood framed roof system. The building incorporated a concrete retaining wall at two sides, as it was built into the side of an existing hill.

Southwest 86th Avenue Pump Station, Bureau of Environmental Services (BES), City of Portland, Oregon

Lead Structural Engineer. This project involved final design activities for the addition of 10 million gallons per day of new raw sewage pumping capacity to the existing Fanno Basin pumping system. The new pump station will include two-stage pumps, odor control, chemical injection, and standby generation. Included in the project are surge tanks to protect the pump station and pipeline from damaging surges. Jon provided structural design of a 50-foot-diameter, 35-foot-deep caisson structure, as well as several site buildings housing electrical and mechanical equipment.

Westside Secondary Clarifiers, Rock Creek Advanced Wastewater Treatment Facility (AWTF), Clean Water Services, Oregon

Lead Structural Engineer. This project involves design of improvements to the west secondary clarifiers at Clean Water Services' Rock Creek AWTF. BC's evaluation of the clarifiers identified cost-effective improvements to increase hydraulic and solids loading capacity. These improvements included replacing the existing sludge collection mechanisms in each clarifier with new stainless-steel, suction header-type mechanisms. To optimize the hydraulic inlet conditions, each clarifier mechanism would include new energy-dissipating inlets (EDI) and larger-diameter centerwells. Modifications to the secondary clarifier influent distribution box are also recommended to accommodate increased flow capacity. In addition to preparing the detailed design documents, BC is providing engineering services throughout the construction phase of the project. Jon was responsible for seismic evaluation of existing tank foundations to confirm that installation of new mechanisms was feasible.

Jon also designed infill concrete slabs and foundation extensions to accommodate updated hydraulics and equipment.

Final Design, Lake Oswego Interceptor Sewer, City of Lake Oswego, Oregon
Project Structural Engineer. The project involved design and construction of a new and upgraded interceptor and trunk sewer system in and around Oswego Lake. The program was completed on schedule and 10 percent under budget despite a wide variety of daunting technical, permitting, and public relations challenges. The design of the interceptor sewer is one of a kind and consists of a unique 10,000-foot-long floating interceptor sewer, 7,500 feet of pile supported sewers, two small pump stations, 10,000 feet of existing interceptor rehabilitation, and approximately 5000 feet of traditional open-cut sewer and force main. Eric provided structural design and construction services for this project.

Digester Expansion, CBWTP, City of Portland, Oregon
Lead Structural Engineer. Jon provided structural design and construction administration for two 104-foot-diameter, 40-foot-tall reinforced concrete digester tanks. Design incorporated a free-spanning reinforced concrete cover that varied in thickness from 36 inches to 60 inches. Soil improvements included compaction grouting and stone columns beneath both digester tanks.

Digester Mixing Project, Columbia Boulevard Wastewater Treatment Plant (CBWTP), City of Portland, Oregon
Lead Structural Engineer. Jon provided structural design for the addition of four telescoping draft tube mixers in each of four existing anaerobic digester floating covers. This is a follow-on project to the Digester Expansion project and the goal of the project is to improve the mixing and treatment in digesters 5 through 8. The floating aspect of the covers presented several unique challenges during design. In addition, the owner used the project as an opportunity to make improvements to the roofing and heating, ventilation, and air conditioning (HVAC) of the existing facilities, of which Jon provided structural analysis of the existing building roof system to confirm capacity for placement of the new roofing system.

Alder Pump Station Upgrade, Bureau of Environmental Services, City of Portland, Oregon
Lead Structural Engineer. Jon provided structural design of improvements to the Alder Pump Station. The design increased pumping capacity to reduce combined sewer overflow (CSO) discharges to the Willamette River. The dry pit-wetwell style pump station was converted to a submersible pump design with a trench-style wetwell. This conversion required demolition of the above-grade building and all interior walls such that only the existing 30-foot-deep caisson will remain. The new wetwell walls and pumping system were then constructed within the caisson. A new above-grade building to house electrical equipment and controls was included as part of the project.

Phase 2 Expansion, Washougal Wastewater Treatment Plant, City of Washougal, Washington
Lead Structural Engineer. This project involved design of improvements to the City's WWTP. The improvements are phased over the course of approximately 10 years; this project is the second of three phases that will be undertaken. The improvements, which will double the treatment capacity to accommodate anticipated growth within the service area, will include a new influent pump station, oxidation ditch, ultraviolet (UV) disinfection facility, and effluent pumping station.

Expansion, Chambers Creek Regional Wastewater Treatment Plant, Pierce County, Washington
Project Structural Engineer. Pierce County Department of Public Works and Utilities is upgrading the Chambers Creek Regional WWTP to enhance the level of treatment, provide additional treatment capacity, and conduct scheduled repair and replacement. Phase III is to provide a detailed design in accordance with state regulatory requirements and other preliminary design documents. Jon provided structural design for the cast-in-place concrete biological process building. Jon also provided structural engineering design services for the electrical service entrance building, which was a one-story concrete masonry unit (CMU) building housing electrical equipment. The building required eccentric footing design as the electrical equipment required that underground vaults be placed directly adjacent to the exterior walls at the north and south ends. Roof framing consisted of steel beams with concrete over metal deck.

Managing Engineer

Gregory D. Humm, P.E.

Experience Summary

Greg Humm has 40 years of experience in planning and design of wastewater facilities and construction management involving diverse technical elements. His project management expertise includes leading and managing design teams on technically complex wastewater treatment plant and pump station projects. Greg has considerable experience managing contract document preparation, monitoring and controlling project budgets and schedules, supervising project staff, and selecting and managing subconsultants. He brings a commitment to client satisfaction, a focus on delivering high-quality work products, and a strong attention to detail.

Assignment

Treatment Plant Project Manager

Education

B.S., Civil Engineering, University of California, Berkeley, 1980

Registration

Professional Civil Engineer, California 36621, 1983

Professional Civil Engineer, Oregon 18162, 1994

Professional Civil Engineer, Washington 32472, 1995

Experience

40 years

Joined Firm

2011

Relevant Expertise

- *Wastewater facility planning and design*
- *Pump station design*
- *Project schedule and budget review and oversight*
- *Team management*
- *Subconsultant review and oversight*
- *Construction management*

Expansion Design, Washougal WWTP, City of Washougal, Washington

Project Manager. Greg served as project manager for the final design of improvements to the City of Washougal's WWTP. The improvements are phased over the course of approximately 10 years; this project is the second of three phases that will be undertaken. The improvements, which will double the treatment capacity to accommodate anticipated growth within the service area, will include new influent pump station, oxidation ditch, ultraviolet disinfection facility, and effluent pumping station. In addition, a new operations/laboratory building and stormwater decant facility will be constructed. The scope of the engineering services also includes environmental assessments and development of wetlands impact mitigation approaches, evaluation of flooding potential and design of flood protection improvements, permitting assistance, and extensive geotechnical evaluations.

Return Activated Sludge (RAS) System Improvements, City of Medford, Oregon

Project Manager. Greg served as project manager for the preliminary and final design of improvements to the RAS system. The improvements are designed to increase capacity of the return system and improve operational control and stability of the activated sludge process. The scope of the improvements involves replacing the clarifier mechanism in each secondary clarifier basin with new, state-of-the-art mechanisms and replacing the RAS Pumps and piping system to increase hydraulic capacity. Features of the clarifier mechanism include spiral type blades with a center drum for highly efficient sludge removal, energy dissipating inlets, scum removal from within the center feedwell, and all stainless steel construction. RAS pumps are solids handling type, vertical turbine pumps that are highly efficient and well suited to the pumping requirements and operating conditions.

Cowlitz County Water Pollution Control Plant, Cowlitz Sewer Operating Board, City of Longview, Washington

Project Manager. Cowlitz County underwent a 13 mgd plant expansion. The $30 million project includes predesign and final design of the liquid stream treatment process and expansion of the waste activated sludge (WAS) thickening facilities. New facilities include 100 mgd capacity headworks with screening and grit removal, two circular primary clarifiers, primary sludge pump station, aeration basins, secondary clarifiers, chlorine contact basin, 65-mgd capacity effluent pump station and supporting facilities. In addition, many of the existing structures and unit processes were updated and renovated. This included rehabilitation of the existing primary clarifiers, which involved replacing the peripheral weirs and scum baffles, recoating the sludge collector mechanisms, and renovation of deteriorated concrete.

Rock Creek Wastewater Treatment Plant Sludge Transfer Conveyor Design, Clean Water Services, Hillsboro, Oregon

Project Manager. Greg managed the design of a new sludge transfer conveyor at Clean Water Services' Rock Creek Wastewater Treatment Plant. Dewatered digested sludge is conveyed by screw conveyors to storage hoppers. Stored dewatered sludge is loaded into trucks and hauled off site. Two screw conveyor systems, consisting of three individual conveyors each (horizontal - vertical - horizontal) are installed (total of 6 conveyors); each conveyance system is dedicated to a single storage hopper. In the event one of the individual conveyors is out of service, the plant is unable to fill the storage hopper associated with that conveyance system. The new transfer conveyor allows sludge from one conveyor system to be transferred into the other system such that both hoppers can be used for storage thereby increasing redundancy for system maintenance without loss of operations.

Digester Improvements Design, Columbia Boulevard Wastewater Treatment Plant, BES, City of Portland, Oregon

Project Manager. Greg is managing the design of digester improvements at the City of Portland's Columbia Boulevard Wastewater Treatment Plant. The project includes the addition of two new anaerobic digesters and a new digester complex. Supporting equipment also designed as part of this project included sludge and hot water heating upgrades, new hot water circulation pumps, sludge transfer pumps, digester mixing systems and a sump pump station in the lower floor of the new complex.

Rock Creek Westside Secondary Clarifier Design, Clean Water Services, Oregon

Project Manager. This project involves design of improvements to the west secondary clarifiers at Clean Water Services' (District) Rock Creek Advanced Wastewater Treatment Facility. BC's evaluation of the clarifiers identified cost-effective improvements to increase hydraulic and solids loading capacity. These improvements included replacing the existing sludge collection mechanisms in each clarifier with new stainless steel, suction header-type mechanisms. To optimize the hydraulic inlet conditions, each clarifier mechanism would include new energy dissipating inlets (EDI) and larger diameter center wells. Modifications to the secondary clarifier influent distribution box are also recommended to accommodate the increased flow capacity. In addition to preparing the detailed design documents, BC is providing engineering services throughout the construction phase of the project.

Wastewater Treatment Plant Improvements, City of North Bend, Oregon

Project Manager. Greg served as project manager for the design and construction of the North Bend Wastewater Treatment Plant. These improvements included new headworks with vortex-type grit removal basin and climber type bar screen, addition of two new circular primary clarifiers, new primary sludge pump station, aeration basins with fine bubble diffusers, secondary clarifiers, RAW and WAS pumping systems and chlorine contact basin. New aeration blowers were installed in the existing blower building. A new diffuser section was added to the outfall in the estuary to meet effluent and mixing zone requirements. Solids handling improvements included conversion of one existing aeration basin to an aerobic digester with a supernatant removal system. Digested sludge is then pumped to a new sludge storage lagoon, which consists of an earthen impoundment that is lined with Hypalon.

Wastewater Treatment Plant Upgrade, City of Ashland, Oregon

Project Manager. Greg managed this three-phase, $27 million project to upgrade the existing plant to meet stringent nutrient limits imposed by DEQ. New facilities include headworks with grit removal and screens, oxidation ditches with anoxic selector basins, secondary clarifiers with RAS/WAS pumping stations and ultraviolet disinfection facilities. The design and construction phases were successfully completed while integrating numerous changes in direction resulting from public input and DEQ involvement.

Force Avenue Pump Station, BES, City of Portland, Oregon

Project Manager. Greg is managing design of a new pump station to replace an existing 40-year-old pumping facility located in north Portland near Heron Lakes Golf Course. The goal of this project is to provide an updated facility that eliminates below-grade electrical equipment, improves access for operations and maintenance, resolves ventilation deficiencies, enhances safety, and corrects structural deterioration of the generator building. The physical condition of the existing pumping station and its seismic vulnerability were evaluated to determine whether the structure could be upgraded and re-purposed as a station with submersible pumps. The evaluation concluded that upgrading was not a cost-effective approach. Therefore, a new station will be designed and constructed to replace the existing station.

Principal Engineer

Robert W. Jacobsen, P.E.

