

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT, made and entered into on June 13, 2017 by and between the City of St. Helena, located in the County of Napa, State of California (City), and Larry Walker and Associates (Consultant).

RECITALS:

A. City desires to employ Consultant to furnish professional services in connection with the project described as Groundwater Monitoring and Reporting for Land Application Field.

B. Consultant has represented that Consultant has the necessary expertise, experience, and qualifications to perform the required duties.

NOW, THEREFORE, in consideration of the mutual premises, covenants, and conditions herein contained, the parties agree as follows:

SECTION 1 – BASIC SERVICES

Consultant agrees to perform the services set forth in **Exhibit A, “Scope of Services”** and made part of this Agreement.

SECTION 2 – ADDITIONAL SERVICES

Consultant shall not be compensated for any services rendered in connection with its performance of this Agreement that are in addition to or outside of those set forth in this Agreement or **Exhibit A, “Scope of Services”**, unless such additional services and compensation are authorized in advance and in writing by the City Council or City Manager of the City.

SECTION 3 – TIME FOR COMPLETION

The time for completion of services shall be as identified in **Exhibit A, “Scope of Services”**.

SECTION 4 – COMPENSATION AND METHOD OF PAYMENT

A. Subject to any limitations set forth in this Agreement, City agrees to pay consultant the amount specified in **Exhibit B, “Compensation”**, attached hereto and made a part hereof. Total compensation shall not exceed \$610,276, unless additional compensation is approved in accordance with Section 2.

B. Consultant shall furnish to City an original invoice for all work performed and expenses incurred during the preceding month. The invoice shall detail charges by the following categories if applicable: labor (by sub-category), travel, materials, equipment, supplies, subconsultant contracts, and miscellaneous expenses. City shall independently review each invoice submitted to determine whether the work performed and expenses incurred are in compliance with the provisions of this Agreement. If no charges or expenses are disputed, the invoice shall be approved, and City will use its best efforts to cause Consultant to be paid within 30 days of receipt of invoice.

If the City disputes any charges or expenses, the City will return the original invoice to Consultant for correction and resubmission. If the City reasonably determines, in its sole judgment, that the invoiced charges and expenses exceed the value of the services performed to date and that it is probable that the Agreement will not be completed satisfactorily within the contract price, City may retain all or a portion of the invoiced charges and expenses. Within thirty (30) days of satisfactory completion of the project, City shall pay the retained amount, if any, to Consultant.

C. Payment to the Consultant for work performed pursuant to this Agreement shall not be deemed to waive any defects in work performed by Consultant.

SECTION 5 – STANDARD OF PERFORMANCE

Consultant represents and warrants that it has the qualifications, experience and facilities necessary to properly perform the services required under this Agreement in a thorough, competent and professional manner. Consultant shall at all times faithfully, competently and to the best of its ability, experience and talent, perform all services described herein. In meeting its obligations under this Agreement, Consultant shall employ, at a minimum, generally accepted standards and practices utilized by persons engaged in providing services similar to those required of Consultant under this Agreement.

SECTION 6 – INSPECTION AND FINAL ACCEPTANCE

City may inspect and accept or reject any of Consultant's work under this Agreement, either during performance or when completed. City shall reject or finally accept Consultant's work within sixty (60) days after submitted to City, unless the parties mutually agree to extend such deadline. City shall reject work by a timely written explanation, otherwise Consultant's work shall be deemed to have been accepted. City's acceptance shall be conclusive as to such work except with respect to latent defects and fraud. Acceptance of any of Consultant's work by City shall not constitute a waiver of any of the provisions of this Agreement including, but not limited to, the sections pertaining to indemnification and insurance.

SECTION 7 – INSURANCE REQUIRED

Consultant shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees, as indicated:

A. Minimum Scope of Insurance. Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001).
2. Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile Liability, code 1 (any auto).
3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

B. Minimum Limits of Insurance. Consultant shall maintain limits no less than:

1. General Liability: \$2,000,000 per occurrence for bodily injury, personal injury and property damage including operations, products and completed operations, as applicable. If Commercial General Liability Insurance or other form with a General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: \$2,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: \$2,000,000 per accident for bodily injury or disease.

C. Professional Liability Insurance. When Consultant under this Agreement is duly licensed under California Business and Professions Code as an architect, landscape architect, environmental engineer or other professional engineer, or land surveyor ("design professional"), Consultant shall maintain at least \$2,000,000 of professional liability insurance.

D. Excess Limits. If Consultant maintains higher limits than the minimums shown above, City requires and shall be entitled to coverage for the higher limits maintained by Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

E. Primary Coverage. For any claims related to this contract the Consultants insurance coverage shall be primary insurance as respects to City, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be excess of Consultants insurance and shall not contribute with it.

F. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions of \$25,000 or greater must be declared to and approved by the City.

G. Other Insurance Provisions. The commercial general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The City, its agent, officers, officials, employees, and volunteers are to be covered as additional insured as respects: liability arising out of work or operations performed by the Consultant or Consultant's subconsultants; or automobile owned, leased, hired or borrowed by the Consultant.
2. For any claims related to Consultant's conduct while performing the work of this project, the Consultant's insurance coverage shall be primary insurance as respects the City, its agents, officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its agents, officers, officials, employees or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be cancelled by either party, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.
4. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subsection (b) of Section 2782 of the Civil Code.

H. Waiver of Subrogation. Consultant's commercial general liability, automobile liability, workers' compensation, and employer's liability policies shall be endorsed with a waiver of subrogation. The insurance company, in its endorsement, agrees to waive all rights of subrogation against the City, its agents, officers, officials, employees and volunteers for losses paid under the terms of this policy which arises from the work performed by the named insured for the City.

I. The Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A: VII, unless otherwise acceptable to the City.

J. Verification of Coverage. Consultant shall furnish the City with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements should be on forms provided by the City or on forms that conform to City requirements. All certificates and endorsements are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications at any time.

SECTION 8 – INDEMNIFICATION

A. Consultant shall indemnify and hold harmless City, its agents, officers, officials, employees, and volunteers from any and all claims, demands, suits, loss, damages, injury, and/or liability (including any and all costs and expenses in connection therewith), incurred by reason of any negligent or otherwise wrongful act or omission of Consultant, its officers, agents, employees and subcontractors, or any of them, under or in connection with this Agreement; and Consultant agrees at its own cost, expense and risk to defend any and all claims, actions, suits, or other legal proceedings brought or instituted against City, its agents, officers, officials, employees and volunteers, or any of them, arising out of such negligent or otherwise wrongful act or omission, and to pay and satisfy any resulting judgments.

B. When Consultant under this Agreement is duly licensed under California Business and Professions Code as an architect, landscape architect, professional engineer, or land surveyor ("design professional"), the provisions of this section regarding Consultant's duty to defend and indemnify apply only to claims that arise out of or relate to the negligence, recklessness, or willful misconduct of the design professional.

