CITY OF ST. HELENA

RESOLUTION NO. 2009-109

APPROVING AGREEMENT WITH CITIES OF NAPA AND CALISTOGA TO FUND PRELIMINARY ANALYSIS AND DESIGN OF DWYER ROAD PUMP STATION AS REQUIRED BY THE TERMS OF THE NAPA WATER AGREEMENT

RECITALS

A. The City of Napa and City of St. Helena executed a water supply agreement (Resolution No. 2006-131) to deliver a minimum of 200 acre-feet annually (AFA) and up to 400 AFA of potable water from Napa to St. Helena for the purpose of supplementing dry-year supplies and to provide below normal-year reserves for St. Helena. In 2009, that agreement was amended (Resolution No. 2009-40) to double the volume of water delivered and revise the schedule of the delivery, and;

B. The agreement and amendment both included a statement that the City of St. Helena agrees to participate in discussions related to the construction of a pump station at Dwyer Road (south of Rutherford on the Napa distribution system), at such time that either Napa or Calistoga requests, and to consider a funding contribution based on the project’s benefit to St. Helena and;

C. City of Napa has taken the lead and Calistoga and St. Helena have participated in the public professional services procurement process and have mutually selected West Yost Associates to conduct the preliminary analysis. The City Engineer is now requesting the City Council approve a funding agreement for this preliminary engineering phase at a cost of $69,000 with the three Cities contributing 1/3 of that total cost, and;

D. The agreement will be funded by Water Enterprise capital project W28 of $951,831 are adequate to perform the requested services. The budget requested is $23,000.

RESOLUTION

NOW, THEREFORE, the City Council of the City of St. Helena resolves as follows:

Approve the attached Agreement to Fund Preliminary Analysis and Design of the Dwyer Road Pump Station.

Approved at a Regular Meeting of the St. Helena City Council on September 22, 2009 by the following vote:

AYES: Councilmembers Sklar, Schoch, Sanchez, Mayor Britton
NOES: None
ABSENT: Councilmember Crull
APPROVED:

Delford Britton
Mayor

ATTEST:

Delia Guijosa
City Clerk
AGREEMENT TO FUND PRELIMINARY ANALYSIS
AND DESIGN OF THE DWYER PUMP STATION
AGREEMENT NO. 0378

THIS AGREEMENT ("Agreement"), is entered into as of this 22nd day of
September 2009 by and between the City of Napa (NAPA), the City of St. Helena (ST. HELENA), and the
City of Calistoga (CALISTOGA). The City of Napa, City of St. Helena and City of Calistoga
are also referred to herein as “Party” individually and “Parties” collectively.

RECITALS

WHEREAS, the Parties desire to establish mutual understanding and agreement between
agencies with respect to their joint interests in, and effort toward, developing a preliminary
analysis and design for the proposed Dwyer Pump Station (DPS); and

WHEREAS, the goals of the DPS may include, but are not limited to the following:

1. To improve the pressure of the up-valley portion of the City of Napa’s Water
   system by pumping water from the proposed pump station location to the
   Hennessey Treatment Plant clearwell located on Sage Canyon Road.

2. To insure the proposed pump station meets the needs of each Party’s existing
   water system.

WHEREAS, the Parties hereby agree that the first step toward construction of the
proposed Dwyer Pump Station will require the services of a consultant to prepare a preliminary
analysis and design; and

WHEREAS, NAPA agrees to be the administrator for the initial scope of services to be
performed by consultant; and

WHEREAS, ST. HELENA and CALISTOGA agree to support this effort and reimburse
NAPA according to the cost share allocation included in this Agreement; and

WHEREAS, the Parties acknowledge that full development and implementation of the
DPS will likely require additional efforts, and the calculation or negotiation of the Parties’
proportional cost reimbursement may vary in subsequent project phases, therefore limiting the
term of this Agreement to the first project phase as described herein; and

WHEREAS, the Parties intend to make a good faith effort to negotiate amendments to
extend the term of this Agreement for future project phases as necessary to fully implement the
DPS.

NOW, THEREFORE, in consideration of the mutual promises set forth herein, the
Parties agree as follows:
TERMS

1. **Term of the Agreement.** The term of this Agreement commences on September 15, 2009 or after this Agreement is signed by NAPA, ST. HELENA and CALISTOGA, whichever is later, and terminates on March 31, 2010, unless terminated earlier in accordance with Paragraph 7, except that any Party’s obligations arising prior to termination shall survive until fulfilled.

