

RESOLUTION NO. 1709

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FIFE, PIERCE COUNTY, WASHINGTON AUTHORIZING THE CITY MANAGER TO EXECUTE AN AGREEMENT WITH RH2 ENGINEERING, INC. FOR UPDATING THE CITY'S COMPREHENSIVE WATER SYSTEM PLAN

Whereas, the City is required by the Washington State Department of Health to update the City's Comprehensive Water System Plan; and

WHEREAS, City staff advertised for consultants for updating the plan and after an interview process, selected RH2 Engineering, Inc. as most qualified consultant; and

WHEREAS, City staff has negotiated a professional services agreement with RH2 Engineering, Inc. in the form attached hereto as Exhibit A; now therefore

BE IT RESOLVED that the City Council hereby authorizes the City Manager to execute on behalf of the City of Fife, a professional services agreement with RH2 Engineering, Inc. for updating the City's Comprehensive Water System Plan in accordance with Department of Health standards.

ADOPTED by the City Council at an open public meeting held on the 8th day of March, 2016.


Winston Marsh, Mayor

Attest:



Carol Etgen, City Clerk

EXHIBIT A

CITY OF FIFE PROFESSIONAL SERVICES AGREEMENT

1. **Parties and Date.** THIS Agreement is made effective as of the ____ day of March, 2016, by and between CITY OF FIFE, WASHINGTON ("City") and RH2 Engineering, Inc. ("Consultant").

2. **General Purpose and Intent.**

The City of Fife is required by the Washington State Department of Health to update the City's Comprehensive Water System Plan. RH2 will update the City's existing plan per Department of Health standards.

3. **Services by Consultant.**

A. Consultant shall perform the services described in the Scope of Work attached hereto as Exhibit "A" (the "Scope of Work"). The services performed by the Consultant shall not exceed the Scope of Work without prior written authorization from the City.

B. The City may from time to time require changes or modifications in the Scope of Work. Such changes, including any decrease or increase in the amount of compensation, shall be agreed to by the parties and incorporated in written amendments to the Agreement.

4. **Schedule of Work.**

A. Consultant shall perform the services described in the Scope of Work in accordance with the schedule attached hereto as Exhibit "B." If delays beyond Consultant's reasonable control occur, the parties will negotiate in good faith to determine whether an extension is appropriate.

B. Consultant is authorized to proceed with the services described in the Scope of Work upon receipt of a written Notice to Proceed.

5. **Compensation. TIME AND MATERIALS NOT TO EXCEED.** Compensation for the services described in the Scope of Work shall not exceed \$ 144,000.00 without written authorization and will be based on the list of billing rates and reimbursable expenses attached hereto as Exhibit "C."

6. **Coordination of Contract Documents.** This Agreement consists of this professional services agreement form and Exhibits "A" through "C." If there is any inconsistency between this professional services agreement form and any of the Exhibits, the professional services agreement form shall take precedence.

7. **Payment.**

A. Consultant shall provide monthly invoices in the format acceptable to the City for work performed to the date of invoice. Consultant shall maintain time and expense records for reimbursable expenses and any work that is billed hourly under this Agreement and provide them to the City upon request.

B. All invoices shall be paid by City warrant within sixty (60) days of receipt of a proper invoice.

C. Consultant shall keep cost records and accounts pertaining to this Agreement available for inspection by City representatives for three (3) years after final payment unless a longer period is required by a third-party agreement. Copies shall be made available on request.

D. If the services rendered do not meet the requirements of the Agreement, Consultant will correct or modify the work to comply with the Agreement. City may withhold payment for such work until the work meets the requirements of the Agreement.

8. Discrimination and Compliance with Laws.

A. Consultant agrees not to discriminate against any employee or applicant for employment or any other person in the performance of this Agreement because of race, creed, color, national origin, marital status, sex, age, disability, or other circumstance prohibited by federal, state, or local law or ordinance, except for a bona fide occupational qualification.

B. Consultant shall comply with all federal, state, and local laws and ordinances applicable to the work to be done under this Agreement.

C. Consultant shall obtain a City of Fife business license pursuant to the provisions of Chapter 5.01 FMC prior to receipt of written Notice to Proceed.

D. Violation of this Paragraph 8 shall be a material breach of this Agreement and grounds for cancellation, termination, or suspension of the Agreement by City, in whole or in part, and may result in ineligibility for further work for City.

9. Term and Termination of Agreement

A. This Agreement may be terminated by the City at any time upon the default of the Consultant or upon public convenience, in which event all finished or unfinished documents, reports, or other material or work of Consultant pursuant to this Agreement shall be submitted to City, and Consultant shall be entitled to just and equitable compensation for any satisfactory work completed prior to the date of termination, not to exceed the total compensation set forth herein. Consultant shall not be entitled to any reallocation of cost, profit or overhead. Consultant shall not in any event be entitled to anticipated profit on work not performed because of such termination. Consultant shall use its best efforts to minimize the compensation payable under this Agreement in the event of such termination. If the Agreement is terminated for default, the Consultant shall not be entitled to receive any further payments under the Agreement until all work called for has been fully performed. Any extra cost or damage to the City resulting from such default(s) shall be deducted from any money due or coming due to the Consultant. The Consultant shall bear any extra expenses incurred by the City in completing the work, including all increased costs for completing the work, and all damage sustained, or which may be sustained by the City by reason of such default.

