

SULTAN COUNCIL AGENDA COVER SHEET

ITEM NO: A-5

DATE: December 10, 2009

SUBJECT: Water System Plan and General Sewer Plan
Contract Award to RH2

CONTACT PERSON: Connie Dunn, Public Works Director

ISSUE:

The issue before the City Council is to authorize Mayor Eslick to sign a contract with RH2 (Attachment A) to perform the scope of work to produce the Water System (Attachment B) and General Sewer (Attachment C) Plan updates that will be accepted by Washington State governing agencies.

STAFF RECOMMENDATION:

Authorize the Mayor to sign the contract with RH2 to produce the Water System Plan (WSP) and General Sewer Plan (GSP) updates in 2010 and 2011.

SUMMARY:

Council Sub-Committee on October 23, 2009 authorized the city staff to negotiate a scope of work and contract with RH2 to author the Water System and the General Sewer Plans in 2010 and 2011. Presenting the scope of work and contract to the City Council on December 10, 2009, so the work can be started immediately.

The City of Sultan is required to update the Water System and General Sewer Plans by Department of Health and Ecology, respectfully. The city's Water System Plan must be updated every six years in accordance with WAC 246.290. The current plan will expire in 2011. Staff recommends completing the updates in early 2011, with the Council and Planning Board updating the General Comprehensive Plan in 2011.

The Scope of Work for the Water System Plan (Attachment B) has 23 activities that RH2 will be working with city staff to complete the update for a total of \$132,150. This cost is divided between 2010 (\$100,000) and 2011 (\$32,150). Also attached to the water system plan scope of work is the estimated schedule.

The Scope of Work for the General Sewer Plan (Attachment C) has 13 activities that RH2 will be working with city staff to complete the update for a total cost of \$97,671. This cost is divided between 2010 (\$60,000) and 2011 (\$37,671). Some of the work in the Water System Scope will be shared when writing the General Sewer Plan; Activities # 2-Land Use and Population, #10 Operations and Maintenance.

The subcontractor FCS Consulting Firm has completed the finance data needed recently through the city's rate studies; therefore we will be contracting directly with FCS for their portion of the financial chapter of the plans.

BACKGROUND:

The City called for Statements of Qualification to prepare the Water System and General Sewer Plans to be completed in 2010.

Five firms replied:

1. BHC Consultants, Seattle
2. PACE Engineering Services Company, Seattle
3. Gray & Osborne Consulting Engineers, Seattle
4. CHS Engineers, LLC, Bellevue, and
5. RH2 Engineers, Planners, Scientists, Bothell.

On November 13, 2009, a panel of city staff, council, planning board and business representatives interviewed three firms based on responses to the request for proposal:

1. PACE
2. Gray & Osborne
3. RH2

The interview panel recommends RH2 to the City Council because of the team's thorough proposal and approach. Staff recommends authorizing Mayor Eslick to sign a contract with RH2.

FISCAL IMPACT:

The impact for the 2010 budget is \$100,000 for the Water System Plan and \$60,000 for the General Sewer Plan. The future impact on the 2011 budget is \$32,150 for the Water System Plan and \$36,671 for the General Sewer System Plan. The 2010 water operating fund has been amended to incorporate the additional \$40,000 in 2010. The funds were available in the ending fund balance. The ending fund balance is reduced from approximately \$70,000 to \$40,000.

ALTERNATIVES:

1. Authorize Mayor Eslick to sign a contract with RH2 to produce a Water System Plan and General Sewer Plan. This action implies the council approves RH2 to perform the scope of work at the agreed upon cost. The council also understands and approves the additional \$40,000 expenditure to the water operating fund.
2. Do not authorize Mayor Eslick to sign a contract with RH2 and direct staff to areas of concern. This action implies the council has questions or concerns about the selection process and/or scope of work. Under state law, the city cannot select an engineering consultant based on the cost of the work. First the firm is selected and then the contract is negotiated. Because the quote for the WSP exceeds the proposed budget by \$40,000, the council may direct staff to reject RH2 and negotiate with the second ranked firm.

RECOMMENDED ACTION:

Authorize Mayor Eslick to sign a contract with RH2 to prepare the Water System and General Sewer Plans in 2010 and 2011.

ATTACHMENTS:

- A** Contract with RH2
- B** Scope of Work - Water System Plan
- C** Scope of Work - General Sewer Plan

**AGREEMENT FOR SERVICES
BETWEEN THE CITY OF SULTAN AND
RH2 ENGINEERING, INC.**

THIS AGREEMENT, is made this day of , 20 , by and between the City of Sultan (hereinafter referred to as "City"), a Washington Municipal Corporation, and RH2 Engineering, Inc. (hereinafter referred to as "Service Provider"), doing business at 12100 NE 195th Street, Suite 100, Bothell, WA 98011.

WHEREAS, Service Provider is in the business of providing certain services specified herein; and

WHEREAS, the City desires to contract with Service Provider for the provision of such services for Comprehensive Water System Plan Update, and Service Provider agrees to contract with the City for same;

NOW, THEREFORE, in consideration of the mutual promises set forth herein, it is agreed by and between the parties as follows:

TERMS

1. **Description of Work.** Service Provider shall perform work as described in **Exhibit A** Scope of Work, which is attached hereto and incorporated herein by this reference, according to the existing standard of care for such services. Service Provider shall not perform any additional services without the expressed permission of the City.
2. **Payment.**
 - A. The City shall pay Service Provider at the hourly rate set forth in **Exhibit D** but not more than a total of one hundred sixty-one thousand one hundred dollars (\$161,100) for the services described in this Agreement. This is the maximum amount to be paid under this Agreement.
 - B. Service Provider shall submit monthly payment invoices to the City after such services have been performed, and the City shall make payment within four (4) weeks after the submittal of each approved invoice. Such invoice shall detail the hours worked, a description of the tasks performed, and shall separate all charges for clerical work and reimbursable expenses.
 - C. If the City objects to all or any portion of any invoice, it shall so notify Service Provider of the same within five (5) days from the date of receipt and shall pay that portion of the

invoice not in dispute. The parties shall immediately make every effort to settle the disputed portion.

3. **Relationship of Parties.** The parties intend that an independent contractor - client relationship will be created by this Agreement. As Service Provider is customarily engaged in an independently established trade which encompasses the specific service provided to the City hereunder, no agent, employee, representative or subcontractor of Service Provider shall be or shall be deemed to be the employee, agent, representative or subcontractor of the City. None of the benefits provided by the City to its employees, including, but not limited to, compensation, insurance and unemployment insurance, are available from the City to the Service Provider or his employees, agents, representatives or subcontractors. Service Provider will be solely and entirely responsible for his acts and for the acts of Service Provider's agents, employees, representatives and subcontractors during the performance of this Agreement. The City may, during the term of this Agreement, engage other independent contractors to perform the same or similar work that Service Provider performs hereunder.
4. **Project Name.** Comprehensive Water System Plan Update
5. **Duration of Work.** Service Provider shall complete the work described in **Exhibit A** on or before July 2011.
6. **Termination.**
 - A. Termination Upon the City's Option. The City shall have the option to terminate this Agreement at any time. Termination shall be effective upon ten (10) days written notice to the Service Provider.
 - B. Termination for Cause. If Service Provider refuses or fails to complete the tasks described in Attachment A, or to complete such work in a manner unsatisfactory to the City, then the City may, by written notice to Service Provider, give notice of its intention to terminate this Agreement. After such notice, Service Provider shall have ten (10) days to cure, to the satisfaction of the City or its representative. If Service Provider fails to cure to the satisfaction of the City, the City shall send Service Provider a written termination letter which shall be effective upon deposit in the United States mail to Service Provider's address as stated below.
 - C. Rights upon Termination. In the event of termination, the City shall only be responsible to pay for all services satisfactorily performed by Service Provider to the effective date of termination, as described in the final invoice to the City. The City Manager shall make the final determination about what services have been satisfactorily performed.

7. **Nondiscrimination.** In the hiring of employees for the performance of work under this Agreement or any subcontract hereunder, Service Provider, its subcontractors or any person acting on behalf of Service Provider shall not, by reason of race, religion, color, sex, marital status, national origin or the presence of any sensory, mental, or physical disability, discriminate against any person who is qualified and available to perform the work to which the employment relates.
8. **Indemnification / Hold Harmless.** The Service Provider shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or in connection with the performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Service Provider and the City, its officers, officials, employees, and volunteers, the Service Provider's liability hereunder shall be only to the extent of the Service Provider's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Service Provider's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.

9. **Insurance.** The Service Provider shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Service Provider, their agents, representatives, employees or subcontractors.
- A. **Minimum Scope of Insurance.** Service Provider shall obtain insurance of the types described below:
1. Automobile Liability insurance covering all owned, non-owned, hired and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.
 2. Commercial General Liability insurance shall be written on ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract. The City shall be named as an insured under the Service Provider's Commercial General Liability insurance policy with respect to

the work performed for the City using ISO additional insured endorsement GC 20 10 10 01 and GC 20 37 10 01 or substitute endorsements providing equivalent coverage.

3. Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.
- B. Minimum Amounts of Insurance. Service Provider shall maintain the following insurance limits:
1. Automobile Liability insurance with a minimum combined single limit for bodily injury and property damage of \$1,000,000 per accident.
 2. Commercial General Liability insurance shall be written with limits no less than \$1,000,000 each occurrence, \$2,000,000 general aggregate and \$2,000,000 products-completed operations aggregate limit.
- C. Other Insurance Provisions. The insurance policies are to contain, or be endorsed to contain, the following provisions for Automobile Liability and Commercial General Liability insurance:
1. The Service Provider's insurance coverage shall be primary insurance as respect to the City. Any insurance, self-insurance, or insurance pool coverage maintained by the City shall be excess of the Service Provider's insurance and shall not contribute with it.
 2. The Service Provider's insurance shall be endorsed to state that coverage shall not be cancelled by either party, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.
- D. Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best rating of not less than A:VII.
- E. Verification of Coverage. Service Provider shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the insurance requirements of the Service Provider before commencement of the work.
- F. Subcontractors. Service Provider shall include each subcontractor as insured under its policies or shall furnish separate certifications and endorsements for each subcontractor. All coverage shall be subject to all of the same insurance requirements as stated herein for the Service Provider.

10. **Entire Agreement.** The written provisions and terms of this Agreement, together with all documents attached hereto, shall supersede all prior verbal statements of any officer or other representative of the City, and such statements shall not be effective or be construed as entering into or forming a part of, or altering in any manner whatsoever, this Agreement.
11. **City's Right of Supervision, Limitation of Work Performed by Service Provider.** Even though Service Provider works as an independent contractor in the performance of his duties under this Agreement, the work must meet the approval of the City and be subject to the City's general right of inspection and supervision to secure the satisfactory completion thereof. In the performance of work under this Agreement, Service Provider shall comply with all federal, state and municipal laws, ordinances, rules and regulations that are applicable to Service Provider's business, equipment, and personnel engaged in operations covered by this Agreement or accruing out of the performance of such operations.
12. **Work Performed at Service Provider's Risk.** Service Provider shall be responsible for the safety of its employees, agents and subcontractors in the performance of the work hereunder and shall take all protections reasonably necessary for that purpose. All work shall be done at Service Provider's own risk, and Service Provider shall be responsible for any loss of or damage to materials, tools, or other articles used or held for use in connection with the work.
13. **Ownership of Products and Premises Security.**
 - A. All reports, plans, specifications, data maps, and documents produced by the Service Provider in the performance of services under this Agreement, whether in draft or final form and whether written, computerized, or in other form, shall be the property of the City.
 - B. While working on the City's premises, the Service Provider agrees to observe and support the City's rules and policies relating to maintaining physical security of the City's premises.
14. **Modification.** No waiver, alteration or modification of any of the provisions of this Agreement shall be binding unless in writing and signed by a duly authorized representative of the City and Service Provider.
15. **Assignment.** Any assignment of this Agreement by Service Provider without the written consent of the City shall be void.
16. **Written Notice.** All communications regarding this Agreement shall be sent to the parties at the addresses listed below, unless notified to the contrary. Any written notice hereunder shall become effective as of the date of mailing by registered or certified mail, and shall be deemed sufficiently given if sent to the addressee at the address stated in this Agreement or such other address as may be hereafter specified in writing.