2. **The Parties’ Obligations.** NAPA shall administer a contract with consultant West Yost Associates to conduct the scope of services as provided in Exhibit A, attached hereto and incorporated herein. NAPA shall provide to each Party the deliverables identified in Exhibit “A,” and NAPA shall ensure that the deliverables provided by the Consultant address any timely comments provided by the Parties. NAPA shall work with all Parties in order to establish a schedule for performance of the tasks required by this Agreement, including a reasonable opportunity for each Party to provide comments on draft documents.

3. **Parties’ Proportional Cost Reimbursement Obligations.** ST. HELENA and CALISTOGA shall reimburse NAPA for their proportional costs for the scope of work in Exhibit A as follows: City of St. Helena – 33.3%; City of Calistoga – 33.3%. The total obligation of all Parties under this Agreement shall not exceed $69,000 (i.e. $23,000 for each Party) unless modified in writing in accordance with this Agreement. The total cost includes the $64,000 consultant fee listed in Exhibit A plus an additional contingency amount of $5,000. This initial cost sharing formula shall not be considered binding for future DPS activities. Subsequent cost allocation percentages for the DPS project shall be negotiated from time to time based upon the specific future work effort, agency involvement, project elements involved, potential returns from grant dollars received, and any other items to which the Parties may agree.

4. **Method and Timing of Reimbursement.** NAPA shall provide for strict accountability of all funds and report all receipts and disbursements. Each Party to this Agreement shall be invoiced on a monthly basis following the execution of this agreement by NAPA for the proportional costs described in Section 3 hereof. Payment shall be made in full by each Party to NAPA’s administrative offices on or before the close of business on the 30th day following the date of the invoice. If any Party fails, without reasonable cause, to make payment within the prescribed time, the costs so invoiced shall be increased by the amount of a late penalty. Such penalty on the unpaid balance shall be calculated at the rate earned by NAPA’s Treasurer for pooled funds invested. Unused funds, if any, will be returned to each Party in proportion to that described in Section 3 within 90 days of project completion.

5. **Reserved**

6. **Hold Harmless/Defense/Indemnification.** Each Party shall defend, release, indemnify and hold harmless each other Party as well as their respective officers, agents and employees from any claim, loss, liability penalty, demand or expense including without limitation, those for personal injury (including death), damage to property or for costs of remediation or other actions needed to correct or abate any violation of federal, state or local law, regulation or permit provision arising out of or connected with any acts or omissions of that party or its officers,
agents, or employees when performing any obligations or exercising any rights under this Agreement or development of the DPS.

7. **Termination for Cause and Non- Appropriation.**

   (a) **Termination for Cause.** If any Party shall fail to fulfill in a timely and proper manner that Party’s obligations under this Agreement, including each Party’s proportional cost reimbursement obligation as outlined in Section 3 or otherwise breach this Agreement and fail to cure such failure or breach within thirty (30) days of receipt of written notice from the other Party describing the nature of the failure or breach, the non-defaulting Party may, in addition to any other remedies it may have, terminate this Agreement by giving thirty (30) days written notice to the defaulting party in the manner set forth in Paragraph 9 (Notices).

   (b) **Termination for Non- Appropriation.** This Agreement may be terminated by any of the Parties if despite that Party’s best efforts, that Party is unable to appropriate sufficient funds in any fiscal year to meet its financial obligations under this Agreement. Termination under this paragraph shall be effective only after the terminating Party has given no less than thirty (30) days written notice of such termination to all other Parties specifying the effective date thereof. Upon termination by any Party, that Party’s share of any administrative costs borne by NAPA shall be shared by the remaining Parties pursuant to subsequent negotiation and agreement.

8. **No Waiver.** The waiver by any Party of any breach or violation of any requirement of this Agreement shall not be deemed to be a waiver of any such breach in the future, or of the breach of any other requirement of this Agreement.

9. **Notices.** All notices required or authorized by this Agreement shall be in writing and shall be delivered in person or by deposit in the United States mail, by certified mail, postage prepaid, return receipt requested. Any mailed notice, demand, request, consent, approval or communication that any Party desires to give the other Parties shall be addressed to the other Parties at the address set forth below. Any Party may change its address by notifying the other Parties of the change of address. Any notice sent by mail in the manner prescribed by this paragraph shall be deemed to have been received on the date noted on the return receipt or five days following the date of deposit, whichever is earlier.

   Joy Eldridge, P.E.
   Water Division General Manager
   City of Napa
   Department of Public Works
   P.O. Box 660
   Napa, CA  94559

   John Ferons, P.E.
   Director of Public Works
   City of St. Helena
   1480 Main Street
   St. Helena, CA  94574
10. **Interpretation; Venue.**

   (a) **Interpretation.** The headings used herein are for reference only. The terms of the Agreement are set out in the text under the headings. This Agreement shall be governed by the laws of the State of California without regard to the choice of law or conflicts.

