

Honorable Mayor and Member
of the City Council
City Hall
Torrance, California

Members of the Council:

SUBJECT: Public Works - Appropriate Water Enterprise Funds and approve a project to replace Well No. 6 and approve a Consulting Services Agreement with Boyle Engineering Corporation for design of Well No. 6. Expenditure: \$2,250,000

RECOMMENDATION:

Recommendation of the Public Works Director that City Council:

1. Appropriate \$2,250,000 from the Water Enterprise Fund and approve a project budget to replace Well No. 6 in McMaster Park; and
2. Approve a Consulting Services Agreement with Boyle Engineering Corporation in the amount of \$353,598 for design of the Well No. 6 replacement.

Funding

Funding is available from the Water Enterprise Fund.

BACKGROUND/ANALYSIS

The City of Torrance operates Well No. 6 in McMaster Park. Production from this 40-year-old well has been decreasing for several years from about 2,500 acre feet of water per year to below 1,000 acre feet because a large portion of the well collapsed. The well was then rehabilitated to 1,200 acre feet per year. It is anticipated that production will continue to decline. This project will drill a new Well No. 6 close to the existing well and utilize the existing tank, treatment facilities and booster pumps. The well will be constructed compatible with long term water source development in the area.

As reviewed with Council on January 8, 2008, the problems with the Metropolitan Water District (MWD) water sources (the Sacramento Delta and the Colorado River) are anticipated to cause imported water to become much more expensive than local groundwater. Additionally, there could be reduced water allocations from MWD during a drought. Returning groundwater production at the Well No. 6 location to 2,500 acre feet will reduce reliance on imported water. Local groundwater is not affected by drought.

With last year having the lowest rainfall in the Los Angeles Basin since 1880, there is a real possibility of mandatory reductions in water delivery if another drought year occurs. This could trigger conservation requirements in Torrance and increased fees associated with a corresponding reduction of water sales. Diversifying the water supplies for the City will reduce the impact of possible water reductions from MWD and provide long term financial benefits.

Staff is currently preparing a Water Business Plan to act as a policy guide for the next several years. A key element of the plan is for the City to diversify the water supply. Torrance owns 5,640 acre feet of annual groundwater pumping rights in the local West Coast Groundwater Basin. Due to the spread of a saltwater plume in the basin, most of the wells used by the City have been abandoned. Staff is working with the Water Replenishment District (WRD) and other agencies to improve the groundwater quality and supply of the basin. The plan includes a capital expenditure program for developing new pumping capacity to extract the City's allocated rights and for extracting additional stored water in times of need.

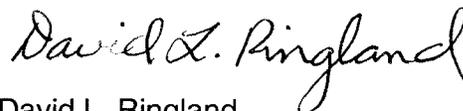
Replacing Well No. 6 is the first phase of developing additional pumping capacity so that the City can exercise its pumping rights. This project was selected as the first phase because of the long history of pumping at this location. The well will also be compatible with the existing and proposed storage tanks and treatment facilities. It is anticipated that the project can be completed by the end of 2008.

In order to fund replacement of this local water source, it will be necessary to reallocate certain main replacement projects. It is planned, however, to add replacement of the Falda Street water line, which has had numerous recent mainline breaks, to the current water line replacement project I-73. Funds are available in the project to cover the Falda Street replacement.

A design and construction management proposal was requested from Boyle Engineering Corporation (Boyle). Boyle has satisfactorily performed water project design and construction assistance services previously for the City. Additionally, City staff is familiar with their design services for water wells. The attached proposal for professional services is in the amount of \$168,859 for design, \$8,953 for bid assistance, and \$175,786 for construction phase services, for a total of \$353,598. The cost for these services is consistent with other design firms specializing in this type of work.

Respectfully Submitted,

ROBERT J. BESTE
Public Works Director



By David L. Ringland
Project Manager

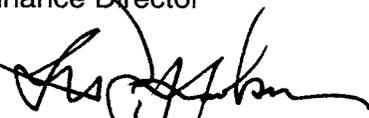
CONCUR:



Robert J. Beste
Public Works Director



Eric Tsao
Finance Director



LeRoy J. Jackson
City Manager

Attachment: A. Consulting Services Agreement – Boyle Engineering

CONSULTING SERVICES AGREEMENT

This CONSULTING SERVICES AGREEMENT (“Agreement”) is made and entered into as of (the “Effective Date”), by and between the CITY OF TORRANCE, a municipal corporation (“CITY”), and Boyle Engineering Corporation, a California corporation (“CONSULTANT”).

RECITALS:

- A. CITY wishes to retain the services of an experienced and qualified CONSULTANT to provide engineering services for design and construction of Well No. 6A.
- B. CONSULTANT represents that it is qualified to perform those services.

AGREEMENT:

1. SERVICES TO BE PERFORMED BY CONSULTANT

CONSULTANT will provide the services listed in the Scope of Services attached as Exhibit A. CONSULTANT warrants that all work and services set forth in the Scope of Services will be performed in a competent, professional and satisfactory manner.

2. TERM

Unless earlier terminated in accordance with Paragraph 4 below, this Agreement will continue in full force and effect from the Effective Date through .