Experience Summary

Bob Jacobsen is a senior project manager with nearly 20 years of experience planning, designing, and managing multi-discipline design teams to deliver water, wastewater, and stormwater asset management and infrastructure improvement projects and programs. Bob's experience covers utility design projects, hydraulic modeling, inflow and infiltration (I/I) reduction, sewer system evaluation surveys (SSES), and feasibility studies. His responsibilities have included preparation of preliminary and final engineering documents including plans, specifications, and cost estimates; planning studies and technical memorandums; and project and construction management. He has led the inspection and evaluation efforts on a variety of different sewer systems, including developing and implementing recommendations for rehabilitation or replacement of deficient pipes.

Assignment

Collection System Rehabilitation

Education

M.S., Environmental Engineering, Johns Hopkins University, 2006

B.S., Civil (Environmental) Engineering, Virginia Polytechnic Institute and State University, 2001

Registration

Professional Engineer 46074, Washington

Professional Engineer 41261, Virginia

Experience

19 years

Joined Firm

2009

Relevant Expertise

- *AutoCAD*
- *ArcGIS*
- *NASSCO PACP*

Ship Canal Water Quality Project, Seattle Public Utilities (SPU), Seattle, Washington

Project Engineer. Bob is providing design support for a major combined sewer overflow (CSO) storage tunnel project that will mitigate CSOs from SPU and King County outfalls. The project includes a 14,000-foot-long, large-diameter storage tunnel with associated shafts, drop structures, conveyance, pumping, controls, and odor control systems. As part of a larger team, BC is providing modeling and operations strategy, grit management, design of tunnel odor control and vortex drop structures, design of conveyance facilities (led by Bob), and instrumentation and controls support.

Delridge CSO Retrofits, Seattle Public Utilities, Seattle, Washington

Project Manager/Project Engineer. BC provided planning, design, construction, and post-construction support services for the Delridge storage facilities as part of SPU's CSO Retrofit Program. The project included retrofit improvements to two existing CSO sites in West Seattle's Delridge area. Core components of the retrofit include replacement of the existing passive control system with an active, automated control valve, new/improved upstream diversion structures, and upstream and downstream flow monitoring system. In the early stages of the project Bob led the mechanical design at each of the two overflow facilities.

Broadview Sewer and Drainage Improvements Project, Seattle Public Utilities, Seattle, Washington

Project Engineer. Seattle Public Utilities (SPU) is investigating the level of service for the sanitary sewer system in the Broadview neighborhood of north Seattle. The project area is extremely vulnerable to wet weather I/I. The primary goal of the project is to reduce sewer backups and, as feasible, improve the existing drainage and creek systems. Additional goals are to improve the neighborhood's quality of life and promote the City's vision. Unique to this project is integration of three water systems: sanitary sewer, drainage, and creeks. All three systems are integral to alternatives development and analysis with the goal of optimizing benefit to all systems. Alternatives will be developed and implemented to best meet project goals.

Sanitary Sewer Repair and Replacement, City of Bellevue, Washington

Project Engineer. Bob planned and implemented a comprehensive city-wide sewer repair/replacement program. He reviewed pipeline sewer condition assessment inspection results, identified defects, and recommended trenchless and other repair methods for more than 225 gravity sewer sites; developed repair techniques including traditional open trench, chemical root removal, lining, and internal spot repairs; and designed pipeline replacement

projects to restore or increase conveyance capacity. He also developed contract documents; provided engineering services during construction on eight separate sewer contracts; led traffic control planning and permitting in coordination the City's transportation group; and managed geotechnical, potholing, survey, closed-circuit television (CCTV), and ground-penetrating radar (GPR) subconsultants. Project sites ranged from residential areas, to arterial streets, to the central business district.

Wastewater Capacity Analysis, Seattle Public Utilities, Washington

Project Manager. The purpose of this assignment was to provide SPU with services associated with analyzing the capacity of the City's wastewater collection system at specific, defined locations. Earlier studies, including work performed by BC, identified sewer lines that appear to be severely capacity-limited. Additional analysis was performed as needed to confirm and refine those conclusions. BC worked with SPU staff using historical data as well as flow monitoring and modeling to validate the location and extent of capacity problems throughout the city. BC assisted SPU in prioritizing the sites with capacity problems and develop planning-level cost estimates for correcting those problems for the purpose of developing a long-range capital improvement program (CIP). BC assisted SPU in preparing a programmatic business case to evaluate the cost and benefits of a wastewater capacity CIP. In addition to these comprehensive analyses, this assignment was needed to assist SPU in answering specific project-related capacity questions, through short-term analyses. These may have been triggered by new development or other specific projects, investigations of backups, neighborhood plan updates, or other planning-related issues.

Meridian Wastewater Treatment Plant Expansion, City of Meridian, Idaho

Project Engineer. Bob led the site civil work of the Meridian wastewater treatment plant expansion in Meridian, Idaho. Bob designed over 33,000 feet of 2- to 72-inch-diamater piping, located the placement of 14 structures, and developed a stormwater management plan. Bob oversaw the hydraulic analysis for sizing the pipes, significant regrading of a green field site to match existing elevations, drainage improvements, and pavement restoration.

Asset Management and Data Collection, Tacoma, Washington

Project Engineer. The City of Tacoma Environmental Services Science and Engineering Division was not able to keep up with its annual sewer inspection goals. The City contracted with BC to assist the department with a rapid deployment and inspection of over 130,000 feet of pipe in an expedited schedule to help Tacoma reach its inspection goals. BC identified an innovative solution for the City, using autonomous inspection robots—SOLO cameras from RedZone Robotics. City maintenance crews conducted the deployment of the robots, while BC coded the inspections per NASSCO PACP protocols. Bob was in charge of managing the data (over 50,000 files were generated at 450 GB) and providing QA/QC checks on the coded work conducted at BC.

Inflow and Infiltration Consulting, Lakehaven Water and Sewer District, Washington

Project Manager. The Lakehaven Water and Sewer District (LWSD) has experienced an increase in wet weather flows and has begun implementing a wet weather monitoring program to determine the extent and severity of I/I within the sanitary sewer system. Bob is managing BC's efforts to assist LWSD in developing an overall plan and strategic direction for addressing I/I problems. This work has involved flow monitoring, developing a basin-specific hydraulic model, and analysis to identify deficiencies within the collection system. Through an alternatives analysis process using a calibrated hydraulic model, Bob determined the most cost-effective plan targeting I/I. The plan identified and prioritized rehabilitation projects including implementation of pilot programs to test the effectiveness of new and innovative technologies. Two projects have successfully been constructed; a third project is currently in construction, estimated to be completed by February 2021. A large aspect of the program involves a public outreach and education program. In order to achieve I/I reduction goals, LSWD required 85% of homeowners to participate in improvements—98% was achieved.

Dead Run and Dead Run Relief Sanitary Sewer Rehabilitation, City of Baltimore, Maryland

Project Engineer. Project consisted of the rehabilitation and cured-in-place pipe lining of 19,000 feet of 18-24-inch-diameter sanitary sewer and 87 manholes, the design of a half-mile access road through a heavily wooded area, wetland permitting, and the design of a new permanent flow monitoring station.

Principal, Environmental Engineering

Josh Johnson, P.E.

Experience Summary

Josh is a chemical engineer based in BC's Portland office. He has been a project manager and project team member on a wide variety of projects, focusing on planning and design for wastewater treatment, water reuse, industrial pretreatment, and industrial water quality. Josh has worked in all phases of the project lifecycle, including sewer and treatment plant modeling, development of facility plans and capital improvement programs, preliminary and detailed design, and construction management. Other work has included the planning and design of wastewater conveyance facilities, hydraulic modeling of sewer networks, and stormwater system planning and design.

Assignment

Primary Point of Contact

Education

M.S., Chemical Engineering, University of California, Santa Barbara, 2006

B.S., Chemical Engineering, University of Idaho, 2002

Registration

Professional Engineer (Chemical), Oregon 95580PE

Experience

14 years

Joined Firm

2006

Relevant Expertise

- *Project Management*
- *Industrial Pretreatment*
- *Wastewater treatment design*
- *Hydraulic modeling*
- *Wastewater facility planning*

Forest Grove Secondary Clarifier Design, Clean Water Services, Oregon

Project Manager. BC designed a 14 mgd, 120-foot-diameter secondary clarifier and ancillary improvements to the facilities' aeration basins and return activated sludge pumping system. As project manager, Josh was responsible for overall delivery and quality and for management and coordination of an interdisciplinary team of engineers, designers, and subconsultants. BC is currently providing construction-phase services for the project.

Industrial Pretreatment Program, City of Newport, Oregon

Project Manager. BC is assisting Newport with development and approval of its industrial pretreatment program. Work to this point has included an assessment of industrial user loadings to develop technically-based permit limits, assistance developing industrial user permits, and technical assistance managing industrial user discharges. Planned work includes development of local limits.

Wastewater Treatment Plant Master Plan – Phase 1, City of Newport, Oregon

Project Manager. BC completed the first phase of a Master Plan for Newport's Wastewater Treatment Plant. Work during the first phase of the project focused on establishing baseline conditions at the WWTP and forming a basis for planning. Work included a condition assessment of equipment, an evaluation of likely future permit conditions, a forecast of future flows and loads, development of a plant process model, and an assessment of plant hydraulic and biological capacity.

Hood River Ultraviolet Disinfection and Plant Improvements, City of Hood River, Oregon

Project Manager. BC is designing an expansion to the ultraviolet disinfection system at the City of Hood River's WWTP. The project will modernize the existing system and expand capacity to accommodate future growth. As project manager, Josh is responsible for overall delivery and quality and for management and coordination of an interdisciplinary team of engineers and designers.

Industrial Pretreatment Local Limits, Oak Lodge Water Services District, Oregon

Project Manager. BC performed a local limits evaluation for the Oak Lodge Water Services District (OLWSD). Work included development of a sampling and analysis plan, collection of samples with analysis by subcontracted laboratories, and calculation of local limits and development of a summary report. BC also provided assistance with other program documents, including a new sewer use ordinance and program manual, and coordination with the Oregon Department of Environmental Quality.

Aeration Basin Improvements, Metropolitan Water Management Commission (MWMC), Oregon
Project Manager. BC is evaluating potential upgrades and improvements to MWMC's Water Pollution Control Facility, with the goal of addressing existing deficiencies, optimizing the plant's energy and treatment efficiency, and setting the plant up for the next 20-30 years of growth. Work to date has included an equipment condition assessment and an assessment of the existing biological and air delivery processes, including development of models. BC has also worked with specialized subconsultants to evaluate the blower and aeration control system and test performance of the plant's fine bubble diffusers. Future work is expected to include an evaluation of upgrade alternatives and preliminary design of improvements.

Odor Abatement and Washer-Compactor Construction Services, Clean Water Services, Oregon
Project Manager. BC managed submittals, RFIs, and change orders for an upgrade to CWS' Hillsboro Wastewater Treatment Facility. The project installed new washer-compactors for headworks screenings, as well as making improvements to odor control.

Martin Way Reclaimed Water Plant Updates, LOTT Clean Water Alliance, Olympia, Washington
Project Manager. Josh was the project manager for an evaluation for upgrades to the LOTT Clean Water Alliance's 2.0 MGD Martin Way Reclaimed Water Plant and an accompanying 10 MGD wastewater pump station. The project collected information on an initial list of proposed plant upgrades through reviews of performance data and interviews with operators. Alternatives were developed for each upgrade, and alternatives were evaluated and ranked through a series of workshops with plant staff. The result was a prioritized list of upgrades to modernize the plant.

South Park Pump Station, Seattle Public Utilities (SPU), Washington
Project Engineer. BC is designing a 72-cubic-foot per second (cfs), 47 mgd pump station in the South Park neighborhood of Seattle. In combination with collection system improvements, the station will allow the stormwater system in the area to drain during high-tide periods, alleviating flooding that occurs several times per year. In addition to detailed design of the station, BC worked with a subconsultant to develop a hydraulic-scale model of the station to confirm the intake structure performed within Hydraulic Institute (HI) parameters. Josh helped conduct and participated in a series of workshops, including a value engineering workshop and several O&M workshops using 3-D models of the station, to make certain that the design process resulted in added value to SPU and an end product that met staff needs.

West Salem Pump Station, City of Salem, Oregon
Project Engineer. BC designed improvements to the City of Salem's West Salem Pump Station to facilitate maintenance activities and to better prepare the station for a future capacity expansion. As project engineer, Josh led the design of the pumping system and of a monorail hoist system and coordinated the work of an interdisciplinary design team.

Chambers Creek Regional WWTP Detailed Design, Pierce County Department of Public Works and Utilities, Washington
Engineer. BC developed a detailed design to increase the capacity of the Chambers Creek Regional WWTP in Pierce County from 31 mgd to 60 mgd while enhancing the level of treatment. This project was the third phase in the planning and design cycle for the upgrade and enhancement, and resulted in design documents for construction. Specific project roles included leading the odor control design, site survey, and air permitting, and managing geotechnical field work.