B. The City may suspend this Agreement, at its sole discretion, upon one week's advance notice to Consultant. Such notice shall indicate the anticipated period of suspension. Any reimbursement for expenses incurred due to the suspension shall be limited to the Consultant's reasonable expenses, and shall be subject to verification. The Consultant shall resume performance of services under this Agreement without delay when the suspension period ends.

10. Standard of Care. Consultant represents and warrants that it has the requisite training, skill and experience necessary to provide the services under this agreement and is appropriately accredited and licensed by all applicable agencies and governmental entities. Services provided by Consultant under this agreement will be performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing in similar circumstances.

11. Ownership of Work Product.

A. All data, materials, reports, memoranda, and other documents developed under this Agreement whether finished or not shall become the property of City, shall be forwarded to City at its request and may be used by City as it sees fit. Documents pertaining to work done by the Consultant for the City may be considered public records under the Public Records Act (RCW 42.56) and shall be tendered to the City upon the City's request. Failure to tender all requested documents is considered a material breach of this Agreement. Upon termination of this agreement pursuant to paragraph 9 above, all finished or unfinished documents, reports, or other material or work of Consultant pursuant to this Agreement shall be submitted to City. City agrees that if it uses products prepared by Consultant for purposes other than those intended in this Agreement, it does so at its sole risk and it agrees to indemnify and hold Consultant harmless therefore.

B. Spatial data created by consultants for City of Fife via this contract should be delivered as either ESRI shapefiles or an ESRI file geodatabase. The data should be developed in (or projected to) StatePlane 1983, WA South (Projection), NAD83HPGN (Datum), US Survey Feet (units). These datasets should be delivered on CD/DVD, complete with any projection files, accessory tables relatable by a fixed unique identifier to the spatial data, and metadata using Federal Geographic Data Committee (FGDC) specifications. If the data is produced in AutoCad 2000 or later, the shapefile format is an export option and should be utilized and all other criteria still apply. The City of Fife retains ownership to such data layers produced using taxpayer dollars and controls any future dissemination or reuse of this data.

12. Indemnification/Hold Harmless. Consultant 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 resulting from the acts, errors or omissions of the Consultant in 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 Consultant and the City, its officers, officials, employees, and volunteers, the Consultant's liability, including the duty and cost to defend, hereunder shall be only to the extent of the Consultant's negligence. It is further specifically and expressly understood that the indemnification provided herein constitutes the Consultant'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.

13. Insurance. The Consultant shall procure and maintain for the duration of this 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 Consultant, its agents, representatives, or employees. Consultant's maintenance of insurance as required by this Agreement shall not be construed to

limit the liability of the Consultant to the coverage provided by such insurance, or otherwise limit the City's recourse to any remedy available at law or in equity.

A. Minimum Scope of Insurance

Consultant 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 at least as broad as ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, stop-gap independent contractors and personal injury and advertising injury. The City shall be named as an additional insured under the Consultant's Commercial General Liability insurance policy with respect to the work performed for the City using an additional insured endorsement at least as broad as ISO CG 20 26.
3. Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.
4. Professional Liability insurance appropriate to the Consultant's profession.

B. Minimum Amounts of Insurance

Consultant 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.
3. Professional Liability insurance shall be written with limits no less than \$1,000,000 per claim and \$1,000,000 policy aggregate limit.

C. Other Insurance Provisions

The Consultant's Automobile Liability and Commercial General Liability insurance policies are to contain, or be endorsed to contain that they shall be primary insurance as respect the City. Any Insurance, self-insurance, or insurance pool coverage maintained by the City shall be excess of the Contractor's insurance and shall not contribute with it.

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

Consultant 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 Consultant before commencement of the work.

F. Notice of Cancellation

The Consultant shall provide the City with written notice of any policy cancellation, within two business days of their receipt of such notice.

G. Failure to Maintain Insurance

Failure on the part of the Consultant to maintain the insurance as required shall constitute a material breach of contract, upon which the City may, after giving five business days notice to the Consultant to correct the breach, immediately terminate the contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the City on demand, or at the sole discretion of the City, offset against funds due the Consultant from the City.

H. Full Availability of Consultant Limits

If the Consultant maintains higher insurance limits than the minimums shown above, the City shall be insured for the full available limits of Commercial General and Excess or Umbrella liability maintained by the Consultant, irrespective of whether such limits maintained by the Consultant are greater than those required by this contract or whether any certificate of insurance furnished to the City evidences limits of liability lower than those maintained by the Consultant.

14. Assigning or Subcontracting. Consultant shall not assign, transfer, subcontract or encumber any rights, duties, or interests accruing from this Agreement without the express prior written consent of the City, which consent may be withheld at the City's sole discretion.

15. Independent Contractor. The Contractor is and shall be at all times during the term of this Contract an independent contractor and not an employee of the City. Any and all employees of the Contractor, while engaged in the performance of any work or services required by the Contractor under this Contract, shall be considered employees of the Contractor only and not of the City. As an independent contractor, the Contractor shall be responsible for the reporting and payment of all applicable local, state, and federal taxes.

16. Notice

A. Any notice or communication required by this Agreement must be in writing, and may be given either personally, electronically with evidence of receipt, by express delivery service, or by registered or certified mail, return receipt requested. If given personally, by express delivery service, or by registered or certified mail, such notice or communication shall be deemed to have been given and received upon actual receipt. If delivery is made electronically, either by e-mail or facsimile transmission, a notice shall be deemed to have been given when delivered to the person to whom it is addressed, and there is electronic confirmation that it was received. Such notices or communications shall be given to the Parties at their addresses set forth below:

Subir Mukerjee
City Manager
5411 23rd Street East
Fife, WA 98424

Geoff Dillard, P.E.
Regional Manager
950 Pacific Avenue, Suite 1220
Tacoma, WA 98402

Phone: 253 922-2489
Fax: 253 922-5355
Email: smukerjee@cityoffife.org

Phone: 425 951-5322
Fax: 425 951-5323
Email: _____

B. Either party may change its contact information by sending its new contact information to the other party in the same manner as is provided for sending the other party notice under the provisions of paragraph 16.A.

