

**Council Meeting: July 19, 2011****SUBJECT: Award of a Contract for the Engineering Design of the Wright Avenue Water Plant Reconstruction (F1005-112)****BACKGROUND**

Approval is requested to award a contract to HydroScience Engineers, Inc. of San Jose in an amount not to exceed \$123,620 (\$108,280 in basic services and optional pump design of \$15,340 as explained below) to design the Wright Avenue Water Plant Reconstruction (Public Works Project No. UW-11/01-12), and to approve a 10% design contingency in the amount of \$12,362. This proposed design contract was developed in conjunction with the pre-qualification process established during the **Sunnyvale Works!** program. HydroScience was selected from among five pre-qualified firms who submitted proposals to design the project.

DISCUSSION

Capital Project 825501, Wright Avenue Water Plant Mechanical Reconstruction, provides for a comprehensive reconstruction of the facility, including the potential replacement of the three existing pumps and motors, valve replacements, upgrade of the electrical sub-panel to current code and supply of an emergency generator. The project will result in the provision of electricity to the whole station during power failure (the current system provides for only one pump), and will allow for Supervisory Control and Data Acquisition (SCADA) control to tie the plant to the rest of the City's water control system. Additionally, the work scope includes improvement of the architectural features of the pump building, spill containment/moat, maintenance access improvements, fencing, curb/gutter/sidewalk and street tree improvements around the facility.

Request for Proposals No. F1005-112 was developed by Public Works and Purchasing staff and released to the eighteen (18) firms pre-approved in the Water Utility service category of the **Sunnyvale Works!** program. Five responsive proposals were received as follows:

Lee & Ro, Inc. of San Jose
Infrastructure Engineering Corporation (IEC) of Poway
Winzler & Kelly of San Jose
West Yost Associates of Walnut Creek
HydroScience Engineers, Inc. of San Jose

Proposed costs for the project ranged from \$106,903 to \$193,056, depending upon each proposer's understanding of the City's needs and its approach to meeting those needs.

An evaluation committee composed of Public Works Engineering and Field Services staff reviewed and ranked the proposals based on experience, qualifications of the proposed project team, project understanding and quality of proposal submitted. Following a comprehensive review of the proposals, HydroScience Engineers was ranked the highest by all the evaluators, and was second lowest in cost.

The HydroScience proposal included a creative approach to siting the emergency generator included in the project scope. By locating the new generator outside the existing pump building in a weatherproof, sound attenuated enclosure, modifications to the existing building required by code for the installation of the generator inside can be avoided, resulting in lower costs to the City when the project is bid for construction. Additionally, this will leave space for the potential installation of a fourth pump, which should increase the overall reliability of the facility and provide flexibility during routine maintenance and operations. HydroScience has included the design of the new fourth pump as an option to their pricing proposal, and staff recommends including the optional service in the overall project design.

Based on the information presented above, staff recommends the award contract to HydroScience Engineers, Inc. for the design of the Wright Avenue Water Plant Reconstruction.

FISCAL IMPACT

Project design costs are as follows:

Engineering design services	\$108,280
Optional pump design	\$15,340
Design contingency (10%)	<u>\$12,362</u>
Total design costs	\$135,982

Available funds for design and construction costs are budgeted in Capital Project 825501 between now and the end of FY 2012/2013.

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 HydroScience Engineers, Inc., in substantially the same form as the attached draft Consultant Services Agreement and in an amount not to exceed \$123,620 for the subject project, and authorize the City Manager to execute the contract when all the necessary conditions have been met; and
2. Approve a 10% design contingency in the amount of \$12,362.