Chambers Creek Regional WWTP Preliminary Design, Pierce County Department of Public Works and Utilities, Washington
Engineer. BC developed a preliminary design to upgrade the Chambers Creek Regional WWTP from 31 mgd capacity to 60 mgd capacity and to enhance the level of treatment and conduct scheduled repair and replacement. This project was the second phase in the planning and design process for the expansion, and developed a preliminary design report and other preliminary design documents in accordance with state regulatory requirements. Specific project roles included leading the odor control and methanol distribution system preliminary design.

Director, Oregon Operations

Kelly J. Kimball, P.E.

Experience Summary

Kelly serves as BC's local leader for the Portland office where he is responsible for overseeing project delivery, client service, management of resources, operations, and project quality and performance. Prior to this, he served as BC's west region Electrical and Process Automation Services (EPAS) group leader, responsible for managing a group of 35 engineers, designers, and programmers. Kelly's primary focus was project management and overseeing project quality. His career has included a broad range of services from PIC down to subject matter expert on a broad range of projects in the wastewater and water industry.

Assignment

Project Delivery Officer

Education

B.S., Electrical Engineering, Oregon State University, 2004

Registration

Professional Engineer (Electrical) 14187, Hawaii, 2010

Professional Engineer (Electrical) 14405, Idaho, 2010

Professional Engineer (Electrical) 47156, Washington, 2010

Professional Engineer (Electrical) 74411PE, Oregon, 2012

Experience

14 years

Joined Firm

2005

Relevant Expertise

- *Program Management*
- *Project oversight*
- *Client service management*
- *Project management*
- *Design-build*
- *Master planning*
- *CIP planning*

Gresham Upper Bar Screen Replacements, City of Gresham, Oregon

Principal-in-Charge. The bar screens and washer compactors at the upper plant are at the end of useful life. BC sized and selected replacement equipment to address the high organics solids content of the plant's influent. Working closely with BC's Headworks SME, Additionally BC helped support a challenging work sequencing plan to allow continuous operation of the facility while replacing critical assets.

Aeration System Improvements, Metropolitan Wastewater Management Commission, Eugene Oregon.

Principal-in-Charge. BC is helping MWMC to evaluate the performance of their existing aeration system, through process modeling and field sampling/testing, to develop a comprehensive plan and business case evaluation to achieve energy efficiency improvements, replace aging equipment and achieve better ease of operations.

North Secondary Clarifier Rehabilitation Project, City of Salem Oregon

Principal-in-Charge. Design of a new clarifier and mechanism to provide a hydraulic capacity of 60 MGD through the north plant. The current clarifier is past it useful service life and has limits on current throughput. BC is helping evaluate the current performance of the mechanism, along with peak wet weather modeling as well as stress testing in order to determine parameters for the new clarifier to meet the City's goals of improved performance.

Durham WWTP FOG Tanks, Clean Water Services, Oregon

Principal-in-Charge. The District constructed a fats, oil, and grease (FOG) receiving station at the Durham AWWTF in 2015, however it has had difficulty finding a coating solution for the interior of the tanks that can withstand the conditions created by the FOG. BC is helping the District to re-evaluate all options for storing and heating its FOG and providing ideas for retrofitting the FOG storage tank to stand up to the harsh environment.

Durham WWTP Waste Gas Burner, Clean Water Services, Oregon

Principal-in-Charge. The Durham WWTP has had increased digester gas production in past years due to an increase in FOG co-digestion. BC helped analyze the capacity of the existing digester gas system at the Durham WWTP, then identified and designed modifications to facilitate the future increase in digester gas production.

Kellogg Creek WRRF Improvements, Clackamas County Water Environment Services, Oregon

Principal-in-Charge. BC is assisting Clackamas County with improvements at the Kellogg Creek Water Resource Recovery Facility (WRRF) The improvements are to reclaim lost peak hydraulic flow capacity, comply with regulatory permit

standards, and provide reliability for the treatment system while being a good neighbor.

Biosolids Evaluation, City of Eureka, California
Principal-in-Charge. BC helped the City of Eureka evaluate replacing and upsizing the existing cogeneration engines at the Elk River WWTP with a modern and energy-efficient unit and backup boiler. These newer and more efficient engines are designed to produce more electricity per cubic foot of digester gas produced. The initial projections for annual cost savings from installing the new engine has been estimated at $90,000.

Trickling Filter Mechanisms Replacement, City of Salem, Oregon
Principal-in-Charge. BC is designing replacements for four aging trickling filter mechanisms and trickling filter influent pump station isolation gates at the Willow Lake Water Pollution Control Facility (WPCF) to improve reliability in the plant.

Electrical Engineering Services for SCADA Project, City and County of Honolulu, Hawaii
Project Manager. Led the three major tasks associated with the improvements to the Waianae Wastewater Treatment Plant (WWTP), development of the electrical and control system standards, Basis of Design Report, detailed design of the improvements identified in the Basis of Design Report, and development of an electrical and control system master plan. Detailed design improvements included complete replacement of the electrical and control system infrastructure at the Influent Pump Station (IPS) and 2W buildings with integration into the existing standby power systems at the plan. In addition to the modifications at the IPS and 2W building, other modifications included replacement of heating, ventilation, and air conditioning (HVAC) elements throughout the plant to create conditioned spaces for new electrical equipment, replacement of existing field instrumentation to increase reliability and level of automation at the WWTP.

Central Kitsap WWTP Improvements, Kitsap County, Poulsbo, Washington
Deputy Project Manager/Lead Electrical Engineer. Provided design for new plant electrical infrastructure with modifications to allow facilities to serve an expansion from approximately 2,000 to over 3,000 kVA connected load. Efforts included predesign investigation of the electrical distribution and standby power implications of added capacity and overall planning to incorporate the immediate load expansion with planned provisions for the future expansion phase. Modifications included the expansion of the existing electrical infrastructure to continue the buildout of the dual-ended distribution, addition of 250-horsepower (hp) high-speed aeration blowers and controls, new RAS and WAS facilities, new aeration basins and associated pumping, a methanol facility, and the addition of a 300 kW cogeneration system. Other major modifications included the replacement of an existing MCC and modifications to the existing plant SCADA system. The design addressed sequencing and coordination issues required to minimize disruption to plant operations while also considering aspects of constructability.

Adam N. Klein, P.E.

Experience Summary

Mr. Klein has more than 16 years of experience in wastewater planning, design, and optimization. Adam's principal focus is on the design and operation of biological treatment processes, with expertise in systems for ammonia, nitrogen, and phosphorus removal. During his time with BC, he has been involved in planning, alternative selection, and detailed design of facilities for municipal and industrial clients, large and small, facing a wide range of regulatory requirements. In addition to his biological process work, Adam also has experience in regulatory compliance, monitoring, and source control, as well as sewer system planning and capacity analysis. He also holds a degree in medicine and has experience in microbiology, public health, and risk assessment.

Assignment

Solids Treatment Technical Expert

Education

M.S. Environmental Engineering in Civil Engineering, University of Illinois at Urbana-Champaign

B.S. Civil Engineering, University of Illinois at Urbana-Champaign

M.D., University of Illinois at Chicago College of Medicine

B.A. Chemistry, B.A. History, Duke University

Registration

Professional Engineer 43247, Washington

Experience

16 years

Joined Firm

2003

Relevant Expertise

- *Extensive experience in process modeling and design*
- *Extensive experience in alternatives assessment and selection*

Chambers Creek Regional Wastewater Treatment Plant (WWTP) Facilities Plan, Pierce County, Washington

Process Engineer. This project included full plant dynamic modeling and directed stress testing aimed toward expanding the WWTP from 19 to 43 mgd average annual flow. A Facilities Plan included four level-of-service alternatives, from existing (BOD removal), to nutrient removal (ammonia, total nitrogen), to microconstituents and compounds of emerging concern. Adam's process modeling included multiple technologies and configurations aimed toward achieving each of the proposed levels of service.

Chambers Creek Regional WWTP, Preliminary and Detailed Design, Pierce County, Washington

Process Design Lead. Adam was the process design lead for the preliminary design of a 17-mgd expansion of the Chambers Creek Regional WWTP. The design incorporated a shift from conventional BOD removal to nitrification and nitrogen removal. Design work included new 17-MG aeration basins, a new 150-foot-diameter secondary clarifier, a new anaerobic digestion complex, odor control, and anammox-based centrate treatment.

Wastewater Facilities Plan, City of Boise, Idaho

Process Engineer. Adam conducted a capacity assessment of the City's two water renewal facilities, with a particular focus on capacity to treat to proposed phosphorus regulations. The Facilities Plan included an alternatives assessment spread across both plants that considered different biological and chemical treatment processes, including supportive processes such as primary sludge fermentation, RAS fermentation, and sidestream treatment. The Plan also included an assessment of industrial users and contracted sewer districts exploring alternatives in source control to manage nutrient removal goals.

Nutrient Removal Upgrades, Preliminary and Detailed Design, Central Valley Water Reclamation Facility, Salt Lake City, Utah

Process Design Lead. This design project focused on converting an existing trickling filter/activated sludge plant to biological nitrogen and phosphorus removal at a design flow of 80 mgd. The design included replacing the trickling filters with a new set of aeration basins featuring primary sludge and RAS fermentation to drive nutrient removal. Preliminary design work included a 13,000-gallon pilot facility that allowed the team to test various nutrient removal configurations, and included extensive laboratory-scale investigations into fermentation of various sludges and food wastes.

Budd Inlet WWTP Master Plan, LOTT Clean Water Alliance, Olympia, Washington

Process Engineer. This master-planning effort aimed at expanding service from 11 to 36 mgd for the only full-scale nutrient removal plant discharging to Puget Sound. The plan outlined a program to share wastewater service between a centrally located treatment facility and several satellite reclaimed water production and groundwater recharge facilities. Long-term planning required an assessment of technologies and approaches to drive the effluent TIN below 2 mg/L and accommodate full-flow reclaimed water production with removal of toxic organics and microconstituents through a combination of membrane filtration, reverse osmosis, and advanced oxidation.

Industrial Pretreatment Program, Spokane County, Washington

Project Manager. Adam provided on-call services to assist the County with its Industrial Pretreatment Program. Tasks included developing a program manual, updating pretreatment ordinance, assistance with multi-jurisdictional agreements, permitting, local limits development, enforcement, and coordination with the Department of Ecology.

Industrial Pretreatment Program, City of Spokane, Washington

Project Manager. Adam assisted the City of Spokane with its industrial pretreatment program. Work included reviewing engineering reports, plans, and specifications and operations and maintenance manuals submitted by industrial users. Other work included reviewing and updating industrial wastewater discharge permits and general technical assistance.

Stormwater Treatment Analysis, LOTT Clean Water Alliance and Port of Olympia, Washington

Project Manager. Adam helped analyze whether the Port of Olympia could send its stormwater to the LOTT Budd Inlet WWTP. The effort included an assessment of toxic pollutants in the stormwater; and treatment technologies such as ozonation, reverse osmosis, and bio-Actiflo®.

Annacis Island WWTP Stage 5 Expansion PDR, Metro Vancouver, British Columbia, Canada

Process Engineer. Adam participated in the planning effort to determine the most cost-effective means of meeting a range of ammonia removal targets. Alternatives included nitrifying trickling filters, anammox-based sidestream treatment, and moving bed biorector technologies. He modeled fixed-film processes and developed life-cycle costs for implementation. The evaluation included an assessment of performance, operating costs, greenhouse gas emissions, and capacity for expansion.

Central Treatment Plant Optimization, City of Tacoma, Washington

Process Engineer. This plant capacity and optimization project involvedstress testing of various process units, wastewater characterization, process modeling, troubleshooting, and capacity analyses. Implemented chemical optimization testing for solids system processes and secondary clarification.

Columbia Boulevard WWTP Facilities Plan Update, City of Portland Bureau of Environmental Services, Portland, Oregon

Process Engineer. For this facility planning effort for a plant with peak discharges exceeding 450 mgd, Adam conducted? dynamic modeling of the secondary processes under a range of potential conditions (nitrifying and non-nitrifying) and configurations to project facility needs through 2040. Modeling included evaluation of IFAS and MBBR alternatives. Subsequent work included full-scale pilot testing of chemically enhanced primary treatment, and modifications to improve the performance of a biological selector.

Marc Maisonville, P.E.

