Council Meeting: November 13, 2012

SUBJECT: Award of Contract for a Comprehensive Preliminary Design Study – Potable Water System and Approval of Budget Modification No. 19 (F13-04)

BACKGROUND

Approval is requested to award an engineering design contract in the amount of $155,920 to HydroScience Engineers, Inc. of San Jose to perform a comprehensive preliminary design study of the potable water system as required by the Public Works Engineering Division (Project No. UW-11/02-12). Approval is also requested for a 10% design contingency in the amount of $15,592, and for Budget Modification No. 19 to provide additional funding for this project.

DISCUSSION

Following the development of the City-wide computer water model in 2006, the City completed the Water Utility Master Plan (WUMP) in 2010. This document addressed potable water demand projections through 2033; condition assessments; evaluations with prioritized recommendations for long range infrastructure improvement planning and asset management; City-wide hydraulic pressure analysis; and identification of system deficiencies.

Since the completion of the WUMP, the City has refined its long-term potable water demand projections, as required by the State of California, as part of the Urban Water Management Plan (completed in 2011). Staff has also identified the need for a preliminary design study to evaluate and possibly rehabilitate various groundwater production facilities, including the Central Water Plant (currently out of service) and the Serra and Westmoor groundwater wells (both functioning but not to current City production standards).

The work scope for the Comprehensive Preliminary Design Study consists of:

1. System Operations and Assessment: Updating and recalibrating the City's water model to utilize the new demand projections from the Urban Water Management Plan, and the need and function of each major facility will be discussed, reviewed for condition assessment, and evaluated for improvements.

2. Energy Efficiency Analysis: Based on the updated water model, improvements for energy efficiency will be recommended, including both physical construction and changes in operations.
3. Updating the City's technical bid specifications and standard details/guidelines as related to construction of water infrastructure.

Request for Proposals (RFP) No. F13-04 was prepared and directly distributed in September 2012 to four engineering firms that specialize in water distribution systems. In addition, the RFP was posted to the Onvia Demandstar public procurement network and published on the City's website. Twenty five (25) firms requested the RFP documents. Proposals were publicly received on October 3, 2012. Two responsive proposals were received as follows:

HydroScience Engineers, Inc. of San Jose	$155,920
Infrastructure Engineering Corporation (IEC) of Poway, California	$220,160

The HydroScience proposal pricing consisted of $134,880 for the sevices as specified in the RFP and $21,040 for recommended optional services. The IEC proposal included $196,920 for the services as specified and $23,240 for recommended optional services.

Proposals were rated and ranked by an evaluation team consisting of staff from the Departments of Public Works and Environmental Services. Proposals were evaluated on adherence to the RFP requirements, consultant's experience, understanding of project requirements and goals, depth of qualified staff and pricing. The highest ranked proposer, HydroScience Engineers, Inc., was also the lowest cost.

Staff recommends awarding a contract to HydroScience Engineers, Inc. for a Comprehensive Preliminary Design Study – Potable Water System.

FISCAL IMPACT

Project costs are as follows:

Design services as specified	$134,880
Optional services	$21,040
Design contingency (10%)	$15,592
Total costs	$171,512

The FY 2012/2013 budget includes two capital projects related to this issue. Capital Project 825471 - New Well Feasibility Study was intended to fund a study of the feasibility of drilling two new high production water wells. It is currently funded in the amount of $135,000. Capital Project 829050 - Rehabilitation of Serra and Westmoor Wells, was specifically for the purpose of renovating these two wells. The current budget includes $20,288 to begin design work, with an additional $290,000 in subsequent years for construction.

Staff is recommending Budget Modification No. 19 to combine the study and design funds from the new well and well renovation projects, and fund this preliminary design study, which will satisfy the needs identified in the original projects as well as the entire water system. The budget modification also appropriates $16,224 from the Water Supply and Distribution Fund Rate Stabilization Reserve to fully fund the new project. This will have no impact on water rates as the FY 2011/2012 project budget was underspent by approximately $128,000. The future year budget for construction is left in place, but will likely need to be adjusted following the results of this study.

Budget Modification No. 19
Fiscal Year 2012/2013

	Current	Increase (Decrease)	Revised
Water Supply and Distribution Fund			
Expenditures:			
Project 825471 – New Well Feasibility Study	$135,000	($135,000)	$0
Project 829050 – Rehabilitation of Two Water Wells	$20,288	($20,288)	$0
New Project – Potable Water System Design Study	$0	$171,512	$171,512
Reserves:			
Rate Stabilization Reserve	$4,782,400	($16,224)	$4,766,176

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, in substantially the same form as the attached draft and in the amount of $155,920 to HydroScience Engineers, Inc., and authorize the City Manager to execute the contract when all the necessary conditions have been met;
2. Approve a 10% design contingency in the amount of $15,592; and
3. Approve Budget Modification No. 19 to provide additional funding for the project.

Reviewed by:

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

Reviewed by:

John Stufflebean, Director, Department of Environmental Services

Reviewed by:

Kent Steffens, Director, Department of Public Works

Approved by:

Gary M. Luebbers
City Manager

Attachments

A. Draft Consultant Services Agreement

ATTACHMENT A
DRAFT

CONSULTANT SERVICES AGREEMENT BETWEEN CITY OF SUNNYVALE AND HYDROSCIENCE ENGINEERS, INC. FOR PROFESSIONAL SERVICES FOR A COMPREHENSIVE PRELIMINARY DESIGN STUDY – POTABLE WATER SYSTEM

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, , consultation and other services for a project known as a Comprehensive Preliminary Design Study for Potable Water; 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, PE 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, with the requested scope of work in the amount of One Hundred Thirty Four Thousand Eight Hundred Eighty and No/100 Dollars ($134,880.00) and Optional Services not to exceed Twenty One Thousand Fourty and No/100 Dollars ($21,040.00).

In no event shall the total amount of compensation payable under this agreement exceed the sum of One Hundred Fifty Five Thousand Nine Hundred Twenty and no/100 Dollars ($155,920.00) 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 2782.8), 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: Jennifer Ng, Engineering Division
Department of Public Works
CITY OF SUNNYVALE
P. O. Box 3707
Sunnyvale, CA 94088-3707

To CONSULTANT: HYDROSCIENCE ENGINEERS, INC.
Attn: Mary Hoang
4055 Evergreen Village Square, 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:

By_____
City Clerk

CITY OF SUNNYVALE ("CITY")

By_____
City Manager

HYDROSCIENCE ENGINEERS, INC.
("CONSULTANT")

APPROVED AS TO FORM:

By_____

_____
Name/Title

`1```1_____
City Attorney

By_____

_____
Name/Title

EXHIBIT "C"
INSURANCE REQUIREMENTS

CONSULTANT shall procure and maintain for the duration of the Agreement 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 CONSULTANT, its 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 for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. 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 CONSULTANT's profession: $1,000,000 per occurrence.

Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared and approved by CITY. 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. CITY, its officials, employees, agents and volunteers are to be covered as additional insureds with respect to liability arising out of activities performed by or on behalf of CONSULTANT; products and completed operations of CONSULTANT; premises owned, occupied or used by CONSULTANT; or automobiles owned, leased, hired or borrowed by CONSULTANT. The coverage shall contain no special limitations on the scope of protection afforded to CITY, its officers, employees, agents or volunteers, except as follows: Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subdivision (b) of section 2782 of the Civil Code.

2. For any claims related to this project, CONSULTANT's insurance shall be primary. Any insurance or self-insurance maintained by CITY, its officers, officials, employees, agents and volunteers shall be excess of 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 CITY, its officers, officials, employees, agents or volunteers.

4. 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 CITY.

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 CITY.

Verification of Coverage

CONSULTANT shall furnish to CITY original Certificate(s) of Insurance and endorsements effecting the coverage required. The Certificate(s) shall be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received and approved by CITY prior to commencement of work.

EXHIBIT "A"

HydroScience
Strategic Water Solutions

HydroScience Engineers, Inc.
1085 Evergreen Village Square Suite 250
San Jose, CA 95135
T 408.363.3884
F 408.363.3886

October 10, 2012

David Gakle, Principal Buyer
City of Sunnyvale
Purchasing Division
650 West Olive Avenue
Sunnyvale, CA 94088-3707

SUBJECT: PROPOSAL TO PREPARE A COMPREHENSIVE PRELIMINARY DESIGN STUDY OF THE CITY OF SUNNYVALE'S POTABLE WATER SYSTEM (Project F13-04)

Dear Mr. Gakle,

HydroScience Engineers (HSe) appreciates this opportunity to submit the reference proposal and demonstrate our qualifications for this project. We are uniquely qualified for this project and selecting HSe will provide the City with the following benefits:

Extensive experience in the evaluation, optimization, and design of water supply and distribution systems for both potable and recycled water. HSe has performed multiple projects in which the development and evaluation of alternatives to identify the most cost effective solution, based on life cycle costs of construction and operation, was critical to project success. We understand the need to identify and prioritize projects to enable the City to manage its Capital Improvement Program (CIP) within the budget allowed to maintain the highest level of service, enhance operation and maintenance activities, and provide for reasonable and sustainable rates now and in the future.

Effective Communication is critical to ensure that all project beneficiaries understand the project benefits and impacts. HSe understands the need for effective and frequent communication in a format that facilitates the widest dissemination of information to City Design and Operations Staff, Management, and the Public. Development of policies and procedures must be accomplished in a transparent manner for full acceptance. To this end, our proposal accommodates up to ten workshops at key decision points for presentation of work products to facilitate review and input from City Staff. Staff input and concurrence is essential if the project is to guide the City's CIP process in a meaningful way.

Knowledge of the City's potable and recycle water demands, infrastructure, and hydraulic models are key to completing the study in a timely and cost-effective manner. HSe has extensive ongoing experience with the City's potable and recycled water systems and their associated hydraulic models. We will leverage our understanding of the City's physical system and management structure to develop meaningful and implementable solutions to address the City's short-term and long-term needs. As a result of this knowledge, HSe can initiate the project immediately for timely and cost-effective completion.

We look forward to working on this project and continuing our relationship with the City in their ongoing efforts to optimize the operation of their water system to improve reliability, enhance public safety, improve maintenance opportunities, and ensure compliance with regulations, all in a manner that will help maintain reasonable rates for the City's customers. Should you have any questions about our proposal, please feel free to contact me at (408) 595-9010 or at mhoang@hydroscience.com

Very truly yours,
HydroScience Engineers, Inc.

Mary Hoang, PE
Principal

Sim Blake, PE
Principal

Project Understanding

The City of Sunnyvale owns and operates potable water and recycled water systems. The source of supply for potable water consists of purchased treated water from Santa Clara Valley Water District (SCVWD) through two turnouts, a blend of unfiltered Hetch Hetchy Water and treated Sunol Valley water from San Francisco Public Utilities Commission (SFPUC) through six turnouts, and eight groundwater wells.

Potable Water

The City's potable distribution system is comprised of 308 miles of pipe, 76 pressure reducing valves system-wide, five 5.0 million gallon (MG) tanks, five 0.5 MG tanks, and five booster pump stations. The primary source for potable water to the City is purchased water from two wholesale providers, the San Francisco Public Utilities Commission (SFPUC) and the Santa Clara Valley Water District (SCVWD). Purchased water comprised 85% of the water supplied to customers in 2010 according to the 2010 Urban Water Management Plan (UWMP). Approximately 8% of the water consumed in 2010 was provided by local groundwater, while recycled water supplemented the remaining 7% of the water used. The two wholesale water providers feed the north zone (Zone I) and the south zone (Zone III). Zone II is a mixture of the SCVWD water as well as groundwater, with six of the eight wells located in Zone II. Typically, the City floats off of the SFPUC and SCVWD systems and the groundwater wells are used to supplement during the peak demands. Currently, the wells are running, on average, once per week in the mornings for several hours. The intent is essentially to exercise the wells on a regular basis since demands have generally been met by wholesale water.

The City's potable distribution system is comprised of 308 miles of pipe, 76 pressure reducing valves, five 5 MG tanks, five 0.5 MG tanks, and five booster pump stations.

Pressures within the City's potable water system are managed by numerous pressure-reducing valves (PRVs). PRVs within the system serve essentially one of two functions: either to provide pressure zone breaks over the systems' three pressure zones or to reduce pressure from one of the two primary transmission main alignments running down Mary Avenue and the Sunnyvale East Channel/Wolfe Road from the SFPUC Mary and Fair Oaks turnouts, respectively. The two transmission mains receive flow and pressure from the two turnout connections. The City utilizes the pressure, which is on average approximately 120 psi, from those connections to transmit water uphill (south) to customers as well as to the storage tanks at

the Mary-Carson and Wolfe-Evelyn Plants without the use of booster pumps. Due to the high pressure in these mains, the PRVs along those mains are used to reduce pressure laterally to the customers branching to the east and west of the transmission mains. The two SCVWD turnouts average 55 psi discharge pressure, which supplies the distribution system directly and fills the Wright Ave tanks, which in turn requires boosting to the distribution system.

