

**AGREEMENT FOR DESIGN ENGINEERING SERVICES FOR THE
AGATE NO. 2 WELL BLENDING SYSTEM AT THE AGATE
RESERVOIR SITE**

This agreement for design engineering services for the blending of the Agate No. 2 well, with treated water from the Horace P. Hinckley water treatment plant and wells Crafton and Agate No. 1 well ("Agreement") is made and entered into this 4th day of January, 2011 ("Effective Date"), by and between the City of Redlands, a municipal corporation ("City") and URS Corporation dba URS Corporation Americas ("Consultant"). City and Consultant are sometimes individually referred to herein as a "Party" and, together, as the "Parties." In consideration of the mutual promises contained herein, City and Consultant agree as follows:

ARTICLE 1 - ENGAGEMENT OF CONSULTANT

- 1.1 City hereby engages Consultant to provide professional engineering design services for the blending of the Agate No. 2 well, with treated water from the Horace P. Hinckley water treatment plant and the Crafton and Agate No. 1 wells (the "Services").
- 1.2 The Services shall be performed by Consultant in a professional manner, and Consultant represents that it has the skill and the professional expertise necessary to provide the Services to City at a level of competency presently maintained by other practicing professional consultants in the industry providing like and similar types of Services.

ARTICLE 2 - SERVICES OF CONSULTANT

- 2.1 The Services that Consultant shall perform are more particularly described in Exhibit "A," entitled "Scope of Services," which is attached hereto and incorporated herein by reference.
- 2.2 Consultant shall comply with applicable federal, state and local laws and regulations in the performance of this Agreement including, but not limited to, the Americans with Disabilities Act, the Fair Employment and Housing Act and applicable state prevailing wage laws.

ARTICLE 3 - RESPONSIBILITIES OF CITY

- 3.1 City shall make available to Consultant information in its possession that may assist Consultant in performing the Services.
- 3.2 City designates Mr. Chris Diggs as the City's representative with respect to performance of the Services, and such person shall have the authority to transmit instructions, receive information, interpret and define City's policies and decisions with respect to performance of the Services.

ARTICLE 4 - PERFORMANCE OF SERVICES

- 4.1 Consultant shall perform the Services in a prompt and diligent manner and in accordance with the schedule set forth in Exhibit "B," entitled "Project Schedule."
- 4.2 During the term of this Agreement, City may request that Consultant perform Extra Services. As used herein, "Extra Services" means any work that is determined necessary by City for the proper completion of the project or work for which the Services are being performed, but which the Parties did not reasonably anticipate would be necessary at the time of execution of this Agreement. Provided the Extra Services do not exceed twenty percent (20%) of the compensation to be paid by City to Consultant for the Services, such Extra Services may be agreed to by the Parties by written amendment to this Agreement, executed by the City Manager. Consultant shall not perform, nor be compensated for, Extra Services without such written authorization from City.

ARTICLE 5 - PAYMENTS TO CONSULTANT

- 5.1 The total compensation for Consultant's performance of the Services shall not exceed the amount of One Hundred Twenty Four Thousand Four Hundred Ninety Dollars (\$124,490). City shall pay Consultant on a time and materials basis up to the not to exceed amount, in accordance with Exhibit "C" entitled "Project Costs," and based upon the hourly rates shown in Exhibit "D," entitled "Rate Schedule." Both Exhibits "C" and "D" are attached hereto and incorporated herein by this reference.
- 5.2 Consultant shall submit monthly invoices to City describing the Services performed during the preceding month. Consultant's invoices shall include a brief description of the Services performed, the dates the Services were performed, the number of hours spent and by whom, and a description of reimbursable expenses related to the project. City shall pay Consultant no later than thirty (30) days after receipt and approval by City of Consultant's invoice, provided (1) the Services reflected in the invoice were performed to the reasonable satisfaction of City in accordance with the terms of this Agreement, and (2) that related expenses, rates and other information set forth in the invoice are consistent with the terms and conditions of the Agreement.
- 5.3 Project communications and notices shall be given in writing by personal delivery or by mail. Notices sent by mail should be addressed as follows:

City

Mr. Chris Diggs
Municipal Utilities and Engineering Dept.
City of Redlands.
35 Cajon Street, Suite 15A
Redlands, CA 92373

Consultant

Mr. Mike. N. Agbodo, PE
Project Manager
URS Corporation
3500 Porsche Way, Suite 300
Ontario, CA 91764

When so addressed, such notices shall be deemed given upon deposit in the United States Mail. Changes may be made in the names and addresses of the person to who notices and payments are to be given by giving notice pursuant to this section 5.3.