   (b) **Venue.** This Agreement is made in Napa County, California. The venue for any legal action in state court filed by a Party to this Agreement for the purpose of interpreting or enforcing any provision of this Agreement shall be in the Superior Court of California, County of Napa, a unified court. The venue for any legal action in federal court filed by a Party to this Agreement for the purpose of interpreting or enforcing any provision of this Agreement lying within the jurisdiction of the federal courts shall be the Northern District of California. The appropriate venue for arbitration, mediation or similar legal proceedings under this Agreement shall be Napa County, California; however, nothing in this sentence shall obligate a Party to submit to mediation or arbitration any dispute arising under this Agreement.

11. **Authority to Contract.** Each Party warrants hereby that it is legally permitted and otherwise has the authority to enter into and perform this Agreement.

12. **Conflict of Interest.** Each Party covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its services hereunder. Each Party further covenants that in the performance of this Agreement, no person having any such interest shall be employed.

13. **Reserved**

14. **Third Party Beneficiaries.** Nothing contained in this Agreement shall be construed to create any rights in third parties and the Parties do not intend to create such rights.

15. **Attorney's Fees.** In the event that a Party commences legal action of any kind or character to either enforce the provisions of this Agreement or to obtain damages for breach thereof, the prevailing Party in such litigation shall be entitled to all costs and reasonable attorney's fees incurred in connection with such action.

16. **Severability.** If any provision of this Agreement, or any portion thereof, is found by any court of competent jurisdiction to be unenforceable or invalid for any reason, such provision shall be severable and shall not in any way impair the enforceability of any other provision of this Agreement.
17. **Entirety of Contract.** This Agreement constitutes the entire agreement between the parties relating to the subject of this Agreement and supersedes all previous agreements, promises, representations, understandings and negotiations, whether written or oral, among the Parties with respect to the subject matter hereof.

18. **Modifications.** This Agreement may not be modified orally or in any manner other than by an agreement in writing signed by all Parties.

19. **Execution by Counterparts.** This Agreement may be executed on behalf of the respective Parties in one or more counterparts all of which collectively shall constitute one document and agreement.

**IN WITNESS WHEREOF,** this Agreement was executed by the Parties hereto as of the date first above written.

**CITY OF NAPA**

By:  
JACQUES R. LaROCHELLE,  
Public Works Director

ATTEST: DOROTHY ROADMAN  
Napa City Clerk  
By:

APPROVED AS TO FORM:  
MICHAEL BARRETT, Napa City Attorney  
By:

COUNTERSIGNED:  
SCOTT NIELSEN, City Auditor  
By:
CITY OF ST. HELENA

By: [Signature]
Administrator Mary Neilan, City Manager

ATTEST: DELIA GUIJOSA
St. Helena City Clerk

By: [Signature]

APPROVED AS TO FORM:
AMY L. VALUKEVICH, City Attorney

By: [Signature]

CITY OF CALISTOGA

By: [Signature]
JAMES C. McCANN, City Manager

ATTEST: SUSAN SNEDDON
Calistoga City Clerk

By: [Signature]

APPROVED AS TO FORM:
MICHELLE KENYON, Calistoga City Attorney

By: [Signature]
EXHIBIT A

Proposal and Rate Schedule from West Yost Associates dated June 15, 2009
June 15, 2009

Ms. Megan Thomas, P.E.
City of Napa, Water Division
1340 Clay Street
Napa, CA 94559

SUBJECT: RFP—Revised Dwyer Road Pump Station, Hydraulic Analysis and Feasibility Level Design Memorandum

Dear Ms. Thomas:

The cities of Calistoga, Napa and St. Helena have an extraordinary opportunity to join forces to design and construct a pump station that will provide significant benefits to all three cities and their customers. The proposed Dwyer Road Pump Station would create an “up-valley” pressure zone identical to the hydraulic conditions when the Hennessey Water Treatment Plant is operating, finally resolving low delivery system pressure issues and eliminating system pressure fluctuations to up-valley customers of all three cities. This pump station project would also create a more robust, integrated and reliable transmission system, provide cost savings, and supply redundancy opportunities.