3. COMPENSATION

- A. CONSULTANT’s Fee.

For services rendered pursuant to this Agreement, CONSULTANT will be paid in accordance with the Compensation Schedule attached as Exhibit B, provided, however, that in no event will the total amount of money paid the CONSULTANT, for services initially contemplated by this Agreement, exceed the sum of \$353,598 (“Agreement Sum”), unless otherwise first approved in writing by CITY.

- B. Schedule of Payment.

Provided that the CONSULTANT is not in default under the terms of this Agreement, upon presentation of an invoice, CONSULTANT will be paid monthly the fees described in Paragraph 3.A. above, according to the Compensation Schedule. Payment will be due within 30 days after the date of the monthly invoice.

4. TERMINATION OF AGREEMENT

- A. Termination by CITY for Convenience.

- 1. CITY may, at any time, terminate the Agreement for CITY’s convenience and without cause.

2. Upon receipt of written notice from CITY of such termination for CITY's convenience, CONSULTANT will:
 - a. cease operations as directed by CITY in the notice;
 - b. take actions necessary, or that CITY may direct, for the protection and preservation of the work; and
 - c. except for work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.
3. In case of such termination for CITY's convenience, CONSULTANT will be entitled to receive payment for work executed; and costs incurred by reason of such termination, along with reasonable overhead and profit on the work not executed.

B. Termination for Cause.

1. If either party fails to perform any term, covenant or condition in this Agreement and that failure continues for 15 calendar days after the nondefaulting party gives the defaulting party written notice of the failure to perform, this Agreement may be terminated for cause; provided, however, that if during the notice period the defaulting party has promptly commenced and continues diligent efforts to remedy the default, the defaulting party will have such additional time as is reasonably necessary to remedy the default.
2. In the event this Agreement is terminated for cause by the default of the CONSULTANT, the CITY may, at the expense of the CONSULTANT and its surety, complete this Agreement or cause it to be completed. Any check or bond delivered to the CITY in connection with this Agreement, and the money payable thereon, will be forfeited to and remain the property of the CITY. All moneys due the CONSULTANT under the terms of this Agreement will be retained by the CITY, but the retention will not release the CONSULTANT and its surety from liability for the default. Under these circumstances, however, the CONSULTANT and its surety will be credited with the amount of money retained, toward any amount by which the cost of completion exceeds the Agreement Sum and any amount authorized for extra services.
3. Termination for cause will not affect or terminate any of the rights of the CITY as against the CONSULTANT or its surety then existing, or which may thereafter accrue because of the default; this provision is in addition to all other rights and remedies available to the CITY under law.

C. Termination for Breach of Law.

In the event the CONSULTANT or any of its officers, directors, shareholders, employees, agents, subsidiaries or affiliates is convicted (i) of a criminal offense as an incident to obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of a contract or subcontract; (ii) under state or federal statutes of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty which currently, seriously, and directly affects responsibility as a public consultant or contractor; (iii) under state or federal antitrust statutes arising out of the submission of bids or proposals; or (iv) of violation of Paragraph 19 of this Agreement; or for any other cause the CITY determines to be so serious and compelling as to affect CONSULTANT's responsibility as a public consultant or contractor, including but not limited to, debarment by another governmental agency, then the CITY reserves the unilateral right to terminate this Agreement or to impose such other sanctions (which may include financial sanctions, temporary suspensions or any other condition deemed appropriate short of termination) as it deems proper. The CITY will not take action until CONSULTANT has been given notice and an opportunity to present evidence in mitigation.

5. **FORCE MAJEURE**

If any party fails to perform its obligations because of strikes, lockouts, labor disputes, embargoes, acts of God, inability to obtain labor or materials or reasonable substitutes for labor or materials, governmental restrictions, governmental regulations, governmental control, judicial orders, enemy or hostile governmental action, civil commotion, fire or other casualty, or other causes beyond the reasonable control of the party obligated to perform, then that party's performance shall be excused for a period equal to the period of such cause for failure to perform.

6. **RETENTION OF FUNDS**

CONSULTANT authorizes CITY to deduct from any amount payable to CONSULTANT (whether or not arising out of this Agreement) any amounts the payment of which may be in dispute or that are necessary to compensate CITY for any losses, costs, liabilities, or damages suffered by CITY, and all amounts for which CITY may be liable to third parties, by reason of CONSULTANT's negligent acts or omissions or willful misconduct in performing or failing to perform CONSULTANT's obligations under this Agreement. In the event that any claim is made by a third party, the amount or validity of which is disputed by CONSULTANT, or any indebtedness exists that appears to be the basis for a claim of lien, CITY may withhold from any payment due, without liability for interest because of the withholding, an amount sufficient to cover the claim. The failure of CITY to exercise the right to deduct or to withhold will not, however, affect the obligations of CONSULTANT to insure, indemnify, and protect CITY as elsewhere provided in this Agreement.

7. **CITY REPRESENTATIVE**

Robert J. Beste is designated as the “City Representative,” authorized to act in its behalf with respect to the work and services specified in this Agreement and to make all decisions in connection with this Agreement. Whenever approval, directions, or other actions are required by CITY under this Agreement, those actions will be taken by the City Representative, unless otherwise stated. The City Manager has the right to designate another City Representative at any time, by providing notice to CONSULTANT.