ARTICLE 6 - INSURANCE AND INDEMNIFICATION

- 6.1 Insurance. Insurance required by this Agreement shall be maintained by Consultant for the duration of its performance of the Services. Consultant shall not perform any Services unless and until required insurance listed below is obtained by Consultant. Consultant shall provide City with certificates of insurance and endorsements evidencing such insurance prior to commencement of the Services. The insurance policies shall include a provision prohibiting cancellation or modification of the policy except upon thirty (30) days prior written notice to City.
- 6.2 Workers' Compensation and Employer's Liability. Consultant shall secure and maintain Worker's Compensation and Employer's Liability insurance throughout the term of this Agreement in accordance with the laws of the State of California, with an insurance carrier acceptable to City.
- 6.3 Comprehensive General Liability Insurance. Consultant shall secure and maintain throughout the term of this Agreement comprehensive general liability insurance with minimum coverage of One Million Dollars (\$1,000,000) per occurrence and Two Million Dollars (\$2,000,000) aggregate for public liability, property damage and personal injury. City shall be named as an additional insured. Such insurance shall be primary and non-contributing to any insurance or self-insurance maintained by City.
- 6.4 Professional Liability Insurance. Consultant shall secure and maintain professional liability insurance throughout the term of this Agreement in the amount of One Million Dollars (\$1,000,000) per claim made.
- 6.5 Business Auto Liability Insurance. Consultant shall secure and maintain throughout the term of this Agreement business auto liability coverage, with minimum limits of One Million Dollars (\$1,000,000) per occurrence, combined single limit for bodily injury liability and property damage liability. This coverage shall include all Consultant owned vehicles used in connection with Consultant's provision of the Services, hired and non-owned vehicles, and employee non-ownership vehicles. City shall be named as an additional insured. Such insurance shall be primary and non-contributing to any insurance or self insurance maintained by City.
- 6.6 Hold Harmless and Indemnification. Consultant shall defend, indemnify and hold harmless City and its elected officials, employees and agents from and against claims, losses or liability, including attorneys' fees, arising from injury or death to persons or damage to property occasioned by Consultant's and its officers', employees' and agents' sole negligent acts or omissions in performing the Services.

ARTICLE 7 - CONFLICTS OF INTEREST

- 7.1 Consultant covenants and represents that it does not have any investment or interest in any real property that may be the subject of this Agreement or any other source of income, interest in real property or investment that would be affected in any manner or degree by the performance of Consultant's Services. Consultant further covenants and represents that in the performance of its duties hereunder, no person having any such interest shall perform any Services under this Agreement.
- 7.2 Consultant agrees it is not a designated employee within the meaning of the Political Reform Act because Consultant:
- A. Does not make or participate in:
- (i) the making or any governmental decisions regarding approval of a rate, rule or regulation, or the adoption or enforcement of laws;
 - (ii) the issuance, denial, suspension or revocation of permits, licenses, applications, certifications, approvals, orders or similar authorizations or entitlements;
 - (iii) authorizing City to enter into, modify or renew a contract;
 - (iv) granting City approval to a contract that requires City approval and to which City is a party, or to the specifications for such a contract;
 - (v) granting City approval to a plan, design, report, study or similar item;
 - (vi) adopting, or granting City approval of, policies, standards or guidelines for City or for any subdivision thereof.
- B. Does not serve in a staff capacity with City and in that capacity, participate in making a governmental decision or otherwise perform the same or substantially the same duties for City that would otherwise be performed by an individual holding a position specified in City's Conflict of Interest Code under Government Code section 87302.
- 7.3 In the event City officially determines that Consultant must disclose its financial interests by completing and filing a Fair Political Practices Commission Form 700, Statement of Economic Interests. Consultant shall file the subject Form 700 with the City Clerk's office pursuant to the written instructions provided by the Office of the City Clerk.

ARTICLE 8 - GENERAL CONSIDERATIONS

- 8.1 Attorneys' Fees. In the event any action is commenced to enforce or interpret any of the terms or conditions of this Agreement the prevailing Party shall, in addition to any costs and other relief, be entitled to the recovery of its reasonable attorneys' fees, including fees for the use of in-house counsel by a Party.

- 8.2 Prohibition Against Assignment. Consultant shall not assign any of the Services, except with the prior written approval of City and in strict compliance with the terms, and conditions of this Agreement.
- 8.3 Documents and Records. Project related documents, records, drawings, designs, cost estimates, electronic data files, databases and other documents developed by Consultant in connection with its performance of the Services, and copyright interest in such documents, shall become the property of City and shall be delivered to City upon completion of the Services, or upon the request of City. Any reuse of such documents, and any use of incomplete documents, shall be at City's sole risk.
- 8.4 Independent Contractor Status. Consultant is for all purposes under this Agreement an independent contractor and shall perform the Services as an independent contractor. Neither City nor any of its agents shall have control over the conduct of Consultant or Consultant's employees. Consultant shall supply necessary tools and instrumentalities required to perform the Services. Assigned personnel employed by Consultant are for its account only, and in no event shall Consultant or personnel retained by it be deemed to have been employed by City or engaged by City for the account of, or on behalf of City. Consultant shall have no authority, express or implied, to act on behalf of City in any capacity whatsoever as an agent, nor shall Consultant have any authority, express or implied, to bind City to any obligation.
- 8.5 Termination.
- A. Unless earlier terminated as provided for below, this Agreement shall terminate upon completion and acceptance of the Services by City.
- B. This Agreement may be terminated by City, in its sole discretion, by providing thirty (30) days' prior written notice to Consultant (delivered by certified mail, return receipt requested) of City's intent to terminate.
- C. If this Agreement is terminated by City, an adjustment to Consultant's compensation shall be made, but (1) no amount shall be allowed for anticipated profit or unperformed Services, and (2) any payment due Consultant at the time of termination may be adjusted to the extent of any additional costs to City occasioned by any default by Consultant.
- D. Upon receipt of a termination notice, Consultant shall immediately discontinue its provision of the Services and, within five (5) days of the date of the termination notice, deliver or otherwise make available to City, copies (in both hard copy and electronic form, where applicable) of project related data, design calculations, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by Consultant in performing the Services. Consultant shall be compensated on a pro-rata basis for Services completed up to the date of termination.

