



MFA WORK ORDER AUTHORIZATION

Between Maul Foster & Alongi, Inc. (MFA), and City of St. Helens (Client).

Signing of this authorization by MFA and Client authorizes MFA to complete the work as described below (Work) under the attached General Terms and Conditions and Schedule of Charges.

MFA project number: M0830.03.003

Work order number: 01

Project name: Central Waterfront Scope 1B

Project location: St. Helens, Oregon

Scope of work: MFA will perform the Work indicated below.

TASK 1 GEOTECHNICAL INVESTIGATION

MFA will subcontract and coordinate with a geotechnical engineer and surveyor to complete a geotechnical and geophysical investigation of the lagoon bottom and containment berm.

Geotechnical Investigation

One geotechnical boring, located at the base of the containment berm, will be advanced to bedrock. The depth of the boring is assumed to be up to 250 feet deep based on previous site investigation. Laboratory work will be completed with materials retained from the boring including the following:

- Natural moisture content
- Torvane shear strength
- Dry unit weight
- Washed sieve analysis
- Atterberg limits
- One-dimensional consolidation
- Unconfined compression strength
- Triaxial compression strength
- Cyclic direct simple shear

Geophysical Survey

Three methods will be employed to collect data along the berm, as well as between the berm and Multnomah Channel, to locate depth to basalt:

- **Electrical Resistivity Tomography**—This technique uses conduction and resistance of electricity through subsurface materials; one line will be collected along the toe of the berm and one line collected parallel and east of the berm closer to Multnomah Channel.
- **Seismic Refraction**—This technique uses seismic receivers (geophones) along a straight line to cause timed vibrations in the ground resulting in a two-dimensional model of subsurface conditions; one seismic refraction line will be collected along the same alignment as the electrical resistivity tomography at the toe of the berm.
- **Linear Microtremor**—This technique uses multiple frequency acoustic waves and hydrophones to characterize depth and density of subsurface materials to generate one- and two-dimensional models. One linear microtremor survey line will be collected along the berm.

Data from all three methods will be combined to create a map of the subsurface conditions. The geophysical survey is anticipated to map conditions up to 300 feet deep from the ground surface. This information will be used to inform design requirements for stabilization of the containment berm.

Conceptual Design and Reporting

The geotechnical engineer will prepare a report summarizing results of the investigations. The report will also provide 30% level design for containment berm stabilization based on static and seismic considerations.

TASK 2 ENVIRONMENTAL INVESTIGATION OF LAGOON

Prepare Work Plan

MFA will prepare an environmental investigation work plan for submittal to the Client. The work plan will describe the sample program rationale, field methods, laboratory analytical methods, data management and quality assurance protocols, and data analysis and reporting requirements for the investigation. MFA assumes that submittal of the work plan to, and approval of the work plan by, the Oregon Department of Environmental Quality is not required.

Complete Fieldwork

In-water boring and monitoring well installations

MFA will direct the drilling and installation of two monitoring wells in the lagoon. MFA's drilling subcontractor will provide and operate its drilling rig from a barge it will provide. The drilling subcontractor will mobilize a crane for lowering the barge and drilling rig into the lagoon.

Two borings will be advanced—one in the northern half and one in the southern half of the lagoon. Each boring will be advanced until basalt bedrock is encountered, which is expected to be up to 80 feet below the lagoon bottom. Depending on the depth at which basalt is encountered, the boring may be advanced 20 feet or more into the basalt. Continuous soil and rock core will be collected for logging purposes. Standard penetration tests will be conducted, and soil samples will be collected using Shelby tubes within the approximate upper 25 feet of each boring to support the geotechnical investigation. Pump tests may be conducted during drilling to assess groundwater availability to inform the selection of the well screen depths and intervals.

At each boring, monitoring wells will be completed as 2-inch-diameter PVC wells with 10- or 20-foot-long screens set in bedrock or alluvium, as actual subsurface conditions warrant. The wells will be constructed through and protected by a steel casing that will extend up to 20 feet below the lagoon bottom and several feet above the high-water line of the lagoon. Drill cuttings will be placed at the Client's construction debris area between the lagoon and Plymouth Street. Costs for characterization or off-site disposal of drill cuttings is not included. At least 24 hours after well installation, the drilling subcontractor will develop both monitoring wells under MFA's oversight. Purged groundwater from well development will be discharged directly to the lagoon. Both monitoring well locations and well casing elevations will be surveyed by a professional surveyor licensed in Oregon.