Exhibit A
SCOPE OF WORK
City of Sultan
Comprehensive Water System Plan Update
December 2009

This Scope of Work includes tasks necessary to update the City of Sultan's (City) Comprehensive Water System Plan (WSP) and evaluate the ability of the City's water system to meet the needs of existing and future water system customers throughout the 20-year planning period. Tasks to prepare a report for preliminary sizing and siting of the East Side Storage Reservoir have also been included. This Scope of Work is based on published regulatory requirements for comprehensive water system plans known at the time of this writing. If new or expanded regulatory requirements are published during the course of this project, a contract amendment, along with a scope of work and fee estimate, can be provided for the additional work needed to satisfy the requirements.

All available resources from the previous planning work will be utilized to minimize the level of effort necessary for this WSP update. Attached as **Exhibit B** is a list of data to be provided by the City prior to commencement of the activities contained in this Scope of Work. It is anticipated that the Comprehensive Water System Plan will be completed in conjunction with the City's Comprehensive Sewer System Plan (SSP). Efficiencies related to these joint planning efforts are reflected in the Scopes of Work and Fee Estimates for these two projects. It is anticipated that the City will contract directly with FCS Group to prepare the financial analysis.

ACTIVITY 1 – DATA COLLECTION AND DOH COORDINATION

Objective: Assist the City in collecting data necessary to complete the water system planning process. Coordinate with the Department of Health (DOH) throughout the development of the WSP.

Tasks

1. Attend a pre-planning conference with City and DOH staff.
2. Coordinate with City staff during the data collection process. This includes coordinating via telephone, submitting the list of data needed and reviewing data provided by the City.
3. Attend one meeting with City staff to review collected data.
4. Coordinate with DOH throughout the planning process to provide schedule and progress reports towards completion of the WSP.

Deliverables: Attendance at one meeting with City and DOH staff and coordination via telephone and email with DOH. Attendance at one meeting with City staff to review collected data.

ACTIVITY 2 – INTRODUCTION AND EXISTING WATER SYSTEM DESCRIPTION

Objective: Provide a description of all components of the existing water system.

Tasks

1. Describe the water system ownership and management. Include the system type, system identification number, address and contact person.
2. Describe the authorization and purpose of the WSP.

3. Provide a summary of the WSP contents.
4. Provide a definition of terms and a list of abbreviations used in the WSP.
5. Review previous plans, existing system information and data, and facility as-builts.
6. Visit each facility with City staff to collect field information and observe equipment layouts and existing conditions.
7. Provide a brief overview of the history of the water system using information from the previous WSP and historical summaries compiled and provided by the City. Include the current numbers of existing and approved service connections.
8. Describe the physical characteristics of the existing water service area and its effects on water system planning, including topography, geology, sensitive areas and flood zones.
9. Describe the City's existing and future service areas, including the Urban Growth Area, retail water service area and water service agreements. Include any plans for expanding the current service area.
10. Summarize the Satellite Management Agency program, its potential impacts on the City and the City's policy toward satellite management.
11. Provide a brief overview of the operation of the existing water system.
12. Describe each pressure zone and all existing facilities, including sources of supply, pressure reducing stations, pipelines, reservoirs, interties, and telemetry and supervisory control.
13. Provide a table of water main inventory that includes total lengths, diameters, materials and age based on available data.
14. Review adjacent water systems and provide a brief description of the adjacent water systems and the potential for emergency interties.
15. Prepare color figures of the following.
 - Existing Water System
 - Existing System Hydraulic Profile
 - Service Area and Adjacent Systems

Deliverables: Descriptions and figures of existing system components for City review and comment. Attendance at one facility visit with City staff.

ACTIVITY 3 – LAND USE AND POPULATION

Objective: Review planning-related documents and identify their impact on the City's water system for use in the WSP and SSP.

Tasks

1. Prepare and review an inventory of related plans to provide a summary of the impacts or constraints on the water system. These include, but are not limited to, the Snohomish County Land Use Plan, *Snohomish County Coordinated Water System Plan* and the Growth Management Act (GMA) impacts on the City.

2. Complete DOH's Consistency Statement Checklist for each planning agency that the WSP must be consistent with, which includes local and county planning jurisdictions.
3. Identify existing and future land use patterns in and adjacent to the City and their impacts on existing and future facilities and water sources for the water system.
4. Identify current and projected housing trends and household sizes within the City's service area based on available information from City staff, as well as Snohomish County (County) and state population data.
5. Include a table of 6-year and 20-year population projections for both the City and the water service area that comply with the GMA.
6. Prepare a color figure of the City's land use.

Deliverables: Descriptions and figures of planning data for City review and comment for the WSP and SSP.

ACTIVITY 4 – WATER DEMANDS

Objective: Review historical water use and forecast future water demands of the system.

Tasks

1. Identify criteria and procedures to be used for issuing Certificates of Water Availability in accordance with the GMA.
2. Tabulate monthly totals of metered consumption for each customer class and the average number of accounts in service for each year from 2003 through 2009 based on available information provided by the City. Identify the seasonal variations in consumption for each customer class.
3. Tabulate 10 to 20 of the largest water users and the total water use of each for the year 2009.
4. Tabulate monthly and yearly totals of water supply from each supply facility from 2003 through 2009.
5. Calculate per capita demands based on the average day demand and water system population data from 2003 through 2009.
6. Calculate the number of equivalent residential units (ERUs) within the system based on the water consumption and supply data.
7. Identify the total amount of distribution system leakage from 2003 through 2009. Calculate the three-year rolling average of the distribution system leakage.
8. Tabulate total consumption of all customers within each pressure zone based on the hydraulic model and the parcel-consumption database provided by the City.
9. Calculate the system average day demand based on the yearly water supply data from 2003 through 2009.
10. Estimate the system's peak day and peak hour demands.
11. Prepare a table of general fire flow requirements of each land use classification and identify buildings with the largest fire flow requirements within the service area.
12. Document the historical demands from 2003 through 2009.

13. Document the current and past efforts for water use efficiency and their impact on water demand over the past six years. Describe the water use efficiency improvements.
14. Develop 1, 2, 3, 4, 5, 6 and 20-year demand projections based on projected water system population data and historical per capita demands. Demand projections shall be tabulated with and without additional water use reductions from the proposed water use efficiency program.
15. Describe the basis for and results of the existing and future water demand evaluation.
16. Evaluate, describe and prepare a graphic or table to demonstrate the seasonal variations in consumption patterns for each customer class.
17. Attend one meeting to present the results of the initial planning analyses to City staff, the City Council and the public. This meeting will be used to meet the public forum requirements of the City's water use efficiency program. Present the water use efficiency goals for adoption by the City Council.
18. Provide the following tables, each integrated within the chapter text.
 - Average Annual Metered Consumption and Service Connections
 - 2009 Largest Water Users
 - Historical Supply and Per Capita Demands
 - Existing Demands by Pressure Zone
 - Demands by Supply Facility
 - Equivalent Residential Units
 - Distribution System Leakage
 - Peak Demands and Demand Ratios
 - General Fire Flow Requirements
 - Future Water Demand Projections
 - Future ERU Projections

Deliverables: Descriptions and tables of historic and projected demand data for City review and comment. One meeting with City staff, the City Council and the public to review water demand projections and meet water use efficiency program requirements.

ACTIVITY 5 – POLICIES AND DESIGN CRITERIA

Objective: Review existing policies and design criteria and recommend, as necessary, changes to these policies to ensure that facilities meet design standards.

Tasks

1. Review existing City standards pertaining to water system policies and criteria.
2. Identify existing policies and recommend additional or revised policies as necessary to ensure that future City facilities meet minimum and acceptable design standards and criteria. Use DOH, Environmental Protection Agency, American Water Works Association and standard engineering practices as the basis for identifying policies, criteria and requirements.
3. Summarize each policy and design criteria.

4. Discuss the City's existing construction standards and include a copy in an appendix of the WSP.
5. Describe the process for responding to requests for new water service (individual and group services), including timeframes.
6. Describe the process for determining if the system's capacity is adequate to provide water service requests for new service. The process must include the determination of sufficient water rights.
7. Describe any conditions of a non-technical nature that may impact the ability to provide new water service (e.g., annexation procedures, local ordinances, instream flow rule, etc.).
8. Describe the procedures for granting or requesting extensions of time during a project. Describe the procedures for handling disputes and appeals when requests are denied.
9. Describe policies for extensions of water service outside of boundaries. Describe how the policies are consistent with local and County comprehensive land use plans and development regulations.

Deliverables: Descriptions of policies and design criteria for City review and comment.

ACTIVITY 6 – WATER SOURCE AND QUALITY

Objective: Identify the City's water quality monitoring requirements and results of recent monitoring, and prepare an inventory of existing water sources and water rights.

Tasks

1. Provide a detailed description of the existing water sources and treatment.
2. Document the City's long-term water supply planning efforts.
3. Summarize the City's current water rights.
4. Evaluate existing water right documents to validate the City's goals and understanding of water right features and opportunities.
5. Perform a water rights evaluation that compares current water rights with existing and projected demands.
6. Document water supply characteristics and any foreseeable effects from existing and future water use on the water quantity and quality of the bodies of water from which the City withdraws supply. Describe water supply characteristics by identifying seasonal source variability, water rights limitations, water reliability and legal constraints. Utilize existing data and studies available from the City.
7. Provide an overview of existing and future drinking water regulations, the Safe Drinking Water Act (SDWA) and the Endangered Species Act (ESA). Describe the impacts of the regulations on the City.
8. Identify the water quality monitoring requirements for the City's water system.
9. Summarize the results and compliance status of recent source and distribution system water quality monitoring.
10. Identify improvements, as needed, to comply with the water quality requirements.
11. Provide the following tables, each integrated within the chapter text. Update information from the previous WSP as necessary.

- Existing Water Rights
- Existing Water Rights Evaluation
- Future Water Rights Evaluation

Deliverables: Evaluation of existing water rights, including descriptions of existing water quality monitoring requirements and results of recent monitoring for City review and comment.

ACTIVITY 7 – HYDRAULIC MODEL UPDATE AND CALIBRATION

Objective: Update and calibrate the current WaterCAD® hydraulic model of the City’s existing water system.

Tasks

1. Update the City’s existing WaterCAD® hydraulic model with recent water system improvements. Review the model with current AutoCAD® water system mapping to ensure consistency and completeness.
2. Prepare a preliminary hydraulic model node diagram. Coordinate with the City to verify water system facilities shown in the model and update the model as necessary based on input from the City.
3. Update elevation data in the model by transferring data from electronic contours to model junction nodes using customized routines.
4. Compute pipe roughness coefficients from available pipe material and age data using routines to accomplish initial calibration.
5. Using a parcel-consumption database provided by the City and customized routines, allocate the demand data among the nodes in the model.
6. Update facility data into the model for all supply sources, reservoirs and PRV stations. Establish facility settings to reflect current settings and those to be used for the analyses.
7. Provide assistance in the field during the first flow test to ensure the pressure and flow test objectives are met for the purpose of calibrating the hydraulic model. City staff will perform the tests at the remaining locations, record the test results and forward to RH2 Engineering, Inc. (RH2). City staff will also provide the operational status of facilities, including flows into the system from all sources and pump stations and reservoir levels at the start and end of the tests. Calibrate the model from the field flow and pressure test data for use in the steady state analyses.
8. Coordinate with the City to identify the source of any inconsistencies between the field calibration data and the modeled results. Inconsistencies may be the result of unknown closed valves in the system or incorrect diameter of water main shown on system mapping or as-builts. Since this item is highly variable in nature, an initial allocation of 16 hours of a water modeling specialist’s time have been included for this task. If generally accepted industry standards for hydraulic model accuracy cannot be achieved within this initial allocation, RH2 will coordinate with the City to determine the next steps. This may include a scope amendment to assist the City in completing additional field flow tests and model calibration analyses.