Recycled Water

The City's recycled water system consists of approximately 18 miles of pipe, three pump stations, one 2 MG storage tank, and a 0.5 MG surge tank.

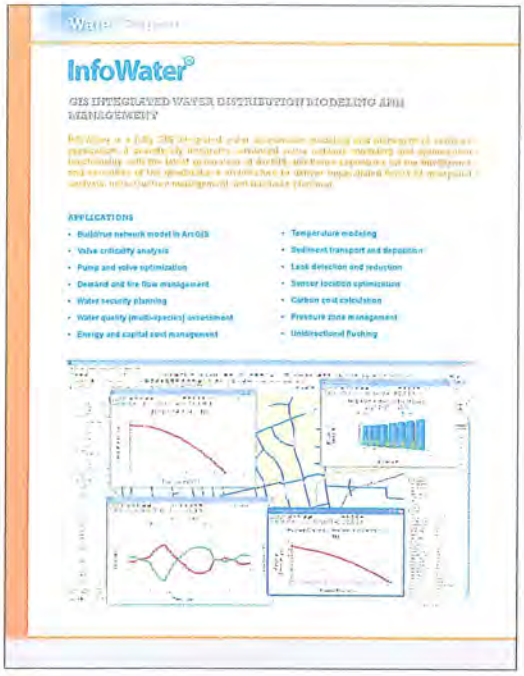
Recycled water comes from the City's Water Pollution Control Plant (WPCP). The City has the ability to blend SFPUC water with recycled water at the WPCP. The City's recycled water system consists of approximately 18 miles of pipe, three pump stations, one 2.0 MG storage tank, and a 0.5 MG surge tank. The WPCP pump station and the San Lucar pump station serve the distribution system while the Sunnyvale Golf Course pump station serves the golf course. The City has developed a recycled water program which today serves parks, golf courses, and the landscaping needs of diverse industries. As part of the 2000 Recycled Water Master Plan, the City has completed Phases I and II, which serves the northern part of the City, most notably Baylands Park and the Sunnyvale Municipal Golf Course. The City is in the process of developing an updated Recycled Water System Master Plan (RWSMP), which will identify potential near-term demands, proposed alignments, and discuss options for treatment system upgrades to achieve higher quality recycled water and to increase demand for recycled water. The City's long-term goal would be to attain zero discharge at the WPCP (i.e. 100% reuse).

In 2010 , the City completed the Water Utility Master Plan (Master Plan), which is the basis for a series of Capital Improvement projects that the City has been aggressively implementing to update and improve the distribution system to assure that customers have reliable, high-quality drinking water and adequate flow for fire suppression. As part of the Master Plan, IEC updated the 2007 potable water hydraulic model. The 2010 model uses 2007-2008 meter data to represent "existing" system conditions and projects out to 5-, 15-, and 25-year increments from 2013 to 2023, and 2033. The 2007-2008 meter data, which forms the foundation for the hydraulic model, is nearly five years old and warrants an update to current meter data and operational parameters . Additionally, projections for usage have been updated per the 2010 UWMP and can be applied to the hydraulic model to analyze future system performance based on those projections.

Therefore, in light of changing regulations and demand patterns of all customer classes, the demand projections should be re-evaluated. Current accurate demands are essential to the development of realistic future demands, which drive the identification and development of meaningful and cost-effective projects. This re-evaluation process should be an ongoing activity if only to ascertain that the system requirements have not changed in a manner that eliminates or delays the need for the proposed project. Optimization of the City's water supply systems, both domestic and recycled, to enhance supply and delivery reliability, provide for the most energy-efficient system while addressing the City's operational goals, providing facilities with minimal maintenance and replacement costs, and ensuring regulatory compliance are complimentary objectives and the purpose of this study.

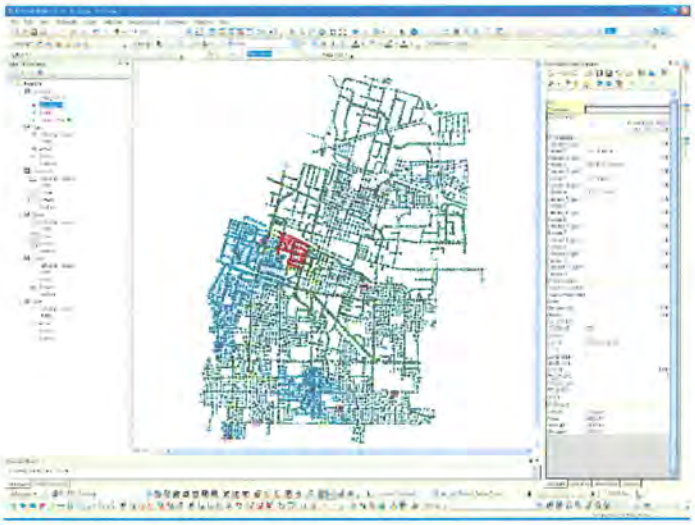
Approach

HSe's approach to this project is based on the integration of the information in the various studies and reports that the City has completed to address system operation under a variety of scenarios. Building on previous information and verifying the accuracy of this information is critical to identifying the appropriate and legitimate role of each system component for both the domestic and recycled water systems and its impact on the City's current and future efforts to optimize the operation of both systems. A major element of HSe's approach as presented below involves the use of the City's existing hydraulic model using InfoWater 8.5. In addition to merely modeling the hydraulic capacity and performance of the existing distribution system, the suite of applications for this model will be used to identify other aspects of sustainable utilities management. These activities include the evaluation of existing facilities from an energy use perspective, to assist in the identification of modification or changes in operation and their associated energy (cost) savings. Other functions to be explored include a critical assessment of components of the system such as valves or interties and determining which components are essential from a system-wide perspective.



The suite of applications for this model will be used to identify other aspects of sustainable utilities management including energy use and associated energy savings.

HSe's first step will be to build upon the water use projections presented in the 2010 UWMP. Current demands presented in the UWMP are based on metered water sales to the City. Whereas, water demands presented in the 2010 Master Plan and currently imbedded in the City's hydraulic model for future use are approximately 30 percent higher than those presented in the



UWMP. Having an accurate understanding of current demands together with future trends in demand is critical to identifying current deficiencies in infrastructure sizing and determination of future needs. Development of future demands needs to build upon current accurate demands and consider the potential impact of both institutional and operational changes. Legislative actions and expansion of the City's recycled water market base to address current and future potable water demands are both relevant examples of future activities that need to be quantified and incorporated.