Reviewed by:

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

Approved by:

Gary M. Luebbers
City Manager

Attachments

- A. Draft Consultant Service Agreement

ATTACHMENT A
DRAFT
CONSULTANT SERVICES AGREEMENT BETWEEN CITY OF SUNNYVALE AND
HYDROSCIENCE ENGINEERS, INC. FOR DESIGN AND CONSTRUCTION SUPPORT
SERVICES FOR WRIGHT AVENUE WATER PLANT RECONSTRUCTION

THIS AGREEMENT dated _____ is by and between the CITY OF SUNNYVALE, a municipal corporation ("CITY"), and HYDROSCIENCE ENGINEERS, 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 Wright Avenue Water Plant Reconstruction (Public Works Project No. UW-11/01-12); 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 Mary Hoang, P.E. 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 Twenty Three Thousand Six Hundred Twenty and No/100 Dollars (\$123,620.00) 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

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 2782.8), 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: Mark Rogge, City Engineer
 Department of Public Works
 CITY OF SUNNYVALE
 P. O. Box 3707
 Sunnyvale, CA 94088-3707

To CONSULTANT: HYDROSCIENCE ENGINEERS, INC.
 Attn: Mary Hoang, P.E.
 4055 Evergreen Village Drive, Suite 250
 San Jose, CA 95135

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

HYDROSCIENCE ENGINEERS, INC.
("CONSULTANT")

By _____

APPROVED AS TO FORM:

Name/Title

City Attorney

By _____

Name/Title

EXHIBIT "A"

SECTION ONE

Project Understanding and Approach

Project Understanding

The City of Sunnyvale (City) service area has three sources of potable water: 1) treated water from Santa Clara Valley Water District (SCVWD), 2) Hetch-Hetchy water from the San Francisco Public Utilities Commission (SFPUC), and 3) groundwater from City-owned wells. Typically, the City floats off the SFPUC and SCVWD systems.

The City's distribution system is divided into three different pressure zones. The SCVWD supply serves primarily the southern half of the City (Zone 3), the SFPUC water serves the northern half (Zone 1), and a blending of both supplies occurs near El Camino Real (Zone 2). Additionally, pockets of the City are served by the California Water Service Company (Cal Water).

Flows from the turnouts fluctuate depending on the demand in the distribution system. Storage tanks are filled with water from the distribution system through an altitude valve. Booster stations pump water from storage tanks back into the distribution system to meet peak demands. The booster pumps activate automatically on low pressure and can be activated manually to turnover water in the storage tanks. Groundwater is used to meet peak demands and emergency needs such as fire or when water from the SCVWD or SFPUC is unavailable.

The majority of the City's water supply comes from SCVWD at the Wright Avenue Water Plant (Plant) located in pressure Zone 3. Average pressure from the SCVWD turnout at the Plant is approximately 50 psi. The following table details the operational information for the Plant.



SCVWD turnout at Wright Avenue Plant. Flows from the turnouts fluctuate depending on demand.

TABLE 1- Wright Avenue Booster Plant Pump Information

Pump	Diameter (In.)	Discharge Head		Average Flow Rate (gpm)
		(psi.)	(ft.)	
No. 1	6	43	100	412
No. 2	8	43	100	458
No. 3	10	43	100	458
No. 4 (emergency only)	12	43	100	500

The Wright Avenue pump house currently shelters three pumps for everyday use, with a fourth to be used only in emergencies.

The Plant is located in a residential neighborhood and consists of two 5 million gallon storage tanks, one SCVWD turnout, and one pump house. The pump house contains three pumps located on one side and a fourth LPG engine-driven pump on the other. The LPG engine-driven pump is used only during emergencies such as power outages.

According to the City's hydraulic model, Pumps No. 1, 2, and 3 are active during peak hour demands. During maximum day demand, Pump No. 1 operates continuously and Pump No. 2 activates for approximately 12 hours over a 24 hour period. The pumps can be inactivated during minimum and average day demands. However, in order to maintain appropriate tank turnover, the pumps are turned on weekly to reduce the risk of nitrification.