- 8.6 Books and Records. Consultant shall maintain books, ledgers, invoices, accounts and other records and documents evidencing costs and expenses related to the Services for a period of three (3) years, or for any longer period required by law, from the date of final payment to Consultant pursuant to this Agreement. Such books shall be available at reasonable times for examination by City at the office of Consultant.
- 8.7 Entire Agreement/Amendment. This Agreement, including the Exhibits incorporated herein by reference, represents the entire agreement and understanding between the Parties as to the matters contained herein, and any prior negotiations, written proposals or verbal agreements relating to such matters are superseded by this Agreement. Except as otherwise provided for herein, an amendment to this Agreement shall be in writing, approved by City and signed by City and Consultant.
- 8.8 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of California.
- 8.9 Severability. If one or more of the sentences, clauses, paragraphs or sections contained in this Agreement is declared invalid, void or unenforceable by a court of competent jurisdiction, the same shall be deemed severable from the remainder of this Agreement and shall not affect, impair or invalidate the remaining sentences, clauses, paragraphs or sections contained herein, unless to do so would deprive a Party of a material benefit of its bargain under this Agreement.

IN WITNESS WHEREOF, duly authorized representatives of the City and Consultant have signed in confirmation of this Agreement.

CITY OF REDLANDS

URS Corporation dba URS Corporation Americas

By: _____
Pete Aguilar, Mayor

By: _____
Brian Wynne, Vice President

Attest:

Sam Irwin, City Clerk

EXHIBIT A SCOPE OF SERVICES

PROJECT BACKGROUND

The City of Redlands (City) is in the process of designing improvements for the treatment optimization and upgrades to the Horace P. Hinckley water treatment plant (Hinckley). URS is assisting the City with the necessary design upgrades. As part of these design upgrades, URS is also assisting the City with blending Agate 1, Agate 2 and Crafton wells with treated water from the Hinckley water treatment plant. In February this year, URS submitted 100% design drawings to the City and is awaiting the City's instructions to submit Final Design drawings. In the meantime, Lockheed Martin Corporation (LMC) notified the City that elevated perchlorate levels have been detected in a well upstream of the Agate 2 well, and is considering alternatives to ensure adequate blending of the Agate 2 well water with treated water from Hinckley, Agate 1, and Crafton well water.

Based on groundwater monitoring, LMC has identified that perchlorate may impact the City's Agate 2 Well in the early summer of 2011. The City and LMC have agreed to blend water from Agate 2 well with treated water from Hinckley to reduce perchlorate levels to less than 80 percent of the MCL.

URS will work with the City to prepare the necessary documentation for the California Department of Public Health (CDPH) to obtain an approved blend plan. This will include all reports and blend modeling as required by CDPH.

URS will update the blending report previously prepared by URS and submitted to CDPH on blending water from Agate 1, Agate 2, and Crafton wells with treated water from Hinckley.

This scope of services is to provide a revision to the report already submitted by URS on blending of these facilities. First, URS would submit a revised report on the blending facilities to solicit CDPH input prior to proceeding with further design. This revised report will provide the basis of design for any design modifications that are necessary to the facilities currently under design by URS.

The City's potable water system consists of over 400 miles of distribution system pipeline with approximately 21,500 service connections. The City owns and regularly operates approximately 22 water supply wells located throughout the Bunker Hill, Mill Creek, and Yucaipa groundwater basins. These wells typically provide over 50 percent of the City's water supply needs. The City obtains the remainder of its water supply from two surface water treatment plants: the Henry Tate Water surface water treatment plant and Hinckley. These plants primarily operate on surface water from a local stream and river. Imported water from the State Water Project (SWP), delivered by the San Bernardino Valley Municipal Water District, is also periodically used to meet peak demand. During

2007, the City delivered over 37,700 acre-feet of water to its customers with a peak daily delivery of approximately 50 million gallons.

Task 1—Project Management and Meetings

Task 1.1 Project Management

URS shall develop a Project Management Plan that includes the project scope, deliverables, timelines, discipline interface requirements, and quality assurance/quality control (QA/QC) requirements.

URS shall keep the City informed of the progress of the work through telephone conversations, emails and faxes.