Hydraulic model from the '5Y_EPS' which simulates 2013.

Red = negative
Blue = below 40 psi
Green = above 40 psi

Using recent water meter data, metered water sales, and City/operator input, HSe proposes to update the hydraulic model to current day conditions (i.e. 2011-2012) to assure that the model is representing the distribution system accurately. Once the base model is developed/updated, the future projections can be applied to the model to facilitate planning for system improvements. As previously mentioned, the latest version of the hydraulic model is updated to 2007-2008 metered water usage and future projected demands do not account for 20 by 2020 legislation nor expansion of recycled water use. Additionally, upon review of the hydraulic model, the 24-hour extended period analysis is operating at peak hour rates over the course of the simulation, which is not a realistic representation of the system on any given day, even a peak summer day. As a result, the flows coming from the SFPUC connections to meet demands are up to 30 mgd, when in reality, the flows can range from 8.9 – 12.6 mgd, which is the contract amount available to the City. In total, the City demand over the 24-hour simulation is nearly 50 MG, which is over 200% of the City's current average daily use. The total annual average daily use in 2010 was 19.2 mgd, or 21,464 AFY according to the UWMP. The intent of the 24-hour simulation is to present a realistic representation of a systems average day or peak day conditions to provide the City with an operational planning tool.

Scope of Work

The following scope of work, while presented slightly different than that presented in the request for proposals, provides added benefits to the City that we will discuss below. HSe anticipates participation by City Staff in the collection of current field data and the development of the various Technical Memoranda proposed below by virtue of review and input.

TASK 1. SYSTEM COMPONENTS AND OPERATIONS

1A. Water Demands

Developing the base (current) water demands is critical to the overall goal of this project. Water demand data presented in the UWMP will be compared to the metered data for the City for 2011 to determine if there are any significant changes in trends. Values presented in the UWMP will be used to develop the upper boundary condition for future projected potable water demands. In concert with the City's ongoing recycled water master planning efforts, potential future reductions in demand due to change in source will be identified and used to develop the lower boundary condition for future projected potable water demands.

BENEFIT OF APPROACH

Reductions in future potable water demands can delay or negate the need for capital projects associated with projected increases in potable demands.

Developing accurate water demands under various supply scenarios is essential to developing a meaningful and cost-effective CIP.

Deliverable

- Technical memorandum that summarizes the current water demands and future range of values to be evaluated in the modeling effort

1B. Operation and Maintenance Operating Procedures

HSe will review the City's existing standard operation procedures (SOP) for maintenance, and testing of the potable and recycled water system components under a variety of operational constraints. Development and implementation of SOPs for the various components of the system is essential to understanding the physical condition and operation of the various components and their role as a component of the City's system. Development of the criteria may merely require the memorializing of standard operating procedures, but it is essential that this be developed in concert with City operations and design staff for their concurrence to provide a meaningful condition assessment tool. Criteria will be used in

the screening and evaluation of the need and function of the transmission and distribution system, water supply wells, water storage reservoirs, pump stations, pressure reducing stations and interties under a variety of operational modes. These SOPs at a minimum will address the following, as appropriate for either the potable or recycled water systems:

- Storage Reservoir Operation (demand versus emergency supply)
- Storage Reservoir Assessment (tank cleaning and inspection)
- Water age in reservoir (time of year changes)
- Schedule for delivery from sources of supply
- Contract conditions
- Exercising of Interties
- Well and Pump station operation and assessment of performance
- Pump station operation and assessment of performance
- Inter-zone transfers, etc.

SOPs developed will be updated and revised to address the conclusions of the final report.

BENEFIT OF APPROACH

SOPs will memorialize operating protocols and form a uniform basis for operating decisions.

Deliverables

- Listing of SOPs for facilities under normal and emergency conditions for both the potable and recycled water systems

1C. Water System Condition Assessment

Understanding the condition of the City's existing potable water system assets is essential to validating the currently proposed capital improvement program and evaluating by comparison any alternatives identified. To accomplish this assessment, HSe will review the City's existing data and information regarding the physical condition and operational characteristics of the various components. Any additional field data collection would be accomplished by HSe working with City Operations Staff. Working with City Staff a matrix of evaluation criteria will be developed for the various assets that may include the following factors:

- Facility age versus industry norm
- Repair history
- Structural condition
- Seismic concerns

- Corrosion
- Coating condition
- Functionality
- Critical need for the facility

A weighting factor will be developed for each category to account for its relative importance in comparison to the other criteria. As an example, critical need for the facility may outweigh all other factors when it comes to repair or replacement.

A review of the transmission and distribution system to validate the recommended CIP is not called for in this project, but is recommended and included as an optional task.

Groundwater Well and Pump Station Assessment. All groundwater wells are assumed to remain in the system and have been identified for evaluation as a part of this Comprehensive Preliminary Design Report. It is appropriate to develop a current baseline condition of the performance of each well and pump, as appropriate. For the wells, historical data on well performance and maintenance activities by both City and outside forces will be reviewed and summarized. It is not proposed to perform a down hole investigation of the wells (video inspection) at this time to evaluate the well condition, but merely review historical records of water levels under various pumping scenarios. Pump tests for the well pumps will be performed in accordance with the SOPs developed in Task 1B to evaluate the efficiency of the pump in comparison to the manufacturers pump curve and the City's historical records.

If well production is significantly reduced from its historical value and/or the pump is not performing in accordance with its performance curve, then a future investigative effort specific to the well will be recommended. Typically this investigative effort would involve measuring drawdown over time, pulling the pump to facilitate down hole investigation of the well structure and inspection of the pump. These activities would be essential to a pre-design effort for the development of a rehabilitation or replacement program for the well and/or pump.

BENEFIT OF APPROACH

Accurate portrayal of the existing conditions is essential to developing a meaningful and cost effective capital improvement program (CIP).

Pump Stations, Storage Reservoir and Appurtenances. HSe will review the City's existing data and information regarding the physical condition and operational characteristics of two water plants with three pumps and two tanks each which have been identified as part of this Comprehensive Preliminary Design Report. This evaluation will also address interties and pressure reducing valves and other appurtenances associated with these

water plants. As part of this assessment, the SOPs previously developed will be used to develop current data. It would be appropriate to develop base line data for the other pump stations that have not been rehabilitated as part of the City's current CIP efforts and are not included in this effort. Therefore, to address this issue, a supplemental work item, Task 6, has been developed and is included in this proposal.