C. If any action or proceeding is brought against Indemnitees by reason of any of the matters against which Consultant has agreed to indemnify Indemnitees as provided above, Consultant, upon notice from City, shall defend Indemnitees at Consultant's expense by counsel acceptable to City, such acceptance not to be unreasonably withheld. Indemnitees need not have first paid for any of the matters to which Indemnitees are entitled to Indemnification in order to be so indemnified. The insurance required to be maintained by Consultant shall ensure Consultant's obligations under this section, but the limits of such insurance shall not limit the liability of Consultant hereunder. The provisions of this section shall survive the expiration or earlier termination of this Agreement.

D. The provisions of this section do not apply to claims to the extent occurring as a result of the City's sole negligence or willful acts or misconduct.

SECTION 9 – INDEPENDENT CONTRACTOR STATUS

A. Consultant is and shall at all times remain a wholly independent contractor and not an officer, employee or agent of City. Consultant shall have no authority to bind City in any manner or to incur an obligation, debt or liability of any kind on behalf of or against City, whether by contract or otherwise, unless such authority is expressly conferred under this Agreement or is otherwise expressly conferred in writing by City.

B. The personnel performing the services under this Agreement on behalf of Consultant shall at all times be under Consultant's exclusive direction and control. Neither City, nor any elected or appointed boards, officers, officials, employees or agents of City, shall have control over the conduct of Consultant or any of Consultant's officers, employees or agents, except as set forth in this Agreement. Consultant shall not at any time or in any manner represent that Consultant or any of Consultant's officers, employees or agents are in any manner officials, officers, employees or agents of City.

C. Neither Consultant, nor any of Consultant's officers, employees or agents, shall obtain any rights to retirement, health care or any other benefits which may otherwise accrue to City's employees. Consultant expressly waives any claim Consultant may have to any such rights.

SECTION 10 – CONFLICTS OF INTEREST

A. Consultant covenants that neither it, nor any officer or principal of its firm, has or shall acquire any interest, directly or indirectly, which would conflict in any manner with the interests of City or which would in any way hinder Consultant's performance of services under this Agreement. Consultant further covenants that in the performance of this Agreement, no person having any such interest shall be employed by it as an officer, employee, agent, or subcontractor without the express written consent of the City Manager. Consultant agrees to at all times avoid conflicts with the interests of City in the performance of this Agreement.

B. City understands and acknowledges that Consultant is, as of the date of execution of this Agreement, independently involved in the performance of non-related services for other governmental agencies and private parties. Consultant is aware of any stated position of City relative to such projects. Any future position of City on such projects shall not be considered a conflict of interest for purposes of this section.

SECTION 11 – OWNERSHIP OF DOCUMENTS

A. All original maps, models, designs, drawings, photographs, studies, surveys, reports, data, notes, computer files, files and other documents prepared, developed or discovered by Consultant in the course of providing any services pursuant to this Agreement shall become the sole property of City and may be used, reused or otherwise disposed of by City without the permission of the Consultant. When requested by City, but no later than three years after project completion, Consultant shall deliver to City all such original maps, models, designs, drawings, photographs, studies, surveys, reports, data, notes, computer files, files and other documents.

B. All copyrights, patents, trade secrets, or other intellectual property rights associated with any ideas, concepts, techniques, inventions, processes, improvements, developments, works

of authorship, or other products developed or created by Consultant during the course of providing services (collectively the "Work Product") shall belong exclusively to City. The Work Product shall be considered a "work made for hire" within the meaning of Title 17 of the United States Code. Without reservation, limitation, or condition, Consultant hereby assigns, at the time of creation of the Work Products, without any requirement of further consideration, exclusively and perpetually, any and all right, title, and interest Consultant may have in the Work Product throughout the world, including without limitation any copyrights, patents, trade secrets, or other intellectual property rights, all rights of reproduction, all rights to create derivative works, and the right to secure registrations, renewals, reissues, and extensions thereof.

SECTION 12 – CONFIDENTIAL INFORMATION; RELEASE OF INFORMATION

A. All information gained or work product produced by Consultant in performance of this Agreement shall be considered confidential, unless such information is in the public domain or already known to Consultant. Consultant shall not release or disclose any such information or work product to persons or entities other than City without prior written authorization from the City Manager, except as may be required by law.

B. Consultant, its officers, employees, agents or subcontractors, shall not, without prior written authorization from the City Manager or unless requested by the City Attorney of City, voluntarily provide declarations, letters of support, testimony at depositions, response to interrogatories or other information concerning the work performed under this Agreement. Response to a subpoena or court order shall not be considered "voluntary" provided consultant gives City notice of such court order or subpoena.

C. If Consultant, or any officer, employee, agent or subcontractor of Consultant, provides any information or work product in violation of this Agreement, then City shall have the right to reimbursement and indemnity from Consultant for any damages, costs and fees, including attorneys fees, caused by or incurred as a result of Consultant's conduct.

D. Consultant shall promptly notify City should Consultant, its officers, employees, agents or subcontractors be served with any summons, complaint, subpoena, notice of deposition, request for documents, interrogatories, request for admissions or other discovery request, court order or subpoena from any party regarding this Agreement and the work performed thereunder. City retains the right, but has no obligation, to represent Consultant or be present at any deposition, hearing or similar proceeding. Consultant agrees to cooperate fully with City and to provide City with the opportunity to review any response to discovery requests provided by Consultant. However, this right to review any such response does not imply or mean the right by City to control, direct, or rewrite such response.

SECTION 13 – SUSPENSION OF WORK

City may, at any time, by ten (10) days written notice suspend further performance by Consultant. All suspensions shall extend the time schedule for performance in a mutually satisfactory manner and Consultant shall be paid for services performed and reimbursable expenses incurred prior to the suspension date.

SECTION 14 – COMPLIANCE WITH LAW

Consultant shall keep itself informed of and comply with all applicable federal, state and local laws, statutes, codes, ordinances, regulations and rules in effect during the term of this Agreement. Consultant shall obtain any and all licenses, permits and authorizations necessary to perform the services set forth in this Agreement. Neither City, nor any elected or appointed boards, officers, officials, employees or agents of City, shall be liable, at law or in equity, as a result of any failure of Consultant to comply with this section.

SECTION 15 – COMPLIANCE WITH CIVIL RIGHTS

During the performance of this contract, Consultant agrees as follows:

A. Equal Employment Opportunity. In connection with the execution of this Agreement, Consultant shall not discriminate against any employee or applicant for employment because of race, religion, color, ancestry, age, sexual orientation, gender, gender identity and gender expression as protected categories specifically and expressively in that category, physical handicap, medical condition, marital status, sex, or national origin. Such actions shall include, but not be limited to, the following: employment, promotion, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rate of pay or other forms of compensation; and selection for training including apprenticeship.

B. Nondiscrimination Civil Rights Act of 1964. Consultant will comply with all federal regulations relative to nondiscrimination to federally-assisted programs.

C. Solicitations for Subcontractors including Procurement of Materials and Equipment. In all solicitations, either by competitive bidding or negotiations, made by Consultant for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor, supplier, or lessor shall be notified by Consultant of Consultant's obligations under this Agreement and the regulations relative to nondiscrimination.