Experience Summary

Marc has extensive experience in electrical engineering and instrumentation and controls, including the design, commissioning, startup, operations and maintenance (O&M), field testing, and troubleshooting of electrical systems and plant control systems. Marc has served as the electrical lead on numerous projects which included large variable frequency drives in their scopes.

Assignment

Electrical/I&C

Education

B.Ap.Sc. Electrical Engineering, First Class, University of British Columbia, Vancouver, British Columbia, Canada 1980

B.Sc., Honors Physics, University of British Columbia, Vancouver, British Columbia, Canada, 1978

Registration

Professional Engineer, Oregon 72609, 2005

Professional Engineer, Washington 42250, 2006

Professional Engineer, British Columbia, Canada, 1986

Experience

26 years

Joined Firm

2000

Westside Ultraviolet Upgrade Design, City of Vancouver, Washington

Electrical Engineer. BC worked closely with the City to compare technologies and select a best fit solution to upgrade the Westside WWTP ultraviolet system, which had reached the end of its useful life and become difficult to operate and maintain. BC completed the design and supported implementation of the selected technology. This project included $160,000 in energy incentives from the upgraded and more efficient UV system. Marc provided an electrical design that enabled reuse of installed ductbanks to circuit to new equipment including power distribution centers and modulating gate actuators without demolishing existing concrete slabs. The project had a successful startup and was completed under budget.

Hillsboro WWTF Odor Abatement and Washer/Compactor Replacement, Clean Water Services, Oregon

Electrical and Instrumentation Designer. BC is providing design and construction services for decommissioning of an existing chemical mist scrubber system and the addition of 15,000 cubic feet per minute dual bed granular activated carbon adsorption odor control system. The improvements include new variable speed fans and associated instrumentation. The project also includes replacement of washer/compactors and associated control panels. Most equipment was installed in hazardous locations and required adherence to NFPA 820. Marc provided the electrical and instrumentation design for the project.

Kellogg Creek Water Pollution Control Plant Improvements, Clackamas County Water Environment Services, Oregon

Electrical and I&C Designer. Marc led the design for a plant-wide upgrade of the programmable logic controller (PLC) system and associated supervisory control and data acquisition (SCADA) network. He provided the electrical design for the upgrades at the aeration basins and blower building, including replacement of a motor control center (MCC), installation of three high-speed turbo blowers, and installation of Profibus-networked flow meters and control valves at the basins. The project also encompassed a retrofit of new chemical disinfection systems at the chemical building. Upgrading the PLC/SCADA system required close coordination with the system integrator and the Owner's programmer during the construction phase.

Chambers Creek Regional Wastewater Treatment Plant (WWTP) Expansion, Pierce County, University Place, Washington

Electrical Designer. Marc was the electrical design lead for two major facilities, the biological process building and the aeration basins. The biological process building serves as a major hub for the power distribution system at the plant and includes four medium-voltage substations, medium-voltage switchgear, low-voltage switchgear, MCCs, panelboards, variable-frequency drives (VFDs), and harmonic mitigating equipment. The blower room at the aeration basin facility contains four 300-horsepower (hp), high-speed turbo blower packages furnished with VFDs and harmonic filters.

Forest Grove UV Disinfection Investigation, Clean Water Services, Oregon

Task Leader. Field investigations and consultation with plant staff were conducted to ascertain the nature of existing problems, including overheating of power modules and unsafe routing of existing conduits. A report with findings and recommendations was provided to the Owner. During the final stages of construction at the Annacis and Lulu Island WWTPs, Marc assisted in the pre-commissioning of control systems. He completed loop testing for major systems including the variable frequency drives for the raw sewage pumps.

Wastewater Treatment Plant (WWTP) Improvements, Greater Vancouver Regional District, Vancouver, British Columbia, Canada

Task Leader. Marc acted as instrumentation and controls leader for a $400 million, multi-contract, 3-year project for upgrade of the Annacis and Lulu Island WWTPs. He supervised a team of professional staff in the design and production of over 1,000 detailed motor control schematics and instrumentation diagrams for issuance to the construction contractor. Marc designed electrical control systems for equipment at both plants including raw sewage pumps, bar screens, grit systems, centrifugal blowers, sludge pumps, centrifuges, polymer systems and biosolids hoppers. Schematics were prepared for the variable frequency drives for the raw sewage pumps.

During the final stages of construction at the Annacis and Lulu Island WWTPs, Marc assisted in the pre-commissioning of control systems. He completed loop testing for major systems, including the variable frequency drives for the raw sewage pumps.

Odor Control, MWMC, Eugene-Springfield, Oregon

Designer. Challenges presented on this project included retrofit of variable frequency drives into an existing electrical room and addressing potential conflicts with NEC working clearances and ductbank routing through congested process areas to feed outdoor odor control fans in a classified area. HVAC for the electrical room required upgrading to accommodate the additional heat loss from the VFDs. The owner's preselected manufacturer, Rockwell, was the supplier of the variable frequency drives.

Influent Pumping and Headworks Expansion, Metropolitan Waste Management Commission (MWMC), Eugene-Springfield, Oregon

Electrical Designer. Marc led the electrical and instrumentation and controls design for this expansion project. Major items included in the electrical scope of design were medium voltage ductbanks, unit substations, motor control centers, variable frequency drives and application of NFPA 820. The instrumentation and controls design included integration of I/O and Profibus DP networks from new process equipment to the plant's existing distributed control system.

Columbia Boulevard Wastewater Treatment Plant (CBWTP), Digester Expansion Project, Bureau of Environmental Services, City of Portland, Oregon

Designer. Marc led the design for instrumentation and controls and provided support for electrical. Process and instrumentation drawings were prepared in close coordination with other disciplines. The scope included detailed design of control panels and instrumentation loops in accordance with the owner's standards. Approximately 200 instrumentation drawings were included in the final bid documents.

Biosolids Handling Improvements, Tri-City Water Pollution Control Plant (WPCP) Clackamas County, Oregon

Designer. Marc provided electrical design for the addition of a centrifuge, polymer systems, and gravity belt thickeners at the Tri-City plant. Construction management support for the electrical and instrumentation and controls disciplines were also included. The control system architecture for this project was based on Siemens PLCs and Profibus DP networks linking plant area control panels, packaged panels, variable frequency drives, motor control centers and field instrumentation.

WWTP Expansion, City of Gresham, Oregon

Field Support. For this project, construction management support was provided for the electrical discipline. Marc conducted field inspections, provided vendor liaison, and responded to requests for clarification. He also completed loop testing of electrical and instrumentation controls to verify control function for grit pumps, bar screening, grit screening, positive displacement diaphragm sludge pumps, polymer system, aeration basins and centrifugal blowers.

Experience Summary

Tim has 18 years of experience providing engineering services for the study, design, and construction of wastewater projects. Tim has worked on numerous projects throughout Oregon, Washington, and California as the project manager or project engineer leading a multidisciplinary team of engineers. His technical focus is in the areas of solids processing, digestion, solids thickening, pumping, odor control, energy efficiency, dewatering, and renewable energy.

Assignment

Wastewater Treatment PM & QA/QC

Education

B.S., Civil Engineering, Oregon State University, 2003

Registration

Professional Civil Engineer: Oregon 72538

Experience

18 years

Joined Firm

2002

Relevant Expertise

- *WWTP design*
- *Project management*
- *Aeration Systems*
- *Condition and Rehab*
- *Solids processing*
- *Biosolids planning*
- *Mixing and hydraulics*
- *Energy efficiency/ Cogeneration*

Digester Gas Combustion System Replacement, Columbia Boulevard Wastewater Treatment Plant, City of Portland BES, Oregon

Project Manager. Tim is managing the design to improve the safety of the flaring system at CBWTP by replacing the existing waste gas burners with new burners. Managing change has been important with this project to coordinate with a waste stream for RNGF, expanded capacity from co-digeation, a new locatin for the equipment, and equipment that meets good neighbor requiremetns. Shrouded equipment allows for footprint to be effectively used, and the flame to be masked from neighbors during typical operation.

Digester Capacity and Rehabilitaiton Project, Metropolitan Wastewater Management Commission (MWMC), Oregon

Project Manager. BC completed solids planning, design, and construction services for anaerobic digestion capacity. The main objectives are to install a system to increase digestion capacity and address supporting system improvements. The project also includes design to replace the existing waste gas burner with two new waste gas burners, and hot water boiler replacement and heat loop modification. The project included full rehabiltaiton and recircuiting of the six tank digester complex for control and power distribuation. Improvements were made to address code issues, and rebuild the electical and control room for the facilities. Tim performed the project management functions including all aspects of multidisciplinary team management, client meeting management, change management, and design delivery. In the early stages of the project, the team identified significant needs to rehabilitate major areas of the digester complex. Tim led the efforts to manage this change, brought on needed resources, and kept the project advancing to a successful conclusion.

Water Pollution Control Facility Aeration Improvements Project, MWMC, Oregon

Project Manager. BC is providing engineering services to design improvements to the MWMC WPCF aeration system to enhance operability and increase energy efficiency. The project includes an evaluation of the existing aeration system/equipment/controls and will provide a condition assessment and determine remaining useful life of all systems. An assessment of the current biological and aeration processes will also be conducted, including wastewater characterization and biological modeling. The objective of modeling is to identify the optimum operational modes for winter, summer (ammonia removal) and for future treatment. All this information, as

well as input from plant staff on their preferences and any O&M issues that exist, will be used to develop options to modernize and rehabilitate the existing aeration system, including blowers, pumping, piping, electrical, and instrumentation and controls. BC will perform a business case evaluation to select a preferred project alternative and prepare a Basis of Design Report for that alternative. Design of the improvemetns is a future phase of the project.

Industrial Pretreatment Lagoon, City of Vancouver, Washington
Project Manager. Tim served as the project manager for the planning phase of this project where the BC team studied the existing treatment process the condition of the existing system and developed modifications to the treatment system. This project focuses on reassessing the facility's needs, identifying the right level of investment, and maintaining sustainable and cost-effective treatment while addressing existing operational challenges and improving energy efficiency. This project will deliver a variety of improvements, including a high speed turbo blower, piping modfications, increased system control and electrical system imrpovements.

Kellogg Creek Water Resources Recovery Facility Improvements, Clackamas County, Oregon
Project Manager. Tim managed the effort for the design of significant improvements to the WRRF. The design was comprised of 9 distinct project elements to improve the reliability, functionality and efficiency of the plant. The elements included yard utility and pavement improvements, new RAS and WAS pumps and associated piping and accessories, addition of peak flow facilities to restore the plant to its original hydraulic capacity, aeration blower replacement, plant power distribution and backup power facility improvements, influent pump station improvements, replacement of the polymer system to improve WAS thickening, addition of a new strainer for the plant water system, and addition of new aeration basin covers and odor control facility improvements. This was a CM/GC project and required significant coordination between the District and the CM/GC Contractor.

Solids Process Improvements, Gresham WWTP, City of Gresham, Oregon
Project Manager. Tim led the study and design of solids processing improvements, including thickening, heating system, gas piping, waste gas burner, sludge pumping, and an innovative process with an emerging technology for sludge conditioning. The digester gas system is now in operation and has greater capacity to flare fats, oils, and grease (FOG) co-digestion, and future thermophilic digestion. Design and construction support included rehabilitation of the digesters heating system, additional instrumentation, and replacement of gas piping system, including a new waste gas burner that was undersized.

Gresham Capital and Rehabiltiation WWTP Projects, Gresham, Oregon
Project Manager. The project included a number of plant improvements, such as hydraulic evaluation for bottlenecks, digester gas management and piping modifications, cogeneration system improvements, co-digestion energy grant application, headworks screen level instrumentation, and variable frequency drive replacement. Technical memoranda, design packages, and construction services are provided. Tim and team have worked closely as an extension of City staff over the last decade, with meetings weekly, and site visits monthly.

Lower Primary Clarifiers 1 and 2 Refurbishment, City of Gresham, Oregon
Project Manager. Tim is managing the BC team to complete a structural assessment of Primary Clarifier 2 and develop recommendations and detailed design to economically refurbish Primary Clarifier 1 and Primary Clarifier 2. This includes rehabilitation of the concrete structures, replacement of the rotating steel mechanisms, weirs, scum trough, and related equipment.

Experience Summary

Nila is an electrical staff engineer in the Portland office. She has experience with electrical design, drop voltage calculations, and backchecking cable schedules and electrical drawings. Since joining BC, Nila has developed experience in electrical engineering and instrumentation and control projects throughout the northwest.

