

INTERLOCAL COOPERATION AGREEMENT

Between

Cities of Kennewick, Richland, Pasco and West Richland

For

Administration and Funding of a Regional Water Forecast and Conservation Plan update

THIS INTERLOCAL AGREEMENT ("Agreement") is entered into on this 21st day of July, 2015 by and between the City of Kennewick (hereinafter "Kennewick"), the City of Richland (hereinafter "Richland"), the City of Pasco (hereinafter "Pasco"), and the City of West Richland (hereinafter "West Richland"), all municipal corporations of the State of Washington (referred to collectively as the "Parties"). This Agreement is made in conformance with and under the authority granted by RCW 39.34, the Interlocal Cooperation Act.

I. Recitals

WHEREAS, Richland, Kennewick, Pasco, and West Richland were granted Washington State Surface Water Right Permit S4-30976 on September 15, 2003 (hereinafter "Permit"); and

WHEREAS, the Permit requires the Parties to prepare a Regional Water Forecast and Conservation Plan (RWFCP); and

WHEREAS, the Parties are updating the RWFCP, dated September, 2008; and

WHEREAS, in 2008, Richland, Kennewick, Pasco and West Richland funded a Regional Water Forecast and Conservation Plan to serve as a basis for serving municipal, industrial, and commercial users and uses within their urban service areas.; and

WHEREAS, the 2008 plan expires June of 2016; and

WHEREAS, to serve as a common demand forecast by the four cities when they update their Water System Plan (SWP) in accordance with Washington Department of Health (DOH) requirements, Richland, Kennewick, Pasco and West Richland have agreed to provide funding to update the 2008 Regional Water Forecast and Conservation Plan; and

WHEREAS, staff in Richland, Kennewick, Pasco and West Richland have collaborated to select an engineering consultant and to negotiate a scope of work and budget for the study; and

WHEREAS, the Interlocal Cooperation Act contained in RCW 39.34 authorizes local governments such as the Parties to this Interlocal to contract for the joint conduct of activities which each of the parties is individually authorized to perform.

NOW, THEREFORE, the Parties hereby agree as follows:

II. Agreement

Section 1. Purpose

The purpose of this Interlocal Cooperation Agreement is to authorize a collaborative effort between the Parties to update a Regional Water Forecast and Conservation Plan, and to determine the parameters for the contracting and funding of said plan update.

Section 2. Legal Entity

No separate legal or administrative entity is created upon execution of this Interlocal Cooperation Agreement.

Section 3. Administration

Kennewick shall award and administer the consultant agreement contemplated under this Interlocal Cooperation Agreement. The proposed consultant agreement is attached as Exhibit A-1.

Section 4. Funding and Contributions

Consultant expenses shall be shared in four (4) equal amounts between Richland, West Richland, Pasco and Kennewick. Kennewick shall issue invoices to Richland, Pasco, and West Richland for their share of the plan update expenses. Invoices shall issue no more frequently than monthly. Scope and budget changes that increase the project budget may only be executed after written authorization from all four Cities.

Section 5. Property

No real or personal property shall be acquired as a consequence of the execution of this Interlocal Cooperation Agreement. The Parties shall all receive at least one copy of the Regional Water Forecast and Conservation Plan Update produced as a result of this Agreement.

Section 6. Additional Resources

Richland, Kennewick, Pasco, and West Richland will provide staff support to complete data requests, meeting attendance, and draft study reviews as needed to efficiently complete the study.

Section 7. Duration

This Agreement shall expire twelve months after the close-out of the consultant agreement. All obligations to pay the respective one-fourth share to fund the plan update shall survive termination of this Agreement.

Section 8. Filing

Pursuant to RCW 39.34.040, this Agreement shall become effective upon filing with the Benton County Auditor after it is fully executed by all Parties.

Section 9. Modification

This Agreement may be amended or modified only in writing, and only with the written consent of each undersigned party.

Section 10. Severability

If any provision of this Agreement is found by a court of competent jurisdiction to be invalid or unenforceable as written, the remainder of the Agreement or the applications of the remainder of the Agreement shall not be affected. To this end, the terms and conditions of this Agreement are declared severable.