9. Input the current land use classifications into the model and assign a general planning level fire flow requirement to each node for comparison of fire flow results. Custom routines will be utilized to transfer the data from the land use map to the model.

Deliverables: Calibrated WaterCAD® hydraulic water model for use in steady state analyses. Coordination with City to confirm completeness and accuracy of the hydraulic water model.

ACTIVITY 8 – WATER SYSTEM ANALYSES

Objective: Evaluate each water system component to identify deficiencies and recommend improvements. Utilize the hydraulic model of the City’s water system to perform hydraulic analyses.

Tasks

1. Examine each of the existing pressure zones and identify areas of low and high pressures. Include a table showing each existing zone, its maximum and minimum service elevation, and service pressures (at static conditions).
2. Calculate the quantity of water supply required for the existing and future conditions, and compare those requirements to the system’s existing supply capability.
3. Identify and describe supply facility deficiencies.
4. Based on the requirements contained in WAC 246-290-235 and the most current DOH *Water System Design Manual*, calculate the quantity of water storage required for the existing and future system and compare those requirements to the existing storage capacity of the system.
5. Identify and briefly describe storage deficiencies.
6. Document the hydraulic analysis criteria and hydraulic model settings for the distribution system analyses.
7. Using the hydraulic model of the water system, perform a steady state hydraulic analysis of the system simulating a peak hour demand condition with no fire flows to determine the pressures and flow distribution during this demand condition.
8. Perform a steady state fire flow analysis for each node in the system while simulating peak day demands to determine the capability of the existing system to provide adequate flows and pressures and identify existing system deficiencies.
9. Input future demand data into the hydraulic model’s nodes using the results from the future water demand evaluation. Demand distribution shall be based on estimates of future growth allocations.
10. Based on the results of the existing system hydraulic analysis and identification of deficiencies, identify and input proposed water system improvements into the model.
11. Perform a steady-state fire flow analysis for each node in the system while simulating future peak day demands to verify that the proposed improvements eliminate existing system deficiencies and are sized properly to accommodate anticipated growth based on meeting the City’s policies and design criteria. Repeat the analyses for the 6-year and 20-year projections until all existing system deficiencies have been eliminated.
12. Prepare a table that summarizes the results of the existing system and future system fire flow analyses.
13. Identify and describe distribution system deficiencies and the results of the hydraulic analyses.

14. Review and discuss known existing system deficiencies and unsuitable pipe materials from data provided by the City.
15. Evaluate the City's existing pressure reducing stations and identify deficiencies.
16. Evaluate the City's existing interties and identify deficiencies.
17. Evaluate the City's existing booster pump stations and identify deficiencies.
18. Evaluate the City's existing telemetry and supervisory control system and identify deficiencies.
19. Perform an existing system capacity analysis and a six-year projected system capacity analysis to determine the unused, available system capacity expressed in ERUs. Prepare a six-year projected system capacity analysis with proposed improvements. Document the criteria and results of the analyses.
20. Meet with City staff to discuss the system analyses, deficiencies and recommended improvements.
21. Provide the following tables, each integrated within the chapter text.
 - Minimum and Maximum Distribution System Pressures
 - Existing Water Supply Evaluation
 - Future Water Supply Requirements
 - Existing Storage Evaluation
 - Future Storage Requirements
 - Hydraulic Analyses Summary
 - Existing System Capacity Analysis
 - Six-year System Capacity Analysis
22. Prepare a color figure of the hydraulic model node diagram.

Deliverables: Descriptions, tables and figures of existing water system analyses for City review and comment. Attendance at one meeting with City staff.

ACTIVITY 9 – OPERATIONS AND MAINTENANCE

Objective: Document the water system's operations and maintenance program for use in the WSP and SSP.

Tasks

1. Document the current water staff organization and prepare an organizational chart.
2. Prepare a table listing all water operations personnel, their position and certification.
3. Provide a brief description of the key responsibilities of the water operations personnel.
4. Provide a list of all major equipment, supplies and chemicals used by the water system.
5. Based on information collected from City staff during the facility visit, document the current operations and maintenance programs, suggest operational changes to improve reliability and service, and identify their associated cost impacts.
6. Comment on the general impacts and effects of changing water quality requirements regarding operations and maintenance responsibilities.

7. Identify safety procedures that must be followed for potential work place hazards. Incorporate the existing safety program activities and recent Labor and Industries' inspection reports.
8. Prepare a brief description of the City's existing Emergency Response Plan (ERP) and Vulnerability Assessment. For security purposes, a copy of the Vulnerability Assessment will not be included in the WSP.
9. Identify procedures for keeping and compiling records and reports. Provide a general list of records on file and identify where they are filed.
10. Identify maintenance schedules for each facility.
11. Evaluate staffing requirements and document recommendations.
12. Identify operations and maintenance improvements.
13. Provide the following tables, each integrated within the chapter text.
 - Organization Chart
 - Personnel Certification
 - Major Equipment and Chemicals
 - Staffing Requirements

Deliverables: Descriptions and tables documenting the City's existing operations and maintenance program for use in the WSP and SSP. Evaluation and recommendations of staffing requirements.

ACTIVITY 10 – CAPITAL IMPROVEMENT PROGRAM (CIP)

Objective: Describe and schedule improvements to resolve deficiencies identified in the water system analyses. Prepare planning level cost estimates for each project identified.

Tasks

1. Briefly describe water system improvements that have been completed since the last comprehensive plan update.
2. Prepare a list of proposed water system improvements based on the results of the existing system and proposed system analyses. Briefly describe each group of related improvements and the purpose/benefit of the improvements.
3. Review and make recommendations, as necessary, for changes to the City's existing standards for system replacements, rehabilitations and extensions.
4. Prepare a planning level approximate cost estimate for each improvement based on current industry prices.
5. Coordinate with City staff to establish criteria for prioritizing and scheduling improvements. Prioritization and scheduling will consider other scheduled projects based on information provided by the City.
6. Schedule all improvements based on the results of the prioritization.
7. Prepare a table of improvements that includes an improvement identification number, a brief description of each improvement, the associated cost estimate and the scheduling of the

improvements on an annual basis for the first 6 years and at 6-year intervals for the 20-year planning period.

8. Describe the criteria and procedures used for prioritizing and scheduling improvements.
9. Provide the following tables, each integrated within the chapter text.
 - Improvements Completed since Last WSP
 - Water Main Improvements Priority Ranking Criteria
 - Water Main Improvements Priority Ranking
 - Proposed Improvements Implementation Schedule
11. Prepare color figures of the following.
 - Proposed Water System Improvements
 - Proposed Improvements Hydraulic Profile
12. Meet with City staff to discuss the water system improvements and the proposed schedule of implementation.

Deliverables: Draft CIP tables and figures for City review and comment. GIS files containing proposed water main improvements. Attendance at one meeting with City staff.

ACTIVITY 11 – CROSS-CONNECTION CONTROL PLAN

Objective: Document the City's existing cross-connection control program.

Tasks

1. Review the City's existing cross-connection control ordinance and any programs it has developed. Evaluate the documents for completeness, and incorporate any elements necessary for consistency with regulations into the WSP.
2. Describe the consequences for failing to comply with the cross-connection control ordinance.
3. Document the responsibility of each City department for implementing the program and their relationship with one another and outside agencies.
4. Identify the primary and back-up staff positions delegated to the responsibility of organizing and implementing the cross-connection control program.
5. Identify the qualifications required for personnel working in the cross-connection control program.
6. Document the City's approval of qualifications for cross-connection control testers and specialists.
7. Document procedures for prioritizing and conducting surveys of existing facilities to identify all existing and potential cross connections.
8. Document guidelines for assessing the degree of hazard and the selection of the appropriate backflow assemblies.
9. Document standard requirements for installing and testing approved backflow assemblies.
10. Describe the recordkeeping system requirements for the cross-connection control program.
11. Describe the methods or processes that will provide information (public education, etc.) regarding the cross-connection control program to the existing and future system customers.

12. Document procedures for responding to backflow incidents.

Deliverable: Completed Cross-Connection Control Plan included in the WSP as an appendix.

ACTIVITY 12 – WATER QUALITY MONITORING PLAN

Objective: Document the City's existing water quality monitoring requirements and procedures. Update the City's existing Coliform Monitoring Plan.

Tasks

1. Prepare a description of the water system as required by the Coliform Monitoring Plan.
2. Document source water quality monitoring requirements and procedures.
3. Document distribution system water quality monitoring requirements and procedures, including a schedule for coliform monitoring.
4. Prepare a color figure of the locations needed to meet the various monitoring requirements.
5. Provide the following water system information.
 - Pressure zones
 - Water sources
 - Water storage
 - Pressure reducing stations
 - Schedule needed to meet the various monitoring requirements

Deliverables: Descriptions and figures documenting the City's existing water quality and coliform monitoring programs for City review and comment.

ACTIVITY 13 – WATER USE EFFICIENCY PROGRAM

Objective: Update the City's Water Use Efficiency Program and water use efficiency goals for the water system. Prepare a Water Loss Control Action Plan.

Tasks

1. Evaluate the City's existing Water Use Efficiency (WUE) Program for completeness and incorporate any elements necessary for consistency with regulations into the WSP.
2. Prepare a summary of water use efficiency planning efforts that have been completed since the WUE program was adopted.
3. Assist the City in updating WUE goals through a public process. Document how each goal was established.
4. Identify and evaluate WUE measures for appropriateness and cost-effectiveness.
5. Prepare a schedule for implementation of the WUE measures and cost estimates for each measure.
6. Develop a Water Loss Control Action Plan (assumes distribution system leakage is greater than 10 percent). Include water loss control methods that will be implemented, an estimated schedule for achieving the distribution system leakage standard, a budget for the program, and an identification

of technical or economic concerns that may prevent the City from meeting the distribution system leakage standard.

Deliverable: Descriptions documenting the City's WUE Program and Water Loss Control Action Plan for City review and comment.

ACTIVITY 14 – WATERSHED CONTROL PLAN

Objective: Document the City's existing efforts toward watershed control.

Tasks

1. Prepare a summary of the state's regulatory requirements.
2. Document the City's past efforts towards protection of its water sources, including the monitoring program the City uses to assess the adequacy of watershed protection.
3. Document the results of the City's susceptibility assessment and the monitoring waivers that were granted.
4. Prepare a description of the watershed and an inventory, including location, hydrology, land ownership and activities that may adversely affect source water quality.
5. Perform delineation of the watershed basin and document the delineation method, results and future requirements.
6. Prepare an inventory of potential contaminant sources and activities using available databases maintained by Ecology and the Environmental Protection Agency, and document the results of the inventory findings. The inventory will include site locations and owners/operators.
7. Identify owners and operators of known and potential sources of water contamination, businesses, regulatory agencies and local governments, emergency response agencies and City customers that must be notified of the City's watershed control program.
8. Document watershed control measures, including ownership and relevant written agreements, and monitoring of activities and water quality.
9. Document normal system operation and a contingency plan for operating the water system in the event of contamination of one of the City's sources or other source related emergency.
10. Document water quality trends of source water quality monitoring from past records.
11. Document implementation of the Watershed Control Program and provide recommendations.
12. Prepare a color figure showing the existing water system, watershed protection area, and areas of known and potential sources of water contamination.
13. Provide the following tables, each integrated with the chapter text.
 - Watershed Data
 - Potential Sources of Contamination
 - Notification Recipients

Deliverable: Descriptions and figures documenting the City's Watershed Control Plan for City review and comment.