Deliverables

- Technical Memorandum that summarizes the results of the assessment activities together with recommendations for further study or evaluation as appropriate. For the groundwater wells, recommendations for further study or rehabilitation work on the wells will be developed and included in the Technical Memorandum.

TASK 2. HYDRAULIC MODEL UPDATE

2A. Update Base Hydraulic Model

In this task HSe will review the City's existing InfoWater Model and update the model to reflect the City's potable water capital improvement projects that have been completed or are currently scheduled for construction, current operational status of all distribution system facilities, and control strategies for tank and pump stations. Once this has been completed, the next task will be to update the range of water demands developed in Task 1A. HSe will conduct the base year hydraulic model update using 2011-2012 metered water demands and metered water usage from each of the wholesale water providers. This will allow a representative development of normal operating conditions including average day, peak day, and peak hour conditions for both summer and winter months.

Optional Services. Training for Staff in the use of the model and its suite of applications used in this project is listed under Optional Services.

2B. Calibrate the Hydraulic Model

As the model previously had water demands that were well in excess of the City's historical and projected demands as presented in the UWMP, calibration of the model to verify predicted performance versus real data is essential. A well-calibrated model is critical to a realistic portrayal of the performance of all the components of the water system under the various demand situations. In this task HSe will develop a calibration program for hydrant testing to be implemented by City staff. Data collected will be used to calibrate the model to the average day demand condition, which will be developed in Task 2A.

Deliverable

- Calibration program
- Updated hydraulic model that is calibrated to today's demands

2C. Hydraulic Model Analyses

HSe will perform an analysis of the water system under a variety of water demand and water supply scenarios to include the base year 2012 and future conditions in 2030 as identified in Task 1A with and without a decrease in potable water use associated with an increase in recycle water use. This analysis will use appropriate SOPs as identified in Task 1B such as storage reservoir operational constraints, supply source constraints, etc. Hydraulic model runs will be performed for the following conditions:

- System-wide fireflow demand analysis per City/Fire authority requirements
- Major water supply source and water plant shut down to simulate maintenance or repair activities
- Elimination of supply from SFPUC and SCVWD (one or the other)
- Elimination of supply from both SFPUC and SCVWD
- Operational scenario as identified by City Staff

The intent of these model runs is to provide the requisite information necessary to evaluate the performance and role of the various water system elements under the various operational constraints identified. Not only will the operation of various facilities be evaluated in terms of flow but also whether or not operational changes need to be made during periods of low demand to address water quality, e.g. disinfection byproduct issues, energy usage, etc. Output from the model runs will be used to develop recommendations for system modifications or improvements to address current and future demands. System modifications will include operational changes and system configuration changes as appropriate.

Deliverables

- Updated hydraulic Model
- Optimized Contingency Plan chapter

2D. Energy Efficiency Analysis

Based on the output from the model runs, operational policies or procedures will be identified that are associated with savings in operational costs. Operational costs considered will be power (consumption and demand) costs, and costs for alternative supplies. These cost savings may be based on time of day operation of a pump station, changes in upper and lower system pressures (PRVs), storage reservoir levels and water quality impacts, alternative water supply sources, etc. Some of these policies or procedures may require a change to the previously developed SOPs based on input from City staff.

Deliverables

- Technical Memorandum presenting the results of Task 2, the modeling effort with recommended improvements as necessary to address current and future potable and recycled water supply and distribution needs. This TM will delineate the need and function of each pump station, storage reservoir, and well and pump. Using the results of the Task 2.D. a cost-benefit analysis will be provided for each proposed change in operation that results in a change in energy use, which will be presented in a matrix format. A workshop is proposed for the draft of this TM.

TASK 3. GUIDELINES, DETAILS AND SPECIFICATIONS

3A. Design Guidelines

HSe will develop Design Guidelines for the potable water, fire services, and recycled water facilities. Guidelines shall address new development, redevelopment, and water line replacement as appropriate for commercial, industrial, residential land use. Design guidelines for **potable water and fire services** shall address the following:

- Water main (water quality and quantity)
- Service line sizing criteria
- Water meter sizing (impact of low water use appliances)
- Water Main horizontal and vertical clearance from other utilities (mitigation measures)
- Water Main location in street (new lines and relocated rehabilitated lines)
- Isolation valve spacing/location requirements at main/service line and at street locations, for new and relocated lines.
- Blow-off/air relief requirements

- Fire-hydrant spacing/location requirements
- Fire-hydrant lateral sizing criteria

Additional design guidelines that may be beneficial to the City and should be considered include:

- Separate meters for irrigation services as determined by size of irrigated area
- Single family and/or multi-family residential sprinkler service per UFC or Department of Public Safety requirements
- Review backflow devices on fire services (per Department of Public Safety criteria)
- Review location of fire services
- Delineation of limits of public versus private systems (fire and potable water)
- Metering requirements for remodeled multi-family or condominium units

Design guidelines for **recycled water** shall include the following:

- Recycled water main/service line sizing
- Recycled water meter sizing criteria
- Recycled water main location in new streets and existing streets with clearance requirements from other utilities
- Recycled water isolation valve spacing/location requirements at street locations

This task will be accomplished by developing a listing of proposed Design Guidelines for review, comment, and approval by City staff. Using the approved list, Draft Design Guidelines will be developed and circulated for comments. Once the comments are received, a workshop held to review comments from all impacted City Departments to address any questions or conflicts between comments. Guidelines will then be circulated with response to comments noted for final approval.

Deliverables

- List of proposed design guidelines
- Draft design guidelines
- Final design guidelines (PDF and MS Word format)

3B. Standard Details

HSe will develop a list of proposed standard details that either need to be updated or created. Comments received in the workshop for Task 3A will be considered in the development of the list. The list developed will present the rational for updating the detail, e.g. current state law, operational concerns, etc. Once the draft list has been reviewed and approved by the City, a draft set of drawings will be prepared and submitted for review and comment or approval. It is assumed that the City will perform at least three reviews of the Standard Detail.

Deliverables

- List of proposed Standard Details.
- Draft Standard Details.
- Final Standard Details (PDF and AutoCAD format).

3C. Standard Specifications

HSe will develop a list of Standard Specifications to be developed in City-standard CSI format for review and approval by the City. It is assumed that once the draft set of Standard Specifications has been developed, three sets of review will be performed by the City before development of the final Standard Specifications.

