



**Council Meeting: October 26, 2010**

**SUBJECT: Award of a Contract for the Design of Raynor Water Well Rehabilitation and Approval of Budget Modification No. 15 (F1007-06)**

**REPORT IN BRIEF**

Approval is requested for the award of a contract in the amount of \$149,930 to Lee & Ro, Inc. of Walnut Creek for design and construction support services for the Raynor Well Rehabilitation Project (Sunnyvale Works! Project No. SVW-016), and to approve a project contingency in the amount of \$14,993. Approval is also requested for Budget Modification No. 15 to provide funding for this project.

**BACKGROUND**

The City has seven groundwater production wells for the potable water system. The City obtains approximately 4% to 6% of its water supply from these wells, with the remaining water being purchased from the San Francisco Public Utilities Commission (SFPUC) through the Hetch-Hetchy pipeline and from the Santa Clara Valley Water District (SCVWD). The Sunnyvale wells provide supplemental supply during the summer and can be used for emergency standby if one of the purchased water suppliers has an interruption in service.

Raynor Well is the highest production well in the City, capable of providing an average flow of 1,800 gallons per minute (gpm). However, the pump and motor of the well have been out of operation and nonproductive since November 2009. The mechanical failure of these components provides an opportunity to test the well and to design a new well facility that will provide a reliable source of water for the next twenty-five years. This project will evaluate the consolidation of the mechanical and electrical facilities currently scattered around the well location to maximize use, functionality and security at the site.

**DISCUSSION**

The proposed design contract was developed in conjunction with the pre-qualification process established at the outset of the **Sunnyvale Works!** program. The work scope was prepared by Public Works and Purchasing staff and was sent to six (6) pre-qualified firms in the Water Utility Service category. Lee & Ro, Inc. was the only firm that submitted a proposal.

Staff has reviewed the work scope and project pricing proposed to design the well rehabilitation and recommends the award of a contract to Lee and Ro, Inc. as well as a 10% design contingency for the project.

**FISCAL IMPACT**

The total design cost of the project, including a 10% contingency of \$14,993, is \$164,923. It is estimated that the total project cost including design and construction will not exceed \$750,000. Due to the unexpected failure of this well, there is no planned budget for this project. Staff is recommending a budget modification for award of the design contract, and estimated construction costs.

The current Water Supply and Distribution Fund Long Term Financial Plan reflects three water line projects in Fiscal Years 2010/2011 and 2011/2012. These water line projects were budgeted to address water line improvements needed in the Moffett Park area to accommodate the development planned as part of the Moffett Park Specific Plan. These improvements were completed by the developer as part of the work done in the specific plan area. Therefore the City may free up the funds originally planned for those projects and reallocate them to this and other projects. A portion of these funds are planned for re-appropriation to the City-wide Waterline Replacement Project (Budget Modification No. 14), with the remaining funds going to the Raynor Well Rehabilitation Project.

Staff recommends approval of Budget Modification No. 15 to de-fund the no longer needed water projects and appropriate funds to a new project to rehabilitate the Raynor Well. Remaining funds will be available for future appropriation to other water projects.

**Budget Modification No. 15  
Fiscal Year 2010/2011**

	Current	Increase (Decrease)	Revised
Water Supply and Distribution Fund			
Expenditures:			
FY 2010/2011 Project 826910 – H Street Water Line	\$50,000	(\$50,000)	\$0
FY 2010/2011 Project 826930 – 5 <sup>th</sup> Ave Water Line	\$45,500	(\$45,500)	\$0
FY 2010/2011 - New Project – Raynor Well Rehabilitation	\$0	\$750,000	\$750,000

**Fiscal Year 2011/2012**

	Current	Increase (Decrease)	Revised
Water Supply and Distribution Fund			
Expenditures:			
FY 2011/2012 Project 826910 – H Street Water Line	\$331,500	(\$331,500)	\$0
FY 2011/2012 Project 826930 – 5 <sup>th</sup> Ave Water Line	\$293,250	(\$293,250)	\$0
FY 2011/2012 Project 826920 – 1 <sup>st</sup> Ave Water Line	\$54,127	(\$54,127)	\$0

**PUBLIC CONTACT**

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Senior Center, Community Center and Department of Public Safety; and by making the agenda and report available at the Sunnyvale Public Library, the Office of the City Clerk and on the City's Web site.

**RECOMMENDATION**

It is recommended that Council:

1. Award a contract to Lee & Ro, Inc, in substantially the same form as the attached draft Consultant Services Agreement in the amount of \$149,930 for the design of the Raynor Water Well Rehabilitation;
2. Approve a design contingency in the amount of \$14,993; and
3. Approve Budget Modification No. 15 to provide funding for this project.

Reviewed by:

Grace K. Leung, Acting Director, Finance  
Prepared by: Pete Gonda, Purchasing Officer

Reviewed by:

Marvin Rose, Director of Public Works

Approved by:

Gary M. Luebbers  
City Manager

**Attachments**

A. Consultant Services Agreement

**Attachment A**  
**DRAFT**

**CONSULTANT SERVICES AGREEMENT BETWEEN CITY OF  
SUNNYVALE AND LEE & RO, INC. FOR DESIGN AND  
CONSTRUCTION SUPPORT SERVICES  
FOR RAYNOR WATER WELL REHABILITATION PROJECT**

THIS AGREEMENT, dated \_\_\_\_\_, is by and between the CITY OF SUNNYVALE, a municipal corporation ("CITY"), and LEE & RO, INC. ("CONSULTANT").

WHEREAS, CITY desires to secure professional services necessary for investigation, analysis, design, preparation of construction drawings and contract specifications, consultation, services during construction and other services for a project known as Raynor Water Well Rehabilitation Project, and

WHEREAS, CONSULTANT represents that it, and its sub-consultants, if any, possess the professional qualifications and expertise to provide the required services and are licensed by the State of California to practice engineering in the required disciplines;

NOW, THEREFORE, THE PARTIES ENTER INTO THIS AGREEMENT.

1. Services by CONSULTANT

CONSULTANT shall provide services in accordance with Exhibit "A" entitled "Scope of Work." All exhibits referenced in this Agreement are attached hereto and are incorporated herein by reference. To accomplish that end, CONSULTANT agrees to assign Greg DeBois to this project, to act in the capacity of Project Manager and personally direct the professional services to be provided by CONSULTANT.

Except as specified in this Agreement, CONSULTANT shall furnish all technical and professional services, including labor, material, equipment, transportation, supervision and expertise to perform all operations necessary and required to satisfactorily complete the services required in this Agreement.