Assignment

Electrical/Instrumentation Support

Education

B.A., Electrical Engineering Oregon State University, 2019

Experience

1 year

Joined Firm

2019

Upper Plant Bar Screens Replacement, City of Gresham, Oregon

Electrical Engineer. The bar screens and washer compactors at the upper plant are at the end of useful life. BC sized and selected replacement equipment to address the high organic solids content of the plant's influent. Nila assisted with the electrical design of the project.

CWS Durham FOG Tank Retrofit, Clean Water Services, Tigard, Oregon

Electrical Engineer. The existing concrete FOG tanks at CWS Durham are degrading and in need of replacement. BC was directed to evaluate different tank sizes and quantities, and design system upgrades to compliment the new tanks. BC generated a performance spec for two stainless-steel, cone-bottom FOG tanks, sized and selected a drum screen for FOG receiving, and designed new FOG piping, structural foundation and equipment slabs. Nila assisted with the electrical design of the project.

TO 2019-01 Nutrient Design, Central Valley Water Reclamation Facility (CVWRF), Salt Lake City, Utah

Electrical Engineer. As part of an adaptive management strategy to address nutrients in Utah waters, the Utah Division of Water Quality (DWQ) has promulgated a Technology-Based Phosphorus Effluent Limit (TBPEL). DWQ has also indicated a technology-based limit for Total Inorganic Nitrogen (TIN) is likely in the future. In order to meet the 2025 compliance deadline, Central Valley has started the preliminary phases of the design. Nila backchecked cable schedule and electrical drawings for quality assurance.

On-Call Task Orders, Pierce County Public Works, Washington

Electrical Engineer. BC proved client with short circuit analysis of multiple pump stations. Nila assisted with creating and running short circuit analysis in SKM and writing up the analysis reports.

Kailua Wastewater Treatment Plant Upgrade, Phase 2, City and County of Honolulu, Hawaii

Electrical Engineer. BC previously developed an electrical master plan for the Kailua Wastewater Treatment Plant that defined modifications required to consolidate electrical services from Hawaiian Electric and convert the on-site electrical distribution system to 12-kilovolts. Some of these recommended improvements were implemented under the Kailua Tunnel Influent Pump Station project, including installation of the redundant 12-kilovolts services from Hawaiian Electric and the 12-kilovolts distribution to the new Tunnel Influent Pump Station facility. The Kailua Wastewater Treatment Plant Upgrade Phase 2 project implements the remaining electrical recommendations. The design encompassed new 12-kilovolts distribution systems for the Effluent Pump Station, Biotower Pump Station, and Blower Building and overhaul of 480-volt motor control and distribution systems at the Primary Treatment Facility, Dissolved Air Floatation Thickener Control Building, Effluent Pump Station, and Dewatering Building. Upgrades designed under this project will be combined with the upgrades BC designed for the former Kailua Influent Pump

Station building and bid as a single construction contract. Assisted with creating and backchecking short circuit analysis reports.

Biosolids Dewatering Facility 65 Percent Design (Task Order 5), San Francisco Public Utilities Commission (SFPUC), California

Electrical Engineer. The objectives of the project are to fully replace the existing aged and failing facility with new biosolids digester facilities that reliably meet the Sewer System Improvement Program Goals and Levels of Service and provide continued compliance with present and anticipated future regulations. Once completed, the SEP BDFP, will minimize plant impacts to the neighborhood with respect to aesthetics (visual), odors, noise and traffic, and will be a positive enhancement to the local community. New biosolids/solids handling treatment processes are anticipated to include solids thickening, anaerobic digestion, gas handling, energy generation/recovery, dewatering, odor control, control systems and related ancillary processes. Thermal hydrolysis as a digestion pretreatment may be included. The new facility will be designed to promote energy recovery, onsite/offsite use for sustainability, and economic and environmental benefits. The production of advanced biosolids products will be considered if viable and sustainable markets are realized for the use of SFPUC's biosolids. Nila inspected and backed the sites cable schedule to ensure quality of the drawings and cable schedule.

Water Supply Program Pipeline MPE_1.0, Tualatin Valley Water District, Oregon

Electrical Engineer. BC is currently designing more than seven miles (38,000 LF) of 48-inch and 24-inch diameter pipe with nine trenchless crossings.

The project is part of the Willamette Water Supply Program (WWSP), a drinking water infrastructure program that will provide TVWD and the City of Hillsboro with a seismically resilient water supply designed to meet future demand and provide redundancy in case of an emergency. The program includes more than thirty miles of transmission pipelines, ranging from 36-inches to 66-inches in diameter, new finished water storage tanks (terminal storage) and a new Water Treatment Plant.

BC performed a routing evaluation study that considered a variety of criteria including cost, seismic resilience, system compatibility, system hydraulics, ease of operations and maintenance, environmental impacts, opportunities for multiple benefits (e.g., coordination with roadway projects), and constructability.

The selected alternative includes 35,600 LF of 48-inch-diameter Welded Steel Pipe (WSP) and 2,400 LF of 24-inch-diameter ductile iron pipe (DIP). Trenchless crossings include storm drain culverts, creeks, sanitary sewers, one highway, and three railway crossings. Nila assisted with the electrical design for the project.

Phosphorus Removal Reliability Improvements, Timpanogos Special Service District, Salt Lake City, Utah

Electrical Engineer. TSSD needs help with procuring new blowers and equipment and controls. BC is assisting TSSD with the equipment procurement package as well as providing nutrient support and operator training. Based on site visit findings, TSSD would like support with operator training and process changes to meet pending phosphorus limits. Additional work will be programmed into their CIP for making any required process modifications. Nila did voltage drop calculations and backchecked drawings and cables schedule.

Vice President

Bryan K. Paulson, P.E.

Experience Summary

Bryan has more than 35 years of experience in wastewater engineering. He has served as project delivery officer, project manager, and project engineer for the planning, design, and construction management of many wastewater treatment facilities (WWTFs).

Assignment

QA/QC

Education

B.S., Civil Engineering, Oregon State University, 1976

Registration

Professional Engineer, Oregon 10899, 1980

Experience

38 years

Joined Firm

1980

Relevant Expertise

- *Project management*
- *Team management*
- *Wastewater water treatment*
- *Pumping stations*

Olson Creek Sewer Alignment, City of Newport, Oregon

Principal-in-Charge. BC completed a feasibility study, then 50 percent, 90 percent and final drawings for the relocation of parallel storm and sanitary pipe under a wetland and roadway using jack and bore construction to minimize potential impacts to sensitive areas and the adjacent homes.

Agate Beach Improvements, City of Newport, Oregon

Principal-in-Charge. BC prepared a preliminary and final design documents to replace two wastewater collection system pump stations in Newport. The pump stations are relatively deep submersible style stations that required significant shoring and groundwater control, as well as some rock removal.

Alder Pump Station, City of Portland Bureau of Environmental Services (BES), Oregon

Principal-in-Charge. BC provided design of improvements to the Alder Pump Station. The design increased pumping capacity to reduce combined sewer overflow (CSO) discharges to the Willamette River. The dry pit-wetwell style pump station was converted to a submersible pump design with a trench-style wetwell. This conversion required demolition of the above-grade building and all interior walls such that only the existing 30-foot-deep caisson remained. The new wetwell walls and pumping system were then constructed within the caisson.

Phase II Sewer Rehabilitation Program, BES, City of Portland, Oregon

Project Delivery Officer. BES's Sewer System Rehabilitation project addresses immediate needs in the collection system while also addressing long-term growth. BC assisted the City in managing several competing priorities in its sewer rehabilitation goals including maintenance, regulatory compliance, coordination with other utilities, and meeting customer service expectations.

Facilities Plan Update, Columbia Boulevard WWTP BES, City of Portland, Oregon

Project Delivery Officer. This Facilities Plan Update addressed flow and load projections, facilities improvements, correlation with the combined sewer overflow (CSO) pollution abatement program, recent regulatory changes, current and expected National Pollutant Discharge Elimination System (NPDES) permit requirements, integration and use of methane gas, land use planning requirements, and the plant's role as a good neighbor. The adequacy of the existing facilities through 2040 and necessary capital improvements were evaluated.

Fanno Basin System Improvements, BES, City of Portland, Oregon

Project Delivery Officer. The FABA Pump Station Expansion project included design and construction of a new 10-million-gallon per day (mgd) pumping facility—called the SW 86th Avenue Pump Station—that handle all dry weather

flows and flows generated by small storm events. When influent flow exceeds 10 mgd, the existing FABA Pump Station can be activated to provide up to 15.5 mgd of capacity.

Ankeny Pump Station Upgrade, BES, City of Portland, Oregon

Project Manager. This project involved design of rehabilitation of the existing 150 mgd Ankeny Pump Station. The upgraded station has four new raw sewage pumps with a total capacity of 60 mgd, new internal process piping, piping and valving to exercise the existing 90 mgd total capacity storm pumps, new electrical equipment and controls, and a seismically strengthened structure. The project included bid-period services and services during construction.

Secondary Clarifier Alternatives Evaluation, Forest Grove WWTF, Clean Water Services, Oregon

Project Manager. BC provided planning level services to identify feasible alternatives for secondary clarifier improvements at the Forest Grove Wastewater Treatment Facility. This effort includee evaluation of secondary clarifier alternatives and providing cost estimates.

Aeration Basin Improvements, Medford, City of Medford, Oregon

Technical Advisor. This project includds design and office construction services that optimize the existing aeration basins and aeration system to allow for greater operational flexibility, redundancy, and reliability during periods when process units and equipment are down for maintenance. Elements of the project included a new Turblex-style blower and associated equipment, new aeration diffusers, and other miscellaneous building and site improvements.

Lower Bar Screens Replacement, Gresham WWTP, City of Gresham, Oregon

Project Delivery Officer. There was an increasing need for maintenance on the existing headworks screens, which have been in operation for nearly 30 years. A major upgrade was needed because regular maintenance was no longer sufficient to keep the existing screens in good working order. BC evaluated screen-type alternatives, balancing increased capture rates and the resulting hydraulic impacts to the WWTP. BC completed the design for replacing the existing climber screens with multi-rake screens and replacing the existing washer/compactors.

Increase Digester Capacity and Decommission Lagoon, Metropolitan Wastewater Management Commission (MWMC), Eugene-Springfield, Oregon

Project Manager. BC provided solids planning, design, and services during construction for anaerobic digestion capacity. The main objectives are to install a system to increase digestion capacity and address supporting system improvements. The project included decommissioning and site restoration of the existing onsite lagoon and associated piping.

Lower Blower Building Refurbishment, Gresham WWTP, City of Gresham, Oregon

Project Delivery Officer. BC provided design and services during construction for refurbishment of the lower blower building. Upgrades included replacing the return activated sludge (RAS) pumps, waste activated sludge (WAS) pumps, and RAS flow meters, and making building improvements. The project team worked closely with the City to integrate construction cost estimating with key design decisions and to implement a project that fits with the City's budget constraints.

Solids Process Improvements, Gresham WWTP, City of Gresham, Oregon

Project Delivery Officer. BC facilitated pilot testing and evaluated screw presses for dewatering of biosolids in comparison with the refurbishment and continued use of existing belt filter presses (BFPs). Design was provided for replacement of the digester gas system to better serve greater gas production from fats, oils, and grease (FOG) co-digestion, and future thermophilic digestion.

Senior Water Resources Engineer

Ryan Retzlaff

Experience Summary

Ryan Retzlaff has over 18 years of experience in the storm and surface water industry gained while working for municipalities and consulting engineers in the United States and Australia. Ryan is skilled in project management and has a breadth of technical knowledge, providing a well-rounded skillset and a wide range of experience. His experience includes hydrologic and hydraulic assessments, flooding studies, stormwater quality management and treatment designs, low impact development (LID) technologies implementation, master planning, and large transportation stormwater management assessment and design. Ryan is an XP-SWMM modeling expert, having spent time providing technical support for XP Solutions in Portland.

Assignment

Water Resources Project Manager

Education

B.S. Environmental Science, Oregon State University, 1998

M.S. Civil/Environmental Engineering, Portland State University, 2007

Experience

18 years

Joined Firm

2016

Relevant Expertise

- *Master Planning*
- *Hydrologic Modeling*
- *Hydraulic Modeling*
- *Alternatives Analysis*
- *Stormwater Facility Design*

Olsson Creek Storm and Sanitary Sewer Pipe Re-Alignment, City of Newport, Oregon

Project Manager. Ryan was responsible for project management and oversite of all elements related to the design and re-alignment of an existing gravity storm and force sanitary pipelines. The existing Olsson Creek storm water pipeline runs under several private residences, and a CCTV inspection revealed the pipe is in poor condition and needs to be replaced. The sanitary pressure pipeline transports sewer down 3rd Street to SE Fogarty Street, which is a gravity system. A new gravity sanitary line reduces maintenance costs for the city by removing a small pump station and a force main. This project provided final design documents to decommission the existing storm line and realign the pipe within City easements and rights-of-way. The project also designed a new gravity sanitary sewer line in parallel with the storm sewer line, and included the abandonment of the existing sanitary lines and pump station. The project included double jack and bore pipes from a wetland through differing material which resulted in many challenges to overcome from permitting, staging, design and a twenty-five-foot-deep receiving pit. The project was constructed spring of 2018.