Deliverables

- List of Standard Specifications for updating
- Draft Standard Specifications
- Final Standard Specifications (PDF and MS Word format)

TASK 4. COMPREHENSIVE PRELIMINARY DESIGN STUDY REPORT

Work performed and summarized in the Technical Memorandum's developed in Task 1 through 3 will be assembled for the Comprehensive Preliminary Design Study (PDR). Each TM will have been finalized before inclusion in the PDR. Meeting to discuss progress with this report and the TMs will be held at kickoff of the project, during the preparation of the report and one final meeting as shown on the project schedule.

Deliverables

- Draft Preliminary Design Report, six hard copies and one electronic copy in PDF format.
- Final Comprehensive Preliminary Design Report, addressing all the City's comments, six hard copies and one electronic copy in both PDF and MS Word, AutoCad, MS Excel, etc. format. Each report shall be signed/stamped by the Engineer of Record.

Optional Tasks

TASK 5. HYDRAULIC MODELING TRAINING

Understanding the operation of the City's InfoWater modeling and management software is critical to the City's ability to optimize the operation of their water supply system to meet their stated objectives. The City should have in house knowledge of InfoWater that will allow the City to create, maintain, run and analyze their water distribution system model. To accomplish this HSe will provide training for City Staff in the use the City's software by contracting with Innovyze, the software supplier, to provide the requisite training. A two-day training session that will provide an introduction to the software and show staff how to create and run a model under a variety of scenarios is proposed. This session will provide the staff with hands on training with their model and its features to facilitate water quality evaluation, dynamic fire flow assessment, pump energy and power cost calculations and many other functions that can be performed with the model.

Innovyze will provide training for up to eight individuals in the two-day session in Sunnyvale. While the City may not want to train eight members of staff, they may want to offer the opportunity for training to other local agencies, who could then share in the cost.

TASK 6. SUPPLEMENT ASSESSMENT OF WATER SYSTEM

As discussed in Task 1C Water System Condition Assessment, it is recommended that supplemental condition assessments be performed for each addition water plant, other than the two proposed, to include facilities and appurtenances. Rationale for this re-evaluation is to verify the need for any CIP associated with these additional facilities in light of the revised potable water demands developed in Task 1A, which were incorporated into the City's hydraulic model. In addition, a re-evaluation of the City's proposed CIP for transmission and distribution system improvements associated with future potable water demands will also be performed as part of this task. The results of this work effort will be incorporated into the TM developed in Task 1C.

Key Personnel

HSe has assembled a project team familiar with the City of Sunnyvale's policies and procedures. The structure of our proposed project team is shown in **FIGURE 1** on page 5. Brief bios for principal staff members and descriptions of their responsibilities are also found in this section. Full resumes for each team member can be found in the final section of this proposal.

Team Structure and Expertise

Managed by San Jose Office Manager and Principal-in-Charge **Mary Hoang**, our team is ready to respond quickly to the City's needs and can draw on additional resources from HSe's other regional offices, if necessary. This team brings several strengths to the project:

Knowledge of the City's design standards, policies, and procedures. HSe has recently completed a wide range of City capital improvement projects, including the Wright Avenue Water Plant Reconstruction and the Washington Avenue Water Main Replacement project, which was finished on an expedited schedule to accommodate several other construction projects in the area. This experience will increase our efficiency in preparing the design and specifications for this project and reduce the amount of City staff time needed to integrate the design consultant.

Planning and Modeling Expertise. HSe completed the 2010 Urban Water Management Plan and a Triggered Source Water Monitoring Plan for the City, both of which involved using the City's potable water hydraulic model. Furthermore, HSe is currently preparing the City's Recycled Water System Master Plan, which includes extensive hydraulic modeling of the City's recycled water system.

In addition to these recent planning efforts for the City, HSe has completed many other planning and master planning projects throughout California. Most of these projects have involved hydraulic modeling of the distribution systems. For every planning effort that turns into a constructed project, we take that experience and those lessons learned and apply them to the next one. In this way, we leverage our collective experience to deliver the best possible projects our clients.

Ability to design with operations and maintenance in mind, based on hands-on experience. Key members of our team are licensed water treatment and distribution system operators, enabling our team to plan and design facilities and systems that not only meet technical criteria, but that are easy to operate and require minimal maintenance. These team members' involvement in this project will help us develop "operator-friendly" designs and identify ways to reduce operation and maintenance costs, keeping the City on budget.

Team Member Roles and Bios

Mary Hoang
Project Manager
Principal-in-Charge

Mary will be responsible for overall project delivery, scope, project management, and will serve as the primary contact for all HSe work.

Mary Hoang, PE, will serve as project manager and principal-in-charge on this project. Mary is HSe's San Jose office manager, a principal of HSe, and a Grade T4/D5 Operator who has a long history of successful projects completed for the City. Projects that she has completed for the City of Sunnyvale include the Washington Avenue Water Main Replacement, the Wright Avenue Water Plant Reconstruction, the Raynor and Ortega Well Connections, the 2010 Urban Water Management Plan, and the Water Quality Monitoring Plan. She is currently the Principal-in-Charge for the 2012-2013 Water Main Replacement project.

Mary is the former operations and maintenance manager for the San Jose Municipal Water System, the former Director of Water Quality for San Jose Water Company, and the project manager for Cal Water NPDES support services.

Sim Blake
QA/QC

Sim will be responsible for assuring that deliverables meet HSe standards and City expectations.