2. Notice to Proceed/Completion of Services

- (a) CONSULTANT shall commence services upon receipt of a Notice to Proceed from CITY. Notice shall be deemed to have occurred three (3) calendar days after deposit in the regular course of the United States mail.
- (b) When CITY determines that CONSULTANT has satisfactorily completed the services defined in Exhibit "A," CITY shall give CONSULTANT written Notice of Final Acceptance, and CONSULTANT shall not incur any further costs hereunder. CONSULTANT may request this determination of completion when, in its opinion, it has satisfactorily completed the Scope of Work (Exhibit "A"), and if so requested, CITY shall make this determination within fourteen (14) days of such request.

3. Project Schedule

The Project Schedule is set forth in the attached Exhibit "A-1."

4. Payment of Fees and Expenses

Payments shall be made to CONSULTANT on a monthly basis as set forth in the attached Exhibit "B" entitled "Compensation Schedule." All compensation will be based on monthly billings as provided in Exhibit "B." Compensation will not be due until said detailed billing is submitted to CITY within a reasonable time before payment is expected to allow for normal CITY processing. An estimate of the percent of total completion associated with the various categories of the services shall be furnished by CONSULTANT with said billing. When applicable, copies of pertinent financial records will be included with the submission of billing(s) for all direct reimbursables. Compensation shall not exceed the amounts set forth in Exhibit "B" for each phase. In no event shall the total amount of compensation payable under this agreement exceed the sum of One Hundred Forty Nine Thousand Nine Hundred Thirty and No/100 Dollars (\$149,930.00) unless upon written modification of this Agreement. All invoices, including detailed backup, shall be sent to City of Sunnyvale, attention Accounts Payable, P.O. Box 3707, Sunnyvale, CA 94088-3707.

5. No Assignment of Agreement

CONSULTANT bind themselves, their partners, successors, assigns, executors, and administrators to all covenants of this Agreement. Except as otherwise set forth in this Agreement, no interest in this Agreement or any of the work provided for under this Agreement shall be assigned or transferred, either voluntarily or by operation of law, without the prior written approval of CITY. However, claims for money due to or to become due to CONSULTANT from CITY under this Agreement may be assigned to a bank, trust company or other financial institutions, or to a trustee in bankruptcy, provided that written notice of any such assignment or transfer shall be first furnished to CITY. In case of the death of one or more members of CONSULTANT's firm, the surviving member or members shall complete the services covered by this Agreement. Any such assignment shall not relieve CONSULTANT from any liability under the terms of this Agreement.

6. Consultant is an Independent Contractor

CONSULTANT is not an agent or employee of CITY but is an independent contractor with full rights to manage its employees subject to the requirements of the law. All persons employed by CONSULTANT in connection with this Agreement will be employees of CONSULTANT and not employees of CITY in any respect. CONSULTANT is responsible for obtaining statutory Workers' Compensation coverage for its employees.

7. Consultant's Services to be Approved by a Registered Professional (Where Applicable)

All reports, costs estimates, plans and other documents which may be submitted or furnished by CONSULTANT shall be approved and signed by a qualified registered professional in the State of California. The title sheet for calculations, specifications and reports, and each sheet of plans, shall bear the professional seal, certificate number, registration classification, expiration date of certificate and signature of the professional responsible for their preparation.

8. Standard of Workmanship

CONSULTANT represents and maintains that it is skilled in the professional calling necessary to perform the services and its duties and obligations, expressed and implied, contained herein, and CITY expressly relies upon CONSULTANT's representations regarding its skills and knowledge. CONSULTANT shall perform such services and duties in conformance to and consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California.

The plans, designs, specifications, estimates, calculations reports and other documents furnished under the Scope of Work (Exhibit "A") shall be of a quality acceptable to CITY. The criteria for acceptance of the work provided under this Agreement shall be a product of neat appearance, well-organized, technically and grammatically correct, checked and having the maker and checker identified. The minimum standard of appearance, organization and content of the drawings shall be that used by CITY for similar projects.

9. Responsibility of CONSULTANT

CONSULTANT shall be responsible for the professional quality, technical accuracy and the coordination of the services furnished by it under this Agreement. Neither CITY's review, acceptance nor payment for any of the services required under this Agreement shall be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement and CONSULTANT shall be and remain liable to CITY in accordance with applicable law for all damages to CITY caused by CONSULTANT's negligent performance of any of the services furnished under this Agreement.

Any acceptance by CITY of plans, specifications, calculations, construction contract documents, reports, diagrams, maps and other material prepared by CONSULTANT shall not, in any respect, absolve CONSULTANT for the responsibility CONSULTANT has in accordance with customary standards of good engineering practice in compliance with applicable Federal, State, County and/or municipal laws, ordinances, regulations, rules and orders.

10. Right of CITY to Inspect Records of CONSULTANT

CITY, through its authorized employees, representatives, or agents, shall have the right, at any and all reasonable times, to audit the books and records including, but not limited to, invoices, vouchers, canceled checks, time cards of CONSULTANT for the purpose of verifying any and all charges made by CONSULTANT in connection with this Agreement. CONSULTANT shall maintain for a minimum period of three (3) years from the date of final payment to CONSULTANT or for any longer period required by law, sufficient books and records in accordance with generally accepted accounting practices to establish the correctness of all charges submitted to CITY by CONSULTANT. Any expenses not so recorded shall be disallowed by CITY.

11. Confidentiality of Material

All ideas, memoranda, specifications, plans, calculations, manufacturing procedures, data, drawings, descriptions, documents, discussions or other information developed or received by or for CONSULTANT and all other written information

submitted to CONSULTANT in connection with the performance of this Agreement shall be held confidential by CONSULTANT and shall not, without the prior written consent of CITY be used for any purposes other than the performance of the Project services, nor be disclosed to an entity not connected with the performance of the Project services. Nothing furnished to CONSULTANT which is otherwise known to CONSULTANT or is or becomes generally known to the related industry shall be deemed confidential. CONSULTANT shall not use CITY's name, insignia or distribute exploitative publicity pertaining to the services rendered under this Agreement in any magazine, trade paper, newspaper or other medium without the express written consent of CITY.

12. No Pledging of CITY's Credit

Under no circumstances shall CONSULTANT have the authority or power to pledge the credit of CITY or incur any obligation in the name of CITY.

13. Ownership of Material

All material, including information developed on computer(s), which shall include, but not be limited to, data, sketches, tracings, drawings, plans, diagrams, quantities, estimates, specifications, proposals, tests, maps, calculations, photographs, reports and other material developed, collected, prepared or caused to be prepared, under this Agreement shall be the property of CITY, but CONSULTANT may retain and use copies thereof.