Task 1.2—Progress Meetings

URS has allowed for three (3) review meetings with the City personnel during the course of the project. Participants at the meetings shall include City staff, selected members of the URS team, LMC, CDM, CDPH and other project stakeholders, if any, as identified by the City. The proposed meetings include:

- A kick-off meeting to ensure that the goals and the objectives of the project are clearly understood, and to review the available data from the City.
- A 30% level of completion review meeting to review and discuss the initial design concepts and preliminary design layouts, and the preliminary design report. This meeting will be held with interested stakeholders including CDPH, the City staff, Lockheed staff and CDM following submission of the PDR to discuss the PDR and solicit input from CDPH prior to proceeding with the design.
- A 90% level of completion review meeting to review and discuss the final plans, specifications and project cost. Comments developed in the final review shall be incorporated in the preparation of the final design.

URS shall submit three versions of engineering design plans (i.e., 30%, 90% and Final Submittals) for review by City prior to the review meetings. URS shall also furnish an agenda and meeting notes for each meeting. URS shall also furnish an agenda and meeting notes for each meeting.

Task 1.3—Consultant Quality Control Reviews

URS shall implement a QA Program to include the following key elements:

- Project planning

- Internal review
- Client satisfaction

URS' QA Program is documented in its Quality Management System, which stresses active pre-planning and independent technical reviews (peer reviews). The QA Program is an active exchange of ideas among our staff and the pursuit of best practices through the application of sound professional judgment. An audit trail of each project's independent internal reviews is required and subject to periodic verification to ensure compliance with the QA Program.

Prior to submitting each deliverable to City, the work products will undergo an independent technical review to verify the quality of the work, and to confirm that work products are in accordance with the scope of services and comply with the standard of professional practice. The work products are reviewed by qualified senior practitioners who are experienced with the type of services being provided and independent from the origination of the activity or work product under review.

Under the URS' QA Program, the Project Managers will meet with the City at several scheduled time intervals to review the project performance. Potential deficiencies will be identified, discussed and corrections made as appropriate.

Task 2—Data Collection and Review

The objective of our research is the identification of constraints, restrictions, and operational criteria that would affect the preliminary design, construction means and methods, and Blending Facilities operations and maintenance requirements.

The first step of the process is to determine if blending facility is actually needed. To determine this partly involves an investigation into the connections on the 1900 and 1750 pressure zone transmission mains leaving the Agate Reservoir site. Although, URS has performed some of this analysis during the previous work performed for the City, design of the blending facility to handle perchlorate contamination requires a more detailed investigation several feet beyond the Agate Reservoir. The objective of this task is to collect the pertinent As-built drawings from the City in the vicinity of the Agate Reservoir site in order to perform this analysis.

URS would meet with the City at the project kickoff meeting to collect and review existing data, information, and standards relevant to the blending design. The following documents, as available, shall be requested to be furnished by the City:

- As-built drawings of connection points to residences and business in the vicinity of the Agate Reservoir site. Available data for the pipelines conveying water from the 1900 and

1750 pressure zone will be examined to determine the connections along these transmission mains.

- As-built construction drawings and design criteria of the Agate 2 well, the Agate Reservoir site and associated piping configuration, and the water distribution system network.
- Current Agate 2 well, and Agate Reservoir operations data including set points, equipment data, analytical reports, and similar relevant data.
- Other available reports that will be critical for project design considerations, such as tracer studies, CT calculations, previous equipment repairs and modifications etc..

URS shall review and utilize existing utility drawings provided by the City and obtain additional information, if necessary, for designing the blending facilities. URS shall contact DigAlert at the beginning of the design phase to obtain a list of utilities that potentially have facilities in the project area. Each Utility shall be contacted and a record of correspondence shall be kept to verify that the current utility records have been received.

It should be noted that analysis to be performed under this task is slightly beyond the scope of the current work being performed by URS on behalf of the City for the upgrades to the Horace P. Hinckley Water Treatment Plant.

Task 3—30% Preliminary Design

This task includes reviewing the required modifications to ensure blending of Agate 2 well water with treated water from Hinckley and water from Agate 1 and Crafton wells. URS will evaluate the worst case scenario and design the blending facilities to ensure that the design is capable of meeting the worst case scenario. The evaluation will examine blending during low demand conditions from the distribution system with Agate 1 Well and Crafton Well offline. URS will consider the following blending alternatives:

- (1) No modifications to currently proposed design
- (2) Piping reconfigurations
- (3) Static mixing
- (4) Mechanical mixing

Mechanical mixing is excluded from the alternatives, but will only be considered if the other alternatives do not work and the scope will be modified accordingly.

URS will ensure the design provides adequate mixing of the source waters prior to the first compliance point or turn-out to the distribution system. The selected mixing alternative shall not impact the overall hydraulics or operation of the entire system. The design shall include the following:

- Show proposed modifications to achieve adequate mixing;
- Selection of mixer alternatives (if applicable);
- Calculations demonstrating adequate mixing prior to first turn-out to 1750 Zone;
- Opinion of Probable Construction Cost for recommended modifications;
- Assume one meeting with LMC and the city of Redlands to review proposed modifications and receive comments (covered under Task 1.2).