8. **CONSULTANT REPRESENTATIVE(S)**

The following principal(s) of CONSULTANT are designated as being the principal(s) and representative(s) of CONSULTANT authorized to act in its behalf with respect to the work specified in this Agreement and make all decisions in connection with this Agreement:

Allen J. Randall, Managing Engineer
C. Russell Hulse, Project Manager

9. **INDEPENDENT CONTRACTOR**

The CONSULTANT is, and at all times will remain as to CITY, a wholly independent contractor. Neither CITY nor any of its agents will have control over the conduct of the CONSULTANT or any of the CONSULTANT’s employees, except as otherwise set forth in this Agreement. The CONSULTANT may not, at any time or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of CITY.

10. **BUSINESS LICENSE**

The CONSULTANT must obtain a City business license prior to the start of work under this Agreement, unless CONSULTANT is qualified for an exemption.

11. **OTHER LICENSES AND PERMITS**

CONSULTANT warrants that it has all professional, contracting and other permits and licenses required to undertake the work contemplated by this Agreement.

12. **FAMILIARITY WITH WORK**

By executing this Agreement, CONSULTANT warrants that CONSULTANT (a) has thoroughly investigated and considered the scope of services to be performed, (b) has carefully considered how the services should be performed, and (c) fully understands the facilities, difficulties and restrictions attending performance of the services under this Agreement. If the services involve work upon any site, CONSULTANT warrants that CONSULTANT has or will investigate the site and is or will be fully acquainted with the conditions there existing, prior to commencement of services set forth in this Agreement. Should CONSULTANT discover any latent or unknown conditions that will materially affect the performance of the services set forth in this Agreement, CONSULTANT must immediately inform CITY of that fact and may not proceed except at CONSULTANT’s risk until written instructions are received from CITY.

13. CARE OF WORK

CONSULTANT must adopt reasonable methods during the term of the Agreement to furnish continuous protection to the work, and the equipment, materials, papers, documents, plans, studies and other components to prevent losses or damages, and will be responsible for all damages, to persons or property, until acceptance of the work by CITY, except those losses or damages as may be caused by CITY's own negligence.

14. CONSULTANT'S ACCOUNTING RECORDS; OTHER PROJECT RECORDS

Records of the CONSULTANT's time pertaining to the project, and records of accounts between CITY and the CONSULTANT, will be kept on a generally recognized accounting basis. CONSULTANT will also maintain all other records, including without limitation specifications, drawings, progress reports and the like, relating to the project. All records will be available to CITY during normal working hours. CONSULTANT will maintain these records for three years after final payment.

15. INDEMNIFICATION

CONSULTANT will indemnify, pay for cost of defense, and hold harmless CITY, the City Council, each member thereof, present and future, its officers, agents and employees from and against any and all liability, expenses, including defense costs and legal fees, and claims for damages whatsoever, including, but not limited to, those arising from breach of contract, bodily injury, death, personal injury, property damage, loss of use, or property loss. The obligation to indemnify, pay for cost of defense, and hold harmless includes, but is not limited to, any liability or expense, including defense costs and legal fees, arising from the negligent acts or omissions, or willful misconduct of CONSULTANT, its officers, employees, agents, subconsultants or vendors. It is further agreed, CONSULTANT's obligations to indemnify, defend and hold harmless will apply, but only to the extent covered by CONSULTANT's negligence, even in the event of concurrent negligence on the part of CITY, the City Council, each member thereof, present and future, or its officers, agents and employees, except for liability resulting from the sole negligence or willful misconduct of CITY, its officers, employees or agents. Payment by CITY is not a condition precedent to enforcement of this indemnity.

16. NON-LIABILITY OF CITY OFFICERS AND EMPLOYEES

No officer or employee of CITY will be personally liable to CONSULTANT, in the event of any default or breach by the CITY or for any amount that may become due to CONSULTANT.

17. INSURANCE

- A. CONSULTANT must maintain at its sole expense the following insurance, which will be full coverage not subject to self insurance provisions:
1. Automobile Liability, including owned, non-owned and hired vehicles, with at least the following limits of liability:
 - a. Primary Bodily Injury with limits of at least \$500,000 per person, \$1,000,000 per occurrence; and
 - b. Primary Property Damage of at least \$250,000 per occurrence; or
 - c. Combined single limits of \$1,000,000 per occurrence.
 2. General Liability including coverage for premises, products and completed operations, independent contractors/vendors, personal injury and contractual obligations with combined single limits of coverage of at least \$1,000,000 per occurrence.
 3. Professional liability insurance with limits of at least \$1,000,000 per occurrence.
 4. Workers' Compensation with limits as required by the State of California and Employers Liability with limits of at least \$1,000,000.
- B. The insurance provided by CONSULTANT will be primary and non-contributory
- C. CITY, the City Council and each member thereof, members of boards and commissions, every officer, agent, official, employee and volunteer must be named as additional insured under the automobile and general liability policies.
- D. CONSULTANT must provide certificates of insurance and/or endorsements to the City Clerk of the City of Torrance before the commencement of work.
- E. Each insurance policy required by this Paragraph must contain a provision that no termination, cancellation or change of coverage can be made without thirty days notice to CITY.