CITY shall not be limited, in any way, in its use of said material, at any time, for work associated with Project. However, CONSULTANT shall not be responsible for damages resulting from the use of said material for work other than Project, including, but not limited to the release of this material to third parties for work other than on Project.

14. Hold Harmless/Indemnification

To the extent permitted by law (including, without limitation, California Civil Code section 2782.6), CONSULTANT agrees to indemnify, defend and hold harmless CITY, its officers and employees from any and all claims, demands, actions, causes of action, losses, damages, liabilities, known or unknown, and all costs and expenses, including reasonable attorneys' fees in connection with any injury or damage to persons or property to the extent arising out of any negligence, recklessness or willful misconduct of CONSULTANT, its officers, employees, agents, contractor, subcontractors or any officer, agent or employee thereof in relation to CONSULTANT's performance under this Agreement. Such defense and indemnification shall not apply in any instance of and to the extent caused by the sole negligence, recklessness or willful misconduct of CITY, its officers, employees, agents or representatives.

15. Insurance Requirements

CONSULTANT shall take out and maintain during the life of this Agreement policies of insurance as specified in Exhibit "C" attached and incorporated by reference, and shall provide all certificates and/or endorsements as specified in Exhibit "C."

16. No Third Party Beneficiary

This Agreement shall not be construed or deemed to be an agreement for the benefit of any third party or parties and no third party or parties shall have any claim or right of action hereunder for any cause whatsoever.

17. Notices

All notices required by this Agreement, other than invoices for payment which shall be sent directly to Accounts Payable, shall be in writing, and shall be personally delivered, sent by first class with postage prepaid, or sent by commercial courier, addressed as follows:

To CITY:                   Chuck Neumayer, Senior Engineer  
                                  Department of Public Works  
                                  CITY OF SUNNYVALE  
                                  P. O. Box 3707  
                                  Sunnyvale, CA 94088-3707

To CONSULTANT: LEE & RO, INC.  
                                  Attn: Greg DeBois  
                                  1777 Oakland Road, Suite 220  
                                  Walnut Creek, CA 94596

Nothing in this provision shall be construed to prohibit communication by more expedient means, such as by telephone or facsimile transmission, to accomplish timely communication. However, to constitute effective notice, written confirmation of a telephone conversation or an original of a facsimile transmission must be sent by first class mail, by commercial carrier, or hand-delivered. Each party may change the address by written notice in accordance with this paragraph. Notices delivered personally shall be deemed communicated as of actual receipt; mailed notices shall be deemed communicated as of three days after mailing, unless such date is a date on which there is no mail service. In that event communication is deemed to occur on the next mail service day.

18. Waiver

CONSULTANT agrees that waiver by CITY of any one or more of the conditions of performance under this Agreement shall not be construed as waiver(s) of any other condition of performance under this Agreement.

19. Amendments

No alterations or changes to the terms of this Agreement shall be valid unless made in writing and signed by both parties.

20. Integrated Agreement

This Agreement embodies the agreement between CITY and CONSULTANT and its terms and conditions. No verbal agreements or conversation with any officer, agent or employee of CITY prior to execution of this Agreement shall affect or modify any of the terms or obligations contained in any documents comprising this Agreement. Any such verbal agreement shall be considered as unofficial information and in no way binding upon CITY.

21. Conflict of Interest

CONSULTANT certifies that to the best of its knowledge, no CITY employee or officer of any public agency interested in this Agreement has any pecuniary interest in the business of CONSULTANT and that no person associated with CONSULTANT has any interest that would conflict in any manner or degree with the performance of this Agreement.

22. California Agreement

This Agreement has been entered into in the State of California and this Agreement shall be governed by California law.

23. Records, Reports and Documentation

CONSULTANT shall maintain complete and accurate records of its operation, including any and all additional records required by CITY in writing. CONSULTANT shall submit to CITY any and all reports concerning its performance under this Agreement that may be requested by CITY in writing. CONSULTANT agrees to assist CITY in meeting CITY's reporting requirements to the state and other agencies with respect to CONSULTANT's work hereunder. All records, reports and documentation relating to the work performed under this Agreement shall be made available to City during the term of this Agreement.

24. Termination of Agreement

If CONSULTANT defaults in the performance of this Agreement, or materially breaches any of its provisions, CITY at its option may terminate this Agreement by giving written notice to CONSULTANT. If CITY fails to pay CONSULTANT, CONSULTANT at its option may terminate this Agreement if the failure is not remedied by CITY within thirty (30) days after written notification of failure to pay.

Without limitation to such rights or remedies as CITY shall otherwise have by law, CITY also shall have the right to terminate this Agreement for any reason upon ten (10) days' written notice to CONSULTANT. In the event of such termination, CONSULTANT shall be compensated in proportion to the percentage of services performed or materials furnished (in relation to the total which would have been performed or furnished) through the date of receipt of notification from CITY to terminate. CONSULTANT shall present CITY with any work product completed at that point in time.

25. Subcontracting

None of the services covered by this Agreement shall be subcontracted without the prior written consent of CITY. Such consent may be issued with notice to proceed if subcontract consultants are listed in the project work plan.

26. Fair Employment

CONSULTANT shall not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, condition of physical handicap, religion, ethnic background or marital status, in violation of state or federal law.

27. Changes

CITY or CONSULTANT may, from time to time, request changes in the terms and conditions of this Agreement. Such changes, which are mutually agreed upon by CITY and CONSULTANT, shall be incorporated in amendments to this Agreement.

28. Other Agreements

This Agreement shall not prevent either Party from entering into similar agreements with others.

29. Severability Clause.

In case any one or more of the provisions contained herein shall, for any reason, be held invalid, illegal or unenforceable in any respect, it shall not affect the validity of the other provisions which shall remain in full force and effect.

30. Captions

The captions of the various sections, paragraphs and subparagraphs, of the contract are for convenience only and shall not be considered nor referred to for resolving questions of interpretation.

31. Entire Agreement; Amendment

This writing constitutes the entire agreement between the parties relating to the services to be performed or materials to be furnished hereunder. No modification of this Agreement shall be effective unless and until such modification is evidenced by writing signed by all parties.

32. Miscellaneous

Time shall be of the essence in this Agreement. Failure on the part of either party to enforce any provision of this Agreement shall not be construed as a waiver of the right to compel enforcement of such provision or any other provision. This Agreement shall be governed and construed in accordance with the laws of the State of California.

IN WITNESS WHEREOF, the parties have executed this Agreement.