17. Disputes. Any action for claims arising out of or relating to this Agreement shall be governed by the laws of the State of Washington. Venue shall be in Pierce County Superior Court.

18. Attorneys' Fees. In any suit or action instituted to enforce any right granted in this Agreement, the substantially prevailing party shall be entitled to recover its costs, disbursements, and reasonable attorneys' fees from the other party.

19. Severability. Should any clause, phrase, sentence or paragraph of this Agreement or its application be declared invalid or void by a court of competent jurisdiction, the remaining provisions of this Agreement or its applications of those provisions not so declared shall remain in full force and effect.

20. Extent of Agreement/Modification. This Agreement, together with attachments or addenda, represents the entire and integrated Agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may be amended, modified or added to only by written instrument properly signed by both parties.

CITY OF FIFE, WASHINGTON

CONSULTANT
RH2 Engineering, Inc.

By: _____
Subir Mukerjee
City Manager

By: _____
Geoffrey G. Dillard, P.E.
Director

Date: _____

Approved as to form:

Date: _____

Gregory F. Amann
Assistant City Attorney

EXHIBIT A
Scope of Work
City of Fife
Water System Plan Update
March 2016

Background

This Scope of Work includes tasks necessary for RH2 Engineering, Inc., (RH2) to update the City of Fife's (City) Water System Plan (WSP), and evaluate the ability of the City's water system to meet the needs of existing and projected future water system customers throughout 6-year, 10-year, and 20-year planning periods. This Scope of Work is based on published regulatory requirements for comprehensive WSPs known at the time of this writing. The primary purpose of a Water System Plan is to identify and schedule water system improvements that correct existing system deficiencies and ensure a safe and reliable supply of water to current and future customers. Water System Plans must comply with Washington State Department of Health (DOH) regulations under WAC 246-290-100, which requires water purveyors to update their water system plans every six years. Fife's 2009 WSP only received a 3-year approval (May 11, 2012) from DOH since existing supplies were only adequate for 3 years of projected growth. After the economic turndown and corresponding delay in growth, DOH granted a 3-year extension which expired on May 11, 2015. One of the main goals of this WSP update is to identify Fife's next source of supply alternative necessary to meet projected growth through build-out (i.e., new well or additional wholesale supply).

Available resources from the previous planning work will be utilized to reduce the level of effort for this WSP update. To reduce redundancy in effort, RH2 will rely on the accuracy and completeness of any data, information, or materials provided by the City or others in relation to the work. It is anticipated that the City will contract directly with their financial consultant, FCS Group, to prepare the financial analysis.

Task 1 – Data Collection and DOH Coordination

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

Approach:

- 1.1 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.
- 1.2 Attend one (1) meeting with City staff to review collected data and refine objectives of the Plan.
- 1.3 Coordinate with DOH throughout the planning process to provide schedule and progress reports toward completion of the WSP.

Anticipated Data Provide by City:

- Water account data from City accounting system.
- Water meter records for selected months from the City's Automatic Meter Reading (AMR) system.

RH2 Deliverables:

- Attend one (1) meeting to review collected data.

Task 2 – Introduction and Existing Water System Description (Chapters 1 and 2)

Objective: Provide information to update the existing Introduction (Chapter 1) and Water System Description (Chapter 2) chapters of the WSP.

Approach:

- 2.1 Review existing system information that has changed since last plan.
- 2.2 Update the current water system's operation overview.
- 2.3 Update the existing system tables to reflect current known conditions.
- 2.4 Update adjacent water systems status. Address the potential for emergency interties or potential assumption of small water systems under the Pierce County (County) Coordinated Water System Plan Process.
- 2.5 Update the following color figures:
 - Water Service Area and Adjacent Systems
 - Existing Water System
 - Existing Hydraulic Profile

RH2 Deliverables:

- Updated chapters and figures of existing system components for City review and comment.

Task 3 – Land Use and Population (Chapter 3)

Objective: Provide information to update the existing Land Use and Population (Chapter 3) chapter of the WSP. Coordinate with the City's Planning Department to obtain planning-related information and identify impacts on the City's water system.

Approach:

- 3.1 Update existing and projected future land use patterns in and adjacent to the City, and impacts on existing and future facilities and water sources for the water system.
- 3.2 Prepare DOH's Consistency Statement Checklist for each planning agency that governs the WSP, which includes local and county planning jurisdictions.
- 3.3 Update the water service area and water retail area descriptions and boundaries as necessary to reflect service to Parcel 14 and services within the Mountain View Edgewood retail area. Update applicable inter-local agreements. Provide a description of the water retails service area.
- 3.4 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 county and state population data.
- 3.5 Include a table of 6-year, 10-year, and 20-year population projections for both the City and the water service area that comply with the Growth Management Act (GMA).
- 3.6 Update the following color figure:
 - Water Service Area Land Use

RH2 Deliverables:

- Updated population projections and land use figure. DOH's Consistency Statement Checklists for pertinent planning agencies.

Task 4 – Water Demands (Chapter 4)

Objective: Provide information to update the existing Water Demand (Chapter 4) chapter of the WSP. Review historical water use and forecast future water demands of the system.