The hydraulic analyses of whether the proposed Dwyer Road PS Project will be able to accomplish the stated Project goals, while still being able to maintain a 30 psi system pressure throughout the City of Napa’s Pressure Zone 3 are absolutely critical. These hydraulic analyses and preparation of a Feasibility Level Design Memorandum (with estimated construction costs) requires a special consultant team that has:

- Tremendous institutional knowledge and technical understanding of the City of Napa’s water transmission system

- A unique understanding of the City of Napa’s proposed changes in supply operational strategy, and an understanding of the water system delivery pressure needs of the Cities of Calistoga and St. Helena

- Experience needed to answer two questions related to use of the existing Dwyer Road PS building: (1) can the existing equipment in the building just be removed and the new equipment installed within the building’s footprint without the need to do any structural building modifications; and (2) how can the building be modified, if necessary, to facilitate Operations & Maintenance of the new pump station equipment?
Ms. Megan Thomas P.E.
June 15, 2009
Page 2

- A proven track-record of delivering high quality work products, and communicating well with all three cities involved in this project.

West Yost Associates’ Project Team has these qualities and is “battle tested,” having worked closely with:

- The City of Napa on optimization issues related to Napa’s water system hydraulic model, the Alta Heights PS evaluation and pre-design study, and numerous other hydraulic modeling and water supply projects,

- The City of St. Helena on water rights, supply issues, recycled water and upgrades to the wastewater treatment plant, and

- The City of Calistoga on the County-wide 2050 Water Resources Study.

The Right Team: West Yost Associates’ (WYA) Project Team members have a long history of working on water projects in Napa County. We have assigned an experienced, very senior team that you know and trust: Gerry Nakano will serve as Project Manager; Jim Yost will be the Principal-in-Charge/QA/QC; Irene Suroso with oversight from Charles Duncan will conduct the hydraulic analyses of the City of Napa’s water system; Jim Connell will assist with the interface of Napa’s system with the cities of St. Helena and Calistoga; and Dave Jones, Irene and Jim Connell will conduct the Pump Station Feasibility Level Design Memorandum work with the assistance of our sub-consultants AT.E.E.M. Electrical Engineering (for electrical and SCADA) and Finn Design Group (Structural).

This Team is highly focused and was put together to deliver a technical work product under an accelerated delivery schedule, so that each of the project partners could then evaluate the potential financial impacts to their individual agencies to see if they wanted to continue participation. This Team also has a strong record of producing quality work on time and at budget, and has worked with you, the City of St. Helena, Napa County and many other Napa Valley municipal water agency staff on a wide variety of water supply and hydraulic modeling projects over the last 18-years.

As requested by the City of Napa, WYA’s RFP re-submittal consists of the following revised and re-submitted Sections:

- Section 1: Project Understanding and Approach
- Section 2: Scope of Work
- Section 6: Schedule

All other previously submitted sections of the proposal remain unchanged and correct. We have also included an update of the Cost Proposal, which was originally provided to the City under separate cover.
Ms. Megan Thomas P.E.
June 15, 2009
Page 3

We look forward to continuing our long-standing professional relationship with the cities of Napa, St. Helena and Calistoga, and look forward to our telephone interview on Thursday, June 25th at 1:30 p.m.

Sincerely,

WEST YOST ASSOCIATES

Gerry S. Nakano, P.E.
Project Manager

GSN:mcg
PROJECT UNDERSTANDING AND APPROACH

Background

The Cities of Calistoga, Napa and St. Helena have an extraordinary opportunity to join forces to design and construct a pump station that will provide significant benefits to all three agencies and their customers. With the proper design and construction, the Dwyer Road Pump Station would create an “up-valley” pressure zone identical to the hydraulic conditions when the Hennessey Water Treatment Plant (WTP) is operating, finally resolving low delivery system pressure issues and eliminating system pressure fluctuations to up-valley customers of all three agencies. This proposed pump station project would also create a more robust, integrated and reliable transmission system, and provide cost savings and supply redundancy opportunities producing the following benefits:

- The City of Calistoga could eliminate the need to replace (or invest significant capital improvements in) its Pope Street Pump Station;
- The City of St. Helena would have the opportunity to re-configure its existing “single” pressure zone into a two-zone system, one supplied from the Dwyer Road Pump Station, and the other from the existing Louis Stralla WTP. This would conserve energy, save water and possibly eliminate or significantly reduce the planned upgrades at the Rutherford Pump Station, and
- The City of Napa would gain 5 MG of active, additional storage year round, provide their up-valley customers with constant and increased delivery pressures, potentially reduce the need for the proposed Westside Pump Station (and thereby save capital costs), and better integrate and upgrade the outdated Dwyer Road facility.

Further discussion of our understanding of the Project and specific Scope of Work are provided in the following pages.