ATTEST:

CITY OF SUNNYVALE ("CITY")

By \_\_\_\_\_  
City Clerk

By \_\_\_\_\_  
City Manager

LEE & RO, INC.  
("CONSULTANT")

APPROVED AS TO FORM:

By \_\_\_\_\_  
\_\_\_\_\_  
Name/Title

\_\_\_\_\_  
City Attorney

By \_\_\_\_\_  
\_\_\_\_\_  
Name/Title

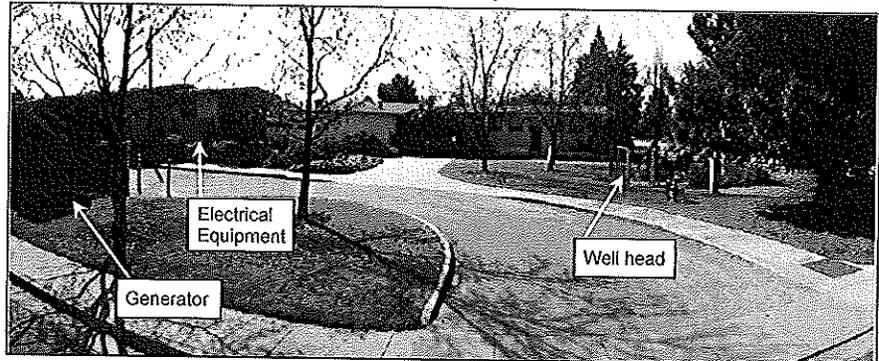


### UNDERSTANDING AND APPROACH

#### BACKGROUND

The City of Sunnyvale has requested a proposal to provide emergency services associated with mechanical and electrical rehabilitation of the Raynor water well. The existing pump has failed operationally, making design and replacement a priority. The well site is located near the intersection of Dunford Way and Partridge Avenue.

The existing well site, consisting of the well head, discharge piping, instrumentation, standby generator, service entrance panel, motor starter, and PLC/SCADA system, is distributed over an area that is roughly 150 feet in diameter. The well head is situated under a small grove of mature redwood trees and the standby generator is located in an adjacent parking lot with bollards around it for protection from vehicular traffic. The electrical panel, including service entrance, switchboard, automatic transfer switch (ATS), motor starter and PLC/SCADA/Telemetry, is nestled in a small alcove adjacent to the neighboring building.



The well pump, which was operated for less than two years prior to failure, was a new Flowserve 12 EMH 6 Stage Bowl assembly operating at 320 feet. The pump motor was a US 200 HP, 480 volt motor. The pump is seized, and the shaft is damaged. The most critical element of this project is to properly identify the cause of this failure in order to provide a successful installation and avoid a similar future equipment failure.

LEE & RO staff visited the well site on August 20, 2010, discussed the project with City maintenance staff, had conversations with a local pump supplier, reviewed the pump inspection report prepared by *Pump Repair Service Company* dated February 23, 2010, and talked with staff who prepared the report. Based on this background information obtained, as well as supplemental information provided with the Request for Proposals (RFP), we believe that the well pump failure is the result of sand damaging the pump during operation or possibly operation of the pump for an extended period of time at an abnormally high discharge head as the result of a closed or partially closed discharge valve or extreme drawdown in well.

#### KEY ISSUES

LEE & RO has identified key issues which will be critical to the success of this project.

- Well Production
- Submersible Pump/Motor or Detached Pump and Motor
- Replace Existing Electrical Equipment
- PG&E Service
- Site Layout and Enclosure
- City Permitting Process

Solutions to addressing these issues, as well as past experience completing these types of tasks, are included below.



## PROJECT APPROACH

**Well Production.** Capacity of the existing well will be verified by performing a draw down test of the well. This test will be performed by Roadrunner Drilling & Pump working as a subconsultant to LEE & RO. We recommend a production and yield drawdown test at a minimum of 1,000 gpm with the drawdown pump installed a minimum of 400 feet deep, but not at the well screen location. The results of the drawdown test, along with water depth and operating pressures in the City potable water distribution system, will allow LEE & RO to properly size and specify the new well pump.

**Submersible Pump/Motor or Vertical Turbine Pump and Motor.** The original Raynor Well installation (prior to 2007) utilized a submersible pump manufactured by Byron Jackson. This was replaced by an aboveground vertical turbine pump and motor, presumably for cost savings purposes since a submersible pump typically has a higher capital cost. LEE & RO has had successful experience with both pumping systems and will work with the City to select the appropriate pump replacement solution. A submersible pump offers several advantages, since a foot valve can be installed, thus eliminating the requirement for a deep well pump control valve and reduced noise during operation.

**Replace Existing Electrical Equipment.** The existing electrical equipment consists of a composite system built using a variety of various panels from different years including a 480VAC service entrance panel, switchboard, ATS, motor starter, and PLC/SCADA/Telemetry panel. The PLC/SCADA/Telemetry section is located directly above the 480V motor starter, which offers concern to City staff due to close proximity of the two sections. In addition, the equipment is situated in a small alcove adjacent to a building and limited access is available for routine operations and maintenance. As a means to improve the safety and reliability of the electrical equipment, we recommend that some or all of this equipment be replaced or relocated, providing greater separation between the 480VAC equipment and the PLC/SCADA system. LEE & RO recently designed upgrades and provided construction support for Contra Costa Water District treated water pump stations, where our team replaced the existing electrical equipment including service entrance panels, main and generator breakers, ATSS, motor starters and PLC/SCADA panels.

**PG&E Service.** The existing pad-mounted transformer is of a relatively new PG&E vintage and thus should be reusable at its current location and configuration, conforming to utility service standards. Our experience in this area on the Hamilton Water Plant and Serra and Westmoor Pump Station projects provides our team with good, recent understanding of utility needs and requirements.

**Site Layout and Enclosure.** The existing well site, consisting of well, discharge piping, instrumentation, standby generator, service entrance panel, motor starter, and PLC/SCADA system are distributed in an area of roughly 150 feet in diameter. As a means of consolidating the equipment at the well site, it is recommended that the electrical equipment, including the standby generator, be placed closer to the well head, with security fencing which will serve a dual purpose by also providing visual screening of the equipment. LEE & RO worked with the San Francisco Redevelopment Agency to best place the Mission Bay Stormwater Pump Station No. 6 electrical equipment and generator enclosure adjacent to the wet well, while minimizing the visual impact of the installation to neighboring condominiums.

**City Permitting Process.** The plans and specifications for this project will be subject to review by the City's Building Department. The LEE & RO team has experience working with the Building Department staff to resolve questions and obtain the necessary permit. Recently, Greg DeBois met with permitting staff to review documents for the Hamilton Plant Renovation project and was able to expedite the process by hand-carrying documents and resolving potential issues.