18. SUFFICIENCY OF INSURERS AND SURETIES

Insurance or bonds required by this Agreement will be satisfactory only if issued by companies admitted to do business in California, rated "B+" or better in the most recent edition of Best's Key Rating Guide, and only if they are of a financial category Class VII or better, unless these requirements are waived by the Risk Manager of CITY ("Risk Manager") due to unique circumstances. In the event the Risk Manager determines that the work or services to be performed under this Agreement creates an increased or decreased risk of loss to CITY, the CONSULTANT agrees that the minimum limits of any insurance policies or performance bonds required by this Agreement may be changed

accordingly upon receipt of written notice from the Risk Manager; provided that CONSULTANT will have the right to appeal a determination of increased coverage by the Risk Manager to the City Council of CITY within 10 days of receipt of notice from the Risk Manager.

19. CONFLICT OF INTEREST

- A. No officer or employee of the CITY may have any financial interest, direct or indirect, in this Agreement, nor may any officer or employee participate in any decision relating to the Agreement that effects the officer or employee's financial interest or the financial interest of any corporation, partnership or association in which the officer or employee is, directly or indirectly interested, in violation of any law, rule or regulation.
- B. No person may offer, give, or agree to give any officer or employee or former officer or employee, nor may any officer or employee solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any way pertaining to any program requirement, contract or subcontract, or to any solicitation or proposal.

20. NOTICE

- A. All notices, requests, demands, or other communications under this Agreement will be in writing. Notice will be sufficiently given for all purposes as follows:
1. Personal delivery. When personally delivered to the recipient: notice is effective on delivery.
 2. First Class mail. When mailed first class to the last address of the recipient known to the party giving notice: notice is effective three mail delivery days after deposit in an United States Postal Service office or mailbox.
 3. Certified mail. When mailed certified mail, return receipt requested: notice is effective on receipt, if delivery is confirmed by a return receipt.
 4. Overnight delivery. When delivered by an overnight delivery service, charges prepaid or charged to the sender's account: notice is effective on delivery, if delivery is confirmed by the delivery service.
 5. Facsimile transmission. When sent by fax to the last fax number of the recipient known to the party giving notice: notice is effective on receipt. Any notice given by fax will be deemed received on the next business day if it is received after 5:00 p.m. (recipient's time) or on a non-business day.

6. Addresses for purpose of giving notice are as follows:

CONSULTANT: C. Russell Hulse, Project Manager
Boyle Engineering Corporation
1501 Quail Street
Newport Beach, CA 92660
Fax: (949) 721-7142

CITY: City Clerk
City of Torrance
3031 Torrance Boulevard
Torrance, CA 90509-2970
Fax: (310) 618-2931

- B. Any correctly addressed notice that is refused, unclaimed, or undeliverable because of an act or omission of the party to be notified, will be deemed effective as of the first date the notice was refused, unclaimed or deemed undeliverable by the postal authorities, messenger or overnight delivery service.
- C. Either party may change its address or fax number by giving the other party notice of the change in any manner permitted by this Agreement.

21. PROHIBITION AGAINST ASSIGNMENT AND SUBCONTRACTING

This Agreement and all exhibits are binding on the heirs, successors, and assigns of the parties. The Agreement may not be assigned or subcontracted by either CITY or CONSULTANT without the prior written consent of the other.

22. INTEGRATION; AMENDMENT

This Agreement represents the entire understanding of CITY and CONSULTANT as to those matters contained in it. No prior oral or written understanding will be of any force or effect with respect to the terms of this Agreement. The Agreement may not be modified or altered except in writing signed by both parties.

23. INTERPRETATION

The terms of this Agreement should be construed in accordance with the meaning of the language used and should not be construed for or against either party by reason of the authorship of this Agreement or any other rule of construction that might otherwise apply.

24. SEVERABILITY

If any part of this Agreement is found to be in conflict with applicable laws, that part will be inoperative, null and void insofar as it is in conflict with any applicable laws, but the remainder of the Agreement will remain in full force and effect.

25. TIME OF ESSENCE

Time is of the essence in the performance of this Agreement.

26. GOVERNING LAW; JURISDICTION

This Agreement will be administered and interpreted under the laws of the State of California. Jurisdiction of any litigation arising from the Agreement will be in Los Angeles County, California.

27. COMPLIANCE WITH STATUTES AND REGULATIONS

CONSULTANT will be knowledgeable of and will comply with all applicable federal, state, county and city statutes, rules, regulations, ordinances and orders.

28. WAIVER OF BREACH

No delay or omission in the exercise of any right or remedy by a nondefaulting party on any default will impair the right or remedy or be construed as a waiver. A party's consent or approval of any act by the other party requiring the party's consent or approval will not be deemed to waive or render unnecessary the other party's consent to or approval of any subsequent act. Any waiver by either party of any default must be in writing and will not be a waiver of any other default concerning the same or any other provision of this Agreement.