SECTION 16 – RECORDS

A. Records of Consultant's direct labor costs, payroll costs, and reimbursable expenses pertaining to this project covered by this Agreement will be kept on a generally recognized accounting basis and made available to City if and when required for a period of up to 3 years from the date of Consultant's final invoice.

B. Consultant's records and design calculations will be available for examination and audit if and as required. The cost of any reproductions shall be paid by City.

SECTION 17 – COOPERATION BY CITY

All public information, data, reports, records, and maps as are existing and available to City as public records, and which are necessary for carrying out the work as outlined in the Exhibit A, "Scope of Services", shall be furnished to Consultant in every reasonable way to facilitate, without undue delay, the work to be performed under this Agreement.

SECTION 18 – NOTICES

All notices required or permitted to be given under this Agreement shall be in writing and shall be personally delivered, or sent by facsimile or first class mail, addressed as follows:

To City: City Manager
1480 Main Street
St. Helena, California 94574

To Consultant: Kristine Corneille
Larry Walker and Associates
1480 Drew Ave, Suite 200
Davis, CA 95616

Notice shall be deemed effective on the date personally delivered or transmitted by facsimile, or, if mailed, three (3) days after deposit in the custody of the U.S. Postal Service.

SECTION 19 – TERMINATION

A. City may terminate this Agreement, with or without cause, at any time by giving ten (10) days written notice of termination to Consultant. If such notice is given, Consultant shall cease immediately all work in progress.

B. If either Consultant or City fail to perform any material obligation under this Agreement, then, in addition to any other remedies, either Consultant, or City may terminate this Agreement immediately upon written notice.

C. Upon termination of this Agreement by either Consultant or City, all property belonging to City which is in Consultant's possession shall be delivered to City. Consultant shall furnish to City a final invoice for work performed and expenses incurred by Consultant, prepared as set forth in this Agreement.

SECTION 20 – ATTORNEY FEES

If litigation or other proceeding is required to enforce or interpret any provision of this Agreement, the prevailing party in such litigation or other proceeding shall be entitled to an award of reasonable attorneys' fees, costs and expenses, in addition to any other relief to which it may be entitled. In addition, any legal fees, costs and expenses incurred to enforce the provisions of this Agreement shall be reimbursed to the prevailing party.

SECTION 21 – ENTIRE AGREEMENT

This Agreement, including the attached Exhibits, is the entire, complete, final and exclusive expression of the parties with respect to the matters addressed therein and supersedes all other agreements or understandings, whether oral or written, or entered into between Consultant and City prior to the execution of this Agreement. No statements, representations or other

agreements, whether oral or written, made by any party which are not embodied herein shall be valid and binding unless in writing duly executed by the parties or their authorized representatives.

SECTION 22 – SUCCESSORS AND ASSIGNS

This Agreement shall be binding on the heirs, executors, administrators, successors and assigns of the parties. However, this Agreement shall not be assigned by Consultant without written consent of the City.

SECTION 23 – CONTINUITY OF PERSONNEL

Consultant shall make every reasonable effort to maintain the stability and continuity of Consultant's staff assigned to perform the services required under this Agreement. Consultant shall notify City of any changes in Consultant's staff assigned to perform the services required under this Agreement, prior to any such performance.

SECTION 24 – DEFAULT

In the event that Consultant is in default under the terms of this Agreement, the City shall not have any obligation or duty to continue compensating Consultant for any work performed after the date of default and may terminate this Agreement immediately by written notice to Consultant.

SECTION 25 – WAIVER

Waiver by any party to this Agreement of any term, condition, or covenant of this Agreement shall not constitute a waiver of any other term, condition, or covenant. Waiver by any party of any breach of the provisions of this Agreement shall not constitute a waiver of any other provision, nor a waiver of any subsequent breach or violation of any provision of this Agreement. Acceptance by City of any work or services by Consultant shall not constitute a waiver of any of the provisions of this Agreement.

SECTION 26 – LAW TO GOVERN; VENUE

This Agreement shall be interpreted, construed and governed according to the laws of the State of California. In the event of litigation between the parties, venue in state trial courts shall lie exclusively in the County of Napa. In the event of litigation in a U.S. District Court, venue shall lie exclusively in the Northern District of California, in San Francisco.

SECTION 27 – SEVERABILITY

If any term, condition or covenant of this Agreement is declared or determined by any court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this Agreement shall not be affected thereby and the Agreement shall be read and construed without the invalid, void or unenforceable provision(s).

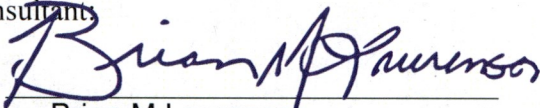
SECTION 28 – SPECIAL PROVISIONS

This Agreement is subject to the following special provisions: none.

IN WITNESS WHEREOF, the parties hereto have accepted, made, and executed this Agreement upon the terms, conditions, and provisions above stated, the day and year first above written.

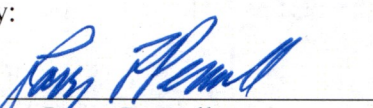
Consultant:

By:


Name: Brian M Laurenson
Title: Vice President

City:

By:


Name: Larry Pennell
Title: Interim City Manager

Approved as to Form:

By:

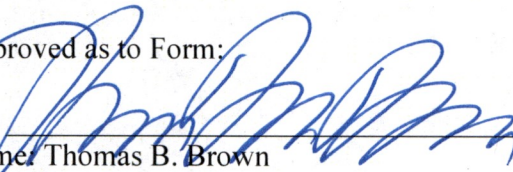

Name: Thomas B. Brown
Title: City Attorney

EXHIBIT A – SCOPE OF SERVICES

ST. HELENA GROUNDWATER QUALITY MONITORING AND REPORTING

This Scope-of-Services describes groundwater monitoring network installation, monitoring, reporting, and groundwater modelling activities provided by LWA to the City of St. Helena (City). The scope fulfills the requirements of the San Francisco Bay Regional Water Quality Control Board (RWQCB) May 25, 2017 Notice of Violation (NOV) for failure to submit required information. The proposed scope of work is presented below.

LWA will assist with the installation of a groundwater monitoring network at the WWTRP, and subsequent groundwater monitoring and reporting. Per recommendations from the RWQCB for 200 foot spacing along the downgradient property perimeter, the groundwater monitoring network will consists of a total of 17 wells drilled in the Shallower Groundwater Formation - **Figure 1**. GRD-P-001 and 002 are within the land application area with cased depth of 100 ft. GRD-P-003 to 008 will be shallow wells to assist in exploring groundwater-river hydraulic connection. GRD-P-009 to 016 will be on the southern boundary with 200 foot spacing and 100 foot depth. The scope-of-work includes costs of drilling wells, monitoring water elevation, sampling and testing for water quality (analytes of concern are total coliform, *e. coli*, nitrate, chloride, pH and total dissolved solids), modeling and groundwater reporting. Wells will be monitored monthly for the first six months and quarterly in the next six months and the second year.