A detailed Scope of Work is provided below.



## SCOPE OF WORK

To improve the reliability, maintainability and overall efficiency of the Raynor Water Well, several upgrades are proposed as part of the Raynor Water Well (Project).

### TASK 1 – PROJECT MANAGEMENT

**Task 1.1: Project Administration.** LEE & RO will provide overall project management and maintain communication with City staff throughout the project. Specific activities include preparing a detailed work plan, monitoring project budget and schedules, preparing monthly invoices and progress reports, and assisting with other requested activities.



The Project Work Plan serves as both a project procedures manual to govern day-to-day direction and as a detailed guidebook for project completion including schedules, budgets, resource utilization, and information management systems. Monthly progress reports will accompany invoices, summarizing work performed during the month, work to be completed in the next month, and statements of schedule and budget status.

**Task 1.2: Meetings.** This proposal assumes up to four (4) meetings with City staff during the project. This allowance includes a project kick-off meeting, a Preliminary Design Report review meeting, and two (2) additional progress meetings.

**Task 1.3: Quality Assurance/Quality Control.** QA/QC tasks are performed by an independent team of highly experienced engineers who are not participating in the day-to-day project design. For this project, a sewer rehabilitation expert has been identified to serve in this role, and this Technical Advisor will render unbiased perspectives, identify potential problems, and value-engineer project recommendations. Using this system, LEE & RO will implement a Quality Assurance and Quality Control Program throughout the life of the project. The 60 and 99-percent submittals will be thoroughly reviewed by our Technical Advisor prior to submission to the City.

*Task 1 Deliverables: Work Plan, Project meeting minutes summarizing decisions and follow-up actions, monthly invoices and progress reports*

### TASK 2 – PRELIMINARY DESIGN

LEE & RO will conduct the work described in the RFP and detailed below, in order to prepare Preliminary Design findings and recommendations for consideration by the City. It is surprising to us that sanding of the well has become a problem only in the last two years, after the well has reportedly operated for multiple years at a similar flow rate, utilizing a submersible pump manufactured by Byron Jackson. This original well pump is not significantly different from the vertical turbine pump installed in 2007 and which later failed, indicating that there was likely either a change in conditions at the well or a change in operational procedures.

**Task 2.1: Well Inspection, Bailing, and Production and Yield Test.** LEE & RO will employ the well inspection firm, Water Well Technology (DBO as *welenco*), as a subconsultant. Well inspection work will include preparing an inspection video and log of the well casing, including well screen sections. LEE & RO will also employ Roadrunner Drilling & Pumping for bailing the bottom of the casing to evaluate the type and quantity of sand contained in the well, and to perform a production and yield test drawdown of the well. The drawdown test will be performed at a minimum of 2,000 gpm for one 24-hour cycle. Upon completion of the testing, a certified copy of the development and test records will be provided to the City.

**Task 2.2: Hydraulic Analysis.** LEE & RO will evaluate the hydraulics of the Raynor well facility and prepare necessary hydraulic calculations. Care will be given to studying suitable protection of the well pump, including reviewing the City's potable water distribution system



pressure and flow demands. This information will be used, along with the drawdown testing results, to properly size the pump, piping systems, motor, and electrical systems.

**Task 2.3: Siting Study.** LEE & RO will evaluate the layout of the well head works, the location of the existing standby generator, and the existing motor control center, and make recommendations regarding consolidation of the facilities in one enclosed area. The site will be fenced to provide adequate security for the facilities, in accordance with requirements of the California Department of Public Health Division of Drinking Water and Environmental Management General Water Systems Security Checklist. Siting work will also consider location of the generator in relation to overhead obstructions, future well treatment systems, and costs of moving or replacing relatively new electrical equipment.

**Task 2.4: Predesign Report.** LEE & RO will prepare a Predesign Report (PDR) for review by the City, and to be used in determining the best value project to proceed with.

*30% predesign level plans will present the overall improvement concepts for the work. Plans will be included with the PDR and will show, at a minimum:*

- *Cover sheet, plans sheets with base mapping, detail sheets*
- *Civil, structural, and mechanical layout of facilities*
- *Electrical and control equipment and concepts*
- *Preliminary electrical one-line diagram*
- *Draft specification index*
- *Preliminary Opinion of Probable Cost*

**Task 2.5: Predesign Presentation.** LEE & RO will prepare presentation materials and meet with City staff to review findings and recommendations of the PDR.

**Task 2.6: CEQA Documentation.** LEE & RO will prepare a memo for requesting a Categorical Exemption in support of the CEQA process. Our team will file the CEQA documentation with the County of Santa Clara. If relocating of the facilities moves this project from the Categorical Exemption eligibility to a Negative Declaration (Neg Dec) or Mitigated Neg Dec, this additional document will be prepared as an additional service after discussion with the City.

**Task 2.7: Permitting.** LEE & RO will work with the City to obtain the necessary building permit for the project's construction. Any fees associated with the building permit will be paid by the City.

**Task 2.8: Geotechnical Investigation (optional service).** For this proposal, we assume that conservative Building Code values will be used for designing the generator support structure. If the design evolves during the predesign phase such that a building or other more significant structure is needed, services of a geotechnical firm will be provided as an additional service.

**Task 2.9: Surveying (optional service).** For this proposal, we assume that adequate information is available through existing sources to locate the project facilities. If the design evolves during the predesign phase such that a topographic survey is advisable, LEE & RO will contract with a licensed land surveyor to complete this work as an additional service.

*Task 2 Deliverables: 5 copies each of Draft and Final Predesign Report, cover sheet, preliminary drawings indicated above, preliminary OPC, technical specification outline, one copy of the Categorical Exemption memo for the CEQA process.*

*Task 2 Assumptions: 1. Preparation of an Initial Study and Mitigated Negative Declaration can be provided at the City's direction if found to be needed.*

*2. Water from well pump testing will be disposed of within 200 feet of the well site. Discharge will be to a storm or sanitary sewer, as allowed. Costs of discharge will be paid by the City. City will obtain permits necessary to dispose of well test pumping discharge.*



## TASK 3 – DESIGN DOCUMENTS

Design documents will be submitted to the City for review at the 60% and 99% levels of completion. Drawings will conform to the City of Sunnyvale’s drawing and detailing standards, as applicable. Technical specifications will be developed for the work required for the project. City standard specifications will be utilized where possible, and LEE & RO will provide technical specifications based on our firm’s master documents. Our team has successfully worked with the City on design projects, and we are familiar with required procedures and standards.