URS shall submit a Preliminary Design Report (PDR) that shall include preliminary design of the Well Blending Facility.

The PDR shall include the established design criteria, existing site plans, reports on current conditions, design alternatives, construction cost and schedule estimates, and permit requirements. Specific elements of the PDR will include:

- Project objectives and Basis of Design;
- Discussion and evaluation of the improvements and the design alternatives investigated;
- Discussion of recommended design alternative including how and why the recommendation was made;
- Preliminary design plans, drawn to scale, showing the proposed design of the new facilities;
- Preliminary estimated construction cost of the project.

The PDR shall discuss each item included under this task. Analysis of proposed design alternatives shall include a list of the impacts on Plant operations, the environment, construction costs, schedule, and future maintenance requirements.

URS shall submit a draft copy of the PDR for the City's review, which would include the Basis of Design with the technical specifications. In conformance with the City's recommendations and upon mutual agreement, URS shall re-evaluate, revise, and finalize the draft report. The final copy of the PDR shall be in sufficient detail to facilitate the final engineering design of the Plant upgrades.

URS shall submit to the City four copies each of the draft PDR and the final PDR. In addition to hard copies, electronic files for the final PDR shall be submitted on compact disc with the report. The documents shall be provided in the most recent release of MS Word/Excel, AutoCAD 2009 and/or Adobe PDF format, if preferred by City.

URS shall prepare a comprehensive plant evaluation and also prepare preliminary site layout and equipment diagrams (30% design level) for the new facilities. URS shall provide piping layouts, mechanical components, and site improvements, structures, and limited cross sections as needed of the proposed site improvements.

Task 3.1—Preliminary Design Report

Based on the outcome of the investigations and further discussions with City staff, URS shall proceed in revising the report provided on the Evaluation of Blending Agate 1 and Crafton Well water with Hinckley treated water, dated April 21, 2010.

Task 3.2—Preliminary Site Layout

URS shall prepare preliminary site plans for the facilities. Specific work tasks to be performed include:

- Provide overall site layout drawings including paving, grading, treatment equipment, electrical equipment, piping, and storm drains and catch basins, if required.
- Provide mechanical layout of mixer, piping, valves, and appurtenances.

Task 3.3—Site Grading

URS shall provide site grading details, as needed, for the proposed Blending facility. URS shall also design the necessary drainage or erosion control devices. No landscaping design is assumed in this scope of services. URS shall prepare site grading plan and the SWPPP for submission to City to fulfill permitting requirements.

Task 3.4—Electrical, Instrumentation and Control

URS shall perform the following tasks:

- Determine electrical and instrumentation equipment needs for electrical services to the site.
- Prior to beginning the design, submit a preliminary equipment design, equipment design and electrical operations report including ladder logic sketches or similar diagrams.
- The P&IDs shall reflect the well pumps treatment system, piping, valves etc.
- System descriptions shall be prepared for PLC programming.
- A schedule and control strategy specification shall be prepared indicating additional PLC I/O, and control alarm functions and trigger points shall be added to the Agate site PLC.

Task 3.5—Permits

URS shall work closely with the local regulatory agencies to assist the City in identifying and obtaining approvals, and prepare and submit the appropriate permit applications with the required fees needed to construct the project. City shall be responsible for paying all permit fees.

URS shall identify and assist the City in identifying and obtaining permits and approvals from the appropriate federal, state, and/or local regulatory agencies for the Plant upgrades. The following agencies shall likely require permits and/or regulatory approvals for the project upgrades:

- URS shall also assist City in obtaining approvals from CDPH for the implementation of the recommended operational changes at the Agate Reservoir site.
- City departments for review and approval of design plans in compliance with city codes, standards and other governmental requirements
- City Fire Department to ensure compliance with fire codes
- Utility companies for potential system modifications
- South Coast Air Quality Management District (SCAQMD) for new or modifications to existing Permit(s) to operate, and permit to construct.

Certification of a California Environmental Quality Act (CEQA) document may be required from the City. However, CEQA document preparation is outside this proposed scope of services and would be an extra service.

Even though the blending site is less than an acre, there will be no change to the work performed under the existing contract. Therefore, SWPPP will be performed as part of this Project.

URS shall invite the CDPH representative from District 13 (San Bernardino) to participate at the beginning of the project since they prefer to be involved in the early stages of design development. When requested by City, URS will keep CDPH informed about the design work. When requested by City, URS shall submit construction documents to CDPH at the 30 percent complete level, with the understanding that this stage of the design may only provide a preliminary representation of the final project. URS shall provide additional construction documents to CDPH at the 90 percent complete level. URS shall hold up to two (2) meetings with CDPH to review any concerns, clarify any issues, and incorporate CDPH comments as needed into the design.

Task 3.6—Preliminary Engineer's Probable Construction Cost Estimate

URS shall prepare an initial probable construction cost estimate for the blending. This cost estimate would be based on unit pricing methods, equipment vendor quotations, and previous project experience in the San Bernardino County area.