Project Understanding

The City of Napa’s (Napa) water transmission and distribution system is an extremely complex system, served by three water supply sources, each with a distinctly different hydraulic influence over the system due to the elevation of the clearwell storage at each of these treatment facilities:

- Surface water imported from the State Water Project that is conveyed through the North Bay Aqueduct and treated at Napa’s Jamieson Canyon Water Treatment Plant (midpoint of clear well storage, 278 feet);
- Local surface water from Lake Milliken that is treated at Napa’s Milliken Water Treatment Plant (midpoint of clear well storage, 415 feet), and
- Local surface water from Lake Hennessey that is treated at Napa’s Hennessey Water Treatment Plant (midpoint of clear well storage, 388 feet).

These supply sources are operated in different combinations over the year (as supplies are available, particularly at Milliken WTP), to meet the varying demand conditions of Napa’s “inside” customers (those customers inside the City of Napa City limits), and “outside” customers (Cities of St. Helena, Calistoga, and American Canyon, the Napa State Hospital, and some agricultural and rural residential customers outside Napa’s City limits). As illustrated on the attached hydraulic grade line graphic (see Figure 1), due to the significant elevation differences between these three supply sources, Napa’s customers, both inside and outside will see significant changes in system pressures depending on which sources of supply are being used by Napa. With approximately a 110 foot (~48 psi) differential in elevation between the Hennessey and Jamieson WTP clear wells (with the Hennessey WTP clear well located at the higher elevation), system delivery pressures in Napa’s transmission system could drop by approximately 48 psi when the Jamieson WTP is operating.

Figure 1. City of Napa Water System Hydraulic Profile

Historically, Napa has operated the Jamieson WTP during low demand periods, and would then add supply from Hennessey WTP during the high summer periods, or whenever Jamieson was not in service. However, the Jamieson WTP is currently undergoing an expansion from 12 mgd to 20 mgd, and once this expansion is complete, Napa’s operational supply strategy will be modified to operate Jamieson year round, and only operate...
Hennessey when necessary. Therefore, under Napa's new, operational plans, typical delivery system pressures to up-valley customers will be reduced.

The City of Calistoga (Calistoga) receives a portion of its water supply from the Napa water transmission system through a turn-out on the Conn transmission main near Silverado Trail (see Figure 2). This water is then boosted as needed at one or two of Calistoga's pump stations (Pope Street and Dunaweal Lane Pump Stations) for delivery into Calistoga's distribution system. Historically, if Hennessey is operating, Calistoga's Pope Street Pump Station does not have to operate; however, if Napa is only supplying water from Jamieson, both Calistoga pump stations must be operated.

![Figure 2. Other Wholesaler Locations](image)

The City of St. Helena (St. Helena) also receives a portion of its water supply from the Napa water transmission system through a turn out on the Conn transmission main near Rutherford (see Figure 2). This water is then boosted at St. Helena's Rutherford booster pump station for delivery to a portion of St. Helena's southern customers. Napa also serves water system customers between the Hennessey Clear Well Storage Tanks and the Dwyer Flow Control Station.

Because of Napa's proposed change in system operation, water service pressure along the northern end of the Conn transmission main will be low for most of the year. The cities of Napa, Calistoga, and St. Helena would like to eliminate system pressure fluctuations, improve service pressures and system reliability in this up-valley service area from the Conn.
transmission main. Furthermore, the City of Napa would like to be able to better utilize the Finished Water Storage Tank (clear well) at the Hennessey WTP for system storage, even when the Hennessey WTP is not operating.

The Cities have requested a proposal to investigate whether Napa's former Dwyer Road pump station and current Dwyer Road flow control station could be modified to boost pressures in the northern end of the Conn transmission main to create an “up-valley” pressure zone which would better serve the needs of these customers, provide higher pressure at the suction-side of the booster pump stations for St. Helena and Calistoga, and use the Hennessey Finished Water Storage Tank for Napa system storage.

WYA has developed an approach and detailed scope of services to evaluate whether the proposed Dwyer Road pump station improvement Project can provide the required system hydraulic benefits to each of the three cities while maintaining a residual system pressure of 30 psi to existing Pressure Zone 3 Napa customers. We would then prepare a Feasibility Level Design Memorandum of the recommended pump station improvement project, including possible equipment layouts, necessary controls and instrumentation, and preliminary cost estimate for the improvements.