The Plant Reconstruction Project consists of:

- Mechanical reconstruction with structural upgrades to the building roof
- Improvements to architectural features, landscaping, fencing, maintenance access, curb/gutter/sidewalk and street trees in front of the Plant, and the spill containment/moat around the storage tanks as needed
- Replacement of electrical motors with a booster pump and a motor control center for each motor
- Removal of the LPG engine-driven pump and replacement with a back-up generator to provide power for the entire Plant
- Renovation of the electrical system
- Addition of an electrical sub-panel for lighting
- Expansion and reconnection of the existing SCADAPack 32 programmable logic controller (PLC), Operator Interface Terminal, and telemetry link to the new electrical switchgear, motor control center, and standby generator

Project Approach

HSe offers a unique approach in providing the City with a cost-effective solution for a reliable and efficient facility that is easy to maintain and operate.

This section describes HSe's unique approach to providing the City with the most cost-effective solution for a reliable and efficient facility that is easy to maintain and operate.

As part of HSe's preliminary design efforts, our team of structural, electrical/instrumentation, civil, and mechanical engineers will assess the existing facilities and prioritize deficiencies. They will provide recommendations to assist the City in evaluating the costs versus benefits of the various upgrades. HSe will prepare a Preliminary Design Report (PDR) that documents our findings and recommendations at the 30% conceptual design level, including

estimated construction costs for the various options. The following is an example of the types of evaluation HSe will perform and include in the PDR:

Landscaping. During the pre-proposal site visit, HSe noted that the fencing and exterior landscaping at both the Wright Avenue and Calgary Drive entrances were in good condition. These items of improvement may warrant a lower prioritization than removal of the LPG engine and the addition of a generator. Proposed landscaping options within the facility would take into consideration screening from adjacent neighbors; drought tolerant, low maintenance plants to avoid the need for site irrigation; and weed and erosion control concentrated around the tanks, which may consist of three to five courses of interlocking retaining blocks in key areas. HSe will develop drawings for this area of work separate from work related to the booster pumps, giving the City the option to defer this work and package it with the future pavement project for the Plant. The City may receive better construction pricing for this work since the pavement project will not require specialty construction activities.

Generator. HSe will provide a comparison of stationary generator options that would include locating the generator in the building versus an outdoor stationary generator in a weatherproof, sound-attenuated enclosure. A generator located outside of the building on the southwest side away from the neighborhood view (see **FIGURE 1**) may reduce overall construction cost and provide operational flexibility. It would also avoid modifications to the existing building that may be required to accommodate an indoor stationary generator, including additional ventilation, fire proofing, possible foundation work, and other building and National Fire Protection Association (NFPA) code requirements. Furthermore, installing the generator outside of the building would leave room for the LPG engine and pump to be replaced with a fourth standby pump.

Pumps. Having a fourth pump increases the overall reliability of the Plant and provides flexibility during routine maintenance and operation. All three pumps are activated during peak demands, leaving no backup pump available if a pump is offline for maintenance. The fourth pump could be rotated with the others to reduce overall wear and tear on all the pumps. Since this option would require some additional design effort to add controls and modify the existing pipe configuration, HSe has included the additional cost as an add-on to our fee estimate. The scope of work to design an additional pump would be the same as the existing scope with additional instrumentation detail and specification to address SCADA integration and programming.

The fourth pump option would include the design work associated with the development of a new pump station PLC control strategy that involves all four pumps with an automatic alternation scheme, modifications to the existing SCADA screens, and modifications to the local Operator Interface Terminal Screens. Additionally, HSe will participate in a day of onsite testing during construction to insure that the new pump station PLC program is working properly.



The HSe team will evaluate both the existing facilities inside the Plant, and the surrounding landscaping, in order to best prioritize upgrades.



The condition of the existing LPG engine and pump will be evaluated.

Service Entrance Equipment and Main Breaker. The addition of a new standby generator requires the addition of an automatic transfer switch. A new switchboard would include new PG&E metering, a main breaker, and an automatic transfer switch. The new switchboard would comply with current NEC codes and would address current Arc Flash issues that would make for a safer electrical working space.

Lighting, Receptacles, and Switching. All of the existing lighting fixtures would be replaced with more energy-efficient fixtures using newer lamp technologies. To minimize future maintenance issues, all of the existing small power receptacles and wall switches would be replaced as well.