Sanitary Inflow/Infiltration (I/I) Evaluation and Abatement Program, City of Oregon City, Oregon City, Oregon

Project Manager. As follow-on work to the recent sanitary sewer master plan completed by BC, the team managed flow monitoring activities in targeted sanitary sewer basins with reported and modeled high I/I. Ryan provided direction to staff and QA/QC then characterized and prioritized the basins based on I/I signals at the metered locations. These findings were presented to the city with proposed next steps to further understand the sources of I/I. Smoke testing is currently underway with preliminary results showing many opportunities to reduce risk of private property damage through capital improvement project.

Scattering Canyon Improvements, City of Oregon City, Oregon City, Oregon

Project Manager. Ryan was responsible for project management and oversite of all elements related to the design for the repair and improvement of an open channel showing signs of excessive erosion and downcutting. The project team worked closely with the City to move the concept design forward to ninety percent plans. The design includes re-grading the site and providing a stair stepped stream with large boulders forming the drops. Enhanced water quality will be provided through a sedimentation manhole and through media that comprises the stream bed. The project is currently on hold as the City navigates through their internal tree removal permitting process. Construction is anticipated summer of 2021.

Drainage Master Plan, Sandy Drainage Improvement Company (SDIC) and City of Troutdale, Oregon
Project Manager. Ryan is overseeing the drainage study and incorporating the needs and objectives for SDIC and the City of Troutdale. The study is providing an updated H/H model, problem area identification, and an assessment of the Blue Lake area and the Salmon Creek weir structure. The Blue Lake storage area, its influence on the water surface elevations at the SDIC pump station, and the implications of this on the existing gate tower and levee culvert will be addressed in this study. The study will provide an overall assessment of the conveyance infrastructure and provide guidance for the pump station capacity as the area develops in the future. A water quality assessment has been completed for the City to advance water quality treatment throughout the City.

Drainage Evaluation, Ada County Highway District, Boise Idaho
Project Manager and Technical Lead. This study included the evaluation of the hydrology and hydraulics of a 200-acre catchment that drains to a water quality facility that is malfunctioning. The evaluation also includes alternative evaluation, using the hydrologic and hydraulic model built for this project, of strategies to correct the function of the water quality facility. Ryan provided modeling direction and oversight of the development, validation and resulting final model for Phase I of this project. For Phase II, Ryan will transition into the PM role and oversee the strategy evaluation. Following the selection of a preferred alternative the team will transition into design and provide a thirty percent design.

Stormwater Master Plan for the Redwood Basin, Josephine County, Grants Pass, Oregon
Project Manager and Technical Lead. Ryan managed this study which included multidisciplinary services such as public involvement, project background investigation, data review and analysis, hydrologic study, hydraulics study and analysis (utilizing XPSWMM), developing solutions and strategies, prioritizing solutions and strategies, developing a capital improvement project list, and preparing final report. The primary objectives included creating a model to identify future roadway flooding, then using the results to locate projects that address the potential flooding. Ryan worked with both the City of Grants Pass and the Grants Pass Irrigation District to achieve multiple objectives. The final report met all the client's objectives and was delivered on time and under budget.

Newberg Dundee Bypass Stormwater Design, Oregon Department of Transportation, Newberg, Oregon
Project Manager and Technical Lead. Ryan managed and designed the stormwater management facilities for nearly 6 miles of new and improved highways and roads associated with the Newberg Dundee Bypass. Additionally, Ryan provided conveyance design for nearly 2 miles of improved roadway. The design utilizes the latest methods to manage and treat stormwater runoff to meet local and state water quality and flow control requirements. Project management and coordination were critical for this project due to the large ODOT project team, multiple consultants, City of Newberg involvement, and private development occurring adjacent to and during the project design. Internal and external coordination, in addition to a creative and forward looking design, have resulted in a large complex infrastructure project that used innovative solutions to meet regulatory requirements. Ryan provided stormwater design for water quality and quantity facilities including seven ponds, four swales, and planters adjacent to 1.5 miles of roadway. The design included modifying /updating a pond design to minimize footprint with novel solutions to meet private land owner requirements. The design utilizing new technologies and placement along roadways enabling ODOT to minimize impact to the built environment while maintaining a high level of stormwater management.

Stormwater Master Plan, City of Oregon City, Oregon
Modeling and Technical Lead. BC is developing a stormwater master plan for the City of Oregon City to establish a long-term capital plan for this growing community. The project includes tasks focused on flooding and capacity concerns across the city, condition assessment for aging infrastructure, infrastructure gaps, erosion in natural systems, and water quality retrofit opportunities. Ryan is overseeing development of XP-SWMM models in priority watersheds to identify existing capacity challenges and model solutions. BC conducted collaborative watershed evaluation workshops with City staff to identify problem and opportunity areas in each watershed. Based on modeling and workshop evaluations, capital project fact sheets will be developed to include concept-level project designs, implementation cost estimates, and long-term maintenance costs for each project. The resulting master plan will integrate capacity upgrades, water quality retrofits, and asset management replacements in a short- and long-term implementation plan.

Senior Environmental Engineer

Angela Richardson, PE

Experience Summary

Angela is a wastewater engineer with 12 years of experience in developing solutions for conveyance facilities. She has significant experience with condition assessment, sewer rehabilitation, wastewater and storm drainage master planning, and hydraulic modeling. In addition to her design capabilities, Angela has started to build a solid foundation as a project manager through PM training, serving as a deputy PM for several projects, and managing condition assessment projects. She possesses excellent analytical and quantitative skills and attention to detail and accuracy developed through working with multidisciplinary and multicultural teams.

Assignment

Collection System Project Manager

Education

PSMJ A/E/C Project Management Bootcamp, 2019

MSc., Water Resources Engineering and Management, University of Stuttgart, Germany, 2006

B.S., Civil Engineering, University of Los Andes, (ABET accredited school), Colombia, 2003

Registrations

Professional Engineer 92474PE, Oregon

National Association of Sewer Service Companies (NASSCO):

- *Pipeline, Manhole, and Lateral Assessment and Certification Program (PACP, MACP, LACP), U-0617-07008169, 2020*
- *CIPP Inspector*

  CIPP-1019-0400835
- *Manhole Rehabilitation Inspector MR-1119-010995*

Experience

12 years

Joined Firm

2016

Relevant Expertise

- *Sewer system condition assessment and rehabilitation*
- *Hydraulic modeling*
- *Wastewater and stormwater master plans*

CCTV Sewer Inspection Project, City of Newport, Oregon

Project Manager. The City of Newport and Brown and Caldwell developed a sewer inspection program to inspect the City's gravity sanitary sewer collection system over the span of several years. BC has completed four inspection cycles between the years 2015 and 2019. Angela managed the 2019 inspection project, coordinating subconsultant's work, supporting the condition assessment team and providing initial recommendations for replacement and rehabilitation.

Olsson Creek Storm and Sanitary Sewer Pipe Re-Alignment, City of Newport, Oregon

Staff Engineer. Angela provided engineering design services to re-align an existing gravity storm and force sanitary pipelines. The existing storm water pipeline that run under several private residences was in poor condition, and needed to be replaced. The sanitary pressure pipeline transported the sewer to a gravity system. This project provided final design documents to remove the existing storm line from the current risk location and realign the pipe within City easements and rights-of-way. The project also designed a new gravity sanitary sewer in parallel with the storm sewer line and included the abandonment of the existing lines and pump station, reducing maintenance costs for the city. Angela's efforts extended from the design to the bid and construction phases.

Montavilla North and South Sewer Rehabilitation, City of Portland BES, Oregon

Project Engineer. Angela led design efforts to rehabilitate sewer pipes in the Montavilla area of Portland. Efforts included coordination with other City bureaus and agencies for design and permit purposes. Angela assessed the pipes condition, evaluated rehabilitation alternatives, estimated costs, and completed rehabilitation proposals for 60 percent through final design. Angela worked closely with City staff to navigate different challenges such as environmental zones, traffic control, access, agencies and utility coordination.

City-wide Sewer Rehabilitation, City of Portland BES, Oregon

Project Engineer. Angela led design efforts to evaluate rehabilitation alternatives for sewer pipes throughout the Portland metro area. She assessed cost-efficient rehabilitation methods, delivered a complete rehabilitation proposal between 90 percent and the final deliverable, and is coordinating subcontractors for survey and geotechnical work. Angela served as the primary City staff contact regarding design constraints and conditions, including utility conflicts and permit applications. She is part of the team assisting the City with engineering and public involvement support during the bid phase of this project.

Storm Drain Condition Assessment Year 4, City of Las Vegas, Nevada
Staff Engineer. Angela provided engineering services to help evaluate, prioritize, and make recommendations for the rehabilitation of 52,000 linear feet of the City of Las Vegas' storm drain conveyance facilities. The linear footage includes larger diameter (36" and above) and smaller diameter (30" and below) pipeline. This project is the fourth year of a 15-year overall assessment program.

Small Diameter Assessment Years 8 through 10, City of Las Vegas, Nevada
Staff Engineer. Angela provided engineering services to help evaluate, prioritize, and make recommendations to maintain the City of Las Vegas' small diameter sanitary sewer. These projects are part of a 15-year overall assessment program. The projects entail inspecting the physical condition of small-diameter pipelines and manholes in the collection system and identifying service lateral locations. The scope of these projects included investigating and assessing approximately 572,695 feet of sewer pipeline, ranging from 8- to 12-inches in diameter, and 2,377 manholes, per year.

Sheridan Trunk Alignment Study, City of Portland BES, Oregon
Project Engineer. Deputy Manager. Angela worked closely with the BES team to select the best alternative to relocate a segment of one of the City's sewer trunks. She identified three main alternatives and determined the main criteria to define the alternatives analysis. She also worked assisting the project manager coordinating subconsultants, managing budget and schedule, and reviewing invoices and status reports.

Carolina Basin Trunk Sewer Rehabilitation, City of Portland BES, Oregon
Project Engineer. Deputy Manager. Angela led the predesign efforts to evaluate the feasibility of utilizing spiral wound lining as a sewer structural rehabilitation method for this City's asset. Once the feasibility was confirmed, she has been working on the design under a tight schedule. Angela has been fulfilling managerial roles by facilitating communication with the BES team and subconsultants, as well as overseeing budget and schedule for a design limited to few months.

Inverness Pump Station 24-Inch Pressure Line Rehabilitation, City of Portland, BES, Oregon
Project Engineer. Angela has completed investigations on air/vacuum valves as a first step in the rehabilitation process for the Inverness FM. She has presented results to the BES team and facilitated decision making through a workshop-based process. This project has allowed her to work with BES personnel in different departments, increasing her knowledge of the Bureau and connections with its members.

Drainage Master Plans, Multnomah County Drainage District and Peninsula Drainage District No. 2., Oregon
Staff Engineer. Angela updated, expanded and validated the hydraulic model that represents the district's drainage system as a basis to develop the PEN2 Master Plan. This included reviewing and processing the extensive data collected in the field for pump stations and conveyance infrastructure. She developed the model to accurately represent current conditions, identify future deficiencies, and evaluate alternatives for system's improvement. Her work extended also to advance a risk tool that helps the district prioritize efforts, based on likelihood and consequence of failure for each element of the MCDD and PEN2 drainage system.

Natalie Sierra, P.E.

Experience Summary

Natalie Sierra is a professional engineer with over 19 years of experience. She specializes in biosolids master planning and biosolids management and possesses expert knowledge on biosolids regulations and end use. She has assisted utilities across the country in developing biosolids management strategies with a wide variety of products. She has served as the biosolids coordinator and project manager for the San Francisco Public Utilities Commission (SFPUC), where her responsibilities included establishing biosolids program metrics, contract management, regulatory management, interactions with key plant staff, and implementation of a Biosolids Management System (BMS). Her experience extends beyond traditional end use planning to include assessment of solids treatment technologies, codigestion, beneficial energy use, and regulatory management.