29. ATTORNEY'S FEES

Except as provided for in Paragraph 15, in any dispute, litigation, arbitration, or other proceeding by which one party either seeks to enforce its rights under this Agreement (whether in contract, tort or both) or seeks a declaration of any rights or obligations under this Agreement, the prevailing party will be awarded reasonable attorney's fees, together with any costs and expenses, to resolve the dispute and to enforce any judgment.

30. EXHIBITS

All exhibits identified in this Agreement are incorporated into the Agreement by this reference.

31. CONSULTANT'S AUTHORITY TO EXECUTE

The person(s) executing this Agreement on behalf of the CONSULTANT warrant that (i) the CONSULTANT is duly organized and existing; (ii) they are duly authorized to execute this Agreement on behalf of the CONSULTANT; (iii) by so executing this Agreement, the CONSULTANT is formally bound to the provisions of this Agreement;

and (iv) the entering into this Agreement does not violate any provision of any other Agreement to which the CONSULTANT is bound.

CITY OF TORRANCE
a Municipal Corporation

Boyle Engineering Corporation
a California corporation

Frank Scotto, Mayor

By: _____
Allen J. Randall
Managing Engineer

ATTEST:

Sue Herbers
City Clerk

APPROVED AS TO FORM:
JOHN L. FELLOWS III
City Attorney

By: _____

Attachments: Exhibit A Scope of Services
 Exhibit B Compensation Schedule

Revised: 12/13/2006

City of Torrance Well No. 6A

Scope of Services

SCOPE OF SERVICES

To expedite completion of the project, a single set of contract documents will be prepared for construction of the well and wellhead facilities.

Task 1 – Data Acquisition

- 1.1 Obtain information from the City, including street improvement plans for Yukon Avenue, storm drain details and reservoir/Well 6 site and piping details.
- 1.2 Perform a utility search along Yukon Avenue.
- 1.3 Obtain and review data for other wells in the vicinity.
- 1.4 Site survey, covering the proposed well site, adjacent reservoir facilities. This will extend along Yukon to Artesia and also follow the 12-inch pipeline from the site to Artesia, as alternative flush line routes. Survey control will tie into NAD83 coordinates and Los Angeles County benchmark elevations.

Task 2 – Preliminary Design

- 2.1 Review the Southern California Edison (SCE) easement to determine if the well could be constructed in their easement. Initiate coordination for application for a new electrical service. Assume a meeting with SCE is required to discuss issues. Determine alternative well location within the site.
- 2.2 Geoscience will assist the City with obtaining an NPDES permit.
- 2.3 Geoscience will develop the recommended well design, based on data from Item 1.3 above. This will include casing depth and diameter, comparison of costs for copper-bearing and stainless steel well casing, and anticipated well capacity and specific capacity.
- 2.4 Prepare preliminary wellhead layouts, showing piping configuration, well vault plan, and connection to existing facilities. Concept will follow that of the City of Beverly Hills well project designed by Boyle in 1999.

- 2.5 Evaluate system hydraulics and make preliminary pump selections, based on City-preferred pump manufacturers.
- 2.6 Prepare drawings for the revised aeration equipment at the reservoir discharge. This will replace the existing aeration system.
- 2.7 Prepare a preliminary design report, summarizing Items 2.1 through 2.6. Include a preliminary cost estimate.

Task 3 – Final Design

- 3.1 Geotechnical investigation. This will involve drilling one bore hole to a depth of 25 feet, after determination of the final well location. Includes laboratory testing and preparation of a report defining design loading conditions.
- 3.2 Potholing of utilities which may affect pipeline grades. This is most applicable to the proposed pipeline in Yukon, for flush water disposal. A total of two potholes are assumed; the need for additional holes will be discussed with the City. This is an optional task; work could be performed by the City.
- 3.3 Prepare construction drawings. These will be in AutoCAD format. A total of 28 drawings are anticipated, per the attached preliminary drawing list.
- 3.4 Develop project specifications. The City's front-end documents will be modified as necessary. Technical specifications will be based on Boyle's master specification system, which follows the CSI format.
- 3.5 Submit plans and specifications for City review. Submittals will be made at the 30, 75, and 100 percent completion stages.
- 3.6 Provide signed mylar original drawings and specification originals for City advertisement for bids. Copies of all documents will also be provided on CD in AutoCAD and Word formats.

Task 4 – Meeting, Project Management, Quality Control

- 4.1 Attend kick-off meeting with City staff to discuss issues such as existing facilities, design issues, allowable construction working hours, schedules, and permits. Include site visit.
- 4.2 Attend three coordination meetings during the design period. Boyle will prepare and distribute meeting minutes.
- 4.3 Project management involves coordination between Boyle's in-house disciplines, subconsultants, and liaison with City staff.
- 4.4 Quality control reviews will be scheduled prior to any submittal to the City. This is performed by senior staff not involved with the project.

Optional Services

We suggest the City consider the following additional optional services.

Task 5 – Bid Assistance

- 5.1 Respond to questions from potential bidders.
- 5.2 Assist with preparation of addenda, if necessary.

Task 6 – Construction Phase Services

- 6.1 Prepare for and attend preconstruction meeting.
- 6.2 Review contractor's shop drawing submittals. Assume 30 submittals/resubmittals.
- 6.3 Field observation of well construction activities, consisting of the following subtasks:
 - 6.3.1 Maintain telephone coordination with the contractor during drilling/installation of the conductor casing.
 - 6.3.2 Provide field geologists to log the pilot hole; this will be a part-time activity. Select drill cutting samples and have them tested for grain size distribution. This will be used to select casing slot size.