Approach:

- 4.1 Tabulate monthly totals of metered consumption for each customer class and the average number of accounts in service for each year from 2007 through 2015, based on available information provided by the City. Identify the seasonal variations in consumption for each customer class.
- 4.2 Tabulate ten (10) to twenty (20) of the largest water users and the total water use of each for the year 2015.
- 4.3 Tabulate monthly and yearly totals of water supply from each supply facility from 2007 through 2015.
- 4.4 Calculate per-capita demands, based on the average day demand (ADD) and water system population data from 2007 through 2015.
- 4.5 Calculate the number of equivalent residential units (ERUs) within the system, based on the water consumption and supply data.
- 4.6 Identify the total amount of distribution system leakage (DSL) from 2007 through 2015. Calculate the three (3)-year rolling average of the DSL.
- 4.7 Calculate the system ADD, based on the yearly water supply data from 2007 through 2015.
- 4.8 Estimate the system's peak day demands (PDD) and peak hour demands (PHD).
- 4.9 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.
- 4.10 Document the historical demands from 2007 through 2015.
- 4.11 Document the current and past efforts for water use efficiency (WUE) and their impact on water demand over the past six (6) years. Describe the WUE improvements.
- 4.12 Develop 1-, 2-, 3-, 4-, 5-, 6-, 10-, 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 WUE program.*
- 4.13 Describe the basis for and results of the existing and future water demand evaluation.
- 4.14 Evaluate, describe, and prepare a graphic or table to demonstrate the seasonal variations in consumption patterns for each customer class.
- 4.15 Provide the following tables, each integrated within the chapter text.
 - Average Annual Metered Consumption and Service Connections

- Water usage by customer class
- 2015 Largest Water Users
- Historical Supply and Per-capita Demands
- ERUs
- DSL
- Peak Demands and Demand Ratios
- General Fire Flow Requirements
- Future Water Demand Projections
- Future ERU Projections

RH2 Deliverables:

- Updated demand analysis, and tables of historic and projected demand data for City review and comment.

Task 5 – Policies and Design Criteria (Chapter 5)

Objective: Provide information to update the existing Policies and Design Criteria (Chapter 5) chapter of the WSP. Review existing policies and design criteria, and recommend changes to these policies for facilities to meet design standards.

Approach:

- 5.1 Review existing policies, and recommend additional or revised policies for future City facilities to meet applicable design standards and criteria. Use DOH, United States Environmental Protection Agency, American Water Works Association, Washington State Department of Transportation, and standard engineering practices as the basis for identifying policies, criteria, and requirements.

RH2 Deliverables:

- Updated policies and design criteria for City review and comment.

Task 6 – Water Source and Quality (Chapter 6)

Objective: Provide information to update the existing Water Source and Quality (Chapter 6) chapter of the WSP. Identify the City's water quality monitoring requirements and results of recent monitoring, and prepare an inventory of existing water sources and water rights.

Approach:

- 6.1 Update the current water supply situation and potential future water supply sources.
- 6.2 Document the City's current long-term water supply planning efforts.
- 6.3 Provide an overview of existing and currently-projected 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.

- 6.4 Identify the water quality monitoring requirements for the City's water system.
- 6.5 Summarize the results and compliance status of recent source and distribution system water quality monitoring.
- 6.6 Identify potential improvements for compliance with the current water quality requirements.

RH2 Deliverables:

- Summarize the updated evaluation of existing water rights, including descriptions of existing water quality monitoring requirements and results of recent monitoring for City review and comment.
- Completed water rights self-assessment forms.

Task 7 – Water System Analyses (Chapter 7)

Objective: Provide information to update the existing Water System Analyses (Chapter 7) chapter of the WSP. 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.

Approach:

- 7.1 Calculate the quantity of water supply required for the existing and projected future conditions, and compare those requirements to the system's existing supply capability.
- 7.2 Calculate the systems storage requirements, and evaluate how the use of wholesale supplies and the City's sources would impact the storage needs.
- 7.3 Update the hydraulic analysis criteria and hydraulic model settings for the distribution system analyses.
- 7.4 Using the hydraulic model of the water system, perform a steady-state hydraulic analysis of the system simulating a PHD condition with no fire flows to determine the pressures and flow distribution during this demand condition.
- 7.5 Perform a steady-state fire flow analysis for each node in the system while simulating PDDs to determine the capability of the existing system to provide adequate flows and pressures and identify existing system deficiencies.
- 7.6 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 current estimates of future growth allocations.*
- 7.7 Identify and input proposed water system improvements into the model, based on the results of the existing system hydraulic analysis and identification of deficiencies.
- 7.8 Perform a steady-state fire flow analysis for each node in the system while simulating future PDDs to review 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 six (6)-year, ten (10)-year and twenty (20)-year projections until existing system deficiencies have been addressed.
- 7.9 Prepare a table that summarizes the results of the existing system and future system fire flow analyses.