Specific levels of work completion, at each project submittal stage, are defined below:

*The 60% design level documents will build on the elements above, adding an additional level of detail and including draft technical specifications for key sections.*

*The 99% design documents will be ready for bid advertisement, pending final review and acceptance by the District. This will represent an essentially complete design with all elements included and with final checking completed.*

**Task 3.1: 60% and 99% Design Documents.** LEE & RO will produce design drawings as shown at right, for bidding of this project. Work also includes associated specifications. LEE & RO will prepare technical specifications, and will support City staff in reviewing the City’s front-end, Division 0 and 1, specifications. The 60% design review set will include the design elements described above.

Upon receipt of comments on the 60% review submittal, LEE & RO will incorporate City input and will continue with the design detailing. The 99% review set will be essentially complete and ready for bidding, subject to City review and approval, as noted above. Final comments received from the City on the 99% review documents will be incorporated into a final bid-ready set of documents.

For each submittal, LEE & RO will respond to City comments received on a single compiled set of review documents from the City, either through incorporation into the drawings or by written summary of action taken.

Preliminary Sheet List	
1	G-1 Title Sheet, Vicinity & Location Maps, Drawing List
2	G-2 General Notes and Details
3	C-1 Civil Notes and Standard Details
4	C-2 Civil Site Plan - Demolition
5	C-3 Site Plan
6	S-1 Structural Notes and Standard Details
7	S-2 Gen & Elec Equipment Foundation Plan & Sections
8	M-1 Mechanical Notes and Standard Details
9	M-2 Mechanical Site Plan
10	M-3 Mechanical Pump and Pipe Plan and Sections
11	E-1 Electrical Notes and Standard Details
12	E-2 Electrical Site Plan - Demolition
13	E-3 Electrical Site Plan
14	E-4 Electrical Single Line and Equipment Elevation
15	E-5 Electrical Schematic and Conduit & Wire Schedule
16	I-1 Instrumentation Notes and Standard Details
17	I-2 Instrumentation P&ID 1 of 2
18	I-3 Instrumentation P&ID 2 of 2

**3.1.1 – Mechanical Design.** LEE & RO will design for repair or replacement of the existing pump at the site of the Raynor Well, based on the outcome of the adopted PDR and City preference. We recommend that the replacement or rebuilt unit be modified from the original installation as follows:

- Bronze/rubber bearings in the bowl
- Hard chrome all bearing journals on the bowl shaft
- Hardened SS wear rings with > 50 BHN hardness difference between the rings
- Addition of a suction pipe and cone strainer, with strainer located in a blank section of the well casing and not in the screen section
- Increased suction pipe and strainer diameter

The existing pump motor should be suitable for reuse, thus reducing replacement costs. The pump shaft failure likely resulted from failure of multiple bearing and wear ring assemblies. Modification of the pump materials as specified above should correct this problem.

Alternatively, a new pump and motor can be utilized. The new pump and motor assembly can either be submersible or similar to the existing vertical turbine pump installation.

The pump discharge design will include a deep well control valve for the purposes of venting air during pump start-up and for vacuum break. A storm drain discharge is already present at the site of the well for installation of a well control valve. This valve will not be necessary for a submersible pump, provided a foot valve is utilized.



Currently, strap-on ultrasonic flow meters are used to monitor flow. New flow meters will be installed downstream of each pump outlet. Readings from the flow meters will be transmitted to the District's raw water SCADA system located in the ASD gallery.

**3.1.2 – Civil Design.** LEE & RO's design will consider proper access for operations and maintenance access to the well site. Aesthetics will be considered for all design features.

**3.1.3 – Electrical and Instrumentation Design.** LEE & RO will incorporate the electrical design identified in the PDR and City comments to provide a safe and reliability electrical system. In addition, we will work with City staff to integrate the City provided remote terminal interface components to provide a complete and operational PLC/SCADA/Telemetry system.

**3.1.4 – Structural Design.** LEE & RO will design a foundation for the generator at its new location. As an additional service, if found to be required, our team will design a building to house the generator and electrical equipment. This building would be designed to blend with the surrounding neighborhood.

**Task 3.2: Opinion of Probable Cost.** LEE & RO will update the Opinion of Probable Cost (OPC) that is prepared for the PDR and submit revised numbers with each design document submittal.

*Task 3 Deliverables: 60% submittal: (5) sets of 11" x 17" half-sized drawings, (5) sets of specifications, updated Opinion of Probable Cost, digital copy of drawings and specifications.*

*99% submittal: (5) sets of 11" x 17" half-sized drawings, (5) sets of specifications, updated Opinion of Probable Cost, digital copy of drawings and specifications.*

*Task 3 Assumptions: 1. New PG&E service coordination is not required.*

### TASK 4 – BID PACKAGE

Bid-ready contract documents, as described below, will be prepared under this task.

**Task 4.1: Bid-Ready Documents.** The LEE & RO team will incorporate the City's comments regarding the 99% submittal and will produce a set of bid-ready contract documents. The plans and technical specifications will be coordinated with the City's front-end bid instructions, standard provisions, and revised special provisions and optimized for Public Works bidding.

**Task 4.2: Peer Review.** Our QA/QC team consists of Sal Calderon and James Park, who are not involved in the day-to-day details of the drawing and specification production. These experts in the areas of mechanical and electrical/control systems, respectively, will review the contract documents for overall constructability, coordination, and a reasonable reduction in errors and omissions. At the completion of this review, the City's certification of peer review will be signed, dated, and sealed for transmission with the final plans and specifications.

*Task 4 Deliverables: (2) sets of 11" x 17" half-sized drawings stamped and signed by the Engineer of Record, (2) sets of technical specifications stamped and signed on the table of contents sheet, Final Bid Schedule, Schedule of Values, updated Opinion of Probable Cost, Final list of submittals, Revised Special Provisions, Reviewed City's Standard Construction Contract, Signed and Sealed Certification of Peer Review, Electronic reproducible plans and specifications in pdf format on CD, for the City's use in reproducing documents for distribution to prospective bidders.*

### TASK 5 – BIDDING SERVICES

LEE & RO will assist the City in responding to questions that arise during the bidding process. Our team will attend and take minutes at the Pre-Bid meeting. If needed, we will prepare one addendum to summarize and clarify responses to Contractor questions. In addition, LEE & RO will assist the City in evaluating bids and in recommending construction contract approval.



*Task 5 Deliverables: Written responses to Contractor questions, minutes from the Pre-Bid meeting, addendum if needed.*

### **TASK 6 – CONSTRUCTION SERVICES**

LEE & RO will support the City throughout the construction of this project. The basis of our proposal for this work is provided below.

**Task 6.1: Review Submittals.** Using data from similar projects, we have based our estimate on a combined total of up to 24 contractor submittals and re-submittals for the project.