IN WITNESS WHEREOF, the Parties have signed this Agreement as of the day and year written above.

CITY OF RICHLAND




CYNTHIA D. JOHNSON, ICMA-CM
City Manager

Approved as to Form:



HEATHER KINTZLEY
City Attorney

CITY OF KENNEWICK



MARIE E. MOSLEY
City Manager

Approved as to Form:



LISA BEATON
City Attorney

CITY OF WEST RICHLAND



Brent Gerry, Mayor

Approved as to Form:



Bronson Brown, City Attorney

CITY OF PASCO



Dave Zabell, City Manager

Approved as to Form:



Leland Kerr, City Attorney

Management Reserve Fund

The OWNER has established a Management Reserve Fund to provide the Public Works Director the flexibility of authorizing additional funds to the Agreement for allowable unforeseen costs, or reimbursing the CONSULTANT for additional work beyond that already defined in this Agreement. Such authorization(s) shall be in writing and shall not exceed 10% of the amount shown above. Any changes requiring additional costs in excess of the Management Reserve Fund shall be made in accordance with Section 18, Extra Work.

Maximum Total Amount Payable

The Maximum Total Amount Payable, by the OWNER to the CONSULTANT under this Agreement, shall not exceed \$294,622 which includes the Management Reserve Funds.

Partial payments to cover the percentage of work completed may be requested by the CONSULTANT. These payments shall not be more than one (1) per month. If the Owner wishes to question an invoice submitted to it for payment by the CONSULTANT, the CONSULTANT shall provide the OWNER with such verifying information as it may reasonably request.

Final payment of any balance due the CONSULTANT of the gross amount earned will be made promptly upon its verification by the OWNER after the completion of the work under this Agreement. Acceptance of such final payment by the CONSULTANT shall constitute a release of all claims for payment which the CONSULTANT may have against the OWNER unless such claims are specifically reserved in writing and transmitted to the OWNER by the CONSULTANT prior to its acceptance. Said final payment shall not, however, be a bar to any claims that the OWNER may have against the CONSULTANT or to any remedies the OWNER may pursue with respect to such claims.

After final payment, the CONSULTANT and his/her sub-consultants shall keep cost records, accounts and all items relating to or bearing upon these records available for inspection by representatives of the OWNER, the State and the United States for a period of three years with the following exception: if any litigation, claim, or audit arising out of, in connection with, or relating to this contract is initiated before the expiration of the three-year period, the cost records and accounts shall be retained until such litigation, claim, or audit involving the records is completed.

6. EMPLOYMENT

Any and all employees of the CONSULTANT, or its agents, while engaged in the performance of any work or services required of the CONSULTANT under this Agreement, shall be considered employees of the CONSULTANT only and not of the OWNER, and any and all claims that may or might arise under any Workmen's Compensation Act on behalf of said employees or agents while so engaged, and any and all claims made by a third party as a consequence of any negligent act or omission on the part of the CONSULTANT's employees or its agents while so engaged on any of the work or services provided to be rendered herein, shall be the sole obligation and responsibility of the CONSULTANT.

7. OTHER PARTIES

It is mutually agreed that this Agreement is not transferable by either signatory to a third party without the consent of the other principal party.

8. OWNERSHIP OF DOCUMENTS

All designs, drawings, specifications, documents, and other work products prepared pursuant to this Agreement, will become the property of the OWNER upon payment to the CONSULTANT of its fees as set forth in this Agreement. The OWNER acknowledges the CONSULTANT's plans and specifications, including all documents on electronic media, as instruments of professional services. The plans and specifications prepared under this Agreement shall become the property of the OWNER upon completion of the services and payment in full of all payment due to the CONSULTANT. The OWNER shall not make, or permit to be made, any modifications to the plans and specifications without the prior written authorization of the CONSULTANT. The OWNER agrees to waive any claim against the CONSULTANT arising from any unauthorized reuse of the plans and specifications and to indemnify and hold the CONSULTANT harmless from any claim, liability or cost arising, or allegedly arising, out of any reuse of the plans and specifications by the OWNER or its agent not authorized by the CONSULTANT.