**Approach**

Based on WYA's knowledge and understanding of the individual system operations of all three Cities, we believe that the critical element in evaluating the proposed Dwyer Road PS Project is being able to hold the minimum required system residual pressure of 30 psi in the Silverado Trails area of Napa's Pressure Zone 3 service area (see Figure 3). Using the City of Napa's existing water system hydraulic model we will conduct a number of hydraulic simulations to define the hydraulic conditions under which the proposed Dwyer Road PS can operate and not impact the existing Napa customers. Based on this evaluation, a recommended pumping capacity and pump lift will be identified, the number and size of the pumping equipment determined, and an initial conceptual layout of the pump station developed as part of the Feasibility Level Design Memorandum, including an associated cost estimate, will be prepared.
Figure 3. City of Napa Pressure Zone 3

Critical Node
Maintained at 30 psi at all times

LEGEND:
Selected Pressure Point
- Calistoga Meter
- St. Helena Meter
- Dwyer Rate Control Station
- Other

- Booster Pump Station
- Storage Tank
- WTP Clearwell

Scale in Miles
0  0.35  0.7  1.4

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SCOPE OF WORK

As previously discussed, the objective of the proposed Dwyer Road Pump Station Project is to Pump at a rate to fill the Finished Water Storage Tanks at the Hennessey WTP over a relatively short period of time (8-12 hours), and then allow the tanks to provide water to the rest of the system north of Dwyer Road. This scenario would maximize turnover in the Hennessey Clear well storage (thus avoiding potential water quality issues), and reduce power cost in the summer by avoiding pumping during peak electrical cost periods.

WYAs proposed scope of work to accomplish this Project objective is organized into the following two tasks:

- Task 1 - Analyze Hydraulic Impacts on Existing Napa Customers and Determine Required Pump Station Capacity & Operational Characteristics
- Task 2 - Prepare Feasibility Level Design Memorandum and Preliminary Construction Cost Estimate

These tasks are described in more detail below.

**TASK 1. Analyze Hydraulic Impacts on Existing Napa Customers and Determine Pump Station Capacity & Operational Characteristics**

The most critical element of the entire Dwyer Road Pump Station Project (Project) is the analyses of the potential hydraulic system pressure impacts of the proposed Project on existing City of Napa customers. When the City of Napa only produces treated water from its Jamieson Water Treatment Plan (WTP), water pressures at Dwyer Road PS, St. Helena's Rutherford PS, and Calistoga's meter connection to the Napa system can drop to around 30 psi or less, depending on the actual water demands on Napa's water distribution system.

Although these relatively low delivery pressures north of Dwyer Road are a concern, they can be mitigated with the design and construction of the proposed Dwyer Road PS. However, more importantly, our preliminary hydraulic modeling has revealed that minimizing impacts to the suction side of the Dwyer Road Pump Station will control the sizing and operation of the pump station. In fact, the critical system point and therefore the "control point" for evaluating hydraulic impacts to Napa's system is located not immediately prior to the pump station, but rather in the Silverado Trails area, on the northeastern side of the City's Pressure Zone 3 service area. Existing pressures here typically vary from approximately 37 to 30 psi, if supplied only from the Jamieson WTP, depending on the overall system...
demands. Operation of the proposed Dwyer Road PS has the potential to hydraulically reduce already low system pressures in this area. Therefore the objective of Task 1 is to determine what flows, under what demand conditions, can be moved by the proposed Dwyer Road PS up-gradient to St. Helena, Calistoga, and the Hennessey Cclearwell without dropping delivery pressures below 30 psi in the Silverado Trails area.

In this task WYA will modify the City of Napa's existing water system hydraulic model to represent the up-valley demands of St. Helena, Calistoga, and the City of Napa outside demands. We will then perform a series of "baseline" hydraulic modeling simulations, at different City of Napa demand conditions (but holding the up-valley demands at 3 mgd, per the RFP request). These analyses will provide two critical data points, and will lead to the sizing of the proposed Dwyer Road PS pumps:

1. Available suction-side pressures at the Dwyer Road PS, and
2. The maximum total system demand that can be served by the City of Napa (when supplied only by the Jamieson WTP), while maintaining a minimum system pressure of 30 psi in the critical Silverado Trails service area.

WYA has already performed some of these initial hydraulic analyses, and we believe that sufficient suction-side pressures are available to design a Dwyer Road PS that can fill the Hennessey Clearwell within about a 9 hour period, assuming that the clearwell storage was only half full, while still maintaining a 30 psi system pressure in the Silverado Trails area. We will further refine our initial analysis in this task, which will define the allowable flow rates and pump lift characteristics for the Dwyer Road PS.

Work Product: WYA's work product will be a working meeting with Project Participants, where we will present various graphics, tables and the findings, results and conclusions of our hydraulic analyses for discussion. No text or Technical Memorandum (TM) will be prepared in this task, however, all of our findings, conclusions and recommendations, and comments by the Project Participants will be incorporated into the Draft Feasibility Level Design Memorandum which is the work product of Task 2.