ACTIVITY 15 – EMERGENCY RESPONSE PLAN

Objective: Update the City’s Emergency Response Plan for the water system.

Tasks

1. Identify, in ranked order, water system personnel responsible for making decisions in emergency situations. Include job titles, phone numbers, water system responsibilities and expertise.
2. Describe procedures for quickly notifying system customers, the public, the local health department and DOH of water quality emergencies.
3. Identify a contingency plan for responding to potential emergency events for each facility.
4. Identify design criteria for future improvements to minimize seismic vulnerability.
5. Provide the following tables, each integrated with the chapter text.
 - Water System Personnel Emergency Call-up List
 - Water System Support Services Call-up List
 - Emergency Notification Contact List
 - Priority Customers Contact List
 - Vulnerability Rating

Deliverable: Descriptions documenting the City’s Emergency Response Plan for City review and comment.

ACTIVITY 16 – FINANCIAL ANALYSIS

Objective: Provide overall review and coordination with the City’s financial consultant, FCS Group, for preparation of the financial analysis. The City will contract directly with FCS Group for the preparation of the financial analysis chapter of the WSP.

Tasks

1. Coordinate with the financial consultant during the project to provide information in support of the financial analysis chapter.
2. Attend one meeting with City staff and RH2 to review draft and/or final results, if desired, before finalizing the Financial Chapter.

Deliverable: Attendance at one meeting with City, RH2 and FCS Group staff.

ACTIVITY 17 – EXECUTIVE SUMMARY

Objective: Prepare an executive summary to describe the key elements of the WSP.

Tasks

1. Identify the purpose of the WSP and summarize the major system characteristics and significant changes that have occurred since the previous WSP was completed.
2. Briefly describe the key issues in the WSP, including the following.
 - Policies and design criteria

- Population and demand forecasts
- Water Use Efficiency achievements and projections
- Emergency planning and operation and maintenance recommendations
- System evaluation and deficiencies
- Recommended improvements
- Financial status and recommendations

Deliverable: Draft executive summary chapter for City review and comment.

ACTIVITY 18 – APPENDICES

Objective: Prepare miscellaneous appendices for inclusion in the WSP.

Tasks

1. Obtain a SEPA Checklist and Determination of Non-Significance (DNS) from the City to include in the appendices.
2. Obtain from the City all service area and intertie agreements and include in the appendices.
3. Obtain copies of applicable City resolutions/ordinances and include in the appendices.
4. Include copies of Water Facilities Inventory (WFI) forms.
5. Include copies of water right certificates and permits.
6. Include a copy of the most recent Consumer Confidence Report.
7. Include a copy of City construction standards.
8. Include copies of water system facilities data, consistency statement checklists and agency review comments.

Deliverables: Miscellaneous appendices for inclusion in the WSP.

ACTIVITY 19 – DRAFT WSP REVIEW AND PRINTING

Objective: Produce 95 percent draft copies of the WSP for review by City staff and update based on comments received from the review.

Tasks

1. Develop a cover format that includes the WSP name and revision date.
2. Bind draft WSP documents in three-ring binder format for easy editing, updating and cataloging. Print up to five sets of the draft WSP for the City's review.
3. Meet with City staff to present an overview of the WSP recommendations and discuss comments from their review of the 95 percent WSP.
4. Revise the WSP based on City review comments.

Deliverables: Up to five sets of the draft WSP in three-ring binder format. Attendance at one meeting with City staff to present an overview of the draft WSP.

ACTIVITY 20 – FINAL DRAFT WSP PRINTING AND PRESENTATION

Objective: Prepare a final draft of the WSP and submit it to review agencies and adjacent water purveyors.

Tasks

1. Attend one meeting to present the completed WSP to City staff, City Council and the public.
2. Bind the final WSP documents and print up to ten sets of the WSP and color figures.
3. Create an electronic PDF document, including all chapters, appendices and figures of the WSP. The electronic WSP will contain hyperlinks and an organizational format that will be fully functional. Provide up to five copies of the electronic plan on CD format.
4. Submit the final WSP to adjacent water systems for their review and comment.
5. Submit the final WSP to the County and DOH for their review.

Deliverables: Up to ten sets of the final WSP in three-ring binder format and five copies in electronic PDF format on CD. Attendance at one meeting to present the final draft WSP to City staff, City Council and the public.

ADDITIONAL ACTIVITIES

ACTIVITY 21 – EAST SIDE RESERVOIR REPORT

Objective: Prepare a standalone report documenting the need for a new East Side Reservoir, preliminary site selection and planning level water system improvements necessary to accommodate storage at potential sites for inclusion in the WSP appendices. The report will be utilized by the City to procure property for the proposed reservoir and/or perform more detailed site evaluations.

Tasks

1. Based on the results of the storage analyses completed in Activity 8, identify general target areas that may be suitable for the proposed East Side Reservoir based on approximate ground elevations available from GIS data and hydraulic compatibility with the existing system.
2. Identify viable undeveloped parcels within the target area for further consideration. Parcel selection criteria will be limited to a desktop study and may include minimum lot dimensions, total parcel area, environmental impacts, site access and geotechnical concerns. GIS data, information provided by the City and other publicly available information will be used to identify viable undeveloped parcels. Prepare a figure showing potentially viable reservoir sites.
3. Meet with the City to present the results of the viable undeveloped parcel evaluation. Coordinate with the City to refine the list of potential reservoir sites to four, eliminating sites the City does not feel warrant further evaluation.
4. Conduct a site reconnaissance to determine the feasibility of constructing a reservoir or reservoirs on the potential sites. Collect photographs, field notes and other pertinent available site information. Generally evaluate the geological conditions and identify undesignated wetlands, construction and access routes, existing facility constraints, short and long-term environmental concerns and ease/difficulty of reservoir construction. Also review available

information regarding surveys, as-builts, aerial photographs, geotechnical studies and land use that is pertinent to evaluating the sites. Based on the initial site reconnaissance, determine the feasibility of constructing on the sites and remove any sites that are determined to be no longer viable or preferred.

5. Conduct preliminary steady state hydraulic analyses to identify planning level water system improvements necessary to accommodate storage at potential sites. Identification of preliminary improvements may include pump stations, transmission or distribution mains, pressure reducing valve (PRV) stations, check valves and zone valves.
6. Develop up to four alternative improvement scenarios that may include phased construction of multiple reservoirs at single sites to accommodate future growth as it is planned to occur or a single reservoir. Identify approximate dimensions of the proposed reservoir(s) and the volume of storage required in the facility for each storage component (dead, operational, equalizing, standby and fire flow). For each alternative, develop an approximate schedule, capacity and location map for proposed storage facilities and associated system improvements.
7. For each alternative, prepare a conceptual schematic site plan, including preliminary site layout, reservoir size and location, and sizing and configuration of other proposed on-site water system improvements necessary to achieve integration with the existing water system.
8. Develop planning level cost estimates for each alternative set of reservoir and associated water system improvements. Cost estimates will evaluate life cycle costs and include predesign, design, project management, land acquisition, construction, operations and maintenance, and permitting costs.
9. Prepare a standalone report documenting the study. Discuss tasks performed in previous activities, including background of the project and objectives, approach used in the identification of each alternative, conceptual plan for each alternative and life cycle cost analysis. Document the design criteria for the proposed reservoir(s) and other planning level water system improvements necessary to accommodate the facility. Also identify areas of concern that may need further evaluation during the project predesign and/or design phases.
10. Submit one electronic copy of the draft report to the City to review. Incorporate the City's comments into a final report and include in an appendix to the WSP.

Deliverables: A standalone East Side Reservoir report for inclusion in the WSP appendices and for use by the City to commence site acquisition or more detailed site evaluations as recommended in the report.

ACTIVITY 22 – ADDITIONAL SERVICES REQUESTED BY CITY

Objective: Provide additional services as requested by the City for tasks not identified above.

Tasks

1. Perform additional services requested by the City up to the budget limits indicated in the attached Fee Estimate.

Deliverables: As requested.

ACTIVITY 23 – DOH AND AGENCY REVIEW REVISIONS

At the completion of Activities 1 through 21, the WSP will be in a final format, ready for review by the regulatory agencies and adjacent water purveyors. The number of comments, number of meetings and amount of required WSP modifications from review by the regulatory agencies and adjacent water purveyors are difficult to predict. Therefore, RH2 Engineering, Inc. will prepare a separate scope of work and fee estimate to address review comments, review meetings and final WSP modifications upon receipt of all review comments from the County, DOH, Ecology and adjacent water systems.

At the completion of the project, a copy of the computer files of the WSP Word documents, water model and any AutoCAD[®] or GIS figures will be provided to the City.

Exhibit B
City of Sultan
Comprehensive Water System Plan
Data to be Provided by the City

The following list contains the information and data to be provided by the City of Sultan (City) that is needed to update the City's Comprehensive Water System Plan (WSP). All available resources from previous planning work and the Comprehensive Sewer System Plan project will be utilized to minimize the level of effort necessary. The list below is organized according to the Scope of Work activities. The engineering Fee Estimate for the project is based on this information being provided in whole on or before the date shown under the "Data Required" column of the project's estimated schedule.

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
Activity 2 – Introduction and Water System Description			
1. Reservoir information that includes reservoir name, as-builts, location, year constructed, material, reservoir floor elevation, overflow elevation, diameter, ground elevation, operating levels (pump start level(s) for filling reservoir and pump stop level), fill pipe diameter, draw pipe diameter, and description of operation and control.	H		
2. Pressure reducing station data that includes station name, as-builts, location, main line and by-pass control valve size, normal inlet pressure, outlet pressure set points, operational priority (lead, lag, second lag, etc.), ground elevation, and pressure relief valve size and set point (if relief valve is included).	H		
3. List of check valves and zone valves (closed isolation valves between pressure zones) in the distribution system.	H		
4. Intertie information that includes adjacent system name, as-builts, location, water main size, control valve size and model number, and any other facility information.	H		
5. Telemetry and supervisory control information that includes manufacturer and year of telemetry system, type of communications link (radio or phone), facilities monitored at master telemetry unit, facilities with remote telemetry units.	H		
6. Water treatment information that includes location of treatment facilities, as-builts, type of treatment (disinfection, fluoridation, filtration, etc.), chemicals used and concentrations, method of metering, initial dosage amounts, and capacity of mixing or holding tanks.	H		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
7. Booster pump station data that includes pump station name, as-builts, location, year constructed, number of pumps, pump curves (or pump manufacturer and model number, pump serial number and impeller diameter), motor horsepower, ground elevation, normal pumping rate, and description of operation and control.	H		
8. Well data that includes well name, well log, location, year constructed, pump curve (or pump manufacturer and model number, pump serial number and impeller diameter); motor horsepower, well casing diameter, well column diameter, ground elevation, well depth, screen depth range, pump intake depth, normal pumping rate, static water level, water level at normal pumping rate, and description of operation and control.	H		
9. Copy of most recent Department of Health (DOH) Sanitary Survey.	H		
10. Copy of AutoCAD®/GIS files of the base map, aerial photo, existing water system and contours (if available).	H		
Activity 3 – Land Use and Population			
1. Copy of the City's Comprehensive (Land Use) Plan.	H		
2. Summary of City's efforts and involvement in regional water system planning.	L		
3. Identify on a map the areas where growth is expected to occur.	M		
4. List of planned developments. Provide name of development, type of development, number of units and development schedule.	M		
5. Copy of map or AutoCAD®/GIS file showing existing and future retail service area boundaries.	H		
6. Copy of map or AutoCAD®/GIS file showing existing and future land use.	H		
Activity 4 – Water Demands			
1. Are all supply facilities metered?	L		
2. How often are customer meters read (monthly, every other month, etc.)?	H		
3. Hourly and daily reservoir level records (telemetry data, circular charts, data sheets, etc.) from each storage facility for June, July and August of 2003 through 2009 (to be used to determine the system's peaking factors).	H		