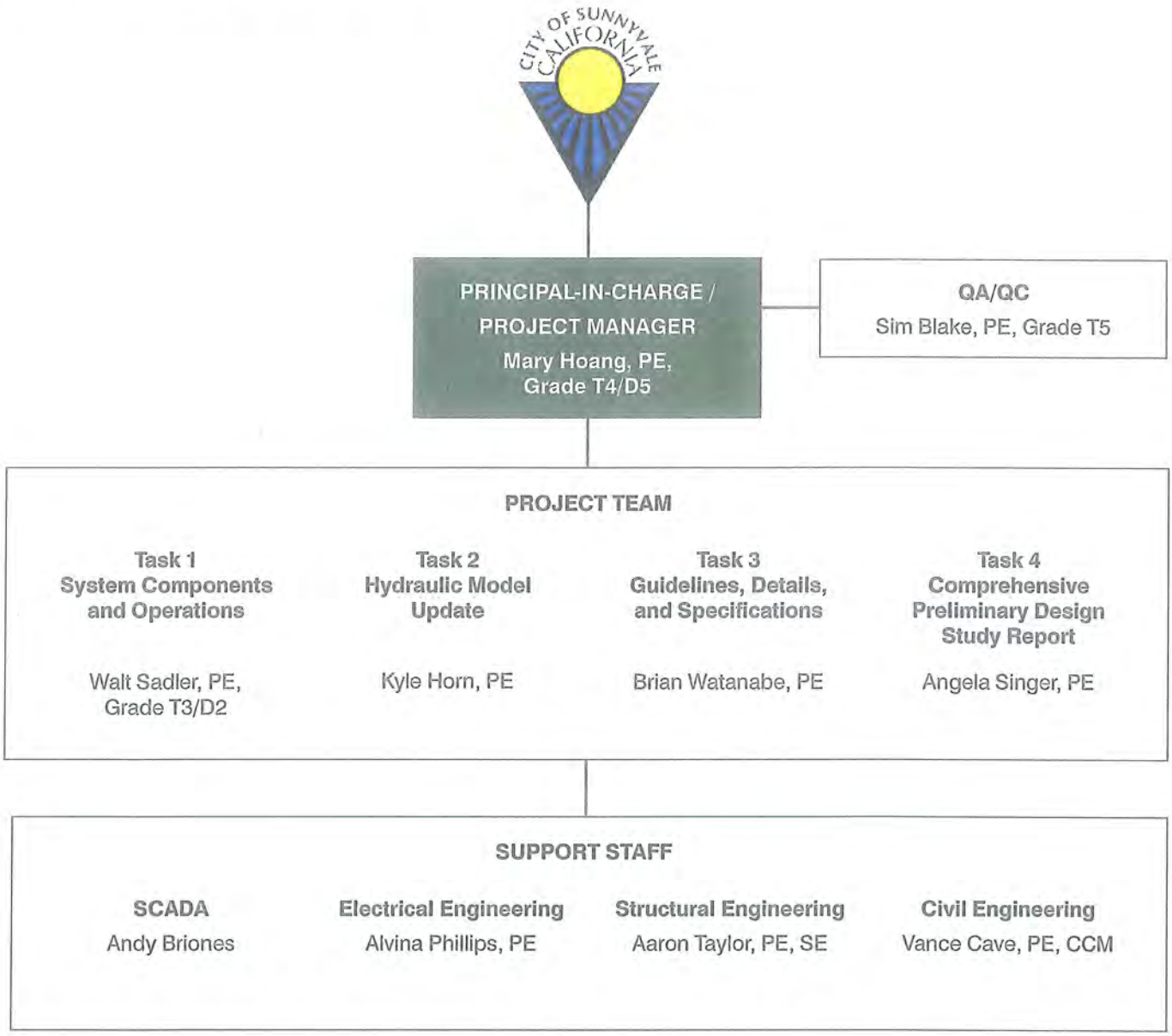
Sim Blake, PE, a principal with HSe and a Grade T5 Operator, Sim has an extensive background in the planning, design, and construction management of water treatment, storage, and distribution facilities. Sim served as QA/QC for the City's Wright Avenue Pump Station Upgrades. In addition, Sim has served as project manager for numerous groundwater well planning and design projects, as well as several water master planning projects through Northern California.

Walt Sadler
System Components and Operations

Walt will serve as an alternate contact for the City and be responsible for Task 1 as outlined in the Scope of Work.

Walt Sadler, PE, will serve as Task Leader for Task 1. He brings 40 years of experience in planning, design, construction and operation of a wide variety of water production, treatment, and distribution systems. A Grade T3/D2 Operator, Walt's experience includes investigation, design, and optimization of groundwater wells and water treatment and distribution systems to improve performance, minimize operation costs, and address regulatory compliance. Most recently, he managed the City's Wright Avenue Water Plant Reconstruction project.

FIGURE 1 – PROJECT TEAM ORGANIZATION



Walt has also managed several water master planning projects, including the Plumas Lakes Water Master Plan in Olivehurst and the Water Supply Master Plan for Fruitridge Vista Water Company. Prior to joining HSe, Walt served at Assistant Director of Utilities for the City of Folsom.

Kyle Horn, PE, LEED AP, has had key roles in the planning and design of numerous water supply and recycled water projects and hydraulic modeling of water distribution systems. He recently modeled the City's recycled water distribution system and assessed water age in the City's potable water lines during HSe's development of the City's Water Quality Monitoring Plan.

Kyle Horn
Hydraulic Model Update

Kyle will be responsible for Task 2 of the Scope of Work.

Brian Watanabe
Guidelines, Details, and Specifications

Brian will be responsible for Task 3 of the Scope of Work.

Brian Watanabe, PE, recently finished work on the City's Wright Avenue Water Plant Reconstruction Project, and has was also a key member of the project teams for the Washington Water Main Replacement and the Raynor/Ortega Well Connection Pipeline projects. He is familiar with the City's quality standards and is well-qualified to lead the Guidelines, Details, and Specifications effort for this project.

Angela Singer
Comprehensive Preliminary Design Study Report

Angela will be responsible for Task 4 of the Scope of Work.

Angela Singer, PE, LEED AP, has worked on a variety of water, wastewater, and recycled water projects including pipeline design, feasibility studies, permitting, and the modeling of water and sanitary sewer systems. She has worked on a number of City projects, including the Washington Water Main Replacement and the Raynor/Ortega Well Connection Pipeline projects. She also played a key role in preparing the City's 2010 Urban Water Management Plan and the Annual Water Quality Report.

Andy Briones
Instrumentation

Andy will provide support on SCADA condition assessment.

Andy Briones is a senior electrical and instrumentation engineer with more than 30 years of engineering experience in electrical power distribution and control systems. His experience in design and analysis of water and wastewater facilities includes more than 150 projects, including major renovations water treatment and distribution facilities.

Alvina Phillips
Electrical Engineering

Alvina will provide electrical engineering support as needed.

Alvina Phillips, PE, has more than 18 years of experience in electrical design, review, estimating, and coordination for water and wastewater facilities. Her experience in the design of power, distribution, controls, and SCADA systems ranges from small, residential lift stations to large municipal water and wastewater systems. She served as electrical engineer on the City of Sunnyvale's Raynor and Ortega Well Connections to Transmission Mains Project.

Aaron Taylor
Structural Engineering

Aaron will be responsible for any structural engineering needs that arise during the study.