Operational/Construction Consideration. Operational considerations during construction include designing the motor control center (MCC) adjacent to the existing MCC to minimize the downtime of the pumps. Though the pumps can be off-line during minimum and average day demands, it is important to turn over water in the storage tanks to prevent nitrification. These types of design considerations help control costs by minimizing limitations on construction activities.



Designing the new MCC adjacent to the existing MCC may be beneficial during construction, minimizing the downtime of the pumps.

HSe understands that the City has primary construction management and inspection responsibility for the project. However, we recommend including specialty inspection for the electrical and mechanical equipment during the construction phase of the project. We have included an experienced, certified inspector as part of our team in addition to the typical support provided during construction, such as responding to RFIs, reviewing and responding to submittals, attending construction meetings as deemed necessary by the City, and preparation of as-built drawings.

HSe believes our approach will serve the City well from start to finish.

FIGURE 1- Potential Location for Standby Generator



Locating the generator outside of the building would reduce overall construction cost by avoiding modifications to the building. ①

It would also leave space available inside the building for a fourth standby pump, which would provide operational flexibility. ②

SECTION TWO

Scope of Work

Scope of Work

Based on our understanding of the project and our approach, HSe proposes the following scope of work, which has been divided into six major tasks – Project Design Management, Preliminary Design, Design, Bid Package Preparation, Bidding Services, and Construction Services in accordance with the requirements of the RFP. Included are all elements required to meet the intent of the RFP.

TASK 1 – PROJECT DESIGN MANAGEMENT

- 1.1 **Conduct kickoff meeting.** HSe will conduct a kickoff meeting with the project team members to establish lines of communication and coordination, confirm project goals and schedules, review existing documentation, and receive City input.
- 1.2 **Facilitate progress meetings.** HSe will attend and facilitate progress meetings as needed with City staff. To maximize the team's efficiency and to save City staff time, these meetings will be combined with the submission of key deliverables whenever possible. HSe will work with City staff to schedule the meeting, prepare the agenda, and provide meeting minutes.

A formal design presentation will be scheduled and conducted by HSe at the Preliminary Design Report (PDR) level (approximately 30% design review stage). HSe will provide the necessary visual aids in addition to the design submittals noted below. The purpose of the meeting will be to provide the City's Customer Department Project Coordinator and Project Administration staff with an opportunity to understand the project objectives and key design criteria, review the PDR submittal, discuss concerns, share information, and prioritize improvements.

- 1.3 **Prepare and maintain a project design schedule.** HSe will prepare a project design schedule that charts the expected progress of the project tasks. The schedule will be updated monthly and, along with the issuing monthly progress reports (see Task 1.5), recommendations will be made for corrective action to address unanticipated delays and to keep the project design schedule on track.

Deliverables:

One (1) hard copy and electronic PDF of the project design schedule, with periodic updates issued as needed

To maximize the team's efficiency and to save the City staff time, progress meetings will be conducted with the submission of key deliverables.

- 1.4. **Prepare and maintain a project decision log.** HSe will prepare and maintain a project decision log that records design decisions. This log will include summaries of the decisions made, any key items used to reach those decisions, and any other relevant information. It is anticipated that most decisions will be made at the 30%, 60%, and 99% design meetings with City staff.

Deliverables:

One (1) hard copy and electronic PDF of the project decision log, with periodic updates issued as needed

- 1.5. **Prepare monthly progress reports.** HSe will prepare monthly progress reports outlining the team's progress on the project tasks. These reports will include summaries of progress meetings and recommendations for corrective actions to address any unanticipated delays to help maintain the project schedule.