9. TERMINATION

This Agreement may be terminated by either party upon thirty (30) days written notice, by registered mail, or mailed to the other party at their usual place of business. In the event this contract is terminated by the CONSULTANT, the OWNER will be entitled to reimbursement of costs occasioned by such termination by the CONSULTANT. In the event the OWNER terminates this Agreement, the OWNER shall pay the CONSULTANT for the work performed, an amount equal to the percentage of completion of the work as mutually agreed between the OWNER and the CONSULTANT.

If any work covered by this Agreement shall be suspended or abandoned by the OWNER before the CONSULTANT has completed the assigned work, the CONSULTANT shall be paid for services performed down to the time of such termination or suspension an amount equal to the costs incurred at the date of termination as mutually agreed upon between the OWNER and the CONSULTANT.

10. DISPUTE RESOLUTION

The OWNER and the CONSULTANT agree to negotiate in good faith for a period of thirty (30) days from the date of notice of all disputes between them prior to exercising their rights under this Agreement, or under law.

All disputes between the OWNER and the CONSULTANT not resolved by negotiation between the parties may be arbitrated only by mutual agreement of the OWNER and the CONSULTANT. If not mutually agreed to resolve the claim by arbitration, the claim will be resolved by legal action. Arbitration of all claims will be in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association.

11. VENUE, APPLICABLE LAW AND PERSONAL JURISDICTION

In the event that either party deems it necessary to institute legal action or proceedings to enforce any right or obligation under this Agreement, the parties hereto agree that any such action shall be initiated in the Superior Court of the State of Washington, situated in Benton County. The parties hereto agree that all questions shall be resolved by application of Washington law and that the parties to such action shall have the right of appeal from such decision of the Superior Court in accordance with the laws of the State of Washington. The CONSULTANT hereby consents to the personal jurisdiction of the Superior Court of the State of Washington, situated in Benton County.

12. INSURANCE

The CONSULTANT shall maintain Commercial General Liability and Automobile Liability insurance as will protect the OWNER from claims for bodily injury, or death, or property damage which may arise from the negligent performance by their employees in the functions and services required under this Agreement. Said insurance shall be at the minimum specified in Section 5.56.240 of the Kennewick Municipal Code (minimum combined single-limit coverage of \$1,000,000.00). The City shall be named as an additional insured and the policy shall provide thirty (30) days notice in the event of cancellation. The CONSULTANT shall maintain Professional Liability Insurance in the amount of \$1,000,000.00. Certificates of the above requirements shall be provided to the OWNER as a condition to the OWNER issuing to the CONSULTANT a Notice to Proceed.

13. HOLD HARMLESS

It is further agreed that the CONSULTANT shall hold harmless and indemnify the OWNER for any claims, cause of action, injury, or damage caused by the sole negligence of the CONSULTANT, its agents or employees in the performance of this Agreement.

It is further agreed that the OWNER shall hold harmless and indemnify the CONSULTANT for any claims, cause of action, injury, or damage caused by the sole negligence of the OWNER, its agents or employees, in the performance of this Agreement.

The CONSULTANT will indemnify the City against any claim or suit and the costs thereof brought by any of the CONSULTANT's employees, sub-consultants, or sub-consultant's employees, whether brought pursuant to the Worker's Compensation Act, RCW Title 51, or otherwise, and the CONSULTANT waives any immunity whatsoever with respect to such indemnification.

14. WARRANTY

The professional services will be furnished in accordance with generally accepted professional practice and principles. No other warranty is either expressed or implied.

15. SUCCESSORS OR ASSIGNS

All of the terms, conditions and provisions hereof shall inure to the benefit of and are binding upon the parties hereto, and their respective successors and assigns; provided, however, that no assignment of the Agreement shall be made without written consent of the parties to the Agreement.

16. EQUAL OPPORTUNITY AGREEMENT

The CONSULTANT agrees that it will not discriminate against any employee or job applicants for work on this Agreement for reasons of race, sex, nationality or religious creed.