- 7.10 Identify and describe distribution system deficiencies and the results of the hydraulic analyses.
- 7.11 Review and discuss known existing system deficiencies and unsuitable pipe materials from data provided by the City.
- 7.12 Evaluate the City's existing interties wholesale and recommend improvements.
- 7.13 Evaluate the City's existing telemetry and supervisory control system, and identify deficiencies.
- 7.14 Perform an existing system capacity analysis to determine the unused, available system capacity expressed in ERUs. Prepare a six (6)-year and a ten (10)-year projected system capacity analysis. Provide a list of proposed improvements, based on the different capacity analysis scenarios evaluated. Document the criteria and results of the analyses.
- 7.15 Meet with City staff to discuss the system analyses, deficiencies, and recommended improvements.
- 7.16 Update the following tables, each integrated within the chapter text, and figures:
- Minimum and Maximum Distribution System Pressures
 - Existing Water Supply Evaluation
 - Future Water Supply Requirements
 - Hydraulic Analyses Summary
 - Existing System Capacity Analysis
 - Six-year and Ten-year System Capacity Analysis
 - Existing Pipe Materials
 - Existing Fire Flow Availability
 - Future Fire Flow Availability
 - Proposed Hydraulic Profile

RH2 Deliverables:

- Descriptions, tables, and figures of existing water system analyses for City review and comment. Attendance at one (1) meeting with City staff.

Task 8 – Operations and Maintenance (Chapter 8)

Objective: Provide information to update the existing Operations and Maintenance (Chapter 8) chapter of the WSP. Document the water system's operations and maintenance (O&M) program for use in the WSP.

Approach:

- 8.1 Update the current water staff organization and prepare an organizational chart.
- 8.2 Update the table listing water operations personnel, and their position(s) and certification(s).
- 8.3 Update the description of the key responsibilities of the water operations personnel.

- 8.4 Update the list of major equipment, supplies, and chemicals used by the water system.
- 8.5 Document the current O&M programs, suggest operational changes to improve reliability and service, and identify their associated cost impacts, based on information collected from City staff during the facility visit.
- 8.6 Comment on the general impacts and effects of changing water quality requirements regarding O&M responsibilities.
- 8.7 Identify safety procedures to be followed to avoid potential work place hazards. Incorporate the existing safety program activities and recent Labor and Industries' inspection reports.
- 8.8 Update procedures for keeping and compiling records and reports. Provide a general list of records on file and identify where they are filed.
- 8.9 Update staffing requirements and document recommendations.
- 8.10 Update O&M improvements.
- 8.11 Provide a description of the cross-connection vulnerabilities, a summary of the total number of devices, device compliance percentage(s), and strategies to continue incremental success of this program.
- 8.12 Provide the following tables, each integrated within the chapter text:
 - Organization Chart
 - Personnel Certification
 - Major Equipment and Chemicals
 - Staffing Requirements
 - Cross-connection Facilities

RH2 Deliverables:

- Descriptions and tables documenting the City's existing O&M program for use in the WSP. Evaluation and recommendations of staffing requirements.

Task 9 – Capital Improvement Program (Chapter 9)

Objective: Provide information to update the existing Capital Improvement Program (Chapter 9) chapter of the WSP. Describe and schedule improvements to address deficiencies identified in the water system analyses. Prepare planning-level cost estimates for each project identified.

Approach:

- 9.1 Update water system improvements descriptions that have been completed since the last WSP update.
- 9.2 Update the 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.

City of Fife
Water System Plan Update
March 2016

Exhibit A

Scope of Work

- 9.3 Review and make recommendations for changes to the City's existing standards for system replacements, rehabilitations, and extensions.
- 9.4 Update and prepare additional planning-level approximate cost estimate for each improvement, based on current industry prices.
- 9.5 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.*
- 9.6 Schedule improvements, based on the results of the City's prioritization.
- 9.7 Update the capital improvement projects (CIP) table 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 six (6) years and at six (6)-year intervals for the twenty (20)-year planning period.
- 9.8 Describe the criteria and procedures used for prioritizing and scheduling improvements.
- 9.9 Update the following tables, each integrated within the chapter text, and figures:
 - Improvements Completed since Last WSP
 - Water Main Improvements Priority Ranking Criteria
 - Water Main Improvements Priority Ranking
 - Proposed Improvements Implementation Schedule
 - Proposed Water System Improvements
- 9.10 Meet with City staff to discuss the water system improvements and the proposed schedule of implementation.

RH2 Deliverables:

- Draft CIP tables and figures for City review and comment. Geographic information system (GIS) files containing proposed water main improvements. Attendance at one (1) meeting with City staff.

Task 10 – Financial Analysis (Chapter 10)

Objective: Provide overall review and coordination with the 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.

Approach:

- 10.1 Coordinate with the FCS Group during the project to provide information in support of the Financial Analysis chapter.
- 10.2 Attend one (1) meeting with City staff to review draft and/or final results, as requested by the City, before finalizing the Financial Chapter.

RH2 Deliverables:

- Attendance at one (1) meeting with City and FCS Group staff, as requested.

Task 11 – Executive Summary and Appendices

Objective: Update the Executive Summary and prepare the miscellaneous appendices for the WSP.

Approach:

- 11.1 Update the Executive Summary to include the significant changes that have occurred since the previous WSP was completed.
- 11.2 Obtain a State Environmental Policy Act (SEPA) Checklist and Determination of Non-significance (DNS) from the City to include in the appendices.
- 11.3 Obtain service area and intertie agreements from the City and include in the appendices.
- 11.4 Obtain copies of applicable City resolutions/ordinances from the City and include in the appendices.
- 11.5 Include copies of Water Facilities Inventory (WFI) forms.
- 11.6 Include a copy of the most recent Consumer Confidence Report.
- 11.7 Include a copy of City construction standards.
- 11.8 Include copies of water system facilities data, consistency statement checklists, and agency review comments.
- 11.9 Update the WUE program and include in the WSP.
- 11.10 Update the Cross-connection Control Plan and include in the WSP.
- 11.11 Update the Coliform Monitoring Plan and include in the WSP.