Deliverables:

One (1) hard copy and electronic PDF of each monthly progress report

TASK 2 – PRELIMINARY DESIGN

- 2.1. **Facility Inspection.** HSe's technical staff will visit the facility and perform the following inspections:

- *Electrical Evaluation* – HSe's electrical engineering staff will inspect the electrical power distribution and controls for the two rooms in the pump station building, and will compare with record drawings.
- *Mechanical Evaluation* – HSe's mechanical engineering design staff will evaluate the piping and mechanical equipment for the two rooms in the pump house, and will note discrepancies between observed conditions and as-built conditions.
- *Structural Evaluation* – HSe's structural design engineer will evaluate the roof structures and determine if any structural support deficiencies are present, and will determine what corrective measures need to be taken to address them.
- *Civil Evaluation* – HSe's civil engineering design staff will evaluate the grading around the water storage tanks for the purpose of identifying means of mitigating erosion and/or drainage deficiencies. Additionally, HSe will assess the curb/gutter/sidewalk conditions, landscaping within and in front of the plant, and fencing needs of the facility.

- 2.2. **Preliminary Design Report (30% Design).** HSe will prepare a PDR in a technical memorandum format. The PDR will address pump replacement options, equipment decommissioning, electrical equipment replacement,

emergency power generation equipment, and site improvements that may be required to address drainage and erosion issues around the water storage tanks, landscaping, fencing, and building roof structural issues. Figures will include preliminary plan sheets with sections, as applicable. The PDR will be presented to the City per Task 1.2.

Deliverables:

PDR with drawing figures (plan sheets and details as appropriate) – Five (5) hardcopies and electronic version in MS Word and PDF. The PDR shall include the following:

- Design and Equipment Replacement Specifications
- List of Technical Specifications
- Preliminary Engineer's Construction Cost Estimate

2.1. **CEQA Services.** HSe will prepare a memorandum documenting the project's categorical exemption, which the City will use in issuing a Notice of Categorical Exemption. It is assumed that the City will either act as the lead agent for CEQA or will otherwise request the Notice of Categorical Exemption from a qualified lead agent. CEQA services beyond the preparation of a memorandum of categorical exemption are not included in the base scope.

Deliverables:

Letter of Categorical Exemption – One (1) hard copy and electronic versions in MS Word and PDF.

TASK 3 – DESIGN

- 3.1. **Preliminary Design Review.** HSe will present and review recommendations for design as detailed in the PDR with City staff. HSe will address City comments in the subsequent design submittals.
- 3.2. **Permitting.** HSe will assist the City in project permitting. HSe anticipates that specific permits requiring direct submission by the City/HSe are the Bay Area Air Quality Management District (BAAQMD) Engines Standby Generators operations permit. HSe will prepare the application for the City's submission. Construction permitting that is ordinarily handled by a Contractor during the construction period will be a requirement of the Contractor by the specifications.
- 3.3. **60% and 99% Design Submittals.** HSe will prepare 60% and 99% design level drawings for submittal to and review by the City. Each submittal shall include the following design elements:
- *Civil Design* – HSe will prepare civil design sheets for improvements necessary to control erosion and/or correct for drainage deficiencies associated with the storage tanks, landscaping, fencing, sidewalk, and curb and gutter improvements as needed. It is anticipated that schematic plans and sections will be prepared based on record drawings. No topographic survey will be performed as a civil base.