Task 4—Final Design

URS shall prepare a bid package of construction plans, specifications, and a cost estimate which will be incorporated with the design package currently under completion by URS. URS shall prepare the construction plans with AutoCAD 2009 software, but they may be saved in any version desired by the City. Specifications shall be in Microsoft Word, using a modified CSI format similar to the City's

standard specifications. Construction plan submittals shall be made at the 90%, and final design stages.

Drawings shall reference the City's design criteria and standard drawings. URS shall reference standard construction drawings (Green book and others) whenever possible.

URS shall design and size the blending facility such way that equipment and piping appurtenances are easily accessible for maintenance. URS shall develop a construction bid package incorporating the City's standard bid forms, General Provisions, and to the extent applicable, the City's standard plans, details and technical specifications. As necessary and applicable, URS shall adopt the Standard Plans and Specifications for Public Work Construction (i.e., the "Green Book") or other standards. URS shall also develop Special Provisions, Technical Specifications (CSI format) for equipment not covered in Green Book, and an engineer's estimate of construction costs as part of the final design work.

Task 4.1—Revision to Construction Plans and Designs

URS shall prepare detailed construction drawings for the Plant upgrades as a single construction project. Each plan sheet shall be on City's standard 22-inch x 34-inch sheet. The final AutoCAD and PDR electronic files shall be submitted to the City.

Task 4.2—Revision to Technical Specifications

URS shall prepare revisions to the specifications to incorporate the blending facilities.

Task 4.3—Engineer's Construction Cost Estimate

URS shall prepare an itemized construction cost estimate for the facilities along with all other appurtenant costs. URS shall update the construction cost estimate after each submittal to account for design updates.

Task 4.4—Final Design Deliverables

URS shall provide final design deliverables. Prior to providing construction plan submittals to the City, the URS construction management team shall perform constructability reviews at 90% design. Submittals shall be provided as described below.

- Submit six (6) copies of the (90%) construction plan submittal. Plans for the second submittal shall clearly show concepts of each component of the design such as civil, structural, mechanical, electrical, and instrumentation.
- Shortly after receiving comments from the City from the 90% submittals, URS shall prepare the 100% construction plan submittal.

Thereafter, URS shall submit stamped and signed reproducible plans on bond, and original signed specifications for City reproduction, assembly and bidding. Finally, Mylar As-Built drawings shall be prepared and shall be resigned by URS and the City. URS shall assist the City in distributing the bidding documents.

As listed in Task 1, URS shall conduct/attend project review meetings with representatives from the City, CDM, LMC and CDPH to discuss design requirements. Review meetings will also be held following the 90% submittals. URS shall provide meeting agendas and meeting minutes for each within one week of each meeting date.

URS shall prepare a bid package of construction plans, specifications, and cost estimate. Construction plans shall be prepared with AutoCAD 2009 software, but may be saved in any version desired by the City. Specifications shall be Microsoft Word using a modified CSI format similar to the City's standard specifications.

Task 5—Construction Management Phase Services

The URS project team shall assist the City during the construction phase. The efforts described herewith are over and above the assistance to be provided during the existing contact with the City to modify the Hinckley treatment plant.

Task 5.1—Bidding Phase Assistance

URS assumed no charge and that the efforts provided by URS under existing contract to modify the Hinckley treatment plant will be sufficient to handle the construction of the blending facility.

Task 5.1.1—Bidding Assistance

URS shall respond to bidder's questions during the bid advertisement period and provide information and clarification of bid documents, including preparation of complete addenda documentation per the City. The addenda shall include revisions to plans, specifications, and the cost estimate.

URS will assist the City with reproduction and distribution of the addenda. URS shall provide a conformed set of construction plans incorporating any addenda to the bid set before the project goes into construction.

Task 5.1.2—Pre-Bid Meeting

URS assumed no charge and that the efforts provided by URS under existing contract to modify the Hinckley treatment plant will be sufficient to handle the construction of the blending facility.

Task 5.1.3—Request for Information (RFI's)

URS shall respond to approximately two (2) separate RFI's from potential bidders, for a total of six (6) hours during bidding. URS shall receive, distribute, and establish a process to issue, process and track RFI's for interpretations and clarifications of the Contract Documents.

Task 5.2—Construction Phase Services

URS shall provide the following services to the City during the Construction Phase of the project.

Task 5.2.1—Pre-Construction Meeting

URS assumed no charge and that the efforts provided by URS under existing contract to modify the Hinckley treatment plant will be sufficient to handle the construction of the blending facility.

Task 5.2.2—Request for Information (RFI's)

URS shall respond to approximately two (2) separate RFI's during the construction phase for a total of eleven (11) hours during construction. URS shall receive, distribute, and establish a process to issue, process and track RFI's for interpretations and clarifications of the Contract Documents.

Task 5.2.3—Full Time On-Site Project Representative

URS assumed no charge and that the efforts provided by URS under existing contract to modify the Hinckley treatment plant will be sufficient to handle the construction of the blending facility.

Task 5.2.4—Contractor Material Submittals

The URS RPR shall receive, distribute and develop a process to track material submittals proposed by the Contractor for the work. The URS Project Manager shall consult and advise the City on the acceptability of substitute materials and equipment proposed by the Contractor. The URS RPR shall coordinate with URS Design Engineer as necessary to clarify and confirm specified materials for the project.