Groundwater sampling

Following installation and development of the two new wells that will be designated MW-7 and MW-8, MFA will collect groundwater samples from the new wells and the six existing wells installed in 2019: MW-1 and MW-2, located on the basalt bluff west of the lagoon, and MW-3 through MW-6, located on the dike along the east margin of the lagoon. The samples will be submitted to the laboratory for analysis of the following:

- Metals (antimony, arsenic, barium, beryllium, cadmium, chromium, hexavalent chromium, copper, lead, manganese, mercury, nickel, selenium, silver, thallium, zinc)
- Gasoline-range petroleum hydrocarbons
- Diesel- and oil-range petroleum hydrocarbons
- Volatile organic compounds
- Semivolatile organic compounds
- Polychlorinated biphenyls congeners

- Dioxins/furans
- Chlorinated herbicides
- Organophosphorus pesticides
- Organochlorine pesticides

Purge water generated during groundwater sampling will be discharged to the ground and allowed to infiltrate at MW-1 and MW-2. At MW-3 through MW-8, purge water will be discharged to the lagoon.

Pneumatic Slug Testing

Under MFA's direction, a subcontractor will provide equipment and supplies to conduct rising head pneumatic slug tests at the two new wells to determine hydraulic conductivity values for the water-bearing zones where the wells will be installed.

Lagoon Sludge Sampling

Sludge samples will be collected at 50 randomly selected locations to provide representative coverage of the entire lagoon area. MFA will collect the samples using a ponar sediment sampling device deployed from a barge provided and operated by the Client's wastewater treatment plant staff. Costs for the barge and operator are not included in this work order. MFA staff will describe the sludge characteristics, photo document each sludge sample, and document the location of each sample using a global positioning satellite device.

Representative sludge from each of the 50 samples will be composited into a single sample and submitted to the lab for the same analyses as above for groundwater and for total organic carbon.

Excess sludge in the sampling device not needed for sample collection and analysis will be returned to the lagoon.

Analytical Work and Quality Assurance/Quality Control

Following receipt of the final laboratory data for the groundwater and sludge samples, MFA will conduct a data validation, assign data validation qualifiers as appropriate, prepare a data validation memorandum, and prepare final data tables with appropriate regulatory screening criteria included for data assessment.

Reporting

Following completion of the field investigation and receipt of all analytical data, MFA will prepare the field investigation report to include the following elements:

- Description of field activities and methods
- Description of subsurface conditions encountered during drilling and final monitoring well construction details
- Description of lagoon sludge physical characteristics observed during sampling
- Summary of laboratory results for groundwater and sludge samples, and comparison to relevant regulatory screening level values
- Summary of hydrogeologic characteristics including groundwater elevations, groundwater flow direction, and aquifer characteristics
- Relevant conclusions regarding baseline environmental conditions at the lagoon
- Tabulated laboratory analytical data compared to screening level values
- Tabulated groundwater elevation data
- Figures depicting the site, monitoring wells, and sludge sample locations

- Updated geologic cross sections incorporating the new well geologic information
- Figure depicting groundwater elevation contours
- Laboratory reports
- Data validation memoranda
- Field sampling datasheets, boring and monitoring well completions logs, and well development logs
- Pneumatic slug test data files

TASK 3 WASTEWATER TREATMENT PLANT IMPACTS/SITING ANALYSIS

MFA will subcontract with a wastewater treatment engineer to evaluate the modification or replacement of the Client's municipal wastewater treatment plan (WWTP) and lagoon. Analysis will include:

- Hazard risk analysis of current WWTP location
- Conceptual evaluation of alternate technologies for wastewater treatment
- Evaluation of sites for relocation of WWTP infrastructure
- Evaluation of permit requirements for modification or replacement of the WWTP

The wastewater engineer will prepare report summarizing analysis findings and recommendations for the WWTP.