- *Mechanical Design* – HSe will prepare mechanical design sheets, and mechanical demolition plans for improvements to the two rooms in the pump house. It is assumed that the pumps and electric motors in the main pump station will be replaced, and some piping modifications will be required to accommodate the new pumps. It is assumed that the motor driven emergency pump will be removed and the functionality will be replaced by means of a diesel genset to provide emergency power to the service pumps. The mechanical floor plans will be based on record drawings and field assessments.
- *Electrical Design* – HSe will design new electrical MCC sections to replace the existing MCC's that power the service pumps, incorporating an automatic transfer switch. HSe will specify a new diesel genset to power the service pumps. HSe will design new energy efficient lighting, replacement of the existing small power receptacles and replacement of all wall mounted switches. HSe will prepare single line power distribution diagrams, electrical site plans, conduit routing schedules, MCC elevations, and electrical details.
- *Instrumentation Design* – Pump station control and telemetry to the City's existing SCADA system is currently provided from a SCADAPack 32 PLC based control system located in a wall-mounted control panel. It is anticipated that this existing control panel will remain in service and expanded for any additional I/O requirements associated with the pump station improvements including the removal of the existing engine-driven pump and the addition of a new standby generator.
- *Structural Design* – Where structural deficiencies exist, HSe will provide retrofit details to strengthen the existing beams or replace the roof system entirely. Structural plan sheets will be prepared as needed.
- *Specifications* – CSI format technical specifications will be prepared to address Divisions 0 through 17 covering all disciplines. City standards and specifications will be incorporated and addressed in the specifications. It is assumed that the City will supply front-end boilerplate sections and a standard construction contract for incorporation into the specification set. The specifications will also address the following:
 - Revisions to the City's special provisions, as required.
 - Applicable City standards for incorporation.
 - Hazardous waste/contaminant handling procedures.
 - Construction permitting procedures.
- *60% Design Review Workshop* – HSe will meet with members of the City's operations and engineering staff at the 60% design level to review progress and project goals, and to update schedules.

Deliverables:

60% and 99% Submittal Sets shall include the following:

- Plans – Five (5) hard copies (3 full size plans and 2 half size plans) and electronic version in AutoCAD and PDF.
- Technical Specifications – Five (5) hard copies and electronic version in MS Word and PDF.
- Recommended revisions to the City's Special Provisions – Five (5) hard copies and electronic version in MS Word and PDF.
- Bid Schedule – Five (5) hard copies and electronic version in PDF.
- Engineer's Construction Cost Estimate – Five (5) hard copies and electronic version in MS Excel and PDF.
- Responses to PDR/60% design submittal review and marked up PDR/plan set – One (1) hard copy and electronic version in PDF.
- Updated Project Schedule – Five (5) hard copies and electronic version in PDF.
- List of information available to bidders regarding record drawings, with disclaimer – Five (5) hard copies and electronic version in PDF.

TASK 4 – BID PACKAGE PREPARATION

- 4.1. **Peer Review.** HSe will nominate a member of senior design staff not directly involved with the day-to-day preparation of the plans and specifications to review the drawings prior to issuance of the 100% (bid) plan set. Recommendations will be addressed and deficiencies corrected in the bid set. The peer reviewer will provide a certification statement as requested in the RFP.
- 4.2. **Bid Set Coordination.** HSe will coordinate the plans and technical specifications with the City's front end (bidding) instructions, standard provisions, and revised special provisions, and will optimize the set for Public Works bidding. HSe will recommend the optimal number of bid packages to issue. The Bid set shall include the following:
 - *Bid Schedule* – HSe will incorporate a bid schedule/schedule of values into the bidding documents, and will prepare a final engineer's construction cost estimate and an allowable time for construction.
 - *Submittal List* – HSe will prepare a list of contractor submittals (HSe's standard technical specifications incorporate submittal lists and procedures).
 - *Plan Signature Blocks* – HSe will incorporate standard signature block and title language per the RFP into the bid set of plans.

Deliverables:

- Reproducible stamped and signed plan set – One (1) hard copy (full size) and One (1) hard copy (half size) and electronic version in PDF.
- Reproducible stamped and signed technical specification set – One (1) unbound set and electronic version in MS Word and PDF. The specification package shall include the following:
 - Revised Special provisions, reviewed Supplemental General Provisions, bid instructions, final bid schedule, submittal list, and list of information available to bidders.
 - Reviewed City's Standard Construction Contract with completion of blanks that are determined by time of work.
 - Signed and stamped Certification of Peer Review – One (1) hard copy and electronic version in PDF.