**Task 6.2: Respond to Requests for Information/Contract Drawing Clarifications.** This proposal assumes that there may be up to ten (10) RFIs and six (6) CDCs for a total of 16 clarification documents for the project.

**Task 6.3: Attend Site Visits and Meetings.** LEE & RO will make two (2) site visits during the construction period, as requested by City staff.

**Task 6.4: Review Recommendations for Proposed Changes to the Contract.** LEE & RO will review up to three (3) proposed substitutions for conformance to contract documents or change orders.

**Task 6.5: Prepare Record Drawings.** Based upon records kept by the Contractor and as indicated in project RFIs and CDCs, LEE & RO will prepare project Record Drawings for the project.

*Task 6 Deliverables: Reviewed submittals, returned to the City in accordance with timing terms set forth in the contract specifications; responses to Requests for Information and issued Contract Document Clarifications; recommendations on proposed substitutions and change orders; one set of final reproducible record drawings for the completed project*

### **SCHEDULE**

The Request for Proposals specifies the following schedule goals and requirements:

- Bid-ready documents prepared within 60 days of the Consultant being given NTP
- Predesign documents and a Predesign presentation, based on findings of well pumping testing
- Three (3) bid documents submittals at the 60%, 99% and final levels of construction
- Three (3) day review period for City staff at each interim submittal

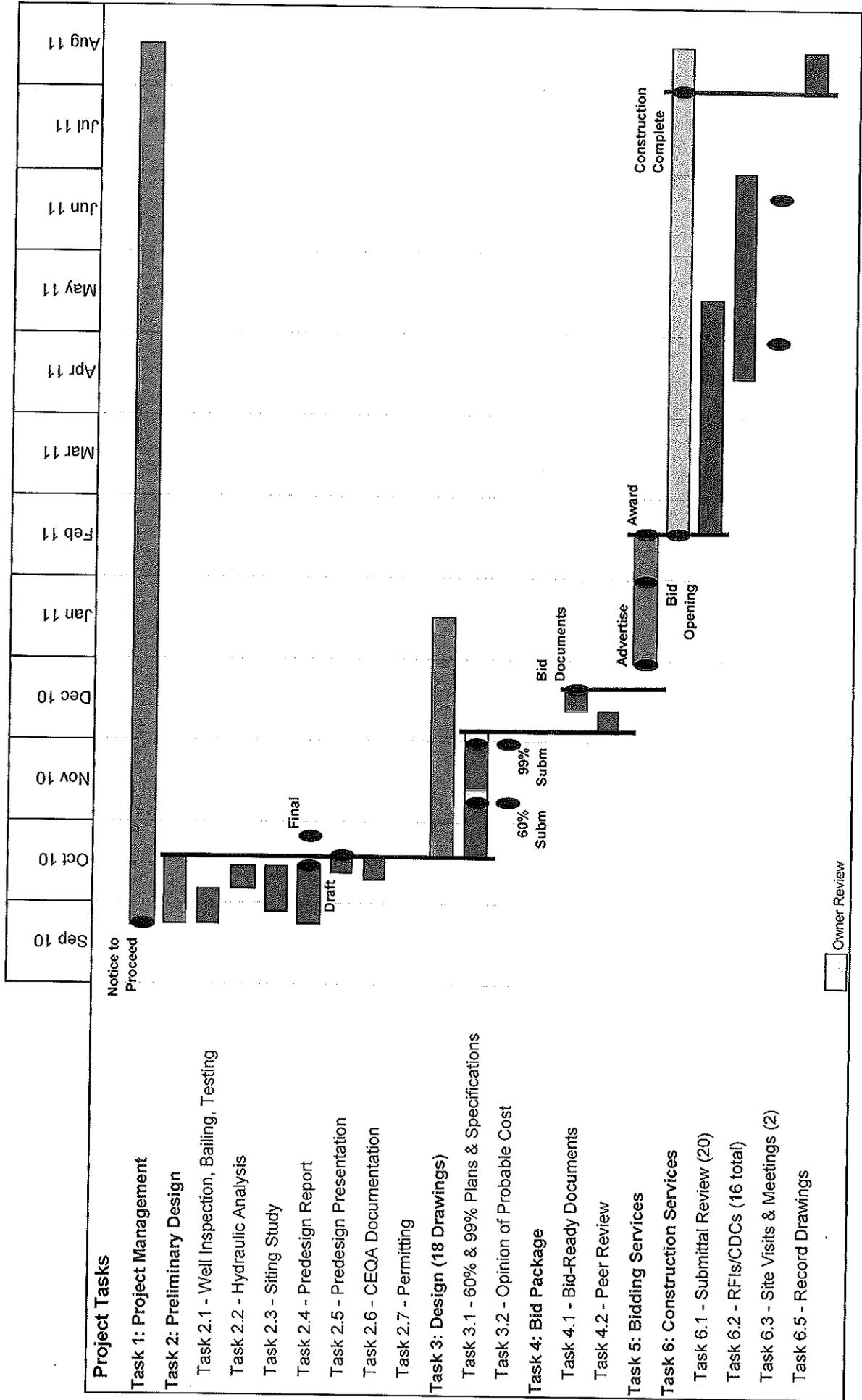
LEE & RO feels that it will be extremely difficult to achieve all of the schedule goals listed above, while completing the required tasks outlined in our Scope of Work above. Upon project commencement, we will work with City staff to determine the most important aspects of these schedule constraints, i.e. (1) we can deliver bid ready documents within 60 days if fewer submittals are made, or (2) we can make the specified submittals and extend the design period.

Our multi-discipline design team completed 26 detailed civil, mechanical, structural, and electrical design drawings for the Mission Bay Development Group in San Francisco in a 10 day timeframe, in order to submit an application for State loan funding. The drawings drew upon the skills and expertise of four different local discipline specialists, under the coordination efforts of our Principal-In-Charge for this project and Northern California Regional Manager, Christine Lindow.

Our firm's size and organizational structure allow us to complete these types of expedited design projects quickly and efficiently. Design decisions are made at a local level, and our Project Manager, Greg DeBois, is extremely experienced in completing these types of rehabilitation projects. He has worked with the City of Sunnyvale on several recent projects, giving him a good understanding of the City's procedures and needs.