Task 5.2.5—Contract Change Orders

The URS RPR shall review, make recommendations, negotiate, obtain approvals, and process construction contract change orders to address contract revisions, design changes, unanticipated field conditions, additional work requests, etc.

Task 5.2.6—Minor Plan revisions

URS has allocated ten (10) hours of staff time for minor plan revisions to construction drawings.

Task 5.2.7—Shop Drawing Submittals Reviews

URS shall review shop drawings submittals. URS assumed a review of four (4) shop drawings and that a second review shall be required for 90 percent of the submittals. URS shall conduct these reviews to ensure that documents produced by the Contractor are in conformance with design specifications and shall recommend approval, rejection, or modification.

Task 5.2.8—Record Drawing Preparation

URS shall prepare record drawings on 22-inch x 34-inch Mylar at construction completion using Contractor's and /or URS RPR's red-lines. URS shall deliver final record drawings Mylars, reissued signed Mylars (as needed), and AutoCAD electronic files.

Task 5.2.9—Start Up and Operational Testing of the Blending Facility

URS personnel shall provide operational and testing assistance during start up and testing of the Blending Facility. This task includes coordination and consultation with the Plant's Operations staff. URS has assumed a total of eight (8) hours of operational and start-up assistance on the blending facility.

Task 5.2.10—Final Inspection and Punchlist

The URS RPR shall perform a final inspection of the project with City staff and prepare a punchlist of corrections prior to acceptance. The URS Project Manager shall verify completion of the punchlist items and coordinate final acceptance of the project with the City.

Task 5.2.11—Field Changes

The URS RPR shall coordinate the preparation and issuance of contract revisions, if required, during construction to resolve problems due to unanticipated field conditions or other field changes. The URS RPR shall coordinate revisions of the Contract Documents with the URS Project Manager and shall consult with and advise the City on contract changes and related issues. These contract revisions may or may not result in change orders.

Task 5.2.12—Weekly Construction Progress Meetings

URS assumed no charge and that the efforts provided by URS under existing contract to modify the Hinckley treatment plant will be sufficient to handle the construction of the blending facility.

Task 5.2.13—Schedule Management

The Contractor shall maintain a construction schedule, identify critical path construction activities, and variances to the schedule. The URS RPR shall assist the City in developing the necessary Contractor recovery plans, and communicate critical schedule issues to the City.

Task 5.2.14—Construction Cost Accounting

URS RPR shall coordinate progress payment review, cost accounting, budget tracking, general correspondence with the City, and Contractor. The URS RPR shall consult and advise the City on construction cost related issues, recommendations for final payment and release of Contractor retention or securities. All construction cost accounting shall be kept separate from construction cost accounting for facilities under the existing contract.

**EXHIBIT B
PROJECT SCHEDULE**

The estimated completion for this project is approximately four to six weeks from Notice to Proceed (NTP). The construction aspect of the project is not included within this estimate.

**EXHIBIT C
PROJECT COSTS**

Consultant to complete the scope of work described herein on a time-and-materials basis in accordance with the Fee Schedule presented in Table C-1 attached hereto.

**EXHIBIT D
RATE SCHEDULE**

Classification	Billing Rate
Principal-in-Charge	\$210
Project Manager	\$200
Senior Project Engineer	\$170
Project Engineer	\$160
Staff Engineer	\$120
CADD Designer	\$100
Senior Structural Engineer	\$170
Senior Electrical Engineer	\$170
Senior Geotechnical Engineer	\$170
Clerk	\$70
QA/QC	\$190
Construction Administrator	\$140
Resident Project Representative	\$110

TABLE C-1

Estimated Cost Breakdown of Total Fee
Design Engineering Services for Blending of Agate 2 with Treated Water from the Horace P. Hinckley Water Treatment Plant and Crafton and Agate 1 Wells
City of Redlands
2-Nov-10