Figure 1: Location of available and proposed wells in vicinity of the land discharge area



Scope of Services

Task 1. Development of Monitoring Well Network and Monitoring Well Installation

LWA will oversee and subcontract through GEI to construct the proposed monitoring well network at the City of St. Helena WWTRP. A detailed scope and budget for monitoring well installation is provided in Attachment 1.

Task 2. Prepare a Sampling and Analysis Plan

LWA will create a Sampling and Analysis Plan (SAP) to guide monitoring personnel through each sampling event and communicate data quality expectations to laboratories selected to perform analyses. The SAP will include all sample collection procedures, sampling methods, quality control measures, data review standards and practices, and reporting protocols. The SAP will build upon and follow any methods and protocols established within the groundwater monitoring plan. The SAP will include at a minimum the following details:

- Sampling event preparation (gathering equipment, preparing chain of custody forms, obtaining and labeling sample containers provided by the laboratory, preparing field observation sheets);
- Driving directions to the site and a description of monitoring locations;
- Instructions for calibrating field meter(s) and documenting calibration;
- A list of containers, preservatives and holding times for required analytes/analyte groups;
- Sampling equipment and sampling instructions for each monitoring location;
- Instructions on appropriate monitoring well sampling procedures, well purging and disposal of purged groundwater;
- Clean sampling techniques to be used for sample collection;
- Equipment cleaning instructions to be followed between each monitoring well sampled;
- Quality control samples to be collected in the field, as well as those generated and analyzed by the laboratory;
- Sample storage, delivery, and chain-of-custody instructions, and contact information for laboratory staff;
- Data quality objectives to be achieved by selected laboratories;
- Data review, data analysis and reporting; and
- Monitoring site housekeeping.

LWA does not provide health and safety training and City staff or third party agents of the City should follow their own health and safety documents and implemented programs.

Task 3. Monitoring Preparation

LWA will install pressure transducers in five of the monitoring wells to better characterize groundwater elevation for subsequent reporting and monitoring. LWA will prepare in advance for each sampling event, including preparing monitoring forms, equipment and containers. LWA will prepare all relevant monitoring paperwork, including Field Data Sheets, Chain-of-Custody forms, container labels, and field meter calibration records, with the majority of information completed on forms prior to field activities. LWA will obtain sample containers directly from the laboratory selected to perform each analysis. Equipment required for monitoring will be cleaned, organized, and ready for mobilization. Field meters used for the project will be calibrated at the beginning of each monitoring day.

Task 4. Perform Monitoring

LWA will assist at least one City staff or representative to perform groundwater monitoring. LWA will perform monitoring in accordance with requirements detailed in the Sampling and Analysis Plan. LWA will record visual observations on Field Data Sheets and will use a digital camera to document conditions encountered during each event at each monitoring station. LWA will use clean sampling techniques and will observe any additional precautions specified in the Sampling and Analysis Plan to avoid introducing contamination between monitoring wells. LWA will place filled sample containers on ice for pick-up by the Caltest Analytical Laboratory courier for analysis within required holding times. Samples collected

from each monitoring well will be analyzed for constituents listed in **Table 1**, below. Additional constituents may be analyzed upon request by City staff.

LWA will request the following analytes and test methods for each set of samples submitted to the laboratory:

Table 1. Analytical Constituents and Test Methods: Groundwater Quality Monitoring

Constituent	Analytical Method
Total coliform	SM 9221E
E. Coli	SM 9223B
Nitrate (as N)	EPA 300.0
Chloride	EPA 300.0
Total Dissolved Solids (TDS)	SM 2540C
pH	EPA 150.1

Task 5. Review and Compile Analytical Data

Within three business days of each sample collection event, LWA will send the City the field log sheet, chain of custody forms, and any narrative discussion regarding problems and their resolution for sampling events. LWA will review data reports received from the selected laboratory to verify that data quality objectives for accuracy, precision and completeness (as specified in the Sampling and Analysis Plan) have been met. LWA will investigate any issues with data quality and communicate any issues discovered to the City for each event. LWA will compile field data, sample data and quality control data into a spreadsheet for submittal to the City.

Task 6. Groundwater Fate and Transport Modelling

Groundwater movement and fate will be assessed using a numerical simulation. The numerical model will be capable of estimating the direction, speed, and volumetric flow of groundwater beneath and downgradient of the land application area. Additionally, impact of wastewater discharges on groundwater flow and level will be characterized. The model will benefit from the data collected through the groundwater monitoring plan for this area. The results of the groundwater modeling work will be used in determining impacts of the wastewater discharges on the groundwater and to minimize the impacts through developing and implementing short-term strategies.

Task 7. Interim Groundwater Monitoring Report

LWA will prepare an Interim Groundwater Monitoring Report for submittal to the City. The Report will document the findings of the groundwater fate and transport modeling as well as summarize analytical data and results up through that point in time. The Report will provide the basis necessary for the City to move forward with its Feasibility Study and to make decisions regarding upgrades to the WWTRP. The Report will include the following additional elements:

- LWA will provide a narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring
- LWA will compare groundwater quality upgradient with effluent water quality and downgradient wells using non-parametric statistics for data analysis
- LWA will evaluate the analytical results for all groundwater locations monitoring including spatial and temporal trends data to determine whether there are changes in concentration over time.
- LWA will update the May 1, 2017 nutrient balance.
- LWA will provide copies of laboratory analytical report(s) for groundwater monitoring.

Task 8. Bi-Annual Groundwater Monitoring Report

LWA will prepare an Groundwater Monitoring Report at the end of the two year monitoring period for submittal to the City and RWQCB. The Report will document the analysis of groundwater elevation and quality results representative of the previous two years of data for background and downgradient wells at the WWTP. The Report will include the following elements:

- LWA will provide a narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring
- LWA will summarize groundwater elevation results and analysis and provide an update on groundwater flow direction and gradient and a discussion of seasonal trends, if any
- LWA will compare groundwater quality upgradient with effluent water quality and downgradient wells using non-parametric statistics for data analysis
- LWA will evaluate the analytical results for all groundwater locations monitoring including spatial and temporal trends data to determine whether there are changes in concentration over time.
- LWA will update the nutrient balance.
- LWA will provide copies of laboratory analytical report(s) for groundwater monitoring.

Task 9. Project Management

LWA will provide project coordination services to manage the analytical laboratories or other vendors and subcontractors as approved by the City. LWA will provide ongoing project management, including regular communication with the City regarding the project schedule, budgets, expenditures and other issues related to the administration of the contract. LWA will submit a monthly invoice with budget status information on a task basis.

Project Schedule

A summary of the anticipated project schedule is provided in **Table 2**, below.

Table 2. Project Schedule: Groundwater Monitoring

Task No.	Task	Tentative Project Schedule ¹
1	Development of Monitoring Well Network and Monitoring Well Installation	June – July 2017
2	Prepare Sampling and Analysis Plan	June 2017
3	Monitoring Preparation	July 2017 – August 2019
4	Perform Monitoring	August 2017 – August 2019
5	Review and Compile Analytical Data	Ongoing
6	Groundwater Fate and Transport Modeling	October 2017
7	Interim Groundwater Monitoring Report	October 2017
8	Bi-Annual Groundwater Monitoring Report	October 2019
9	Project Management	Ongoing

¹ Monitoring well network installation timing is dependent on drilling permit approval by the RWQCB. Monitoring start date is contingent on monitoring well network installation and completion.