- 6.3.3 Witness and analyze the downhole geophysical surveys. Recommend final ream diameter and casing depth.
- 6.3.4 Aquifer zone testing (optional). If deemed necessary, select specific zones for testing. Field geologists will observe/measure temperature, pH, electrical conductivity, and turbidity of water from each zone. Water samples from each zone will be collected for quality testing. A maximum of three zones is assumed.
- 6.3.5 Prepare a well design technical memo. This will be submitted within 48 hours of completion of pilot hole drilling (or after receipt of sample results from isolated aquifer zone testing, if performed). This memo will state the basis for the well design and final recommendations for casing lengths and diameters; well screen placement, perforation/slot size, gravel pack type and gradation, and depth of cement around the black casing.
- 6.3.6 Part-time observation of borehole reaming for monitoring the drilling mud properties to ensure specification conformance. The field geologist will also be present to observe the caliper survey.
- 6.3.7 Field geologists will be present to observe, on a full-time basis, the installation of the blank and perforated casing, gravel pack, and annular (sanitary) seal.
- 6.3.8 Observation of well development by mechanical and pumping methods will be on a part-time basis. Typically, mechanical development will require 60 to 90 hours of contractor time, and pumping development will require 40 hours. During site visits, field geologists will measure water quality parameters (temperature, pH, conductivity, and turbidity) and evaluate progress of development.
- 6.3.9 Provide part-time observation during production testing, consisting of step-drawdown and constant-rate discharge testing. Downhole pressure transducers will be provided by Geoscience to continuously monitor water level changes during testing. The constant-rate

discharge test will be 24 to 48 hours in duration. Water samples will be collected at the end of the testing for laboratory testing.

- 6.3.10 Prepare a technical memorandum at the end of the well testing to identify static and pumping water levels, specific capacity, and recommended pump setting. This will allow immediate verification/revision of the well pump selection. The draft memo will be submitted for review and comment; after revision, the final memo will be prepared.
- 6.3.11 Review data obtained from video survey and alignment and plumbness testing.
- 6.3.12 Prepare a summary of well construction report. This will document the drilling, construction, and testing activities. The draft report will be submitted for review and comment. The final report will include well logs and test results in the appendix.
- 6.3.13 Prepare a drinking water source assessment and protection report, as required by DPH.
- 6.4 Respond to contractor requests for information (RFIs) as necessary. A total of 10 RFIs is assumed for budget purposes.
- 6.5 Part-time field observation of wellhead construction. Daily observation of contractor activities for up to 4 hours per day is included, with an average of 16 hours per week. A 35-week construction period has been assumed. Daily reports will be prepared. The report will include a description of the work completed that day, observations performed to verify compliance with contract documents, deficiencies noted and contractor corrective actions, contractor personnel on site, weather, etc.
- 6.6 Assist in preparation of change orders, as necessary. A total of four change orders are assumed.
- 6.7 Assist with start-up of the facility as required. Assume 16 hours for budget purposes.

- 6.8 Prepare record drawings based on contractor-furnished “redline” construction plans. Mylar originals will be submitted, along with an electronic copy.

Assumptions

1. The City will apply for and obtain the NPDES permit, with assistance from Geoscience.
2. The City will prepare environmental documents. At this time, a categorical exemption is assumed.
3. No easement descriptions will be required.
4. The contractor will be responsible for construction surveying, soil compaction testing, and concrete sampling and testing.
5. The cost for water quality testing during well construction is not included in Boyle’s budget. This could be handled either by the contractor or the City.
6. The contractor will be responsible for preparation of traffic control plans and processing same through the City.
7. If necessary, the City will process documents through the City Building Department.
8. For the SCADA system:
 - a. Radio antenna could be mounted on a lighting pole or on a new dedicated pole in the grassy area.
 - b. Existing Well No. 6 will be able to be shut down when the new well is connected to the existing PLC.

Additional Provisions

Right to Rely. Consistent with the professional standard of care and unless specifically provided for herein, the Consultant is entitled to rely on the accuracy of data and information provided by the City or others without independent review or evaluation.

Opinion of Construction Cost. The opinion of construction cost by the Consultant represents our judgment as a design professional and it

is supplied for the general guidance of the City. It is represented in general industry terms and, because it does not provide for market fluctuation, it may differ from contractor bids or actual costs to the City.

Construction Contractor Indemnification. The City will require that construction contractors working with the project hold harmless and indemnify the City, the Consultant and its consultants (if any) from liabilities, claims, losses, damages and costs, as a result of the construction contractors' performance.

Construction Contractor Insurance. The City will require that the construction contractor provide commercial general liability insurance with the City and the Consultant as additional insureds. The construction contractor shall also provide workers' compensation insurance in amounts required by law and shall provide waivers of subrogation in favor of the City and the Consultant.

Construction Safety and Methods. The City agrees that the construction contractor will be responsible for job site conditions during construction with regard to safety. The Consultant will not have authority to stop or reject the work of the construction contractor.