Assignment

Biosolids Technical Expert

Education

M.S., Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, 2000

B.S., Agricultural and Biological Engineering, Cornell University, 1998

Registrations

Professional Engineer: #C-69751, California

099943, New York

Experience

19 years

Joined Firm

2014

Relevant Expertise

- *Biosolids*
- *Master Planning*
- *Fats, oil, and grease*
- *Process assessment*
- *Wastewater treatment*
- *Regulatory management*

Solids and Energy Planning, Clackamas County Water Environment Services, Oregon

Technical Advisory Committee. Working as a subconsultant, served as technical advisory committee member to assist the utility with identifying and evaluating emerging and proven technologies for biosolids management, with a particular emphasis on biosolids to energy.

Biosolids Master Plan, Orange County Sanitation District, California

Biosolids End Use Task Lead. Responsible for performing regulatory and market trends analysis for the regional biosolids marketplace. Directed a detailed market study to assess the value and interest in a range of potential biosolids products from the District's two wastewater treatment plants. Using a tool developed for the project, products and markets were screened and paired with onsite treatment alternatives and incorporated into a life-cycle alternatives analysis for decision making. Created a biosolids management plan with a roadmap for the transition to a Class A beneficial use program.

Solids Handling Plan, Metropolitan Sewer District of Greater Cincinnati (MSDGC), Ohio

Technical Project Manager. MSDGC owns and operates seven wastewater treatment plants in the metropolitan Cincinnati area. This plan will provide a holistic, 30-year roadmap for solids handling at MSDGC's facilities, including regionalization and co-digestion considerations. Ms. Sierra managed a multi-disciplinary technical team in establishing the solids planning baseline, developing system-wide alternatives, modelling and providing analysis for those alternatives, and developing a capital improvement plan for MSD's solids handling infrastructure. Technology evaluations included biosolids to energy, thermal drying, and anaerobic digestion. Key recommendations are currently moving into design, for which Brown and Caldwell is serving in an Owners Advisor role.

Biosolids Energy and Emissions (BEE) Plan, Encina Wastewater Authority, California

Solids Task Lead. The Encina Water Pollution Control Facility is a conventional activated sludge treatment plant with an equivalent solids capacity of 43.3 MGD. Digested solids are thermally dried prior to beneficial use. The BEE plan evaluated future solids and biogas treatment and beneficial use in support of the utility's resources recovery goals. Ms. Sierra was responsible for leading efforts to set the planning baseline for solids, including establishing flows and lows, technology evaluation and leveraging biosolids market and regulatory expertise to facilitate decision-making. She led the development of biosolids management alternatives and directing the modelling of those alternatives.

Additional responsibilities included identifying markets for the existing dried product and supporting the issuance of a new RFP for distribution of Encina's Class A product.

Southeast Biosolids Facilities Plan, SFPUC, California

Biosolids End Use and Regulatory Lead. Responsible for performing regulatory and market analysis for products generated from the planned thermal hydrolysis process (THP). Directing market investigation for products including Class A soil blends in the Bay Area. Developing a roadmap for market development, demonstration and research to be performed in advance of facility startup.

Biosolids Disposition Market Assessment and Procurement Strategy, City of San Jose, California

Market Study Lead and Project Engineer. San Jose has traditionally managed its biosolids in an adjacent landfill, but under recent regulatory changes, must seek alternative outlets for biosolids management. Natalie is leading a market analysis to determine supply and demand for biosolids in the greater Bay Area and will subsequently assist in development of a procurement strategy and Request for Proposals (RFP) for biosolids management.

Plant Master Plan, East Bay Municipal Utility District (EBMUD), California

Solids Process Lead. Working in coordination with the liquids process lead, Natalie is developing solids treatment alternatives, both on and off site, for EBMUD's Main WWTP. BC's SWEET will be used to compare integrated solids and biogas alternatives on a net present value basis. To support the alternatives analysis, Natalie is leading a market study to assess the viability of different biosolids products within the San Francisco Bay Area.

Cogeneration and Class A Biosolids Evaluation, City of Eureka, California

Solids Process Lead. Due to high end use management costs associated with their Class B cake, Eureka requested an integrated evaluation of Class A treatment alternatives and biogas beneficial use. Alternatives evaluated for solids treatment included composting and thermal drying. In conjunction with the energy process lead, Natalie developed an integrated solids and energy model to support a business case evaluation of future solids and energy capital improvements.

Metropolitan Biosolids Center (MBC) Biosolids Processing Evaluation, City of San Diego

Biosolids End Use and Market Expert. Helped steer the City's decision on biosolids processing and end use using knowledge of regional end use markets for Class A and Class B biosolids. In workshop settings and meetings, guided the decision making process on what biosolids products best met the City's goals and drivers, with a broad range of alternatives being considered. Supported regulatory assessment of different biosolids processing alternatives.

Biosolids and Resource Recovery Management, SFPUC, California

Program Manager. Responsible for budgeting and execution of biosolids, bioenergy and resource recovery projects, including Fats, Oil, and Grease (FOG) to Biodiesel Demonstration Project, food waste digestion pilot project, biogas reuse project and pilot CAMBI organic waste digestion project. Coordinated engineering, laboratory, and operations staff in various tasks associated with the Wastewater Enterprise's biosolids program, including regulatory compliance. Ensured compliance and strong relationships with local counties where San Francisco's biosolids are recycled through one-on-one meetings with local leaders, attendance at local stakeholder meetings, and coordination and feedback on local biosolids related research.

Experience Summary

Gary Skipper leads BC's aging infrastructure inspection, condition assessment and renewal programs for wastewater collection, raw water transmission, potable water distribution, and storm drainage system pipelines and treatment facilities. His project experience includes working with gravity and pumped flow pipelines, including siphons, force mains, tunnels, and outfalls, and structures related to pipeline systems. Gary has successfully field-inspected pipelines ranging in size from 6 inches to 21 feet in diameter, with access structures from several feet deep to more than 230 feet deep. He has led treatment facilities evaluations with multi-disciplined teams including piping, structural, mechanical, electrical and I&C team members for high level planning reviews as well as detailed, comprehensive investigations. Gary has experience with a variety of established inspection technologies and with innovative, emerging inspection technologies and service companies; renewal and replacement alternatives analysis; and rehabilitation and repair technologies.

Assignment

Force Main Inspection Technical Expert

Education

B.S., Civil Engineering, Colorado State University, 1981

Registrations

Civil Engineer 42975, California, 1987

Civil Engineer 019016, Nevada, 2007

Civil Engineer 0050239, Washington, 2013

Contractor, A-General Engineering, A-890687, California (inactive)

Certifications

National Association of Sewer Service Companies (NASSCO), Pipeline Assessment and Certification Program (PACP)/Manhole Assessment and Certification Program (MACP), Lateral Assessment and Certification Program (LACP); U-1115-07001869, 2015

NASSCO Inspector Training Certification Program-Cast-in-Place-Pipe, 2011

Experience

38 years

Joined Firm

2007

Relevant Expertise

- *Flow monitoring*
- *Manhole inspection and condition assessment*
- *Gravity pipeline inspection and condition assessment*
- *Pressure pipeline inspection and condition assessment*
- *Rehabilitation alternatives analysis*

Pump Station 77 Force Main Inspection Phases 1 and 2, City of San Diego, Metropolitan Wastewater Department, San Diego, California

Condition Assessment Lead. Gary conceived and developed a plan to conduct inspection of the subaqueous portion of the Pump Station 77 force main pipeline beneath Lake Hodges, a regional drinking water supply reservoir. The subaqueous force main consists of approximately 2,000-foot-long redundant, nearly parallel 16-inch-diameter ductile iron pipelines. Two valve vaults at the upstream and downstream end of the subaqueous parallel pipelines were modified and used for inspection tool deployment and retrieval. Phase I consisted of the planning and design efforts required for the needed vault and piping modifications. Phase II included progressive pig cleaning and inspection using PICA's Sea Snake electromagnetic remote field technology (RFT) tool.

PAR 1340 – Condition Assessment and Cleaning of Force Mains and Siphons, Metro Wastewater Reclamation District (MWRD), Denver, Colorado

Technical Advisor, QA/QC Lead. Responsible for the guidance and oversight of the condition assessment of 4,400 linear feet of metallic piping ranging in size from 10 inches to 24 inches diameter for 1 force main and 2 siphons. Pipelines were inspected using remote field technology (RFT) tools based on electromagnetic principles. Results were compiled and summarized into a detailed Condition Assessment Report. Potential near-term critical failures and rehabilitation and operations and maintenance (O&M) needs were identified, prioritized and quantified to include into Metro District's capital improvement plans. Responsible for QA/QC of bid documents for post-inspection cleaning services and acting as Owners Technical Advisor during cleaning.

PAR 1248, Condition Assessment of Force Main and Siphons, Metropolitan Wastewater Reclamation District, Lakewood, Colorado

Condition Assessment Lead. Gary led the project team in planning, inspection, and condition assessment efforts for 2 force mains and 11 siphons. The project pipelines included approximately 30,000 linear feet of piping of differing DIP, RCP, CCP and PCCP materials, ranging from 12- to 96-inch diameter. The initial phase of the study included the development of a detailed condition assessment plan (CAP), which detailed a decision support matrix for inspecting the pipelines using a combination of acoustic, electromagnetic, closed-circuit television (CCTV), sonar, and laser technologies. Brown and Caldwell hired a general contractor and multiple inspection contractors, led coordination and planning efforts for the team, and delivered a successful condition assessment of District assets in support of capital improvement planning efforts.

Plant 2 66-inch Diameter Force Main Condition Assessment, City of Wichita, Wichita, Kansas
Condition Assessment Lead, QA/QC Reviewer. Gary advised and oversaw project team efforts for planning, selection of inspection technologies, hiring of a contractor, field project execution, data analysis, condition assessment and report deliverables. This approximately 60-year old, non-redundant, reinforced concrete pipe force main and conveys 60 percent of the City's wastewater from Plant 1 to Plant 2 for treatment and disposal. traverses under a closed landfill, the Kansas Turnpike, and the Arkansas River The force main had never been accessed, cleaned or inspected prior to this project. Over the course of its 3.5-mile length the force main traverses beneath the Arkansas River and other waterways, a closed municipal landfill, a closed industrial superfund site, active auto wrecking and repair facilities, multiple roadways including the Kansas Turnpike, and several housing developments. Elevated (some more than 30-feet high) access structures constructed for surge were used to launch and retrieve inspection vehicles. CCTV, sonar and laser profiling were conducted for the upper gravity reaches while sonar profiling and sidescan sonar imaging were used during the single deployment inspection of the lower 10,000-foot full-pipe flow reach. The pipe was found to be in deteriorated condition and rehabilitation and replacement alternatives were evaluated and recommended.

Venice Pumping Plant Force Main Investigation at Air Release Valves, 2008–2013 On-Call Wastewater Engineering Services, City of Los Angeles, Department of Public Works, Bureau of Sanitation, Venice, California
Project Engineer/Task Lead: Gary prepared a detailed inspection work plan to expose and evaluate the condition of the 48-inch diameter reinforced concrete pipe (RCP) force main that was constructed in the early 1960s. Presented the proposed plan at a workshop with City staff and contractors, discussed potential issues and solutions, and obtained group consensus accepting the inspection and testing methods. Excavations near high elevation points were made on either side of the Marina Del Rey Channel within the sands of Venice Beach within a very short distance of the Pacific Ocean. Advanced, non-destructive testing (NDT) was conducted to locate defects, deterioration, and determine structural integrity. The NDT assessed potential cracking and delamination and measured wall thickness and compressive strength.

Pump Station 65 Force Main Inspection and Condition Assessment, 2008-2013 As-Needed Engineering Consulting Services, City of San Diego, Metropolitan Wastewater Department, California
Project Engineer/Task Lead. He planned, contracted, provided construction supervision, and oversaw the execution of all field activities associated with the inspection of approximately 9,300 linear feet of 30-inch diameter cement mortar lined and polylined ductile iron pipe. Exterior visual examination of the pipeline and coating was conducted at six excavations and ultrasonic pipe wall thickness scan testing was conducted at one location. The live force main was hot-tapped at all six excavation locations and valves and fittings installed for the installation of continuous pressure gages and loggers used for pump testing and hydraulic analysis. The taps were used as insertion points for the Sahara™ acoustic leak detection system by Pure Technologies. Findings included the determination of the structural integrity of the force main, detection of trapped air/gas pockets, fouled ARAV piping, and debris accumulation in one of the three siphons on the alignment.

Force Main Inspections, Hampton Roads Sanitation District, Hampton, Virginia
Reviewer and Technical Advisor. He was the Reviewer and Technical Advisor for technical specifications and construction guidelines developed for detailed inspection program involving 250,000 feet of wastewater force mains, ranging from 6- to 48-inch diameter. Technologies utilized include acoustic leak and air pocket detection, ultrasonic testing, magnetic flux leakage, broadband electromagnetic testing, remote field eddy current, remote field eddy current with transformer coupled, CCTV, sonar and laser.