TASK 5 – BIDDING SERVICES

- 5.1. **Pre-bid Meeting.** For all separate bid packages, HSe will attend the pre-bid meeting, and will prepare minutes of the meeting.
- 5.2. **Requests for Information Response.** For all separate bid packages, HSe will promptly address contractor bid-period Requests for Information (RFIs), and will prepare and provide to the City for distribution of addenda and/or clarifications as required to address RFIs. In the event that addendums are extensive, HSe shall prepare Conformed Documents at no expense to the City.
- 5.3. **Recommendation for Contractor Award.** For all separate bid packages, HSe will review contractor bids and provide a recommendation for award of the construction project.

Deliverables:

- RFI Responses – As required.
- Pre-bid Meeting Minutes – Five (5) hard copies and electronic version in PDF.
- Addenda – As required.

TASK 6 – CONSTRUCTION SERVICES

- 6.1. **Support Services during Construction.** HSe staff will provide continued support during the construction activities for the project. Engineers and construction management staff will be available to provide the following services:
 - *Attend Meetings* – HSe's design staff will attend the preconstruction meeting and field meetings as needed during the period of construction.

- *RFI Response* – HSe will receive and respond to Contractor RFIs during the period of construction.
 - *Submittal Review* – HSe will receive and review submittals that are required to be reviewed by the specifications.
 - *Review Changes to the Contract* – HSe will review Preliminary Change Order requests, and will make recommendations for issuing Contract Change Orders in accordance with the project specifications.
 - *Substitution Review* – HSe will review Contractor and/or City requests for material and equipment substitution during the course of construction and will issue recommendations.
 - *Special Inspections* – HSe will send an ICBO certified construction inspector with mechanical, electrical and structural inspection capability for up to three special inspection visits during critical stages of construction.
- 6.2. **Post-Construction Services.** HSe staff will provide the following services after the completion of construction:
- *Final Inspection* – HSe will assist the City in the preparation of the project punch lists, and will participate in the final inspection.
 - *Record Drawings* – HSe will prepare project record drawings depicting “as-built” conditions based on the Contractor’s redline markups.

Deliverables:

- RFI Responses – As required.
- Submittal Responses – As required.
- Construction Meeting Minutes – Five (5) hard copies and electronic version in PDF.
- Record Drawings – One (1) full size reproducible drawing set and electronic version in AutoCAD and PDF (AutoCAD drawings will have stamps removed).

ASSUMPTIONS

1. No CEQA services beyond the preparation of a letter of categorical exemption are provided.
2. Structural building roof design will be limited to either an in-kind or equivalent roofing system replacement. No building seismic retrofit is included, but can be provided as an optional service if desired.
3. Full services as described in the proposal are included for up to two separate bid packages.
4. No topographic base mapping is included.

EXHIBIT "A-1"