City of Sultan
Comprehensive Water System Plan Update

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
4. Hourly and daily water production records from water treatment plants and each supply station for June, July and August of 2003 through 2009 (to be used to determine the system's peaking factors).	H		
5. Monthly water production totals from each source of supply from 2003 through 2009.	H		
6. Monthly (or bi-monthly) metered water consumption totals for each customer class from 2003 through 2009.	H		
7. Average number of connections for each month for each customer class from 2003 through 2009.	H		
8. Total number of multi-family units served in 2003 through 2009.	H		
9. List of customers (approximately 10 to 20) that used the most water in 2009 (as measured by individual meters), customer address and amount of consumption of each customer for the year.	H		
10. List of buildings with the largest fire flow requirements in the service area (provide at least three in each pressure zone). Provide name of building, address and fire flow requirement.	M		
11. General level of service fire flow requirements and duration for all land use classifications, such as single-family, multi-family, commercial, industrial, etc.	M		
12. Is water usage for construction projects, fire department activities and water main flushing recorded? If so, provide total annual amounts from 2003 through 2009.	H		
13. Database of annual totals of metered water consumption data for each meter, including address and parcel number, if available.	H		
14. Copy of sample letter and certificate of water availability that is issued prior to receiving a building permit.	M		
Activity 5 – Policies and Design Criteria			
1. Copy of water system policies and design criteria not contained in the previous WSP.	L		
2. Describe the process for responding to requests for new water service (individual and group services), including timeframes.	L		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
3. Describe the process for determining if the system's capacity is adequate to provide water service to requests for new service. The process must include the determination of sufficient water rights.	L		
4. Describe any conditions of a non-technical nature that may impact the ability to provide new water service (e.g., annexation procedures, water rights issues, local ordinances, etc.).	L		
5. Describe the procedures for granting or requesting extensions of time during a project. Describe the procedures for handling disputes and appeals when requests are denied.	L		
6. Describe policies for extensions of water service outside of boundaries. Describe how the policies are consistent with the local and county comprehensive (land use) plan, and development regulations.	L		
Activity 6 – Water Source and Quality			
1. Copy of water rights permits, certificates and other related information for all sources.	M		
2. Copy of any recent reports and studies for the sources of supply (including the Watershed Control Plan and Regional Water Supply Study).	H		
3. Copy of DOH Susceptibility Study.	M		
4. Copy of past lead and copper monitoring results (2003 through 2009).	M		
5. Copy of asbestos monitoring results (2003 through 2009).	M		
6. Copy of source water quality monitoring results (2003 through 2009) for volatile organic chemicals, synthetic organic chemicals, inorganic chemical and physical substances, and radionuclides.	M		
7. Summarize the results of past (2003 through 2009) coliform monitoring. Indicate if monitoring results indicated levels above the regulatory limits. For each situation where the regulatory requirements were not met, describe the source of the problem and the follow up procedures that corrected the problem.	M		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
8. Summarize the results of past (2003 through 2009) disinfectant concentration monitoring. Indicate if monitoring results did not meet the regulatory requirements. For each situation where the regulatory requirements were not met, describe the source of the problem and the follow up procedures that corrected the problem.	M		
9. Summarize the results of past (2003 through 2009) disinfectants and disinfection by-product monitoring and Initial Distribution System Evaluation.			
10. Summarize the method of disinfection and initial dosage at each source (2003 through 2009).	M		
11. Is fluoride provided? If so, provide the initial dosage at each source.	M		
12. Copy of Coliform Monitoring Plan.	M		
13. List of dirty water complaints (2003 through 2009), including date and location of each complaint.	M		
14. Copy of the most recent Consumer Confidence Report (CCR).	M		
15. Copy of 2003 through 2010 Water Quality Monitoring Reports (WQMR) from DOH that lists the specific monitoring requirements for the City's system.			
Activity 7 – Hydraulic Model Update and Calibration			
1. Copy of existing WaterCAD® hydraulic model.	H		
2. Results of hydrant flow and pressure tests. RH2 will identify test locations and provide a list of information to collect during tests. Results will be provided to RH2 following completion of all tests.	H	To be provided at a later date.	
3. Operational status of facilities, including flows into the system from all sources and pump stations and reservoir levels at the start and end of the hydrant tests.	H	To be provided at a later date.	
Activity 8 – Water System Analyses			
1. List of known low or high water pressures areas. Provide address and recorded pressure for each.	M		
2. List of known water system deficiencies and unsuitable pipe materials.	M		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
3. List of past (2003 through 2009) water main breaks. Provide address and date that each occurred.	L		
4. List of facilities that have emergency power supply connections or stand-by emergency generator sets.	L		
5. Normal operating range of each reservoir (water elevation that treatment plant, supply station or control valve is called to fill reservoir or the normal drawdown in each reservoir).	H		
Activity 10 – Operations and Maintenance			
1. Personnel organization chart.	L		
2. Brief description of the major responsibilities for any new staff positions shown on the organizational chart.	L		
3. Updated list of all operators and their certifications.	L		
4. Provide a list of all major equipment, supplies and chemicals used by the water system. Provide a list of the service representatives for major water system components and chemical suppliers.	L		
5. Provide a list of safety and first aid equipment owned by the system and identify safety training the personnel have and are required to have.	L		
6. Maintenance schedules for each facility.	L		
7. Staffing time for preventive maintenance of facilities and equipment.	L		
8. Staffing time for operation tasks.	L		
9. Identify procedures for keeping and compiling records and reports; provide a list of records that are on file; and identify where the records are filed.	L		
10. Procedures for testing the accuracy of water meters and identifying the frequency of tests. Indicate most recent calibration of source and customer meters.	L		
11. Indicate approximate age of source and customer meters.	L		
12. List of the Utilities Division safety program activities and recent Labor and Industries' inspection reports.	L		
Activity 11 – Capital Improvement Program (CIP)			
1. List of desired water system improvements not contained in previous CIP.	M		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
2. List of projects completed since the last WSP. List can be descriptive or map based.	M		
3. Copy of the City's most recent six-year Capital Facilities Plan. If not available, provide a list of all road and utility improvements currently planned by the City for the next six years to assist in coordinating the timing of water improvements with other capital improvements.	M		
Activity 12 – Cross-Connection Control Plan			
1. Copy of existing cross-connection control ordinance/resolution.	L		
2. List of known backflow assemblies installed in the system (if available).	L		
3. Copy of latest cross-connection control program summary report that is submitted annually to DOH.	L		
Activity 13 – Water Quality Monitoring Plan			
1. Copy of existing Coliform Monitoring Program.	M		
2. Sampling rotation schedule for coliform monitoring, if not contained in coliform monitoring program.	M		
3. List of water source sampling sites. Indicate source of sample.	M		
4. Copy of monitoring waivers and related DOH correspondence.	M		
Activity 14 – Water Use Efficiency Program			
1. Copy of Water Conservation Plan or Water Use Efficiency Program.	H		
2. Has leak detection been performed in the distribution system in the past? If so, indicate date, description of areas tested and findings. Provide a copy of the leak detection report.	M		
3. Water use reduction goals in percentage terms for the years 2009 through 2015. Water use reduction goals beyond 2015, if available.	H		
4. Describe what, if any, previous water use efficiency efforts will be discontinued. Identify why continuation of these efforts would be ineffective or describe that the program had a prescribed end date or savings level.	M		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
5. Describe any available or potential sources of reclaimed water. Identify opportunities for the use of reclaimed water (i.e. irrigation for parks or schools, construction purposes or street cleaning) and an estimated annual volume for each use.	M		
6. Amount budgeted for each individual water use efficiency measure that is part of the water use efficiency program.	M		
Activity 15 – Watershed Control Plan			
1. Summarize the City's past efforts towards protection of its water sources.	L		
2. List of known and potential water contaminant sources located within the watershed protection areas.	L		
3. Identify present and past land uses (last 10 to 20 years) and proposed land uses that might pose a threat to the water sources.	L		
Activity 16 – Emergency Response Plan			
1. List of water system personnel responsible for making decisions in emergency situations (include job titles, phone numbers, and water system responsibilities and expertise).	L		
2. List of outside organizations that support the water system in areas of engineering services, telemetry services, material suppliers, pump and motor suppliers, and adjacent water systems (include organization name, contact person, type of service, address and phone number).	L		
3. List of outside organizations that may be notified of an emergency event related to the City's water system, such as fire, police, local health department, DOH, Ecology, telephone utility, power utility, television stations, radio stations and newspapers (include organization name, contact person, city and phone number).	L		
4. List of customers that require an uninterrupted supply of water and may need to be notified during an emergency event, such as kidney dialysis patients (include person or organization, need for priority water service, address and phone number).	L		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
5. Identify procedures for notifying customers, the public, local health department and DOH of water quality emergencies.	L		
Activity 17 – Financial Analysis			
Data request list to be provided separately at a later date by financial consultant.	TBD	To be provided at a later date.	
Activity 19 – Appendices			
1. SEPA Checklist (to be provided upon completion of final draft WSP).	L	To be provided at a later date.	
2. Copy of current service area agreement. This was likely prepared during the development of the County's <i>Coordinated Water System Plan</i> .	M		
3. Copy of water resolutions or ordinances not specifically identified under other activities above.	L		
4. Copy of most recent Water Facilities Inventory (WFI) form.	H		
5. Copy of standard maintenance logs and forms used.	L		
6. Copy of intertie agreements.	M		

EXHIBIT C
City of Sultan
Comprehensive Water System Plan
Engineering Fee Estimate

Description	Total Hours	Total Labor	Subconslt. Cost	Total Expense	Total Cost
Activity 1 Data Collection and DOH Coordination	38	\$4,647	\$0	\$353	\$5,000
Activity 2 Introduction & Water System Description	89	\$10,939	\$0	\$1,161	\$12,100
Activity 3 Land Use and Population	39	\$4,576	\$0	\$724	\$5,300
Activity 4 Water Demands	85	\$10,015	\$0	\$485	\$10,500
Activity 5 Policies and Design Criteria	20	\$2,244	\$0	\$256	\$2,500
Activity 6 Water Source and Quality	62	\$8,119	\$0	\$281	\$8,400
Activity 7 Hydraulic Model Update and Calibration	83	\$10,078	\$0	\$2,022	\$12,100
Activity 8 Water System Analyses	103	\$12,269	\$0	\$1,631	\$13,900
Activity 9 Operations and Maintenance	32	\$3,613	\$0	\$287	\$3,900
Activity 10 Capital Improvement Program	71	\$8,815	\$0	\$685	\$9,500
Activity 11 Cross-Connection Control Plan	16	\$1,810	\$0	\$290	\$2,100
Activity 12 Water Quality Monitoring Plan	28	\$3,433	\$0	\$567	\$4,000
Activity 13 Water Use Efficiency Program	24	\$2,828	\$0	\$272	\$3,100
Activity 14 Watershed Control Plan	37	\$4,984	\$0	\$516	\$5,500
Activity 15 Emergency Response Plan	34	\$3,905	\$0	\$195	\$4,100
Activity 16 Financial Analysis	15	\$1,821	\$0	\$279	\$2,100
Activity 17 Executive Summary	14	\$1,578	\$0	\$322	\$1,900
Activity 18 Appendices	8	\$928	\$0	\$272	\$1,200
Activity 19 Draft WSP Review and Printing	37	\$4,191	\$0	\$909	\$5,100
Activity 20 Final Draft WSP Printing and Presentation	47	\$4,464	\$0	\$1,336	\$5,800
TOTAL - MAIN ACTIVITIES	882	\$105,257	\$0	\$12,843	\$118,100
Additional Activities					
Activity 21 East Side Reservoir Report	268	\$34,918	\$0	\$3,082	\$38,000
Activity 22 Additional Services Requested by the City	-	\$5,000	\$0	\$0	\$5,000
TOTAL - ALL ACTIVITIES	1,150	\$145,175	\$0	\$15,925	\$161,100