RH2 Deliverables:

- Miscellaneous appendices for inclusion in the WSP.

Task 12 – Draft WSP Review and Printing

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

Approach:

- 12.1 Develop a cover format that includes the WSP name and revision date.
- 12.2 Bind the draft WSP documents in three-ring binder format for easy editing, updating, and cataloguing. Print up to five (5) sets of the draft WSP for the City's review.
- 12.3 Meet with City staff to present an overview of the WSP recommendations and discuss the 95-percent review comments.
- 12.4 Revise the WSP, based on City review comments.

RH2 Deliverables:

- Up to five (5) sets of the draft WSP in three-ring binder format. Attendance at one (1) meeting with City staff to present an overview of the draft WSP.

Task 13 – Final Draft WSP Printing and Presentation

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

Approach:

- 13.1 Attend one (1) 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 WUE program.* Present the WUE goals for adoption by the City Council.
- 13.2 Bind the final WSP documents and print up to four (4) sets of the WSP and color figures.
- 13.3 Create an electronic PDF document, including 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 (5) copies of the electronic plan on CD.
- 13.4 Submit the final WSP to adjacent water systems for review and comment.
- 13.5 Submit the final WSP to the County and DOH for review.

RH2 Deliverables:

- Up to ten (10) sets of the final WSP in three-ring binder format and five (5) copies in electronic PDF on CD. Attendance at one (1) meeting to present the final draft WSP to City staff, City Council, and the public. Attendance at one (1) meeting with City staff, the City Council, and the public to review water demand projections and satisfy WUE program requirements.

Task 14 – DOH and Agency Review Revisions

At the completion of Activities 1 through 13, 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, an estimate of 40 hours is used for this Scope of Work and Fee Estimate.

Approach:

- 14.1 Address review comments, review meetings, and final WSP modifications upon receipt of all review comments from the County, DOH, Washington State Department of Ecology, and adjacent water systems.

RH2 Deliverables:

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

City of Fife
Water System Plan Update
March 2016

Exhibit A
Scope of Work

Task 15 – Additional Services as Requested by the City

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

Approach:

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

RH2 Deliverables:

- Provide deliverables, as requested.

EXHIBIT B
 City of Fife
 Water System Plan Update

Estimate of Time and Expense

Task	Description	Total Hours	Total Labor	Total Expense	Total Cost
Task 1	Data Collection and DOH Coordination				
1.1	Coordinate with City staff during the data collection process	6	\$ 1,192	\$ 30	\$ 1,222
1.2	Attend one (1) meeting with City staff to review data	4	\$ 766	\$ 44	\$ 810
1.3	Coordinate with DOH throughout the planning process	2	\$ 340	\$ 28	\$ 368
	Subtotal	12	\$ 2,298	\$ 102	\$ 2,400
Task 2	Introduction and Existing Water System Description (Chapters 1 and 2)				
2.1	Review existing system information	5	\$ 853	\$ 76	\$ 929
2.2	Update the current water system's operation overview	5	\$ 853	\$ 76	\$ 929
2.3	Update existing system tables	9	\$ 1,221	\$ 86	\$ 1,307
2.4	Update adjacent water systems status	5	\$ 853	\$ 76	\$ 929
2.5	Update water system figures	9	\$ 1,453	\$ 353	\$ 1,806
	Subtotal	33	\$ 5,233	\$ 667	\$ 5,900
Task 3	Land Use and Population (Chapter 3)				
3.1	Update existing and future land use patterns	6	\$ 1,080	\$ 55	\$ 1,135
3.2	Prepare DOH Consistency Statement Checklist	6	\$ 1,080	\$ 55	\$ 1,135
3.3	Update the water service area description and boundary	6	\$ 1,080	\$ 55	\$ 1,135
3.4	Identify current and projected housing trends	6	\$ 1,080	\$ 55	\$ 1,135
3.5	Update population projection table	10	\$ 1,448	\$ 64	\$ 1,512
3.6	Update water service area land use figure	16	\$ 2,580	\$ 371	\$ 2,951
	Subtotal	50	\$ 8,348	\$ 652	\$ 9,000
Task 4	Water Demands (Chapter 4)				
4.1	Tabulate metered consumption	8	\$ 1,366	\$ 117	\$ 1,483
4.2	Tabulate the largest water users for 2015	7	\$ 1,153	\$ 111	\$ 1,264
4.3	Tabulate water supply	7	\$ 1,153	\$ 111	\$ 1,264
4.4	Calculate per-capita demands, based on ADD	7	\$ 1,153	\$ 111	\$ 1,264
4.5	Calculate ERUs in the system	7	\$ 1,153	\$ 111	\$ 1,264
4.6	Identify DSL	7	\$ 1,153	\$ 111	\$ 1,264
4.7	Calculate ADD, based on yearly supply	7	\$ 1,153	\$ 111	\$ 1,264
4.8	Estimate system's PDDs and PHDs	7	\$ 1,153	\$ 111	\$ 1,264
4.9	Update fire flow requirements table	7	\$ 1,153	\$ 111	\$ 1,264
4.10	Document the historical demands	7	\$ 1,153	\$ 111	\$ 1,264
4.11	Document the current and past efforts for WUE	8	\$ 1,366	\$ 117	\$ 1,483
4.12	Develop demand projections	7	\$ 1,153	\$ 111	\$ 1,264
4.13	Describe existing and future water demand evaluation results	8	\$ 1,366	\$ 117	\$ 1,483
4.14	Prepare seasonal variations chart	9	\$ 1,458	\$ 119	\$ 1,577
4.15	Update chapter tables	12	\$ 1,734	\$ 198	\$ 1,932
	Subtotal	115	\$ 18,820	\$ 1,780	\$ 20,600
Task 5	Policies and Design Criteria (Chapter 5)				
5.1	Review existing policies	24	\$ 4,188	\$ 162	\$ 4,350
	Subtotal	24	\$ 4,188	\$ 162	\$ 4,350
Task 6	Water Source and Quality (Chapter 6)				
6.1	Update current water supply	7	\$ 1,295	\$ 32	\$ 1,327
6.2	Update City's current long-term water supply planning efforts	7	\$ 1,295	\$ 32	\$ 1,327
6.3	Provide an overview of existing and projected future drinking water regulations	7	\$ 1,295	\$ 32	\$ 1,327
6.4	Identify water quality monitoring requirements	6	\$ 1,203	\$ 30	\$ 1,233
6.5	Summarize results and compliance status	6	\$ 1,203	\$ 30	\$ 1,233
6.6	Identify potential improvements for compliance requirements	7	\$ 1,295	\$ 56	\$ 1,351
	Subtotal	40	\$ 7,586	\$ 214	\$ 7,800
Task 7	Water System Analyses (Chapter 7)				
7.1	Calculate supply required for existing and projected future conditions	3	\$ 553	\$ 14	\$ 567
7.2	Estimate and discuss storage needs	16	\$ 3,064	\$ 132	\$ 3,196
7.3	Update hydraulic analysis criteria and hydraulic model settings	8	\$ 1,446	\$ 64	\$ 1,510
7.4	Perform a steady-state hydraulic analysis to determine pressure and flow distribution	7	\$ 1,233	\$ 58	\$ 1,291
7.5	Perform a steady-state hydraulic analysis for fire flow availability	7	\$ 1,233	\$ 58	\$ 1,291
7.6	Update hydraulic model with future demand data	7	\$ 1,233	\$ 58	\$ 1,291
7.7	Update hydraulic model with proposed system improvements	7	\$ 1,233	\$ 58	\$ 1,291
7.8	Perform a steady state fire flow analysis, including system improvements	3	\$ 553	\$ 14	\$ 567
7.9	Summarize results of existing and future fire flow analyses	3	\$ 553	\$ 14	\$ 567
7.10	Describe distribution system deficiencies and hydraulic analyses results	3	\$ 553	\$ 14	\$ 567
7.11	Review and discuss known existing system deficiencies and unsuitable pipe materials	3	\$ 553	\$ 14	\$ 567
7.12	Evaluate existing wholesale inerties and recommend improvements	3	\$ 553	\$ 14	\$ 567
7.13	Evaluate existing telemetry and supervisory control system	3	\$ 553	\$ 14	\$ 567
7.14	Perform existing and future system capacity analysis	3	\$ 553	\$ 14	\$ 567
7.15	Meet with City staff to discuss the system analyses	4	\$ 645	\$ 91	\$ 736
7.16	Update chapter tables and figures	23	\$ 3,321	\$ 537	\$ 3,858
	Subtotal	103	\$ 17,832	\$ 1,168	\$ 19,000