Schedule of work:

The entire scope of work will be completed within 18 months. Exact dates and milestones will be determined by project initiation date and the availability of required subcontractors to complete technical tasks.

MFA will begin work within 14 days of receiving authorization to proceed. This proposal is valid for 30 days.

Estimated cost of work:

The cost to complete the scope of work is \$516,504 as detailed in the attached summary budget.

This cost estimate does not represent a lump sum. MFA bills on a time-and-materials basis. MFA may apply money from one task to another to complete the scope of work.

So agreed to this 25th day of May, 2022.

By Maul Foster & Alongi, Inc.

By City of St. Helens

Signature

Signature

Seth Otto, AICP, LEED AP

Printed Name

Printed Name

Principal Planner

Title

Title



GENERAL TERMS AND CONDITIONS

ARTICLE 1—AGREEMENT

These General Terms and Conditions (the “Agreement”) govern all professional services, labor, materials, and equipment (collectively the “Services”) furnished by Maul Foster & Alongi, Inc. (“MFA”), pursuant to the attached proposal (the “Proposal”) and on behalf of MFA’s client (“CLIENT”). MFA’s performance of its Services under this Agreement is conditioned on the acceptance of all the following terms and conditions by CLIENT. This Agreement does not need to be signed by CLIENT to be effective.

ARTICLE 2—PROFESSIONAL RESPONSIBILITY

MFA shall perform the Services specified in this Agreement consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances at the same time the Services are performed; subject, however, to any express limitations established by the CLIENT as to the degree of care and amount of time and expense to be incurred and any other limitations contained in this Agreement. No other representation, warranty, or guaranty, express or implied, is included in or intended by this Agreement or any other of MFA’s services, proposals, agreements, or reports contemplated by this Agreement.

ARTICLE 3—INDEPENDENT CONTRACTOR STATUS; LEGAL RELATIONSHIP

The parties intend that MFA, in performing Services specified in this Agreement, shall act as an independent contractor and shall have control of its work and the manner in which it is performed. MFA shall be free to contract for similar services to be performed for other individuals or entities while it is under contract with CLIENT.

The parties further intend that nothing in this Agreement shall be construed or interpreted as requiring MFA to assume the status of an owner, operator, generator, person who arranges for disposal, transporter, or storer, as those terms, or any other similar terms, are used in any federal, state, or local statute, regulation, order, or ordinance governing the treatment, storage, handling, and disposal of any toxic or hazardous substance or waste.

ARTICLE 4—BILLING AND PAYMENT

Invoices will be submitted monthly and shall be due and payable upon receipt. Payment shall be made to Maul Foster & Alongi, Inc., and delivered to:

Maul Foster & Alongi, Inc.
109 East 13th Street
Vancouver, WA 98660

Except as otherwise agreed in writing, CLIENT agrees that there shall be no retention or holdback of the fee for the Services. Interest at the rate of one and one-half percent (1.5%) per month, but not exceeding the maximum rate allowable by law, shall be payable on any amounts that are due but unpaid within thirty (30) days from receipt of invoice, payment to be applied first to accrued late payment charges and then to the principal unpaid amount. MFA may, at its option, withhold performance of the Services and/or delivery of reports and any other data pending payment by CLIENT.

ARTICLE 5—LIMITATION OF LIABILITY

CLIENT agrees to limit the liability of MFA, its officers, directors, shareholders, affiliates, employees, agents, and representatives (the “MFA Parties”) to CLIENT for all claims and legal proceedings of any type arising out of or relating to the performance of Services under this Agreement (including, but not limited to, MFA’s breach of the Agreement, its professional negligence, errors and omissions and other acts) to the greater of \$100,000 or the amount of MFA’s Fee. Failure of CLIENT to give written notice to MFA of any claim of negligent act, error, or omission within one (1) year of performance shall constitute a waiver of such claim by CLIENT. In no event shall MFA be liable for any direct, indirect, special, incidental, exemplary, or consequential loss or damages sustained from any cause or arising out of any legal theory, whether contract, negligence, strict tort liability, or otherwise. MFA is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder.