EXHIBIT D
RH2 Engineering
SCHEDULE OF RATES AND CHARGES

2009 HOURLY RATES

CLASSIFICATION		RATE	CLASSIFICATION		RATE
Professional	IX	\$184.00	Technician	IV	\$118.00
Professional	VIII	\$184.00	Technician	III	\$110.00
Professional	VII	\$176.00	Technician	II	\$81.00
			Technician	I	\$76.00
Professional	VI	\$164.00			
Professional	V	\$156.00	Administrative	V	\$109.00
Professional	IV	\$146.00	Administrative	IV	\$91.00
			Administrative	III	\$77.00
Professional	III	\$136.00	Administrative	II	\$63.00
Professional	II	\$127.00	Administrative	I	\$53.00
Professional	I	\$116.00			

IN-HOUSE SERVICES

In-house copies (each)	8 1/2" X 11"	\$0.07	CAD Plots	Large	\$10.00
In-house copies (each)	8 1/2" X 14"	\$0.08	CAD Plots	Full Size	\$5.00
In-house copies (each)	11" X 17"	\$0.14	CAD Plots	Half Size	\$2.00
In-house copies (color) (each)	8 1/2" X 11"	\$0.85	GIS System	Per Hour	\$10.00
In-house copies (color) (each)	8 1/2" X 14"	\$1.50	GIS Plots	Per Plot	\$5.00
In-house copies (color) (each)	11 X 17"	\$1.70	In-house Computer	Per Hour	\$9.00
FAX (each sheet)		\$1.00	Mileage	Per Mile	\$0.550
In-house CAD System	Per Hour	\$25.00	Digital Camera	Per Day	\$10.00
			Digital Camera	Per Week	\$30.00
			Digital Camera	Per Month	\$90.00

*Note: At project completion all digital photos can be supplied to the client on CD, upon request.

PURCHASED SERVICES

All purchased printing, copying, miscellaneous and subconsultant services are billed at cost plus 15%.

CHANGES IN RATES

Rates listed here are adjusted annually. The current, most recent schedule of hourly rates are used for billing purposes. Payment for work accomplished shall be on the basis of hourly rates in effect at the time of billing plus direct expenses and outside services as stated in this Exhibit.

**AGREEMENT FOR SERVICES
BETWEEN THE CITY OF SULTAN AND
RH2 ENGINEERING, INC.**

THIS AGREEMENT, is made this day of , 20 , by and between the City of Sultan (hereinafter referred to as “City”), a Washington Municipal Corporation, and RH2 Engineering, Inc. (hereinafter referred to as “Service Provider”), doing business at 12100 NE 195th Street, Suite 100, Bothell, WA 98011.

WHEREAS, Service Provider is in the business of providing certain services specified herein; and

WHEREAS, the City desires to contract with Service Provider for the provision of such services for Comprehensive Sewer System Plan, and Service Provider agrees to contract with the City for same;

NOW, THEREFORE, in consideration of the mutual promises set forth herein, it is agreed by and between the parties as follows:

TERMS

- 1. **Description of Work.** Service Provider shall perform work as described in **Exhibit A** Scope of Work, which is attached hereto and incorporated herein by this reference, according to the existing standard of care for such services. Service Provider shall not perform any additional services without the expressed permission of the City.
- 2. **Payment.**
 - A. The City shall pay Service Provider at the hourly rate set forth in **Exhibit D** but not more than a total of Ninety Seven Thousand Five Hundred Eighty-eight dollars (\$97,588) for the services described in this Agreement. This is the maximum amount to be paid under this Agreement.
 - B. Service Provider shall submit monthly payment invoices to the City after such services have been performed, and the City shall make payment within four (4) weeks after the submittal of each approved invoice. Such invoice shall detail the hours worked, a description of the tasks performed, and shall separate all charges for clerical work and reimbursable expenses.
 - C. If the City objects to all or any portion of any invoice, it shall so notify Service Provider of the same within five (5) days from the date of receipt and shall pay that portion of the

invoice not in dispute. The parties shall immediately make every effort to settle the disputed portion.

3. **Relationship of Parties.** The parties intend that an independent contractor - client relationship will be created by this Agreement. As Service Provider is customarily engaged in an independently established trade which encompasses the specific service provided to the City hereunder, no agent, employee, representative or subcontractor of Service Provider shall be or shall be deemed to be the employee, agent, representative or subcontractor of the City. None of the benefits provided by the City to its employees, including, but not limited to, compensation, insurance and unemployment insurance, are available from the City to the Service Provider or his employees, agents, representatives or subcontractors. Service Provider will be solely and entirely responsible for his acts and for the acts of Service Provider's agents, employees, representatives and subcontractors during the performance of this Agreement. The City may, during the term of this Agreement, engage other independent contractors to perform the same or similar work that Service Provider performs hereunder.
4. **Project Name.** Comprehensive Sewer System Plan
5. **Duration of Work.** Service Provider shall complete the work described in **Exhibit A** on or before July 2011.
6. **Termination.**
 - A. Termination Upon the City's Option. The City shall have the option to terminate this Agreement at any time. Termination shall be effective upon ten (10) days written notice to the Service Provider.
 - B. Termination for Cause. If Service Provider refuses or fails to complete the tasks described in Attachment A, or to complete such work in a manner unsatisfactory to the City, then the City may, by written notice to Service Provider, give notice of its intention to terminate this Agreement. After such notice, Service Provider shall have ten (10) days to cure, to the satisfaction of the City or its representative. If Service Provider fails to cure to the satisfaction of the City, the City shall send Service Provider a written termination letter which shall be effective upon deposit in the United States mail to Service Provider's address as stated below.
 - C. Rights upon Termination. In the event of termination, the City shall only be responsible to pay for all services satisfactorily performed by Service Provider to the effective date of termination, as described in the final invoice to the City. The City Manager shall make the final determination about what services have been satisfactorily performed.

7. **Nondiscrimination.** In the hiring of employees for the performance of work under this Agreement or any subcontract hereunder, Service Provider, its subcontractors or any person acting on behalf of Service Provider shall not, by reason of race, religion, color, sex, marital status, national origin or the presence of any sensory, mental, or physical disability, discriminate against any person who is qualified and available to perform the work to which the employment relates.
8. **Indemnification / Hold Harmless.** The Service Provider shall defend, indemnify and hold the City, its officers, officials, employees and volunteers harmless from any and all claims, injuries, damages, losses or suits including attorney fees, arising out of or in connection with the performance of this Agreement, except for injuries and damages caused by the sole negligence of the City.

Should a court of competent jurisdiction determine that this Agreement is subject to RCW 4.24.115, then, in the event of liability for damages arising out of bodily injury to persons or damages to property caused by or resulting from the concurrent negligence of the Service Provider and the City, its officers, officials, employees, and volunteers, the Service Provider's liability hereunder shall be only to the extent of the Service Provider's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Service Provider's waiver of immunity under Industrial Insurance, Title 51 RCW, solely for the purposes of this indemnification. This waiver has been mutually negotiated by the parties. The provisions of this section shall survive the expiration or termination of this Agreement.

9. **Insurance.** The Service Provider shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Service Provider, their agents, representatives, employees or subcontractors.
- A. **Minimum Scope of Insurance.** Service Provider shall obtain insurance of the types described below:
1. Automobile Liability insurance covering all owned, non-owned, hired and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.
 2. Commercial General Liability insurance shall be written on ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract. The City shall be named as an insured under the Service Provider's Commercial General Liability insurance policy with respect to

the work performed for the City using ISO additional insured endorsement GC 20 10 10 01 and GC 20 37 10 01 or substitute endorsements providing equivalent coverage.

3. Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.
- B. Minimum Amounts of Insurance. Service Provider shall maintain the following insurance limits:
1. Automobile Liability insurance with a minimum combined single limit for bodily injury and property damage of \$1,000,000 per accident.
 2. Commercial General Liability insurance shall be written with limits no less than \$1,000,000 each occurrence, \$2,000,000 general aggregate and \$2,000,000 products-completed operations aggregate limit.
- C. Other Insurance Provisions. The insurance policies are to contain, or be endorsed to contain, the following provisions for Automobile Liability and Commercial General Liability insurance:
1. The Service Provider's insurance coverage shall be primary insurance as respect to the City. Any insurance, self-insurance, or insurance pool coverage maintained by the City shall be excess of the Service Provider's insurance and shall not contribute with it.
 2. The Service Provider's insurance shall be endorsed to state that coverage shall not be cancelled by either party, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.
- D. Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best rating of not less than A:VII.
- E. Verification of Coverage. Service Provider shall furnish the City with original certificates and a copy of the amendatory endorsements, including but not necessarily limited to the additional insured endorsement, evidencing the insurance requirements of the Service Provider before commencement of the work.
- F. Subcontractors. Service Provider shall include each subcontractor as insured under its policies or shall furnish separate certifications and endorsements for each subcontractor. All coverage shall be subject to all of the same insurance requirements as stated herein for the Service Provider.

- 10. Entire Agreement.** The written provisions and terms of this Agreement, together with all documents attached hereto, shall supersede all prior verbal statements of any officer or other representative of the City, and such statements shall not be effective or be construed as entering into or forming a part of, or altering in any manner whatsoever, this Agreement.
- 11. City's Right of Supervision, Limitation of Work Performed by Service Provider.** Even though Service Provider works as an independent contractor in the performance of his duties under this Agreement, the work must meet the approval of the City and be subject to the City's general right of inspection and supervision to secure the satisfactory completion thereof. In the performance of work under this Agreement, Service Provider shall comply with all federal, state and municipal laws, ordinances, rules and regulations that are applicable to Service Provider's business, equipment, and personnel engaged in operations covered by this Agreement or accruing out of the performance of such operations.
- 12. Work Performed at Service Provider's Risk.** Service Provider shall be responsible for the safety of its employees, agents and subcontractors in the performance of the work hereunder and shall take all protections reasonably necessary for that purpose. All work shall be done at Service Provider's own risk, and Service Provider shall be responsible for any loss of or damage to materials, tools, or other articles used or held for use in connection with the work.
- 13. Ownership of Products and Premises Security.**
- A. All reports, plans, specifications, data maps, and documents produced by the Service Provider in the performance of services under this Agreement, whether in draft or final form and whether written, computerized, or in other form, shall be the property of the City.
 - B. While working on the City's premises, the Service Provider agrees to observe and support the City's rules and policies relating to maintaining physical security of the City's premises.
- 14. Modification.** No waiver, alteration or modification of any of the provisions of this Agreement shall be binding unless in writing and signed by a duly authorized representative of the City and Service Provider.
- 15. Assignment.** Any assignment of this Agreement by Service Provider without the written consent of the City shall be void.
- 16. Written Notice.** All communications regarding this Agreement shall be sent to the parties at the addresses listed below, unless notified to the contrary. Any written notice hereunder shall become effective as of the date of mailing by registered or certified mail, and shall be deemed sufficiently given if sent to the addressee at the address stated in this Agreement or such other address as may be hereafter specified in writing.

17. Non-Waiver of Breach. The failure of the City to insist upon strict performance of any of the covenants and agreements contained herein, or to exercise any option herein conferred in one or more instances shall not be construed to be a waiver or relinquishment of said covenants, agreements or options, and the same shall be and remain in full force and effect.

18. Resolution of Disputes, Governing Law. Should any dispute, misunderstanding or conflict arise as to the terms and conditions contained in this Agreement, the matter shall be referred to the City Manager, whose decision shall be final. In the event of any litigation arising out of this Agreement, the prevailing party shall be reimbursed for its reasonable attorney fees from the other party. This Agreement shall be governed by and construed in accordance with the laws of the State of Washington.

IN WITNESS WHEREOF, the parties have executed this Agreement on the day and year above written.