Asbestos or Hazardous Materials. In providing its services hereunder, the Consultant shall not be responsible for identification, handling, containment, abatement, or in any other respect, for any asbestos or hazardous material if such is present in connection with the project. In the event that the City becomes aware of the presence of asbestos or hazardous material at the jobsite, the City shall be responsible for complying with all applicable federal and state rules and regulations, and shall immediately notify the Consultant, who shall then be entitled to cease any of its services that may be affected by such presence, without any liability to the Consultant arising there from.

Construction Observation. The Consultant has estimated the hours required or requested for construction observation based on the level of effort requested by the City and/or required for similar projects. Should the contractor require additional time, whether approved for contract purposes or not, then the Consultant shall be entitled to a renegotiation of the fee based on the additional contractor time.

COMPENSATION SCHEDULE

Project Budget

Well No. 6A
Well and Wellhead Construction

City of Torrance

Task Description	Personnel Hours					Budget					
	Principal Engineer	Senior Engineer	Associate Engineer	CADD	Clerical	Total Hours	Labor	Boyle Non-Labor	Subconsultants	Total Non-Labor	Total
Task 1 - Data Acquisition											
1.1 - Obtain information from City	4				2	6	\$ 950			\$ -	\$ 950
1.2 Utility search		4				4	\$ 644			\$ -	\$ 644
1.3 Obtain/review data from other wells in the vicinity	1					1	\$ 205		\$ 3,180	\$ 3,180	\$ 3,385
1.4 Topographic survey of the well site and pipeline route (Bush)	2					2	\$ 410		\$ 8,200	\$ 8,200	\$ 8,610
Computer/communication						-	\$ -	\$ 66		\$ 66	\$ 66
Subtotal	7	4	-	-	2	13	\$ 2,209	\$ 66	\$ 11,380	\$ 11,446	\$ 13,655
Task 2 - Preliminary Design											
2.1 Review SCE easement regarding well location. Initiate application for electrical service. Meet with SCE if necessary	6	4				10	\$ 1,874			\$ -	\$ 1,874
2.2 Assist City with obtaining NPDES permit (Geoscience)	1					1	\$ 205		\$ 3,100	\$ 3,100	\$ 3,305
2.3 Develop well design parameters, including cost comparison (Geoscience)	2					2	\$ 410		\$ 1,830	\$ 1,830	\$ 2,240
2.4 Prepare preliminary wellhead layouts	6			4		10	\$ 1,594			\$ -	\$ 1,594
2.5 System hydraulics and pump selection	4				4	8	\$ 1,080			\$ -	\$ 1,080
2.6 Drawings for reservoir aeration system. Include field visit for structural observation	8			4		12	\$ 2,004			\$ -	\$ 2,004
2.7 Prepare Preliminary Design Report. Submit for City review; finalize report	12	4			4	20	\$ 3,364	\$ 100	\$ 3,840	\$ 3,940	\$ 7,304
Computer/communication						-	\$ -	\$ 321		\$ 321	\$ 321
Subtotal	39	8	-	8	8	63	\$ 10,531	\$ 421	\$ 8,770	\$ 9,191	\$ 19,722
Task 3 - Final Design											
3.1 Geotechnical investigation and report	2					2	\$ 410		\$ 6,800	\$ 6,800	\$ 7,210
3.2 Pot-hole utilities (assume two required)	4					4	\$ 820		\$ 2,500	\$ 2,500	\$ 3,320
3.3 Prepare construction drawings, assumed 26 total per Preliminary Drawing List	59	252	45	308		664	\$ 86,320	\$ 2,770	\$ 9,800	\$ 12,570	\$ 98,890
3.4 Develop project specifications, modify City front end documents	16				4	20	\$ 3,540			\$ -	\$ 3,540
3.5 Submit plans/specs for City review						-	\$ -			\$ -	\$ -
30% submittal	2			4		6	\$ 774	\$ 200		\$ 200	\$ 974
75% submittal	2			4		6	\$ 774	\$ 200		\$ 200	\$ 974
100% submittal	2			4		6	\$ 774	\$ 200		\$ 200	\$ 974
3.6 Provide signed mylar plans and spec originals	2			4		6	\$ 774			\$ -	\$ 774
Computer/communication						-	\$ -	\$ 3,641		\$ 3,641	\$ 3,641
Subtotal	89	252	45	324	4	714	\$ 94,186	\$ 7,011	\$ 19,100	\$ 26,111	\$ 120,297
Task 4 - Project Management and Meetings											
4.1 Kickoff meeting	4	4			2	10	\$ 1,594	\$ 50	\$ 1,360	\$ 1,410	\$ 3,004
4.2 Attend three coordination meetings	12	4			4	20	\$ 3,364	\$ 150	\$ 1,020	\$ 1,170	\$ 4,534
4.3 Project management, coordination with in-house disciplines and subconsultants, invoice review (assume 3 hours/month for 5 months)	15				8	23	\$ 3,595			\$ -	\$ 3,595
4.4 Quality control reviews	18					18	\$ 3,690			\$ -	\$ 3,690
Computer/communication						-	\$ -	\$ 362		\$ 362	\$ 362
Subtotal	49	8	-	-	14	71	\$ 12,243	\$ 562	\$ 2,380	\$ 2,942	\$ 15,185
Total	184	272	45	332	28	861	\$ 119,169	\$ 8,061	\$ 41,630	\$ 49,691	\$ 168,860