ARTICLE 6—INDEMNIFICATION

Subject to the limitation of liability above, MFA shall indemnify and hold CLIENT harmless from the proportionate share of any claim, suit, liability, damage, injury, cost, or expense, including attorneys’ fees, or other loss (hereafter collectively called “Loss”) arising out of (a) MFA Parties’ breach of this Agreement or (b) MFA Parties’ willful misconduct or negligence in connection with the performance of the Services under this Agreement.

CLIENT agrees to indemnify, defend, and hold harmless MFA Parties from any Loss arising out of (a) CLIENT’s breach of the Agreement, or (b) CLIENT’s willful misconduct or negligence in connection with performance of the Agreement. To the extent a portion of such Loss is caused by MFA’s negligence, CLIENT shall indemnify and hold MFA harmless from the proportional share of the Loss resulting from the acts or negligence of CLIENT.

ARTICLE 7—TERM OF AGREEMENT; TERMINATION

If any Services agreed to be performed hereunder are terminated, CLIENT will pay MFA for Services performed to the date MFA receives notice of termination and shall further pay for any costs reasonably incurred by MFA in connection with terminating Services, including, but not limited to, the costs of completing analysis, records, and reports necessary to document job status at the time of termination and costs associated with termination of subcontractor contracts.

The obligations of the parties to indemnify and the limitations on liability set forth in this Agreement shall survive the expiration or termination of this Agreement.

ARTICLE 8—TIME OF PERFORMANCE/FORCE MAJEURE

MFA makes no warranties regarding the time of completion of Services and shall not be in default of performance under this Agreement where such performance is prevented, suspended, or delayed by any cause beyond MFA’s control, including but not limited to, war, terrorism, pestilence, act of God, mechanical malfunction, unavailability of energy, unavailability of materials, pandemic, cyberattack, accident, fire, explosion, public protest, or governmental actions or legislation.

Neither party will hold the other responsible for damages for delays in performance caused by acts of God or other events beyond the control of the other party and which could not have been reasonably foreseen or prevented. If such events occur, it is agreed that both parties will use their best efforts to overcome all difficulties arising and to resume as soon as reasonably possible performance of Services under this Agreement. Delays within the scope of this provision will extend the contract completion date for specified

D. Professional Liability: \$1,000,000 for each occurrence or aggregate

At CLIENT's request, insurance certificates will be provided by MFA to evidence such coverages.

ARTICLE 12—HAZARDOUS OR UNSAFE CONDITIONS

CLIENT has fully informed MFA of the type, quantity, and location of any hazardous, toxic, or dangerous materials or unsafe or unhealthy conditions which CLIENT knows or has reason to suspect exists at all real property where the Services are to be performed (the "Project Site"). CLIENT shall immediately inform MFA when it becomes aware of any new information as to the foregoing which may affect the project, such as information to constitute a CHANGED CONDITION subject to the provisions of Article 10 of this Agreement.

MFA shall not be responsible for the health and safety of any persons other than the MFA Parties, nor shall have any responsibility for the operations, procedures, or practices of persons or entities other than the MFA Parties.

ARTICLE 13—RIGHT OF ENTRY AND UNAVOIDABLE DAMAGES

CLIENT agrees to grant or arrange for right of entry when deemed necessary by MFA to perform the Services at the Project Site, whether or not the Project Site is owned by CLIENT. CLIENT recognizes that the use of investigative equipment and practices may unavoidably alter conditions or affect the environment at the Project Site. While MFA will take all reasonable precautions to minimize damage to the Project Site, the cost of repairing any such damage shall be borne by CLIENT, and it is understood that the correction of such damage is not part of the Services or the Fee contemplated by this Agreement.

ARTICLE 14—SUBCONTRACTORS

MFA may, in its sole discretion, subcontract for the services of others without obtaining CLIENT's consent where MFA deems it necessary or desirable to have others perform certain services. If MFA, in its sole discretion, deems it necessary or desirable to obtain Client's advance concurrence as to any proposed subcontract, MFA may make a written request to CLIENT to review the qualifications and suggested scope of work to be performed by such proposed subcontractor and CLIENT shall either grant or deny such concurrence within a reasonable time after receipt of such request.