CITY OF SULTAN

By: _____
Carolyn Eslick, Mayor

SERVICE PROVIDER

By: Tony V. Pardi
Title: Vice President
Taxpayer ID #: 91-1108443

CITY CONTACT

City of Sultan
319 Main Street, Suite 200
Sultan, WA 98294
Phone: 360-793-2231
Fax: 360-793-3344

SERVICE PROVIDER CONTACT

RH2 Engineering, Inc.
12100 NE 195th Street, Suite 100
Bothell, WA 98011
Phone: 425-951-5400
Fax: 425-398-2774

ATTEST/AUTHENTICATED

By: _____
City Clerk

APPROVED AS TO FORM

By: _____
Office of the City Attorney

Exhibit A
Scope of Work
City of Sultan
Comprehensive Sewer System Plan
December 2009

The City of Sultan's (City) most recent Comprehensive Sewer System Plan was completed in 2006 with an amendment completed in 2008. Since that time, significant changes in the growth and development timing have occurred that caused the existing plans to be outdated. The purpose of the 2010 update is to ensure the Comprehensive Sewer System Plan (SSP) is consistent with the City's current comprehensive planning document and growth projections. The SSP shall meet the requirements of WAC 173-240-050.

This Scope of Work includes tasks necessary to update the City's Comprehensive Sewer System Plan. All available resources from the previous planning work will be utilized to minimize the effort necessary for this SSP update. Attached as **Exhibit B** is a list of data to be provided by the City prior to commencement of the activities contained in this Scope of Work. It is anticipated that the Comprehensive Sewer System Plan will be completed in conjunction with the City's Comprehensive Water System Plan. Efficiencies related to these joint planning efforts are reflected in the Scopes of Work and Fee Estimates for these two projects. It is anticipated that the City will contract directly with FCS Group to prepare the financial analysis.

ACTIVITY 1 – SYSTEM OVERVIEW AND COLLECTION OF EXISTING INFORMATION

Objective: Determine the approximate configuration of all existing sewer system components.

Tasks

1. Attend a preplan conference with the City. Visit each facility with City staff to collect field information and observe equipment layouts and existing conditions.
2. Coordinate with City staff during the data collection process. This includes coordination over the telephone, submitting lists of data needed to the City and reviewing the data provided by the City.
3. Review previous plan contents, existing system information and data, and facility as-builts.
4. Collect available mapping and existing sewer system component data.
5. Review and extract information from existing wastewater quality and flow rate records.
6. Describe the authorization and purpose of the SSP.
7. Provide a summary of the SSP contents.
8. Provide a brief overview of the history of the sewer system using information from the previous SSP. Include current numbers of existing and approved sewer connections.
9. Describe the physical characteristics of the existing sewer service area and its effects on sewer system planning, including topography, geology, sensitive areas and flood zones using information from the previous SSP.
10. Describe the City's existing and future service areas, including the Urban Growth Area. Include any plans for expanding the current service area. This task will require the City Planning Department's assistance.
11. Provide a table of the sewer main inventory that includes total lengths, diameters, materials and age based on available data.

12. Prepare color figures illustrating the existing collection, treatment and disposal systems. These figures will illustrate basic system components, as well as pipe size and slopes, where known. This task is dependent on the quality of data received from the City.
13. Provide a general description of the existing collection system, wastewater treatment system and disposal process.
14. Collect and compile available existing data for metered water usage, precipitation, average daily temperatures and wastewater flows as required to make a preliminary evaluation of infiltration and inflow (I/I).
15. Evaluate wastewater flow rate data and peaking factors based on information provided by the City. Identify areas where additional flow monitoring information is needed.
16. Estimate future wastewater flows and quality changes.
17. Provide color figures for the following.
 - Existing Sewer System
 - Drainage Basins
 - Water and Sewer Service Areas

Deliverable: Descriptions and figures of existing system components for City review and comment.

ACTIVITY 2 – LAND USE AND POPULATION

Objective: Review planning related documents and identify their impact on the City's sewer system.

Tasks

This task will be completed as part of the Comprehensive Water System Plan (WSP) update. Some minor adjustments will be required to tailor the data for the SSP.

ACTIVITY 3 – DEVELOP POLICIES AND DESIGN CRITERIA

Objective: Develop policies and design criteria for the expansion, operation and maintenance of the sanitary sewer collection system and wastewater treatment plant.

Tasks

1. Review changes to the City's standards pertaining to the sewer system policies and criteria.
2. Summarize applicable laws, regulations and policies to ensure that the future sanitary sewer collection, treatment and disposal systems meet minimum acceptable design standards and criteria, and are in compliance with current laws and regulations. Policies and design criteria will be developed based on requirements established by the Washington State Departments of Ecology (Ecology) and Health (DOH), the Environmental Protection Agency and the American Public Works Association. The policies and design criteria will relate to future construction standards, operation and maintenance requirements, replacement and rehabilitation criteria, and financial policies for the design, construction and operation of the sanitary sewer collection system and wastewater treatment plant.

3. Summarize each policy and design criteria. Use information from the previous SSP and update as necessary.
4. Discuss the City's existing construction standards and include a copy in the appendix of the SSP. Use information from the previous SSP and update as necessary.

Deliverable: Descriptions of the planning data and design criteria for City review and comment.

ACTIVITY 4 – ANALYZE EXISTING SYSTEM AND LIFT STATION

Objective: Describe and evaluate the existing system to identify deficiencies and recommend improvements. Determine the overall reliability and vulnerability of the existing sewer lift station. Develop recommendations for improvements to the existing lift station.

Tasks

1. Develop a computer hydraulic model to analyze the sanitary sewer system. Projected flow rates for future conditions will be based on the City's current land use and population forecasts as described under Activity 2.
2. Use the hydraulic model to determine collection system deficiencies for existing and future flow rates.
3. Prepare color figures illustrating collection system deficiencies.
4. Based on review of the sewer records, field investigations and discussion with maintenance staff, identify areas of the system that need improvement or should be evaluated with video cameras.
5. Analyze available I/I information compiled in Activity 1. If possible, determine the quantity and sources of I/I and make recommendations for additional investigations.
6. Review wastewater treatment plant performance based on existing design and operating data. Summarize current capacity and performance for treatment, effluent disposal, sludge handling and disposal methods using existing design reports, permitted capacity and operating data. *Note: Upgrades are planned for the existing wastewater treatment facility. The evaluation and description of the treatment facility will be based on current permitted capacity, design reports prepared by others and known conditions.*
7. Describe and evaluate existing operations and maintenance of the collection system.
8. Perform a field review of the existing lift station. Determine the current pumping capacity and efficiency of each pump based on wetwell level and pump run time measurements. Evaluate condition of existing facilities related to policies and design criteria identified in Activity 3, building code issues, access and safety issues, emergency power availability and odor emissions. Identify system components that may be vulnerable to failure and potential consequences.
9. Based on field investigations, existing records and other information, identify overall reliability of the lift station. Compare projected future flow rates to existing measured pump capacities.

Deliverable: Descriptions and figures of collection, treatment system and lift station for City review and comment. Recommendations for additional investigations.

ACTIVITY 5 – OPERATIONS AND MAINTENANCE

Objective: Document the sewer system's operation and maintenance program.

Tasks

1. Document the current sewer staff organization and prepare an organizational chart.
2. Prepare a table listing all sewer operations personnel, their position and certification.
3. Provide a brief description of the key responsibilities of the sewer operations personnel.
4. Provide a list of all major equipment, supplies and chemicals used by the sewer system. Update the list provided in the previous SSP.
5. Identify safety procedures that must be followed for potential work place hazards.
6. Identify procedures for keeping and compiling records and reports. Provide a general list of records on file and identify where they are filed.
7. Identify maintenance schedules for each facility. Update the information in the previous SSP as necessary.
8. Evaluate staffing requirements and document recommendations.
9. Identify operations and maintenance improvements.
10. Provide the following tables, each integrated with the chapter text.
 - Organization Chart
 - Personnel Certification
 - Major Equipment and Chemicals
 - Staffing Requirements

Deliverable: Descriptions and tables documenting the City's existing operations and maintenance program. Evaluation and recommendation of staffing requirements.

ACTIVITY 6 – DEVELOP CAPITAL IMPROVEMENT PLAN

Objective: Prepare a Capital Improvement Plan (CIP) for the proposed sewer system improvements, including cost estimates and an implementation schedule.

Tasks

1. Based on the results of Activity 4, prepare a pipeline replacement/rehabilitation program for the existing sewer collection system. The decision to either repair or replace specific pipeline sections will be based on an evaluation of the pipe age, capacity needs, I/I problems, maintenance problems, future street improvements and pipeline integrity. A pipeline replacement/rehabilitation decision matrix will be developed to determine whether replacement or rehabilitation is most advantageous to correct specific pipeline problems.
2. Based on the results of Activity 4, identify lift station improvements to meet design criteria and improve reliability.
3. Prepare planning level cost estimates of each project and prioritize the recommended improvements.
4. Prepare a CIP that will provide a plan for the City to systematically and efficiently rehabilitate the existing collection system and ensure an organized expansion of the collection system. The

implementation timing will be scheduled to provide financial stability in the City's wastewater rate structure.

5. Prepare a color figure illustrating the proposed improvements to the sanitary sewer system.

Deliverable: Draft CIP and figures for City review and comment.

ACTIVITY 7 – FINANCIAL ANALYSIS

Objective: Provide overall review and coordination with the City's financial consultant, FCS Group, for preparation of the financial analysis chapter of the SSP.

Tasks

1. Coordinate with the financial consultant during the project to provide information in support of the financial analysis chapter.
2. Attend one meeting with City staff and FCS Group to review draft and/or final results, if desired, before finalizing the Financial Chapter.

Deliverable: Attendance at one meeting with the City, RH2 and FCS Group staff.

ACTIVITY 8 – EXECUTIVE SUMMARY

Objective: Prepare an executive summary to describe the key elements of the SSP.

Tasks

1. Identify the purpose of the SSP and summarize the major system characteristics and significant changes that have occurred since the previous SSP was completed.
2. Briefly describe the key issues in the SSP, including:
 - Policies and design criteria;
 - Population, flow and loading forecasts;
 - System evaluation and deficiencies;
 - Recommended improvements; and
 - Financial status and recommendations.

ACTIVITY 9 – APPENDICES

Objective: Prepare appendices for inclusion in the SSP.

Tasks

1. Obtain finalized SEPA to be completed, finalized and advertised by the City.
2. Include a copy of the City's construction standards.
3. Include the wastewater facility treatment flow and loading summaries.
4. Include the infiltration and inflow analysis data.

5. Include the City's current NPDES permit.
6. Include the flow monitoring data (if applicable).
7. SewerCAD® pipe capacity data.
8. Wastewater treatment facility engineering report and predesign.

ACTIVITY 10 – PREPARE DRAFT SSP

Objective: Prepare draft SSP. Prepare materials for public meeting, utility advisory committee meeting and City Council presentation.

Tasks

1. Internal QA/QC of the SSP.
2. Prepare three initial draft SSPs for review by the City, which will include the following chapters.
 - Executive Summary
 - Introduction
 - Land Use and Planning Area
 - Policies and Design Criteria
 - Existing System Analysis
 - Operations and Maintenance
 - Capital Improvement Plan
 - Financial Analysis
 - Appendices
3. Attend up to four staff meetings during the drafting of the SSP.
4. Attend up to one open house meeting.
5. Attend up to one meeting with the Planning Board.
6. Attend one meeting to present the completed draft SSP to City staff, City Council and the public.
7. Incorporate comments and prepare up to three final draft SSPs for agency review.

Deliverable: Initial and final draft Sewer System Plan for City review and comment.

ACTIVITY 11 – CONVERT SSP TO DIGITAL FORMAT ON CD

Objective: Convert all documents and figures into digital PDF format with indexing and links for ease of use by City staff and others. This activity is not the task of simply copying files onto CD, but involves the creation of an electronic version of the SSP with hyperlinks and an organizational format that will be intuitive and fully functional.