FIGURE 2- Project Schedule

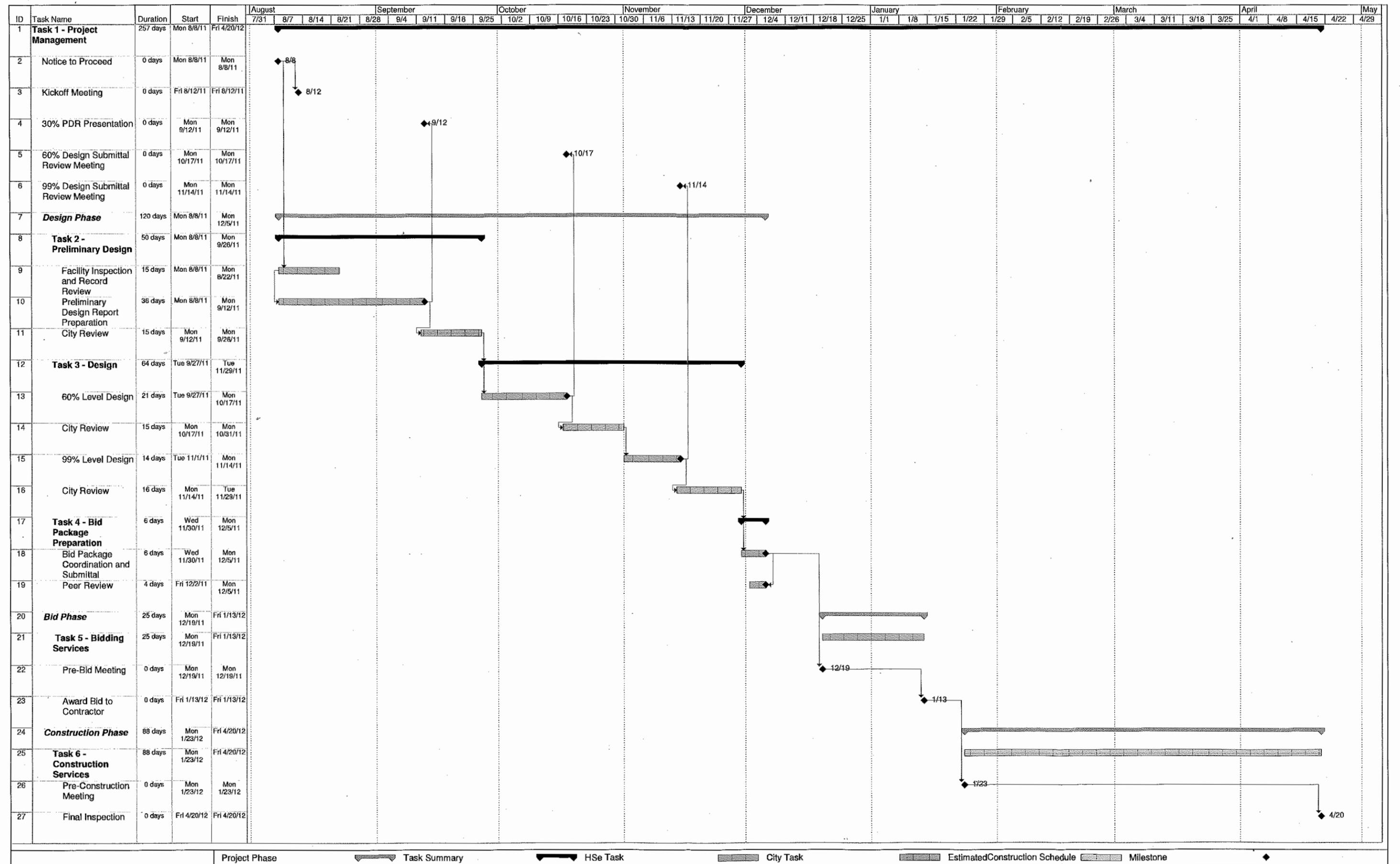


EXHIBIT "B"

HydroScience Engineers, Inc.
 City of Sunnyvale Wright Avenue Water Plant Reconstruction Engineering Services
 Fee Proposal

June 8, 2011

Task	Description	Senior Manager	Senior Engineer	Associate Engineer/ Sr. Construction Inspector	CAD Designer	Administrative	HSe Hours	HSe Fee	Travel, Repro., and ODCs	Direct Charges Markup @ 10%	Expense Subtotal	Total Fee
		\$165	\$130	\$95	\$80	\$50						
1	Project Management	24				4	28	\$4,160		\$0	\$0	\$4,160
2	Preliminary Design	8	62	54	30	4	158	\$17,110	\$250	\$25	\$275	\$17,385
3	Design	32	190	240	164	8	634	\$66,300	\$250	\$25	\$275	\$66,575
4	Bid Package Preparation	4	10	24	10	8	56	\$5,440	\$250	\$25	\$275	\$5,715
5	Bidding Services	2	6	16	8	2	34	\$3,370		\$0	\$0	\$3,370
6	Construction Services	4	48	40		2	94	\$10,800	\$250	\$25	\$275	\$11,075
Total Proposed Fee		74	316	374	212	28	1004	\$107,180	\$1,000	\$100	\$1,100	\$108,280
Optional Task												
1	Design of Pump No. 4	2	47	60	40		149	\$15,340				\$15,340
Optional Services Fee												\$15,340

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.