ARTICLE 15—OWNERSHIP AND REUSE OF DOCUMENTS

All documents furnished by MFA pursuant to this Agreement are instruments of MFA's services. MFA shall retain all ownership and property interests therein, including all common law, statutory, and other reserved rights, including copyrights. Such documents are not intended or represented to be suitable for reuse by CLIENT or others. Any such reuse without specific written verification and adaptation by MFA for the specific purpose intended will be at the reuser's sole risk and without liability or legal exposure to MFA. To the fullest extent permitted by law, CLIENT agrees to indemnify and hold harmless MFA Parties from all costs and expenses, including the cost of defense, related to claims and causes of action asserted by any third person or entity to the extent such costs and expenses arise from CLIENT's use of MFA's documents under this section. Any transfer of electronic data hereunder is solely for CLIENT's convenience "as is" without warranty as to contents and is not the project deliverable unless specifically agreed to the contrary. MFA disclaims all warranties express or implied with regard to any electronic data provided hereunder, including any warranties of merchantability or fitness for a particular purpose. The provisions of this section shall survive the expiration or termination of this Agreement.

ARTICLE 16—NO THIRD-PARTY BENEFICIARIES

There are no third-party beneficiaries of this Agreement, and no third party shall be entitled to rely upon any work performed or reports prepared by MFA hereunder for any purpose whatsoever. CLIENT shall indemnify and hold MFA harmless against any liability to any third party for any Loss arising out of or relating to the reliance by any such third party on any work performed or reports issued by MFA hereunder. The provisions of this section shall survive the expiration or termination of this Agreement.

ARTICLE 17—DESIGNS AND DISCOVERIES

In the course of providing Services to CLIENT, MFA may utilize or develop designs, ideas, discoveries, inventions, or improvements of these (collectively “Ideas”), made by the MFA Parties. CLIENT agrees that MFA’s utilization or development of such Ideas does not grant CLIENT any right in the form or ownership or license to such Ideas. All Ideas utilized or developed while providing CLIENT Services shall be deemed to be property of MFA.

ARTICLE 18—LAWS AND REGULATIONS

Both parties will be entitled to regard all applicable laws, rules, regulations, and orders issued by any federal, state, regional, or local regulatory body as valid and may act in accordance therewith until such time as the same may be modified or superseded by such regulatory body or invalidated by final judgment in a court of competent jurisdiction, unless prior to such final judicial determination, the effectiveness of such law, rule, or regulation has been stayed by an appropriate judicial or administrative body having jurisdiction.

In the event there are changes in existing laws, codes, regulations, orders or ordinances, or the interpretation thereof, following the performance of professional services, CLIENT agrees to defend, indemnify, and hold MFA harmless from any and all claims, including claims for fines or penalties imposed, resulting from or alleged to have resulted from noncompliance with or nonincorporation of such changes in professional services prior to the effectiveness of such changes.

ARTICLE 19—ASSIGNMENT

Neither party to this Agreement may delegate, assign, or otherwise transfer its rights and interests or duties and obligations under this Agreement without prior written consent of the other party.

ARTICLE 20—DISPUTE RESOLUTION

Any claim, controversy, dispute, or disagreement between the parties arising out of or relating to this Agreement, including but not limited to those arising out of or relating to any Work Order Authorization and including those based on or arising from any statute, constitution, regulation, ordinance, rule, or any alleged tort (collectively “Dispute”), shall be resolved in accordance with the following dispute resolution procedure:

1. CLIENT and MFA agree that discussing and reaching an agreement is often the most cost-effective and beneficial method to resolve a dispute. In the event that any Dispute arises between them, the parties agree to hold a meet-and-confer session between one or more principals of each party with authority to settle the dispute.
2. If the parties cannot reach a mutually acceptable resolution, they shall proceed to non-binding mediation using a mutually agreed upon mediator, with each party being responsible for one-half of the mediator’s fee. Mediation is an express condition precedent to binding arbitration, as provided below.
3. Unless successfully resolved as provided above, the parties agree that any Dispute shall be resolved by binding arbitration with the then-effective arbitration rules of Arbitration Services of Portland,

Inc., and any judgment upon the award rendered pursuant to such arbitration may be entered in any court having jurisdiction thereof.