**TASK 2. Prepare Feasibility Level Design Memorandum and Preliminary Construction Cost Estimate**

WYA will prepare a Feasibility Level Design Memorandum (FLDM) that describes in detail the necessary upgrades to the Dwyer Road Pump Station to accomplish the established Project goals and objectives. WYA will confirm the existing pump station building layout with site measurements for the recommended Project. During the site visit, WYA will document the building construction (to determine if the walls contain rebar or not) and electrical service capacity, and evaluate the usefulness of the existing facility in supporting future equipment and operations. In particular, the structural and electrical components (including the pump
station building, foundation, and electrical service) will be inspected and their long-term reliability will be assessed. Additionally, the site layout will also be evaluated for such items as site accessibility, demolition of outdated and/or non-required facilities and the location of the site fencing to provide site enhancements and facilitate O&M activities.

Components of the Feasibility Level Design Memorandum will include:

- Recommending necessary equipment, including pumps, piping, valves, electrical equipment, controls, and instrumentation;
- Preparing a concept equipment layout, including any necessary modifications to the pump station building and foundation;
- Describing how the system would be controlled and what control system improvements would be required;
- Evaluating the actual site layout and driveway access; and,
- Preparing a preliminary cost estimate of the recommended improvements.

The Feasibility Level Design Memorandum will recommend equipment performance criteria, size, and layout; document the findings of the building and electrical service evaluation; recommend equipment such as pumps, valves, controls and instrumentation, and other ancillary equipment and support facilities; and, estimate the cost of the building upgrades at a feasibility level, to provide sufficient information for the partner cities to decide whether to continue with the upgrade project.

It is not the intent of this task to prepare a thorough set of record drawings, nor is a site survey deemed necessary. Such documentation would be recommended once the project proceeds to full design.

Work Product: WYA will prepare and deliver four copies of our Draft Feasibility Level Design Memorandum to the project lead for distribution to the other partner cities. Following WYA's receipt of a consolidated set of review comments compiled by the Project Lead, and a meeting to discuss the received review comments from each city, WYA will prepare a Final Feasibility Level Design Memorandum and deliver four hard copies to the project lead for distribution. WYA will also provide an electronic copy of the Final Feasibility Level Design Memorandum in PDF format.
Assuming a decision of award is issued on June 27, 2009, and a formal Notice to Proceed is provided on July 7, WYA proposes an aggressive three month total schedule to complete the Final Feasibility Level Design Memorandum with the following milestone completion dates:

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notice to Proceed</td>
<td>July 7, 2009</td>
</tr>
<tr>
<td>Task 1 Workshop</td>
<td>July 22, 2009</td>
</tr>
<tr>
<td>Draft Feasibility Level Design Memo to Project Lead</td>
<td>September 4, 2009</td>
</tr>
<tr>
<td>Meeting to Discuss Draft Feasibility Design Memo</td>
<td>September 18, 2009</td>
</tr>
<tr>
<td>Final Feasibility Level Design Memo to Project Lead</td>
<td>October 1, 2009</td>
</tr>
</tbody>
</table>

A more detailed schedule is attached, and there may be opportunity to further accelerate this schedule if WYA is selected to do this work.
Notice to Proceed

Water System Modelling

Confirm Preliminary Analysis

Workshop with Project Participants

Prepare Feasibility Level Design Report

Site Documentation

Structure and Electrical Evaluation

Equipment and Layout

Cost Estimates

Prepare Draft FLOR

Deliver Draft FLOR

Citea Review Draft FLOR

Draf FLOR Meeting

Prepare Final FLOR

Deliver Final FLOR

City of Mesa | Dwyer Pump Station Hydraulic Analysis and Feasibility Level Design Memorandum

June 15, 2009
WYA proposes to complete the scope of services described above for the budget of $64,000. A summary of the expected level of effort is shown in the following table.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>WYA Labor Hours</th>
<th>Total Fee [a] Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 1</td>
<td>Analyze Hydraulic Impacts</td>
<td>48</td>
<td>9,600</td>
</tr>
<tr>
<td>Task 2</td>
<td>Prepare Feasibility Level Design Memo</td>
<td>270</td>
<td>54,400</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>318</td>
<td>$64,000</td>
</tr>
</tbody>
</table>