Attachment 1: GEI scope and Budget for Monitoring Well Installation

Attachment 2: FY2016-2017 LWA Rate Sheet

Attachment 1. GEI scope and Budget for Monitoring Well Installation



June 1, 2017

Geotechnical
Environmental and
Water Resources
Engineering

Ms. Laura Foglia
Larry Walker Associates
1480 Drew Avenue, Suite 100
Davis, CA 95618

**Re: Proposal
Development of Monitoring Well Network and Monitoring Well
Installation - St. Helena, California**

Dear Ms. Foglia:

GEI Consultants, Inc. (GEI) has prepared this proposal at the request of Larry Walker Associates, Inc. (LWA) to provide hydrogeologic consulting services to construct monitoring wells at the City of St. Helena (City) wastewater treatment plant (WWTP) in Napa County, California.

GEI is a medium-sized engineering firm specializing in groundwater and surface water resources. We have offices throughout the nation with five in California. We are familiar with your type of project and the local geology. Within the last year we have completed construction of a monitoring network surrounding recycled water irrigation fields for the City of Biggs and have also completed construction of two monitoring wells in Sonoma Valley for the Sonoma County Water Agency. GEI has agreements with multiple drilling contractors who we use regularly and have proven safety records, so we can issue contracts easily.

We understand that LWA is assisting the City with a response to the San Francisco Bay Regional Water Quality Control Board (RWQCB) Notice of Violation (NOV) for failure to submit required information and an acceptable Feasibility Study. The NOV states four tasks that still need to be completed. GEI's scope is to assist LWA with completing the fourth task in the NOV, groundwater monitoring plan. In the draft Feasibility Study a monitoring plan consisting of three new monitoring wells was proposed, but needed to be improved per the RWQCB. The RWQCB requested a new monitoring plan be developed and monitoring wells be constructed with a spacing of 200 feet along the east and southern borders of the property (edge of the recycled water irrigation fields).

The scope of work that we present below is based on the information that was provided to GEI from LWA. We are willing to negotiate our scope of work with LWA and/or the City to better fit the needs of the project. At this time, we do not know the final number of monitoring wells that will be required by the RWQCB. We will try to get the final number of monitoring wells to the lowest amount that will provide adequate data for the assessment

of the contamination plume and future water quality monitoring. Our costs provided for drilling subcontractors are estimates that were developed based on similar work that GEI recently conducted. After the acceptance of our proposal, and approval by the RWQCB of the construction we will be able to solicit firm costs from the subcontractors.

Background

The WWTP is in the southern portion of the City with vineyards to the west and north, a disposal field to the south and the Napa River to the east. Per the Report of Waste Discharge for Land Application of Treated Wastewater authored by LWA, the WWTP treats about 0.5 million gallons per day of domestic wastewater. The treated wastewater is applied to an 88-acre land application area adjacent to the WWTP. When the influent flows exceed the capacity of the treatment plant storage and land application discharge systems, and ambient river flow affords adequate dilution, the City's NPDES permit allows treated wastewater to discharge to the Napa River.

LWA is currently in the process of responding to the four tasks presented in the NOV and the RWQCB has requested that the monitoring wells be constructed no more than 200-feet apart along the downgradient perimeter of the property. The RWQCB does not state a reason for the 200-foot spacing and LWA would like GEI to assist with developing a reasonable monitoring well network. One potential reason for the proximity of the monitoring wells is to monitor the extent of a plume of partially treated wastewater that percolated into the soils beneath a pond between January 29, 2014, and February 7, 2014. The RWQCB states that the "wells must be screened at a depth that will capture the wastewater plume as it migrates offsite." At this time, we are not sure at which depth the wastewater plume may be migrating.

Personal communication with LWA indicates that there are only three existing wells in the vicinity. There is an up-gradient well that is approximately 139 feet deep and two other wells that are about 350 to 450 feet deep. Based on our experience monitoring groundwater adjacent to wastewater treatment plants the groundwater that requires monitoring of the first water bearing sediments. The Feasibility Study indicated sand and gravel are found between 20 and 80 feet deep beneath the property, at least near the ponds, and the depth to water may be about 10 to 15 feet below ground surface (bgs). Therefore, monitoring wells that will be required by this project will be shallower than existing wells.

It is unknown if this sand and gravel layer extends entirely beneath the property or whether they occur as buried river channels that may meander and be surrounded by fine-grained sediments. These sediments would restrict the movement of groundwater. If the sediment depositional pattern were better known a justification could be provided to the RWQCB to potentially reduce the number of monitoring wells. We recommend evaluating the geology along the eastern and southern perimeters of the site by conducting high resolution electrical resistivity surveys and time-domain electromagnetic induction surveys along perpendicular to the suspected paleo-channel to confirm the configuration. This technique is non-invasive, can be performed quickly, has little natural or manmade inferences, and can be performed along road right-of-ways. This analysis will allow GEI to determine the

appropriate depths for the monitoring wells and create a monitoring plan that may allow the number of monitoring wells to be reduced by recommending to not install monitoring wells where the sand and gravel layer is not present. Reducing the amount of monitoring wells that are required will save the City on the immediate costs of well construction, and reduce future monitoring and laboratory analyses fees.

Scope of Services

The following tasks describe GEI's approach to develop a groundwater monitoring network to assist the City with achieving the approval of the RWQCB for their response to NOV. We have also included tasks that will allow the gathering of data pertaining to aquifer characteristics to assist LWA with developing the hydrogeologic conceptual model. Our scope is based on prior experiences and has been developed to provide the City with a reliable estimate for budgeting purposes.

Task 1: Workplan

The Water Reclamation Requirements (WRR) require development groundwater monitoring plan. The RWQCB typically requires a Workplan to be developed and approved by them prior to start of construction of the monitoring wells. GEI will create a Workplan to evaluate the existing conditions and justify the selection of the monitoring well locations, well depths, construction materials, and monitoring methods. We will use surface geophysics to assess the location of water bearing material for the monitoring plan. We propose to use the hollow-stem auger drilling method to construct the monitoring wells.

GEI will:

- Review local geologic profiles to assess the geologic conditions beneath the facility and justify the monitoring well depths.
- Obtain any available water level measurements to estimate the depth to water and the range of water levels that may occur to justify the monitoring well screen lengths.
- Create a plan to evaluate the site with high-resolution, electrical resistivity surveys and time-domain electromagnetic induction surveys to assist with determining the optimum monitoring well locations and depths.
- Develop groundwater contours to portray the groundwater flow direction to locate and decide upon the number of the up-gradient and down-gradient monitoring well locations
- Describe the drilling method, decontamination procedures, soil sampling methods and depths, and soil logging procedures
- Prepare typical monitoring well design, including diameter, depth, and screened intervals
- Describe the development procedures
- Well head security
- Survey of constructed wells for location and elevations

- Describe the groundwater sampling methods and protocol including sampling equipment, purge requirements, sample preservation and transport, and laboratory analytical methods and reporting limits

We will coordinate the selection of the monitoring well location selection with LWA to place the wells in areas of limited use and to avoid environmentally sensitive areas.