Aaron Taylor, PE, SE, has more than 14 years of structural experience as a project engineer and project manager. He has both design-bid-build and design-build experience in public works, commercial, residential, and telecommunications projects. His technical strengths are civil structures and soil-structure interaction, with extensive value engineering experience. He has provided structural engineering support on some of HSe's largest pump station projects, , including the Wright Ave. Pump Station Rehabilitation project for the City.

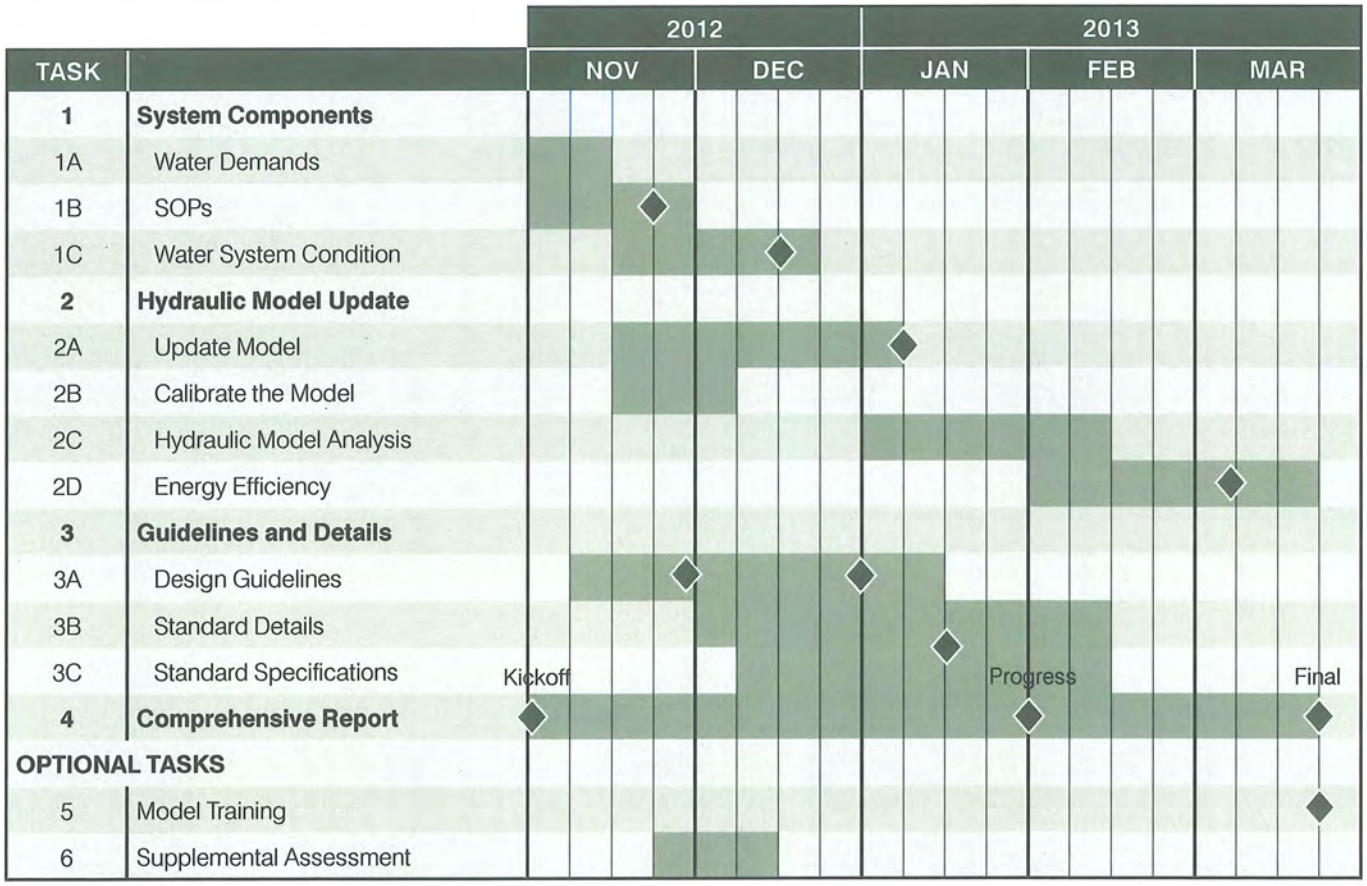
Vance Cave
Civil Engineering

Vance will be responsible for overseeing any civil engineering work that arises during the study.

Vance Cave, PE, CCM, is a civil engineer and certified construction manager with more than 18 years of experience working for water utilities. For this project, Vance will provide civil engineering support and ensure industry design standards are maintained.

FIGURE 2 – PROPOSED PROJECT SCHEDULE

POTABLE WATER SYSTEM PRELIMINARY DESIGN STUDY 2012-13



◆ = Workshop

EXHIBIT "B"

City of Sunnyvale
Water System Preliminary Design Study Fee Proposal
HydroScience Engineers

Proposal for RFP No. F13-04
October 10, 2012

Task	Description	Principal Mary Hoang	Engineer VII W. Sadler, A. Taylor	Engineer V V. Cave	Engineer IV Brian W., A. Singer	Engineer III K. Horn	Engineer II	Engineer I	CAD Designer II	Administrative II	HSe Hours	HSe Fee	Subconsultant	Expense Subtotal	Total Fee
	Hourly Billing Rates	$175	$160	$140	$130	$120	$110	$95	$90	$65					
1	System Components	16	40	16	16	68	36	8	0	16	216	$27,440			
2	Hydraulic Model Update	8	32	8	132	264	40	64	0	0	548	$66,960			
3	Guidelines and Details	8	24	24	0	48	24	16	40	16	200	$23,160			
4	Comprehensive PDSR	8	32	18	0	40	0	0	16	16	130	$16,320			
Subtotal for Requested Scope		**40**	**128**	**66**	**148**	**420**	**100**	**88**	**56**	**48**	**1094**	**$133,880**		**$1,000**	**$134,880**
Optional Tasks															
5	Model Training	4				16					20	$2,620	$10,000	$11,000	$13,620
6	Supplemental Assessment	4	16	16		16					52	$7,420			$7,420
Subtotal for Optional Tasks		8	16	16	0	32	0	0	0	0	72	$10,040			$21,040
Total		**48**	**144**	**82**	**148**	**452**	**100**	**88**	**56**	**48**	**1166**				**$155,920**

Notes:
The labor rates identified in this fee proposal are based on our 2012 standard billing rates. These rates will remain in effect for the duration of this scope of work.
Expense subtotal includes markup on expenses.
This fee is inclusive of all markups, overhead, and profit.