Task No.	Description	Work-hours by Classification											Fees				
		Principal-in-Charge	Project Manager	Sr. Project Engineer	Project Engineer	Staff Engineer	CADD Designer	Sr. Structural Engineer	Sr. Electrical Engineer	Sr. Geotechnical Engineer	Clerk	QA/QC	Total Hours	Labor	Materials ¹	Sub-Contractors	Total Cost
		\$210	\$200	\$170	\$160	\$120	\$100	\$170	\$170	\$170	\$70	\$190					
1.0	PROJECT MANAGEMENT AND MEETINGS																
	1.1 Project Management	2	18									6	26	\$4,440	\$200		\$4,640
	1.2 Progress Meeting																
	1.2.1 Kickoff Meeting		4	2	2							2	10	\$1,600	\$100		\$1,700
	1.2.2 30% Design Review Meeting		4	2	2							2	10	\$1,600	\$100		\$1,700
	1.2.3 90% Design Review Meeting		4	2	2							2	10	\$1,600	\$100		\$1,700
	1.3 Consultant Quality Controls		4									12	16	\$3,080	\$100		\$3,180
	SUBTOTAL	2	34	6	6							12	72	\$12,320	\$600		\$12,920
2.0	RESEARCH AND INVESTIGATION																
	2.1 Research and Investigation																
	2.1.1 Data Collection and Review		2	1	6	8						2	19	\$2,630	\$100		\$2,730
	2.1.2 Utilities Research and Data Collection		2	1	6	24						2	35	\$4,550	\$100		\$4,650
	SUBTOTAL		4	2	12	32						4	54	\$7,180	\$200		\$7,380
3.0	PRELIMINARY DESIGN (30%)																
	3.1 Preliminary Design Report																
	3.2.1 Blending Facility		4	14	10	16	28	6	6			2	88	\$12,060	\$100		\$12,160
	3.2.2 30% Submittal to City		2	2	2	2	2					2	10	\$1,320	\$100		\$1,420
	3.2.3 Revisions based on 30% Review		4	8		8	16					2	40	\$5,240	\$100		\$5,340
	3.2 Preliminary Site Layout																
	3.2.1 Preliminary Site Design		2	6	4	24	18		4			2	62	\$7,940	\$150		\$8,090
	3.3 Site Grading		2	6	6	12	24					2	50	\$6,220	\$150		\$6,370
	3.4 Electrical, Instrumentation & Control		2	2	2	12	24		24			2	66	\$9,040	\$150		\$9,190
	3.5 Permits																
	3.5.1 Coordinate Designs with CDPH		4	2									6	\$1,140	\$150		\$1,290
	3.5.2 Coordinate Designs with Lockheed		4	2									6	\$1,140	\$150		\$1,290
	3.5.3 Permits		4	2									6	\$1,140	\$150		\$1,290
	3.7 Preliminary Engineer's Probable Construction Cost Estimate		4	3	12	16		3	3	3	2	2	48	\$7,200	\$200		\$7,400
	SUBTOTAL		32	47	32	90	112	9	37	3	10	10	382	\$52,440	\$1,400		\$53,840
4.0	FINAL DESIGN (90%, Final)																
	4.1 Revision to Construction Plans and Designs																
	4.1.1 Blending Facility		4	32	18	4	32	8	12	4	2	2	118	\$17,400	\$150		\$17,550
	4.2 Revision to Technical Specifications		2	2	12	16	2	2	2	2	2	2	42	\$6,120	\$150		\$6,270
	4.3 Engineer's Construction Cost Estimate		2	2	8	12	2	2	2	2	2	2	32	\$4,860	\$150		\$5,010
	4.4 Final Design Deliverables																
	4.4.3 90% Submittal to City		2	2	2	2	2						10	\$1,320	\$150		\$1,470
	4.4.4 Revisions based on 90% Review		2	2	2	8	8					2	24	\$3,020	\$150		\$3,170
	4.4.5 Final Submittal to City		2	2									4	\$740	\$150		\$890
	SUBTOTAL		14	42	38	42	42	12	16	8	8	8	230	\$33,460	\$900		\$34,360
5.0	CONSTRUCTION MANAGEMENT PHASE SERVICES																
	5.1 Bidding Phase Assistance																
	5.1.1 Bidding Assistance		1	1									2	\$370	\$100		\$470
	5.1.2 Pre-bid Meeting																
	5.1.3 Request For Information (RFIs)		1	1	2	2							6	\$930	\$100		\$1,030
	5.2 Construction Phase Services																
	5.2.1 Pre-Construction Meeting																
	5.2.2 Request for Information (RFI's)		1	2	4	4							11	\$1,660	\$100		\$1,760
	5.2.3 Full Time On-Site Project Representative																
	5.2.4 Contractor Material Submittals		1	1	4	4							10	\$1,490			\$1,490
	5.2.5 Contract Change Orders		1	1	4	4							10	\$1,490			\$1,490
	5.2.6 Minor Plan Revisions		1	1	4	4							10	\$1,490			\$1,490
	5.2.7 Shop Drawing Submittal Reviews		1	1	4	4							10	\$1,490	\$100		\$1,590
	5.2.8 Record Drawing Preparation		1	1	4	4	6						16	\$2,090	\$100		\$2,190
	5.2.9 Start Up and Operational Testing of the Blending Facility		2	4									6	\$1,080	\$100		\$1,180
	5.2.10 Final Inspection and Punchlist		1	1	2	2							6	\$930	\$100		\$1,030
	5.2.11 Field Changes		1	1									2	\$370	\$100		\$470
	5.2.12 Weekly Construction Progress Meetings																
	5.2.13 Schedule Management		4										4	\$800	\$100		\$900
	5.2.14 Construction Cost Accounting		4										4	\$800	\$100		\$900
	SUBTOTAL		20	15	28	28	6						97	\$14,900	\$1,000		\$15,900
	GRAND TOTAL HOURS AND FEE	2	104	112	116	192	160	21	63	11	34	30	835	\$120,390	\$4,100		\$124,490

Notes:
 1.) Materials include other direct project-related costs including mileage to meetings/site, courier fees, and document reproduction costs.