Task	Description	Total Hours	Total Labor	Total Expense	Total Cost
Task 8 Operations and Maintenance (Chapter 8)					
8.1	Update staff organization chart	2	\$ 402	\$ 10	\$ 412
8.2	Update operations personnel table	2	\$ 402	\$ 10	\$ 412
8.3	Update personnel description(s) and key responsibilities	2	\$ 402	\$ 10	\$ 412
8.4	Update list of major equipment, supplies, and chemicals	2	\$ 402	\$ 10	\$ 412
8.5	Update O&M descriptions, and identify and document deficiencies	2	\$ 402	\$ 10	\$ 412
8.6	Update general impacts and effects of changing water quality requirements	2	\$ 402	\$ 10	\$ 412
8.7	Update safety work procedures plan	2	\$ 402	\$ 10	\$ 412
#REF!	Update of records and reports procedures	2	\$ 402	\$ 10	\$ 412
8.10	Update staffing requirements and recommendations	8	\$ 1,266	\$ 59	\$ 1,325
8.11	Update O&M improvements	8	\$ 1,266	\$ 59	\$ 1,325
8.12	Provide a description of cross-connection vulnerabilities	8	\$ 1,266	\$ 59	\$ 1,325
8.13	Update chapter tables	4	\$ 586	\$ 42	\$ 628
Subtotal		44	\$ 7,600	\$ 300	\$ 7,900
Task 9 Capital Improvement Program (Chapter 9)					
9.1	Update water system improvement's descriptions completed since the last WSP update	6	\$ 1,101	\$ 55	\$ 1,156
9.2	Update list of proposed system improvements	6	\$ 1,101	\$ 55	\$ 1,156
9.3	Review and make recommendations for changes to the City's existing standards	6	\$ 1,101	\$ 55	\$ 1,156
9.4	Update and prepare planning-level cost estimate	6	\$ 1,101	\$ 55	\$ 1,156
9.5	Coordinate with City staff to establish criteria for prioritizing and scheduling improvements	6	\$ 1,101	\$ 55	\$ 1,156
9.6	Schedule improvements, based on the results of the City's prioritization	6	\$ 1,101	\$ 55	\$ 1,156
9.7	Update the CIP table	6	\$ 1,101	\$ 55	\$ 1,156
9.8	Describe prioritizing and scheduling improvements criteria	6	\$ 1,101	\$ 55	\$ 1,156
9.9	Update table and integrate in the chapter text and figures	10	\$ 1,469	\$ 64	\$ 1,533
9.10	Meet with City staff to discuss the water system improvements	8	\$ 1,285	\$ 184	\$ 1,469
Subtotal		66	\$ 11,562	\$ 688	\$ 12,250
Task 10 Financial Analysis (Chapter 10)					
10.1	Coordinate with the FCS Group	10	\$ 1,958	\$ 76	\$ 2,034
10.2	Attend one (1) meeting with City staff to review draft and/or final results	14	\$ 2,326	\$ 140	\$ 2,466
Subtotal		24	\$ 4,284	\$ 216	\$ 4,500
Task 11 Executive Summary and Appendices					
11.1	Update the Executive Summary	2	\$ 383	\$ 10	\$ 393
11.2	Obtain SEPA checklist and DNS	1	\$ 170	\$ 4	\$ 174
11.3	Compile service area and intertie agreements	3	\$ 432	\$ 11	\$ 443
11.4	Compile applicable City resolutions/ordinances	3	\$ 432	\$ 11	\$ 443
11.5	Include WFI forms	3	\$ 432	\$ 11	\$ 443
11.6	Include Consumer Confidence Report	4	\$ 645	\$ 16	\$ 661
11.7	Compile City construction standards	4	\$ 645	\$ 16	\$ 661
11.8	Compile facilities data, consistency statements, and agency review comments	5	\$ 815	\$ 48	\$ 863
11.9	Update WUE program	9	\$ 1,280	\$ 60	\$ 1,340
11.10	Update Cross-connection Control Plan	9	\$ 1,280	\$ 60	\$ 1,340
11.11	Update Coliform Monitoring Plan	9	\$ 1,280	\$ 61	\$ 1,341
Subtotal		52	\$ 7,794	\$ 306	\$ 8,100
Task 12 Draft WSP Review and Printing					
12.1	Develop a cover format	5	\$ 737	\$ 1,238	\$ 1,975
12.2	Produce WSP and color figures	9	\$ 1,181	\$ 112	\$ 1,293
12.3	Attend meeting to present and discuss plan with City Staff	8	\$ 1,532	\$ 273	\$ 1,805
12.4	Revise the WSP, based on City review comments	11	\$ 1,677	\$ 150	\$ 1,827
Subtotal		33	\$ 5,127	\$ 1,773	\$ 6,900
Task 13 Final Draft WSP Printing and Presentation					
13.1	Attend meeting to present and discuss plan with City Staff	12	\$ 2,384	\$ 103	\$ 2,487
13.2	Produce WSP and color figures	10	\$ 1,540	\$ 1,180	\$ 2,720
13.3	Produce electronic PDF documents	12	\$ 1,104	\$ 28	\$ 1,132
13.4	Submit WSP to adjacent water systems	3	\$ 276	\$ 750	\$ 1,026
13.5	Submit WSP to the County and DOH	3	\$ 276	\$ 560	\$ 836
Subtotal		40	\$ 5,580	\$ 2,620	\$ 8,200
Task 14 DOH and Agency Review Revisions					
14.1	Address review comments from agencies	40	\$ 6,744	\$ 356	\$ 7,100
Subtotal		40	\$ 6,744	\$ 356	\$ 7,100
Task 15 Additional Services as Requested by the City					
15.1	Perform additional services, as requested by the City	-	\$ -	\$ -	\$ 20,000
Subtotal		-	\$ -	\$ -	\$ 20,000
PROJECT TOTAL		676	\$ 112,996	\$ 11,004	\$ 144,000