# Understanding and Approach



**EXHIBIT "B" – COMPENSATION**

Exhibit 1: Fee Proposal

**City of Sunnyvale  
Electrical and Mechanical Rehabilitation  
of the  
Raynor Water Well**

Proposal P10-72  
September 3, 2010

<b>Labor Category: E8 Mgng Engr; E7 Spvng Engr; E6 Princ Engr; E5 Sr Engr; E4 Engr; E3 Assoc Engr; ; T2 Engr Intern; A3 Word Proc</b>	<b>E8</b>	<b>E7</b>	<b>E5</b>	<b>E4</b>	<b>E3/T5</b>	<b>E2</b>	<b>A4</b>	<b>Total Hours</b>	<b>Total Labor</b>	<b>ODCs*</b>	<b>TOTAL</b>
<b>Project Tasks</b>	\$200	\$178	\$142	\$128	\$115	\$102	\$91				
<b>Task 1: Project Management</b>	34	38					8	80	\$14,290	\$600	\$14,890
Task 1.1 - Project Administration	12	10					6	28	\$4,730	\$200	\$4,930
Task 1.2 - Meetings (3)	10	8						18	\$3,420	\$200	\$3,620
Task 1.3 - Quality Assurance/Quality Control	12	20					2	34	\$6,140	\$200	\$6,340
<b>Task 2: Preliminary Design</b>	12	40	16	40	58	16	8	190	\$25,940	\$19,250	\$45,190
Task 2.1 - Well Inspection, Bailing, Testing		4			4			8	\$1,170	\$18,750	\$19,920
Task 2.2 - Hydraulic Analysis		2	12		8			22	\$2,980		\$2,980
Task 2.3 - Siting Study		8		8	12			28	\$3,830	\$200	\$4,030
Task 2.4 - Predesign Report	4	12	4	24	20	16	4	84	\$10,870	\$200	\$11,070
Task 2.5 - Predesign Presentation	4	8		8			4	24	\$3,610	\$100	\$3,710
Task 2.6 - CEQA Documentation		2			6			8	\$1,050		\$1,050
Task 2.7 - Permitting	4	4			8			16	\$2,430		\$2,430
Task 2.8 - Geotech Investigation (Opt Service)											
Task 2.9 - Surveying (Optional Service)											
<b>Task 3: Design (18 Drawings)</b>	38	32	16	108	80	80		354	\$46,750	\$600	\$47,350
Task 3.1 - 60% & 99% Plans & Specifications											
Task 3.1.1: Mechanical Design		16	8	60		20		104	\$13,700	\$200	\$13,900
Task 3.1.2: Civil Design		8		36		16		60	\$7,660	\$100	\$7,760
Task 3.1.3: Electrical/I&C Design	32				80	24		136	\$18,050	\$200	\$18,250
Task 3.1.4: Structural Design	4		8			12		24	\$3,160		\$3,160
Task 3.2 - Opinion of Probable Cost	2	8		12		8		30	\$4,180	\$100	\$4,280
<b>Task 4: Bid Package</b>	16	8		10	10	12	8	64	\$9,010	\$500	\$9,510
Task 4.1 - Bid-Ready Documents		8		10	10	12		40	\$5,080	\$500	\$5,580
Task 4.2 - Peer Review	16						8	24	\$3,930		\$3,930
<b>Task 5: Bidding Services</b>	4		4		44		2	54	\$6,610	\$200	\$6,810
<b>Task 6: Construction Services</b>	12	32	4	44	84	16		192	\$25,580	\$600	\$26,180
Task 6.1 - Submittal Review (20)	4	8		16	32			60	\$7,950	\$200	\$8,150
Task 6.2 - RFIs/CDCs (16 total)		16		12	20			48	\$6,680	\$100	\$6,780
Task 6.3 - Site Visits & Meetings (2)	4	4		8	8			24	\$3,460	\$100	\$3,560
Task 6.4 - Proposed Contract Changes (3)	4	4	4	8	8			28	\$4,020		\$4,020
Task 6.5 - Record Drawings					16	16		32	\$3,470	\$200	\$3,670
<b>TOTAL NOT-TO-EXCEED</b>	<b>116</b>	<b>150</b>	<b>40</b>	<b>202</b>	<b>276</b>	<b>124</b>	<b>26</b>	<b>934</b>	<b>\$128,180</b>	<b>\$21,750</b>	<b>\$149,930</b>

## Exhibit "C"

### INSURANCE REQUIREMENTS FOR CONSULTANTS

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 by the Consultant, his agents, representatives, or employees.

**Minimum Scope and Limits of Insurance:** Consultant shall maintain limits no less than:

1. **Commercial General Liability:** \$1,000,000 per occurrence and \$2,000,000 aggregate for bodily injury, personal injury and property damage. ISO Occurrence Form CG 0001 is required.
2. **Automobile Liability:** \$1,000,000 per accident for bodily injury and property damage. ISO Form CA 0001 is required.
3. **Workers' Compensation** and **Employer's Liability:** \$1,000,000 per accident for bodily injury or disease.
4. **Errors and Omissions** Liability Insurance appropriate to the Consultants Profession: \$1,000,000 per occurrence and \$2,000,000 aggregate.

#### **Deductibles and Self-Insured Retentions**

Any deductibles or self-insured retentions must be declared and approved by the City of Sunnyvale. The consultant shall guarantee payment of any losses and related investigations, claim administration and defense expenses within the deductible or self-insured retention.

#### **Other Insurance Provisions**

The **general liability** and **automobile liability** policies are to contain, or be endorsed to contain, the following provisions:

1. The City of Sunnyvale, its officials, employees, agents and volunteers are to be covered as additional insureds with respects to liability arising out of activities performed by or on behalf of the Consultant; products and completed operations of the Consultant; premises owned, occupied or used by the Consultant; or automobiles owned, leased, hired or borrowed by the Consultant. The coverage shall contain no special limitations on the scope of protection afforded to the City of Sunnyvale, its officers, employees, agents or volunteers.
2. For any claims related to this project, the Consultant's insurance shall be primary. Any insurance or self-insurance maintained by the City of Sunnyvale, its officers, officials, employees, agents and volunteers shall be excess of the Consultant's insurance and shall not contribute with it.
3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the City of Sunnyvale, its officers, officials, employees, agents or volunteers.

4. The Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, cancelled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City of Sunnyvale.

#### **Claims Made Coverage**

If the General Liability and/or Errors & Omissions coverages are written on a claims-made form:

1. The retroactive date must be shown, and must be before the date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided for at least five years after completion of the contract work.
3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date, the Consultant must purchase an extended period coverage for a minimum of five years after completion of contract work.
4. A copy of the claims reporting requirements must be submitted to the City of Sunnyvale for review.

#### **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 of Sunnyvale.

#### **Verification of Coverage**

Consultant shall furnish the City of Sunnyvale with original a Certificate of Insurance effecting the coverage required. The certificates are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates are to be received and approved by the City of Sunnyvale prior to commencement of work.