Upon completion of the Workplan we will submit a draft copy for review by LWA and the City. After incorporating the comments, we will provide a copy to LWA to submit to the RWQCB for review and approval.

The RWQCB always provides comments on Workplans which may be minor but will need to be addressed and incorporated into the Workplan before implementation. GEI will provide an updated Workplan.

Assumptions: The City will submit a well log request form to DWR. The City will waive their \$650 well permit application fee.

Deliverables: Draft and Final Workplan.

Task 2: Geophysical Surveys

After the Workplan has been approved by RWQCB the extent of the sand and gravel layers will be defined by high resolution electrical resistivity surveys and time-domain electromagnetic induction surveys performed perpendicular to the channel to confirm the configuration. All data will be modeled into a layered system to define the major sedimentary layers including the bottom of the sand and gravel layer and the top of the underlying clay layer. We plan to use NorCal Geophysics of Cotati, California to perform the work.

Three high resolution electrical resistivity surveys will be performed. One east-west calibration survey will be performed along the southern edge of the ponds where borings have been drilled. Two additional surveys will be performed along the southern and eastern perimeters of the property. The total linear footage is 5,900 feet.

The geophysical survey will also benefit the overall project by providing information that can be used for the hydrogeologic conceptual model. The data from the survey can be used by LWA in their modeling efforts and will help create a better understanding of the movement of the groundwater plume.

Task 3: Monitoring Well Construction

After the Workplan has been approved by RWQCB and the geophysical survey has been completed and the results analyzed the monitoring network will be constructed.

We cannot determine the final number of monitoring wells and depths that will be required until the RWQCB approves the final monitoring well network. After the final approval by the RWQCB we will obtain an actual cost quote from the drilling contractor. For bidding purposes, we have assumed that the monitoring network will consist of 2 shallow monitoring wells within the irrigated fields, 14 shallow down-gradient wells positioned 200 feet apart, and 1 up-gradient shallow monitoring well. The borings will be drilled using an 8-inch diameter hollow-stem auger drill rig to the base of the sand and gravel layer, to about 90 feet bgs allowing for some irregularity of that surface. Upon completion of each boring an 80-foot deep monitoring well will be constructed to allow interception and monitoring of the first groundwater encountered.

The monitoring wells will be constructed with 2-inch diameter PVC casing and screens. We estimate for planning purposes that one monitoring well will be constructed each day of drilling. One additional day will be required to complete development of each well.

GEI will:

- Prepare for the City a CEQA Categorical Exemption (CatEx) for the monitoring well construction.
- Obtain well permits for construction of the monitoring wells.
- Establish a subcontract with a driller and coordinate activities of the drilling with LWA and the City.
- Review contractor submittals.
- Observe and document the cleaning of the drilling and sampling equipment between each boring.
- Classify the soil types as each borehole is advanced and create lithologic logs that can be used by LWA for the groundwater modeling efforts.
- Prepare a final design for each monitoring well after the boring reaches total depth.
- Observe and document the monitoring well construction and prepare as-built drawings for each well.
- Observe the development of each well and disposal of the water.
- Observe and document the installation of above ground vaults, pads, and bollards.

Assumptions: A CatEx is a suitable level of CEQA assessment. The City will create the Notice of Intent and file the CatEx. LWA will have a land surveyor under contract that will survey the locations and elevations of each monitoring well at no additional cost to GEI. GEI will subcontract the drilling contractor(s). Drill cuttings will remain onsite and will be spread locally around the drill sites. All development water will be allowed to be disposed of onto the ground surface.

Deliverables: Complete monitoring wells.

Task 4: Aquifer Testing and Water Quality Sampling

GEI will perform aquifer testing to gather the aquifer hydraulic characteristics. These will allow GEI to estimate the hydraulic conductivity and transmissivity of the aquifer. These data will be useful for LWA's analysis of the plume migration and travel time. We

recommend tests be performed to gather the data that are currently unavailable and have had to be estimated for past reports. GEI will:

- Install temporary transducers in three of the monitoring wells and have the City pump GRD-001 and observe the resulting drawdown. Analyze the test results to develop hydraulic characteristics of the sediments. Due to GRD-001 having a greater depth than the monitoring wells the hydraulic characteristics may be slightly overestimated but should assist in the quantification of parameters for the fate and transport modeling.
- Within two weeks of the final development of the wells train and assist the City with the purging and collection of the first round of water quality samples for analyses of the constituents of concern from the 17 monitoring wells per the Workplan.

Task 5: Monitoring Well Construction Report

As required by the RWQCB, GEI will prepare a Monitoring Well Construction Report to document the construction activities, as-built well details, and well locations. The report will also present the data gathered during aquifer testing and the analyses used to estimate the aquifer hydraulic characteristics.

Schedule

Upon receipt of authorization to proceed we will prepare the Draft Workplan. This will take two weeks to complete. Upon approval of the Draft Workplan by RWQCB (assuming two weeks) the geophysical survey will be started and will take about six weeks to complete. After analyzing the survey data and selecting the monitoring well locations and depths we will provide a Final Workplan to the RWQCB for approval of the monitoring well locations and depths. This will take an additional two weeks. With RWQCB approval drilling will commence. The drilling, construction, and development of the wells will require about eight weeks to complete. Survey of the locations and elevations of the monitoring wells, the City's land surveyor will take about two weeks to complete. Within four weeks after completion of the construction the well completion report will be submitted.

The total project period is expected to be about six months. The project duration will be refined and provided with the Workplan.

Cost Estimate

We propose to complete the project on a time-and-materials basis with a not-to-exceed cost; no work beyond that cost will be conducted without LWA's prior approval. Our cost estimate assumes that 17 monitoring wells will need to be constructed but the final number will be determined by the RWQCB. Attached is Table 1 which provides the estimated cost for the project by task. Our standard fee schedule is also attached. The cost estimate obtained by GEI from the drilling contractor for construction of 17 monitoring wells is also attached. The contractor provided contingency estimates in case difficult drilling conditions were encountered. Due to the short duration provided to develop this scope a firm cost

could not be obtained from the geophysical subcontractor. The estimate for the drilling and geophysical subcontractor fees provided in Table 1 have a 30% contingency for budgeting purposes to cover uncertainties of the work prior to approval by RWQCB and unexpected subsurface conditions that may be encountered. After approval by the RWQCB of the Workplan we will solicit firm costs from the subcontractors and provide them.

The approach outlined above is about \$341,900 (without contingency) assuming 17 wells that are constructed augured. The geophysical survey may provide significant information to be used to justify a reduction in the number of wells but it costs about \$31,000. However, it may not provide useful information and is a risk and additional cost. If the number of wells can be reduced by half the short-term project costs could drop to about \$260,000. This would provide a savings of about \$82,000 without consideration of the additional long-term savings by reducing monitoring and analytical costs.