[a] Includes costs for sub-consultants.
### 2009 Billing Rate Schedule

*(Effective January 10, 2009 through December 31, 2009)*

<table>
<thead>
<tr>
<th>Position</th>
<th>Labor Charges (dollars per hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal/Vice President</td>
<td>206</td>
</tr>
<tr>
<td>Engineering Manager</td>
<td>196</td>
</tr>
<tr>
<td>Principal Engineer/Scientist</td>
<td>179</td>
</tr>
<tr>
<td>Senior Engineer/Scientist/GIS Analyst</td>
<td>161</td>
</tr>
<tr>
<td>Associate Engineer/Scientist</td>
<td>144</td>
</tr>
<tr>
<td>GIS Analyst</td>
<td>144</td>
</tr>
<tr>
<td>Engineer II/Scientist II</td>
<td>127</td>
</tr>
<tr>
<td>Engineer I/Scientist I</td>
<td>110</td>
</tr>
<tr>
<td>Construction Manager III</td>
<td>156</td>
</tr>
<tr>
<td>Construction Manager II</td>
<td>144</td>
</tr>
<tr>
<td>Construction Manager I</td>
<td>133</td>
</tr>
<tr>
<td>Resident Inspector III</td>
<td>121</td>
</tr>
<tr>
<td>Resident Inspector II</td>
<td>112</td>
</tr>
<tr>
<td>Resident Inspector I</td>
<td>98</td>
</tr>
<tr>
<td>Sr. Designer/Sr. CAD Operator</td>
<td>104</td>
</tr>
<tr>
<td>Designer/CAD Operator</td>
<td>92</td>
</tr>
<tr>
<td>Technical Specialist II</td>
<td>90</td>
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<tr>
<td>Technical Specialist I</td>
<td>78</td>
</tr>
<tr>
<td>Engineering Aide</td>
<td>65</td>
</tr>
<tr>
<td>Administrative IV</td>
<td>92</td>
</tr>
<tr>
<td>Administrative III</td>
<td>81</td>
</tr>
<tr>
<td>Administrative II</td>
<td>69</td>
</tr>
<tr>
<td>Administrative I</td>
<td>58</td>
</tr>
</tbody>
</table>

Outside Services such as vendor reproductions, prints, shipping, and major WYA reproduction efforts, as well as Engineering Supplies, Travel, etc. will be billed at actual cost plus 15%.

Direct Costs including general computers, system charges, telephone, fax, routine in-house copies/prints, postage, miscellaneous supplies, and other incidental project expenses will be billed at 5% of WYA labor charges.

Mileage will be billed at the current Federal Rate.

Subconsultants will be billed at actual cost plus 10%.

Computers are billed at $25 per hour for specialty models and AutoCAD.

A Finance Charge of 1.5 percent per month (an Annual Rate of 18 percent) on the unpaid balance will be added to invoice amounts if not paid within 45 days from the date of the invoice.

Billing rates apply to all computers and equipment, whether owned or rented by WYA, and to all employment categories including regular full-time, part-time, limited term and contract personnel as defined in WYA’s Employee Handbook.

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*This schedule will be updated annually*
SURVEYING AND EQUIPMENT CHARGES

<table>
<thead>
<tr>
<th>Position</th>
<th>Labor Charges (dollars per hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPS, 3-Person</td>
<td>317</td>
</tr>
<tr>
<td>GPS, 2-Person</td>
<td>271</td>
</tr>
<tr>
<td>GPS, 1-Person</td>
<td>213</td>
</tr>
<tr>
<td>Survey Crew, 2-Person</td>
<td>230</td>
</tr>
<tr>
<td>Survey Crew, 1-Person</td>
<td>173</td>
</tr>
</tbody>
</table>

EQUIPMENT CHARGES

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Billing Rate (dollars per day)</th>
<th>Billing Rate (dollars per week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO Meter</td>
<td>16</td>
<td>77</td>
</tr>
<tr>
<td>pH Meter</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>Automatic Sampler</td>
<td>120</td>
<td>658</td>
</tr>
<tr>
<td>Transducer/Data Logger</td>
<td>38</td>
<td>190</td>
</tr>
<tr>
<td>Hydrant Pressure Gage</td>
<td>11</td>
<td>47</td>
</tr>
<tr>
<td>Hydrant Pressure Recorder (HPR)</td>
<td>—</td>
<td>190</td>
</tr>
<tr>
<td>Hydrant Wrench</td>
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<td>30</td>
</tr>
<tr>
<td>Pitot Diffuser</td>
<td>27</td>
<td>124</td>
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<tr>
<td>Well Sounder</td>
<td>27</td>
<td>124</td>
</tr>
<tr>
<td>Ultrasonic Flow Meter</td>
<td>—</td>
<td>249</td>
</tr>
<tr>
<td>Vehicle</td>
<td>82</td>
<td>412</td>
</tr>
<tr>
<td>Velocity Meter</td>
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<td>60</td>
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<tr>
<td>Water Quality Multimeter</td>
<td>163</td>
<td>891</td>
</tr>
<tr>
<td>Thickness Gage</td>
<td>—</td>
<td>66</td>
</tr>
</tbody>
</table>

*This schedule will be updated annually*