ARTICLE 21—ATTORNEYS' FEES AND COSTS

If any action or proceeding is commenced to enforce or interpret any of the terms or conditions of this Agreement or the performance thereof, including the collection of any payments due hereunder, the prevailing party will be entitled to recover all reasonable attorneys' fees, costs, and expenses, including staff time at current billing rates, expert witness fees, court costs, and other claim-related expenses.

If MFA is requested to respond to any mandatory orders for the production of documents or witnesses on CLIENT's behalf regarding work performed by MFA, CLIENT agrees to pay all costs and expenses incurred by MFA not reimbursed by others in responding to such order, including attorney's fees, staff time at current billing rates, and reproduction expenses.

ARTICLE 22—GOVERNING LAW AND VENUE

This Agreement shall be subject to, interpreted, and enforced according to the laws of the State from which MFA's services are procured. The parties submit to jurisdiction in Clark County, Washington, and agree that the venue for any and all disputes arising out of or related to this Agreement shall be in Clark County, Washington. Each party further agrees that, in any litigation or arbitration arising out of or related to this Agreement, the party, and the party's officers, employees, and agents shall appear, at that party's expense, for deposition in Clark County, Washington.

ARTICLE 23—SEVERABILITY

Any provision of this Agreement held in violation of any law will be deemed stricken and all remaining provisions shall continue valid and binding upon the parties. The parties will attempt in good faith to replace any invalid or unenforceable provision(s) of this Agreement with provisions which are valid and enforceable and which come as close as possible to expressing the intention of the original provisions.

ARTICLE 24—ENTIRE AGREEMENT

This Agreement constitutes the entire agreement between CLIENT and MFA. It supersedes any and all prior written or oral agreements, negotiations, or proposals, or contemporaneous communications with respect to the subject matter hereof, and has not been induced by any representations, statements, or agreements other than those herein expressed. No amendment to this Agreement hereafter made between the parties will be binding on either party unless reduced to writing and signed by authorized representatives of both parties.



SCHEDULE OF CHARGES

PERSONNEL CHARGES

Principal	\$220 – 230/hour
Senior.....	\$165 – 205/hour
Project.....	\$140 – 165/hour
Analyst	\$140 – 150/hour
Staff	\$125 – 140/hour
Graphic Design.....	\$120 – 130/hour
Technician	\$105 – 135/hour
Administrative Support.....	\$100 – 110/hour

Depositions and expert witness testimony, including preparation time, will be charged at 200 percent of the above rates.

Travel time will be charged in accordance with the above rates.

SUBCONTRACTORS

Charges for subcontractors will be billed at cost plus 15 percent.

EXPENSES

Charges for outside services, equipment, and facilities not furnished directly by Maul Foster & Alongj, Inc. will be billed at cost plus 10 percent. Such charges may include, but shall not be limited to the following:

Printing and photographic reproduction	Rented equipment
Rented vehicles/mileage	Shipping charges
Transportation on public carriers	Meals and lodging
Special fees, permits, insurance, etc.	Consumable materials

DIRECT CHARGES

Charges for specialized software modeling and equipment are as specified in the scope of work.

Field equipment rates are set forth in the Field Equipment Rate Schedule.

The rates for document production are set forth in the Document Production Rate Schedule.

RATE CHANGES

Schedule of Charges are subject to change without notice.



Estimated Budget City of St. Helens/Central Waterfront Scope 1B

Task	Maul Foster & Alongi, Inc.			Subcontractors	Total
	Hours	Labor	Direct		
1 Geotechnical and Geophysical Investigation	16	\$2,960	\$0	\$147,775	\$150,735
2 Environmental Investigation of Lagoon	645	\$94,980	\$6,514	\$207,265	\$308,759
3 WWTP Impacts/Siting Analysis	16	\$2,960	\$0	\$54,050	\$57,010
Total Estimated Cost					\$516,504