Amounts shown are fee

Due to the significance of the hydrogeologic subconsultant participation in this project, their subconsultant costs have been marked up by 10% instead of the 15% described in Boyle's Rate Schedule

Personnel Category	\$/HR
Principal Engineer	\$205.00
Senior Engineer	\$161.00
Associate Engineer	\$125.00
CADD	\$91.00
Clerical	\$65.00

Project Budget

Well No. 6A
Well and Wellhead Construction
Optional Services

City of Torrance

Task Description	Personnel Hours						Total Hours	Budget				
	Principal Engineer	Senior Engineer	Associate Engineer	Field Observer	CADD	Clerical		Labor	Boyle Non-Labor	Subconsultants	Total Non-Labor	Total
Task 5 - Bid Assistance												
5.1 Respond to bidder questions	4	4					8	\$ 1,460		\$ 2,600	\$ 2,600	\$ 4,060
5.2 Assist with preparation of addenda (assume two)	6	12				2	20	\$ 3,280		\$ 1,470	\$ 1,470	\$ 4,750
Computer/communication							-	\$ -	\$ 143		\$ 143	\$ 143
Subtotal	10	16	-	-	-	2	28	\$ 4,740	\$ 143	\$ 4,070	\$ 4,213	\$ 8,953
Task 6 - Construction Phase Services												
6.1 Prepare for and attend preconstruction meeting							-	\$ -		\$ 1,130	\$ 1,130	\$ 1,130
6.2 Review contractor shop drawing submittals (assume 30)	36	20				8	64	\$ 11,100		\$ 1,920	\$ 1,920	\$ 13,020
6.3 Field observation of well construction (Geoscience)							-	\$ -			\$ -	\$ -
6.3.1 Coordinate during conductor casing placement							-	\$ -		\$ 510	\$ 510	\$ 510
6.3.2 Log pilot hole, select samples for grain size testing							-	\$ -		\$ 12,270	\$ 12,270	\$ 12,270
6.3.3 Witness and analyze geophysical surveys							-	\$ -		\$ 1,030	\$ 1,030	\$ 1,030
6.3.4 Aquifer zone testing (Optional)							-	\$ -		\$ 10,700	\$ 10,700	\$ 10,700
6.3.5 Prepare well design Technical Memo							-	\$ -		\$ 2,670	\$ 2,670	\$ 2,670
6.3.6 Observe reaming and caliper survey							-	\$ -		\$ 8,100	\$ 8,100	\$ 8,100
6.3.7 Observe placement of well casing and gravel pack							-	\$ -		\$ 7,130	\$ 7,130	\$ 7,130
6.3.8 Observe well development							-	\$ -		\$ 10,830	\$ 10,830	\$ 10,830
6.3.9 Observe step-drawdown and constant-rate test pumping							-	\$ -		\$ 5,920	\$ 5,920	\$ 5,920
6.3.10 Prepare Tech Memo summarizing well characteristics							-	\$ -		\$ 2,720	\$ 2,720	\$ 2,720
6.3.11 Review video and alignment tests							-	\$ -		\$ 1,570	\$ 1,570	\$ 1,570
6.3.12 Prepare Summary of Well Construction Report							-	\$ -		\$ 11,000	\$ 11,000	\$ 11,000
6.3.13 Prepare DWSAP report							-	\$ -		\$ 6,600	\$ 6,600	\$ 6,600
6.4 Respond to contractor RFIs (assume 10)	16	10				6	32	\$ 5,270		\$ 2,730	\$ 2,730	\$ 8,000
6.5 Part-time observation of wellhead construction (average 16 hrs/week for estimated 30 weeks)	24			480			504	\$ 55,320	\$ 4,000		\$ 4,000	\$ 59,320
6.6 Assist in preparation of Change Orders (assume four)	8					6	14	\$ 2,030		\$ 1,360	\$ 1,360	\$ 3,390
6.7 Assist with start up of the facility	16						16	\$ 3,280			\$ -	\$ 3,280
6.8 Prepare record drawings	6				20		26	\$ 3,050	\$ 200		\$ 200	\$ 3,250
Computer/communication							-	\$ -	\$ 3,346		\$ 3,346	\$ 3,346
Subtotal	106	30	-	480	20	22	656	\$ 80,050	\$ 7,546	\$ 88,190	\$ 95,736	\$ 175,786
Total	116	46	-	480	20	22	684	\$ 84,790	\$ 7,688	\$ 92,260	\$ 99,948	\$ 184,738

Amounts shown are fee

Due to the significance of the hydrogeologic subconsultant participation in this project, their subconsultant costs have been marked up by 10% instead of the 15% described in Boyle's Rate Schedule

<u>Personnel Category</u>	<u>S/HR</u>
Principal Engineer	\$205 00
Senior Engineer	\$160 00
Associate Engineer	\$125 00
Field Observer	\$105 00
CADD	\$91 00
Clerical	\$65 00