Small Diameter Sewer Assessment, City of Las Vegas, Nevada
Technical Advisor. Gary served as Technical Advisor during the selection of pipe and manhole inspection and locating technologies and subsequent subcontractor selection for a multi-year, multi-phased program to locate all sewer system laterals in public rights-of-way in accordance with State of Nevada legislation. The BC team has completed cleaning, CCTV visual inspection, manhole inspection, and horizontal locating of laterals for 75 miles of pipeline to date. The 2nd phase, an additional 75 miles of pipeline, involved CCTV and manhole inspections using the iBAK Panoramo high-definition, all digital data systems providing 5x image resolution and 100percent pipe and manhole wall inspection coverage. Use of the Panoramo systems resulted in complete defect identification and characterization.

Supervising Engineer

Don Whitehead, P.E.

Experience Summary

Don Whitehead offers more than 33 years and a wide range of civil engineering experience with an emphasis on large complex public works projects. He has a long history of successful management of multidisciplinary teams and public stakeholder input, producing planned, designed, and constructed improvements for integrated public infrastructure projects.

His experience includes design and project management of stormwater facilities, floodway improvements, infiltration and inflow (I/I) sewer rehabilitation, pump stations, wastewater treatment facilities, highway improvements, bridges, and sewer, water, and civil site work for commercial, municipal, local improvement districts, and industrial clients.

Assignment

Primary Point of Contact

Education

B.S., Civil Engineering, Oregon State University, 1987

B.A., Mathematics/Psychology, Willamette University, 1982

Registration

Professional Civil Engineer:

Oregon No. 16,105, 1992

Washington No. 30,446, 1993

Montana No. 15,287, 2002

Experience

33+ years

Joined Firm

October 2016

Relevant Expertise

- *Integrated Infrastructure*
- *Wastewater and water conveyance and treatment*
- *Stormwater facilities design and management*
- *I/I sewer rehabilitation*
- *Pump stations*
- *Floodway improvements*
- *Water distribution system planning and design*
- *Familiar with EPA and DEQ for sanitary sewer and pump station compliance*
- *Environmental and habitat restoration*
- *Highway, roadway, and bridge improvements*
- *Multimodal transportation facilities*
- *Recreational and park facilities*
- *Urban design and civil site design*
- *Federal agency contract*

Agate Beach Pump Station, City of Newport, Oregon

Project Manager. BC prepared preliminary and final design, and construction services for the Schooner Creek Pump Station and Force Main and the 48th Street Pump Station and Force Main. These improvements to the wastewater collection system will help meet current and future conveyance capacity needs. The evaluation assessed cost-saving measures to maximize use of loan funds. BC provided the site selection evaluation; coordination of environmental assessment and permitting; and pump selection, site layouts, and specifications for the system improvements.

Olsson Creek Storm and Sanitary Sewer Pipe Re-Alignment, City of Newport, Oregon

Senior Engineer. Don was responsible for leading the design for the re-alignment of an existing gravity storm and force sanitary pipelines. The original Olsson Creek storm water pipeline ran under several private residences, and a CCTV inspection revealed the pipe was in poor condition requiring replacement. The sanitary pressure pipeline transported sewer down 3rd Street to SE Fogarty Street, which is a gravity system. The new gravity sanitary line reduces maintenance costs for the city. This project provided final design documents to remove the existing storm line from the current risk location and realign the pipe within City easements and rights-of-way. The project also designed a new gravity sanitary sewer line in parallel with the storm sewer line, and included the abandonment of the existing lines and pump station.

Schmeer Pump Station Renovation, Bureau of Environmental Services (BES), City of Portland, Oregon

Project Manager. Don managed a multidisciplinary team to provide planning, design, and construction support for the renovation and expansion of the Schmeer Pump Station, a key hydraulic component of the City's sewerage collection system in northeast Portland. Originally constructed in 1974, the station is designed to provide a firm pumping capacity of 2,000 gpm using a three-pump, 18-foot-diameter, 30-foot-deep wet pit/dry pit configuration. The project evaluated the condition of the 20-inch-diameter ductile-iron force main with non-destructive testing methods. Using a workshop-based process for stakeholder involvement, a preferred alternative was identified and will be advanced through design and construction.

Inverness PS 24-inch Pressure Line Rehabilitation, BES, City of Portland, Oregon

Project Manager. Don is managing the condition assessment and design improvements to help upgrade the City's Inverness Force Main and restore the 24-inch pressure line to service to improve overall system reliability. The project includes upgrades to the air release and vacuum (A/V) valve stations along this

46,000-foot-long pipeline. The designed improvements will provide a higher level of service, improve long-term reliability, and provide safe access for maintenance staff and vehicles.

Lake Oswego Sewer Rehabilitation, City of Lake Oswego, Oregon
Project Manager. Don managed design and construction services to help the City rehabilitate select portions of their sewer collection system. BC is performing condition assessment, rehabilitation design, contractor solicitation, and engineering services during construction for priority sewer lines.

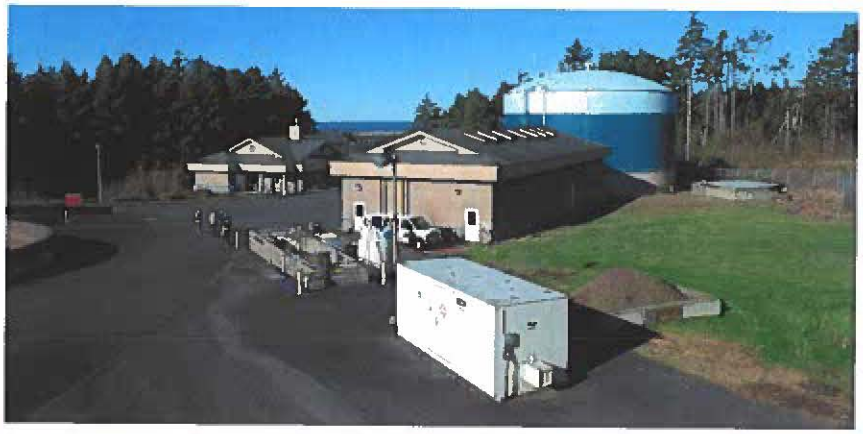
Public Water Distribution Improvements, City of Wilsonville, Oregon
Project Manager. Provided design for 3,800 feet of water distribution improvements to serve the Villebois East Area neighborhood and the new Lowrie Primary School. The water distribution system forms the backbone of the public infrastructure for the next phase of service to this planned development. Design included water mainline and eight connection details for intersections with provisions to connect to mainlines and proposed future extensions.

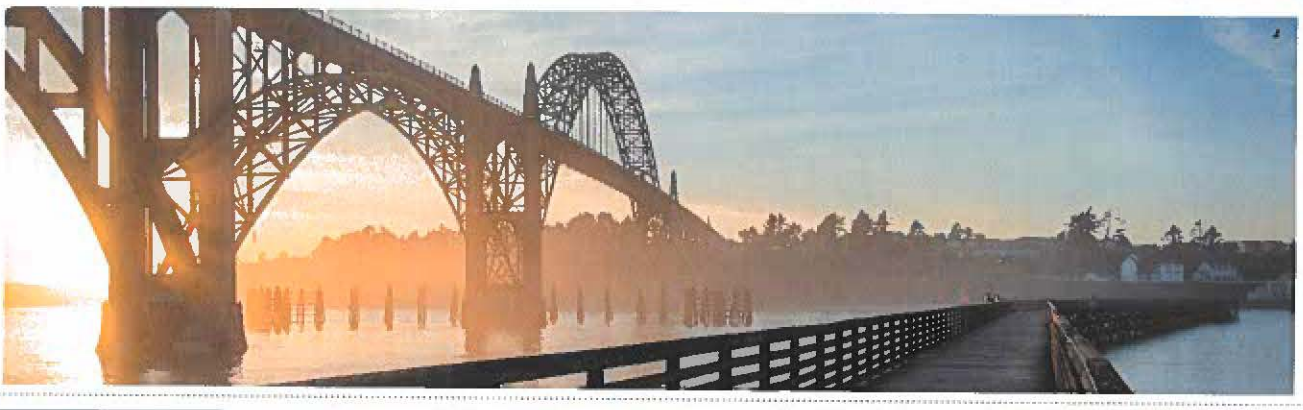
High-Pressure Water Transmission Main Leak Detection and Correction, City of Sherwood, Oregon
Project Manager. Served as the project manager for the third-party hydraulic analysis, investigation, repair, and replacement of this high-pressure transmission main. The 4-mile-long, 24-inch-diameter water main was constructed but unable to be brought into service because of multiple failed systems and construction defects. Don led a team of engineers, construction contractors, and subconsultants to systematically identify failed or substandard components and then design and construct corrective and replacement systems. The project was successful at cleaning and bringing the pipeline into service after sitting dormant for 2 years of post-construction, and has successfully operated for 15 years at an average operating pressure of 210 pounds per square inch (psi).

California Basin CSO Separation and Pump Station Upgrade, BES, City of Portland, Oregon
Principal-in-Charge. Don led a basin-wide sewer separation project to remove 80 percent of stormwater from the sanitary sewer. Crane rails were designed in 1997 for this station to aid in removal of equipment and pumps from the 25-foot-deep pump room. The 2000 pump station upgrade increased capacity from 500 gpm to 5,400 gpm. An evaluation of the collection system was required to determine the source(s) of sand and gravel in the system. The project included field data collection (e.g., smoke testing and television testing) to determine collection system configuration, inflow and infiltration (I/I) contributions, and illegal downspout connections. The field data were used to create an XP-SWMM model to estimate flows and system deficiencies. From the field data and XP-SWMM, future improvement options were detailed.

Municipal Pump Station and Basin Planning, Various Clients
Design Engineer. Don has served as the design engineer, project manager, or PIC on more than 40 municipal pump stations. The facilities have ranged in capacity from 150 gpm to 5,000 gpm with multiple pump and variable-speed drive configurations. All of the projects have required basin planning to determine, confirm, or refine tributary flows to the new pump stations. In many instances this has required updating master planning documents and developing station configurations that can accommodate a wide range of phased development.

40th Street Improvements, Newport, Oregon
Project Manager. 4,400 feet of new minor arterial roadway to serve the recently annexed South Beach area of Newport. The road and adjacent multiuse pathway applied innovative stormwater management and green street principals including pervious pavement to produce a "zero stormwater discharge" and treatment facility. The alignment of the roadway corridor was selected to provide efficient development of the South Beach area and served as the backbone corridor for major public and private utilities that were designed and constructed simultaneously. Utilities included: water distribution pipelines and a booster pump station, sanitary sewer, stormwater management, private franchise utilities, and the realignment of a high-voltage transmission line and associated towers. The construction phase was completed during wet weather and required the innovative use of geotextile fabric baffles for earth fill.





Brown AND Caldwell

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4012

NEWPORT

AUTHORIZATION FOR AGREEMENTS, MOUs, OR OTHER DOCUMENTS OBLIGATING THE CITY

All contracts, agreements, grant agreements, memoranda of understanding, or any document obligating the city (with the exception of purchase orders), requires the completion of this form. The City Manager will sign these documents after all other required information and signatures are obtained.

Document: Consultants of Record Agreements – Water Systems Consulting Brown+Caldwell HDR Stantec Consulting Services
Date: 6/2/21

Statement of Purpose: Agreements for 3 years of consulting services. 4 agreements

Department Head Signature: _____

Remarks, if any: David and CIS already reviewed.

City Attorney Review and Signature: David D. Allen Date: 6/05/2021

Other Signatures as Requested by the City Attorney: _____
Name/Position
Signature Date: _____

Budget Confirmed: Yes ☒ No ☐ N/A ☐

Certificate of Insurance Attached: Yes ☒ No ☐ N/A ☐

City Council Approval Needed: Yes ☒ No ☐ Date: 5/17/21

After all the above requested information is complete and signatures obtained, return this form, along with the original document to the City Manager for signature. No documents should be executed prior to the City Manager's approval as evidenced by signature of this document.

City Manager Signature: _____ Date: 6/4/2021

Once all signatures and certificates of insurance have been obtained, return this document, along with the original, fully-executed agreement, MOU, or other document to the City Recorder. A copy of grant agreement and all project funding documents, must be forwarded to the Finance Department for tracking and audit purposes.

City Recorder Signature: _____ Date: 6/14/2021

Date posted on website: 6/21/21