Please call Ryan Alward (916) 631-4578 if you have any questions pertaining to this proposal.

Regards,



Ryan Alward, C.H.G. 993
Senior Hydrogeologist
Enclosures



Richard W. Shatz, C.E.G 1514
Principal Hydrogeologist

Table 1
St. Helena WWTP Groundwater Monitoring Well Construction
Larry Walker Associates
City of St. Helena

<u>Description</u>	<u>Labor Cost</u>	<u>Expenses</u>	<u>Subcontractors</u>	<u>SUBTOTAL</u>
Task 1 - Workplan	\$17,529	\$111	\$0	\$17,640
Task 2 - Geophysical Surveys	\$2,660	\$545	\$27,600	\$30,805
Task 3 - Monitoring Well Construction	\$79,923	\$10,135	\$167,411	\$257,469
Task 4 - Aquifer Testing and Water Quality Sampling	\$15,048	\$2,849	\$0	\$17,897
Task 5 - Monitoring Well Construction Report	\$18,119	\$0	\$0	\$18,119
Subtotal:	\$ 133,279	\$ 13,639	\$ 195,011	\$ 341,930
Subcontractor Contingency (30%)				\$58,503
Total:				\$ 400,433

FEE SCHEDULE

<u>Personnel Category</u>	<u>Hourly Billing Rate</u> <u>\$ per hour</u>
Staff Professional – Grade 1	\$ 110
Staff Professional – Grade 2	\$ 121
Project Professional – Grade 3	\$ 133
Project Professional – Grade 4	\$ 149
Senior Professional – Grade 5	\$ 176
Senior Professional – Grade 6	\$ 201
Senior Professional – Grade 7	\$ 238
Senior Consultant – Grade 8	\$ 267
Senior Consultant – Grade 9	\$ 330
Senior Principal – Grade 10	\$ 330

Senior CADD Drafter and Designer	\$ 133
CADD Drafter / Designer and Senior Technician	\$ 121
Technician, Word Processor, Administrative Staff	\$ 99
Office Aide	\$ 77

These rates are billed for both regular and overtime hours in all categories.

Rates will increase up to 5% annually, at GEI's option, for all contracts that extend beyond twelve (12) months after the date of the contract. Rates for Deposition and Testimony are increased 1.5 times.

OTHER PROJECT COSTS

Subconsultants, Subcontractors and Other Project Expenses - All costs for subconsultants, subcontractors and other project expenses will be billed at cost plus a 15% service charge. Examples of such expenses ordinarily charged to projects are subcontractors; subconsultants: chemical laboratory charges; rented or leased field and laboratory equipment; outside printing and reproduction; communications and mailing charges; reproduction expenses; shipping costs for samples and equipment; disposal of samples; rental vehicles; fares for travel on public carriers; special fees for insurance certificates, permits, licenses, etc.; fees for restoration of paving or land due to field exploration, etc.; state sales and use taxes and state taxes on GEI fees.

Billing Rates for Specialized Technical Computer Programs - Computer usage for specialized technical programs will be billed at a flat rate of \$10.00 per hour in addition to the labor required to operate the computer.

Field and Laboratory Equipment Billing Rates - GEI-owned field and laboratory equipment such as pumps, sampling equipment, monitoring instrumentation, field density equipment, portable gas chromatographs, etc. will be billed at a daily, weekly, or monthly rate, as needed for the project. Expendable supplies are billed at a unit rate.

Transportation and Subsistence - Automobile expenses for GEI or employee owned cars will be charged at the rate per mile set by the Internal Revenue Service for tax purposes plus tolls and parking charges or at a day rate negotiated for each project. When required for a project, four-wheel drive vehicles owned by GEI or the employees will be billed at a daily rate appropriate for those vehicles. Per diem living costs for personnel on assignment away from their home office will be negotiated for each project.

PAYMENT TERMS

Invoices will be submitted monthly or upon completion of a specified scope of service, as described in the accompanying contract (proposal, project, or agreement document that is signed and dated by GEI and CLIENT).

Payment is due upon receipt of the invoice. Interest will accrue at the rate of 1% of the invoice amount per month, for amounts that remain unpaid more than 30 days after the invoice date. All payments will be made by either check or electronic transfer to the address specified by GEI and will include reference to GEI's invoice number.



13050 W. 43rd Dr Suite 100, Golden, CO 80403
303.423.2547 PH

Ryan Alward
GEI Consultants
2868 Prospect Park Drive, Suite 400
Rancho Cordova, CA 95670

June 1, 2017
Quote #JG170531-48061

Project: St Helena CA

Scope: Drill and install 17 monitoring wells to 80ft BGS. Hollow stem auger preferred if feasible. Provide optional costs to drill air rotary.
2" PVC construction. Screened between 15-75ft BGS
Surface completion: 4x4 pads with above ground monument
Develop wells upon completion.

Item	Description	Qty	Unit	Unit Price	Amount
1	Mob/demob CME-85 - auger rig	1	Lump Sum	\$ 2,775.00	\$ 2,775.00
2	Drill and install 2" monitoring well to 80ft BGS	17	Each	\$ 6,175.00	\$ 104,975.00
3	Well development	17	Day	\$ 1,950.00	\$ 33,150.00
4	Forklift and hopper to transport cuttings to client supplied roll-off or staging area	17	Day	\$ 275.00	\$ 4,675.00
5	Optional - mob demob air rotary package for CME-85 - includes set up and conversion		Lump Sum	\$ 4,875.00	\$ -
6	Air rotary drilling - footage surcharge (in addition to base auger rate)		Foot	\$ 35.00	\$ -
7	Hourly rig rate - standby and other activities		Hour	\$ 295.00	\$ -
				Estimated Total	\$ 145,575.00
Itemized cost breakdown per monitoring well for Item 2 above					
2.1	Hollow stem auger drilling - drive sample every 5ft	90	Foot	\$ 25.00	\$ 2,250.00
2.2	2" PVC well materials - casing, screen and annular materials (3:1 screen to casing)	80	Foot	\$ 27.00	\$ 2,160.00
2.3	Surface completion - 4x4 pad with bollards and stove top	1	Lump Sum	\$ 1,175.00	\$ 1,175.00
2.4	Decon tooling and move between boreholes	2	Hour	\$ 295.00	\$ 590.00
				Estimated Subtotal	\$ 6,175.00

General Assumptions

Client is responsible for providing any Local, State and Federal specific permits required.
Client to provide profiling and disposal of all soil cuttings & fluids generated.
Client is responsible for contacting Underground Services Alert for utility clearance and naming CASCADe on the USA ticket number.
CASCADe, assumes no responsibility to any damaged done to unforeseen underground lines.
All drilling locations are to be clear of any and all overhead and subsurface utilities.
All drilling locations are accessible by way of two-wheel drive drilling related equipment.
If project encounters difficulties beyond our control or if the scope of work is altered CASCADe reserves the right to renegotiate the price.
Client is responsible for proving a water supply source made available for the duration of the drilling project.
Client is responsible for providing street traffic control or any hot asphalt paving subcontractors required.
Unit pricing does not include Davis Bacon or Prevailing Wage premiums.
CASCADe is not responsible for any Broken, Damaged or Stuck Tooling due to unforeseen subsurface conditions.
Payment terms are net Forty-Five (45) days unless agreed to in writing or under current MSA contract.