**EXHIBIT C
RH2 ENGINEERING, INC.
SCHEDULE OF RATES AND CHARGES**

2016 HOURLY RATES

CLASSIFICATION		RATE	CLASSIFICATION		RATE
Professional	IX	\$213.00	Technician	IV	\$137.00
Professional	VIII	\$213.00	Technician	III	\$129.00
Professional	VII	\$204.00	Technician	II	\$101.00
			Technician	I	\$96.00
Professional	VI	\$189.00			
Professional	V	\$180.00	Administrative	V	\$128.00
Professional	IV	\$170.00	Administrative	IV	\$108.00
			Administrative	III	\$92.00
Professional	III	\$159.00	Administrative	II	\$77.00
Professional	II	\$150.00	Administrative	I	\$65.00
Professional	I	\$137.00			

IN-HOUSE SERVICES

In-house copies (each)	8.5" X 11"	\$0.09	CAD Plots	Large	\$25.00
In-house copies (each)	8.5" X 14"	\$0.14	CAD Plots	Full Size	\$10.00
In-house copies (each)	11" X 17"	\$0.20	CAD Plots	Half Size	\$2.50
In-house copies (color) (each)	8.5" X 11"	\$0.90	CAD System	Per Hour	\$27.50
In-house copies (color) (each)	8.5" X 14"	\$1.20	GIS System	Per Hour	\$27.50
In-house copies (color) (each)	11 X 17"	\$2.00	Technology Charge	2.5% of Direct Labor	
			Mileage	Current IRS Rate	

OUTSIDE SERVICES

Outside direct costs for permit fees, reports, maps, data, reprographics, couriers, postage, and non-mileage related travel expenses that are necessary for the execution of the project and are not specifically identified elsewhere in the contract will be invoiced at cost.

All Subconsultant services are billed at cost plus 15%.

CHANGES IN RATES

Rates listed here are adjusted annually. The current schedule of rates and charges is used for billing purposes. Payment for work accomplished shall be based on the hourly rates and expenses in effect at the time of billing as stated in this Exhibit.