Tasks

1. Create hyperlinks in the table of contents and all SSP chapters created by RH2 for linking to chapters, figures and appendices.
2. Set up properties information for all Word files and convert to Adobe PDF files.

3. Scan appendices that are not available in electronic format and convert to Adobe PDF files.
4. Convert all figures available in electronic format to Adobe PDF files. This requires modification of layers for AutoCAD® drawings. *Sewer system figures will have zoom capabilities that enable users to zoom into the PDF figures for viewing of detailed information.*
5. Organize and combine PDF files into appropriate sections of the SSP.
6. Create bookmarks to enable easy navigation between all sections of the SSP following the same organizational format as the printed SSP.
7. Review organizational structure and test all chapters, appendices, figures and hyperlinks.
8. Copy completed electronic SSP to CDs for use by the City and distribution. Create, print and apply labels to CDs. Fee estimate is based on creating 15 CDs for City of Sultan.

Deliverable: Up to 15 CDs containing electronic plan.

Note: At the completion of the project, a copy of the computer files of the sewer model and any AutoCAD® or GIS figures will be provided to the City.

ACTIVITY 12 – SCOPE AND FEE TO ADDRESS ECOLOGY COMMENTS AND SSP FINALIZATION

At the completion of Activities 1 through 11, the SSP will be in a final format, ready for review by regulatory agencies. The number of comments, number of meetings and amount of required SSP modifications from the review of the regulatory agencies are difficult to predict. Therefore, RH2 will prepare a separate scope of work and fee estimate to address review comments, review meetings and final SSP modifications upon receipt of all review comments. The scope for additional services will include five hard copies and one electronic copy (PDF, Word and Excel) of the final document for City staff.

ADDITIONAL ACTIVITIES

The following activities are in addition to the main activities above and are not required as part of the Comprehensive Sewer System Plan project.

ACTIVITY 13 – ADDITIONAL SERVICES REQUESTED BY CITY

Objective: Provide additional services as requested by the City for tasks not identified above.

Tasks

1. Perform additional services requested by the City up to the budget limits indicated in the attached Fee Estimate.

Deliverable: As requested.

Exhibit B
Comprehensive Sewer System Plan
Data to be Provided by City of Sultan
December 2009

The following list contains the information and data to be provided by the City of Sultan (City) that is needed to prepare the City's Comprehensive Sewer System Plan (SSP). Additional information may be requested at a later date if supplemental data is required. It is anticipated that the SSP will be completed in conjunction with the City's Comprehensive Water System Plan. All available resources collected during the Comprehensive Water System Plan project will be utilized to prepare the Comprehensive Sewer System Plan.

The list is organized according to the Scope of Work activities. The engineering Fee Estimate for the project is based on this information being provided in whole on or before the date shown under the "Data Required" column of the project schedule.

Activity 1 – System Overview and Collection of Existing Information

1. Lift station data that includes pump station name, location, year constructed, number of pumps, pump curves (or pump manufacturer and model number, pump serial number and impeller diameter), motor horsepower, ground elevation, wetwell size, condition of materials, normal pumping rate, run time data, and description of operation and control.
2. Force main location, size, length, age and material.
3. Conveyance system data that includes manhole and pipe locations, invert elevations, pipe sizes, pipe age and pipe materials.
4. Telemetry and supervisory control information that includes the manufacturer and year of telemetry system; type of communications link (radio or phone); facilities monitored at master telemetry unit; and facilities with remote telemetry units.
5. Wastewater treatment information that includes the location and description of new treatment facilities.
6. Wastewater disposal information that includes the location of wastewater effluent discharge, rate of discharge and quality of discharge.
7. Sludge disposal information that includes frequency of sludge disposal, method of disposal and sludge quantities.
8. Copy of current Wastewater Treatment Facility Plan.
9. Copy of current Wastewater Treatment Plant Design Report.
10. Hard copy and Word, Excel and AutoCAD® files (if available) of the *City of Sultan General Sewer Plan* May 2006, including all amendments and figures.
11. Monthly wastewater monitoring records for treatment plant influent and effluent (2007 through 2009). Include BOD, TSS, pH, chlorine residual and fecal coliform levels (if available).
12. Flow meter records for flow entering and exiting the treatment system (2007 through 2009).
13. Wastewater flow records from available system meters (i.e. lift stations, collection system and industrial users) for 2007 through 2009.
14. City sewer connection data, including residential, multi-family, commercial and industrial users.
15. Flow meter data for commercial or industrial users for the sewer collection system.
16. Copy of AutoCAD® drawing or GIS files of the City's existing sewer system.

17. Photo(s) for use on the front cover of the SSP.

Activity 3 – Develop Policies and Design Criteria

1. Copy of past and current National Pollutant Discharge Elimination System (NPDES) permits.
2. Provide letters from the Department of Ecology or other agencies related to any past wastewater system violations since the last SSP.
3. Copy of the City's sanitary sewer construction standards and details.
4. Copy of sanitary sewer policies and design criteria.
5. Copy of map or AutoCAD®/GIS file showing City's existing and future sanitary sewer service area boundaries.
6. Copy of map or AutoCAD®/GIS file of drainage basins.

Activity 4 – Analyze Existing System

1. List of known sanitary sewer system deficiencies and unsuitable pipe materials.
2. Copy of operations and maintenance manuals for all sanitary sewer facilities.
3. Summary of the existing operations and maintenance of the collection system.
4. Summary of the existing operations and maintenance of the treatment plant.
5. Copy of standard maintenance logs and forms used by the Sewer Department.
6. List of known lift station deficiencies and excessive maintenance requirements.
7. List of facilities that have emergency power supply connections or stand-by emergency generator sets.
8. Provide an as-built plan for the lift station.
9. Provide set points for pump on and off levels for the lift station and describe existing normal and extreme operation conditions.

Activity 5 – Operations and Maintenance

1. Personnel organization chart.
2. Brief description of the major responsibilities for any new staff positions shown on the organizational chart.
3. Updated list of all operators and their certifications.
4. Provide a list of all major equipment, supplies and chemicals not contained in the previous SSP and used by the sewer system. Provide a list of the service representatives for major sewer system components and chemical suppliers.
5. Provide a list of safety and first aid equipment owned by the system and identify safety training the personnel have and are required to have if different than the previous SSP.
6. Maintenance schedules for each facility if different than those shown in previous SSP.
7. Staffing time for preventive maintenance of facilities and equipment.
8. Staffing time for operation tasks.
9. Identify procedures for keeping and compiling records and reports, provide a list of records that are on file and identify where the records are filed if different than that shown in the previous SSP.

Activity 6 – Develop Capital Improvement Plan

1. List of planned sewer improvements in the next six years.
2. List of desired sanitary sewer improvements not contained in the previous CIP.
3. List of projects completed since last SSP.
4. Provide bid tabulations from sewer system projects completed during the past three years.

Activity 7 – Financial Analysis

Data request list to be provided separately at a later date by FCS Group.

Activity 10 – Prepare Draft SSP

1. Copy of current service area agreement.
2. Copy of sewer ordinances not specifically identified under other activities above.

Exhibit C
City of Sultan
Comprehensive Sewer System Plan
Engineering Fee Estimate

Description	Total Hours	Total Labor	Subconsultant Cost	Total Expense	Total Cost
Activity 1 System Overview and Collection of Existing Information	111	\$ 14,642	\$ -	\$ 1,770	\$ 16,412
Activity 2 Land Use and Population	4	\$ 511	\$ -	\$ 51	\$ 562
Activity 3 Develop Policies and Design Criteria	13	\$ 1,702	\$ -	\$ 171	\$ 1,873
Activity 4 Analyze Existing System and Lift Station	154	\$ 19,093	\$ -	\$ 1,990	\$ 21,083
Activity 5 Operations and Maintenance	16	\$ 2,077	\$ -	\$ 208	\$ 2,285
Activity 6 Develop Capital Improvement Plan	133	\$ 17,959	\$ -	\$ 1,794	\$ 19,753
Activity 7 Financial Analysis	16	\$ 2,044	\$ -	\$ 247	\$ 2,291
Activity 8 Executive Summary	15	\$ 2,022	\$ -	\$ 202	\$ 2,224
Activity 9 Appendices	20	\$ 2,344	\$ -	\$ 234	\$ 2,578
Activity 10 Prepare Draft SSP	150	\$ 19,420	\$ -	\$ 1,944	\$ 21,364
Activity 11 Convert SSP to Digital Format on CD	23	\$ 1,967	\$ -	\$ 196	\$ 2,163
Total - Main Activities	655	\$ 83,781	\$ -	\$ 8,807	\$ 92,588
Additional Activities					
Activity 13 Additional Services Requested by the City	0	\$ -	\$ -	\$ -	\$ 5,000
Total - ALL Activities	655	\$ 83,781	\$ -	\$ 8,807	\$ 97,588

EXHIBIT D
RH2 Engineering
SCHEDULE OF RATES AND CHARGES

2009 HOURLY RATES

CLASSIFICATION		RATE	CLASSIFICATION		RATE
Professional	IX	\$184.00	Technician	IV	\$118.00
Professional	VIII	\$184.00	Technician	III	\$110.00
Professional	VII	\$176.00	Technician	II	\$81.00
			Technician	I	\$76.00
Professional	VI	\$164.00			
Professional	V	\$156.00	Administrative	V	\$109.00
Professional	IV	\$146.00	Administrative	IV	\$91.00
			Administrative	III	\$77.00
Professional	III	\$136.00	Administrative	II	\$63.00
Professional	II	\$127.00	Administrative	I	\$53.00
Professional	I	\$116.00			

IN-HOUSE SERVICES

In-house copies (each)	8 1/2" X 11"	\$0.07	CAD Plots	Large	\$10.00
In-house copies (each)	8 1/2" X 14"	\$0.08	CAD Plots	Full Size	\$5.00
In-house copies (each)	11" X 17"	\$0.14	CAD Plots	Half Size	\$2.00
In-house copies (color) (each)	8 1/2" X 11"	\$0.85	GIS System	Per Hour	\$10.00
In-house copies (color) (each)	8 1/2" X 14"	\$1.50	GIS Plots	Per Plot	\$5.00
In-house copies (color) (each)	11 X 17"	\$1.70	In-house Computer	Per Hour	\$9.00
			Mileage	Per Mile	\$0.550
FAX (each sheet)		\$1.00	Digital Camera	Per Day	\$10.00
In-house CAD System	Per Hour	\$25.00	Digital Camera	Per Week	\$30.00
			Digital Camera	Per Month	\$90.00

*Note: At project completion all digital photos can be supplied to the client on CD, upon request.

PURCHASED SERVICES

All purchased printing, copying, miscellaneous and subconsultant services are billed at cost plus 15%.

CHANGES IN RATES

Rates listed here are adjusted annually. The current, most recent schedule of hourly rates are used for billing purposes. Payment for work accomplished shall be on the basis of hourly rates in effect at the time of billing plus direct expenses and outside services as stated in this Exhibit.

Exhibit E
City of Sultan Comprehensive Sewer System Plan
Estimated Schedule
 December 2009

Plan Element	Data Required	2010												2011								
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July		
Scope of Work & Contract Authorization	n/a																					
Data Collection	3/31/2010																					
System Overview & Existing Information	3/31/2010																					
Policies & Design Criteria	3/31/2010																					
Analyze Existing System & Lift Station	3/31/2010																					
Operation and Maintenance	3/31/2010																					
Develop Capital Improvement Plan	3/31/2010																					
Financial Analysis	1/31/2011																					
Environmental Checklist from City	4/30/2011																					
Executive Summary	n/a																					
Appendices	3/31/2010																					
Draft SSP Review & Production	n/a																					
Final Draft SSP Production & Presentation	n/a																					
Transmittal to Agency for Review	n/a																					
Convert SSP to Digital Format on CD	n/a																					

"Data Required" = Date at which data listed in Exhibit E must be received to complete activities within schedule shown