Thank you for the opportunity to provide the above services. If you should have any questions or need any additional information please do not hesitate to contact me.

Sincerely,

Jacob Gallagher
510.334.6455 (mobile)
jgallagher@cascade-env.com

Accepted,

GEI Consultants Date

EXHIBIT B - "COMPENSATION"

The estimated not-to-exceed time and materials project budget for two years of sample collection support is included below. Labor rates are estimated to increase 3% annually from the current rate schedule provided.

A summary cost estimate is provided below.

Summary Cost Estimate

Task No.	Task Description	Estimated Cost
1	Development of Monitoring Well Network and Monitoring Well Installation	\$447,626
2	Prepare a Sampling and Analysis Plan	\$5,060
3	Monitoring Preparations	\$12,780
4	Perform Monitoring	\$90,510
5	Review and Compile Analytical Data	\$6,140
6	Groundwater Fate and Transport Modelling	\$15,720
7	Interim Groundwater Monitoring Report	\$14,100
8	Bi-Annual Groundwater Monitoring Report	\$11,380
9	Project Management	\$6,960
Total Project Cost:		\$610,276

**Larry Walker Associates Cost Estimate for the Scope of Work for
St. Helena Groundwater Monitoring and Reporting**

Task Number	Task Description	LWA Labor Hour Estimate						LWA Total Labor Cost	Other Direct Costs		Total Estimated Cost
		Advisor (VP)	Project Manager (Sr)	Project Eng/Sci 2	Project Eng/Sci 1	Contract Admin.	LWA Total Labor Hours				
		\$ 270	\$ 220	\$ 175	\$ 160	\$ 145			Source	Amount	
1	Development of Monitoring Well Network and Monitoring Well Installation	1	8	8	16	8	41	\$ 7,150	a	\$ 440,476	\$ 447,626
2	Prepare a Sampling and Analysis Plan	2	6	--	20	--	28	\$ 5,060			\$ 5,060
3	Monitoring Preparations	--	4	12	30	--	46	\$ 7,780	b	\$ 5,000	\$ 12,780
4	Perform Monitoring ^{c,e,h}	--	4	30	144	--	178	\$ 29,170	d, g	\$ 61,340	\$ 90,510
5	Review & Compile Analytical Data	2	8	--	24	--	34	\$ 6,140			\$ 6,140
6	Groundwater Fate and Transport Modelling	4	20	--	64	--	88	\$ 15,720			\$ 15,720
7	Interim Groundwater Monitoring Report	--	8	12	64	--	84	\$ 14,100			\$ 14,100
8	Bi-Annual Groundwater Monitoring Report	2	8	8	48	--	66	\$ 11,380			\$ 11,380
9	Project Management	2	16	--	--	20	38	\$ 6,960			\$ 6,960
TOTAL		13	82	70	410	28	603	\$ 103,460	----	\$ 506,816	\$ 610,276

NOTES

- a Detailed cost for monitoring well installation is included in Attachment 1. Includes 10% markup.
- b Cost includes the installation of transducers in 5 monitoring wells for continuous elevation measurements
- c Assuming 1 LWA staff from Berkely or Davis accompanied by 1 city staff for sampling
- d Round-trip mileage from LWA-Davis office to St. Helena (approx. 130 miles RT), at \$0.535/mile for 12 sampling events
- e Assuming monitoring for 17 groundwater wells
- f Assuming 12 monitoring events over a 2 year period (initial 6 months of monitoring events followed by 6 quarterly events)
- g Includes \$60,505 for laboratory analysis of constituents listed in Table 1 of the LWA scope (includes 10% markup).
- h An additional \$4,000 may be required as a contingency in the event of staffing or monitoring issues

LARRY WALKER ASSOCIATES

Rate Schedule Effective July 1, 2016 – June 30, 2017

PERSONNEL

Project Staff

Melanie Andreacchi	\$ 80
Lynne Enya	\$ 80
Mary Huizar	\$ 80
Tina VanCarpels	\$ 80
Denise Walton	\$ 80
Adriana Stovall	\$ 90
Michelle Benson	\$145
Kathryn Walker	\$145
Olin Applegate	\$160
Katrina Arredondo	\$160
Jenny Bayley	\$160
Suzanne Brown	\$160
Antonia Estevez-Olea	\$160
Nima Jabbari	\$160
Adriel Leon	\$160
Amir Mani	\$160
Danielle Moss	\$160
Steve Maricle	\$175
Jeff Walker	\$175
Elizabeth Yin	\$175
Bryant Alvarado	\$195
Alina Constantinescu	\$195
Reni Keane-Dengel	\$195
Airy Krich-Brinton	\$195
Mike Marson	\$195
Giles Pettifor	\$195
Danielle Potocek	\$195
Hope M. Taylor	\$195

Senior Staff

Kristine Corneillie	\$220
Diana Engle	\$220
Laura Foglia	\$220
Paul Hartman	\$220
Gorman Lau	\$220
Will Lewis	\$220
Shelli St. Clair	\$220
Amy Storm	\$220
Mike Trouchon	\$220
Rachel Warren	\$220

Associate

Denise Conners	\$245
Betsy Elzufon	\$245
Sandy Mathews	\$245
Mitch Mysliwiec	\$245
Claus Suverkropp	\$245

Principal

Karen Ashby	\$270
Ashli Cooper Desai	\$270
Brian Laurenson	\$270
Chris Minton	\$270
Mack Walker	\$270
Tom Grovhoug	\$295

Rate \$/Hour

REIMBURSABLE COSTS

Travel:

Local mileage	Current IRS rate
Transportation	Actual expense
Auto rental	Actual commercial rate
Fares	Actual expense
Room	Actual expense
Subsistence ⁽¹⁾	\$48 per day

The rate for each meal as follows: ⁽¹⁾

Breakfast	\$ 9
Lunch	\$13
Dinner	\$21
Incidentals	\$ 5

Report Reproduction and Copying:

Actual outside expense	
Per black and white copy, in-house	\$0.08
Per color copy, in-house	\$0.89
Per binding, in-house	\$1.95

Special Postage and Express Mail:

Actual expense

Other Direct Costs:

Actual expense

Daily Equipment Rental Rates:

All single parameter field meters (pH, EC, D.O., Turbidity)	\$25 each
Multi-parameter field meters	\$35
Peristaltic Sampling Pump	\$35
Professional grade GPS unit	\$25
Digital Flow Meter	\$45
Digital Fluorometer	\$45
Multi-parameter Data Sonde (with telemetry)	
- first day	\$200
- each additional day	\$ 40

Subcontractors:

Actual expense plus 10% fee

Note: ⁽¹⁾ Charged when overnight lodging is required.