17. CHANGES OF WORK

The CONSULTANT shall make such changes and revisions in the completed work of this Agreement as necessary to correct or revise any errors, omissions, or other deficiencies in the design, drawings, specifications, reports, and other similar documents which the CONSULTANT is responsible for preparing or furnishing under this Agreement, when required to do so by the OWNER, without additional compensation thereof.

Should the OWNER find it desirable for its own purposes to have previously satisfactorily completed work or parts thereof changed or revised, the CONSULTANT shall make such revisions as directed by the OWNER. This work shall be considered as Extra Work and will be paid for as herein provided under Section 18, Extra Work.

18. EXTRA WORK

The OWNER may desire to have the CONSULTANT perform work or render additional services within the general scope of this Agreement. Such work shall be considered as Extra Work and will be specified in a written supplement to this Agreement which will set forth the nature of the scope, schedule for additional work, and the method of payment and shall be agreed to in writing by both OWNER and CONSULTANT. Work under a Supplemental Agreement shall not proceed until authorized in writing by the OWNER.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

CITY OF KENNEWICK, WASHINGTON



Steve C. Young, Mayor

RH2 ENGINEERING, INC.




Paul R. Cross, P.E. – Area Manager

ATTEST:



Terri Wright, City Clerk

APPROVED AS TO FORM:



Lisa Beaton, City Attorney

EXHIBIT A
Scope of Work
City of Kennewick
Water Comprehensive Plan Update

June 2015

Background

The City of Kennewick's (City) Water Comprehensive Plan (WCP) was last updated in June 2010. Based on the current planning requirements of Washington Administrative Code (WAC) Chapter 246-290, the City's WCP must be updated every six (6) years, and the City's update is due by June 9, 2016.

This Scope of Work includes tasks necessary for RH2 Engineering, Inc., (RH2) to update the City's WCP and evaluate the ability of the water system to meet the needs of existing and future water system customers throughout a 20-year planning period. It is anticipated that the planning requirements will be modified to extend the WCP update cycle to ten (10) years. In anticipation of this upcoming change, the WCP will be prepared with analyses and projections, based on both 6-year and 10-year planning cycles. This approach has been approved by the Washington State Department of Health (DOH) and will extend the WCP update cycle to ten (10) years once the WAC is modified.

Additional tasks presented in this Scope of Work perform a detailed evaluation of the existing water system that can be used to support the development of a cost-effective Capital Improvement Program (CIP) for the WCP. These tasks evaluate the energy efficiency of the water system, document the existing condition of the pumps, and document a unidirectional flushing program.

This Scope of Work is based on published regulatory requirements for comprehensive water system plans known at the time of this writing and a draft pre-plan agreement used in a meeting between the City and DOH on March 17, 2015. 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. Enclosed as **Exhibit D** is a list of data to be provided by the City prior to commencement of the activities contained in this Scope of Work. Tasks 1, 3, 4, 5 and 6 will be performed on a fixed-fee basis. Task 2 will be performed on a time and material basis with a not-to-exceed estimate.

Task 1 – Water Comprehensive Plan

Task 1.1 – Data Collection and DOH Coordination

Objective: Assist the City in collecting data to complete the water system planning process. Coordinate with the DOH throughout the development of the WCP.

Approach:

- 1.1.1 Attend one (1) pre-planning conference with the City, Benton County (County), and DOH staff.
- 1.1.2 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.

Assumptions: *To reduce the level of effort needed to update the WCP, RH2 will rely on the accuracy and completeness of existing information, data, and materials provided by the City and others in relation to this Scope of Work. The County will be invited but is not required to attend the pre-planning conference.*

RH2 Deliverables: Attendance and meeting minutes for one (1) meeting with City, County, and DOH staff.

Task 1.2 – Introduction and Existing Water System Description

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

Approach:

- 1.2.1 Describe the water system ownership and management. Include the system type, system identification number, address, and contact person.
- 1.2.2 Describe the authorization and purpose of the WCP and the WCP contents, and provide a definition of terms and a list of abbreviations used in the WCP.
- 1.2.3 Review previous plans, existing system information and data, and available facility as-builts.
- 1.2.4 Visit each facility with City staff to collect field information and observe equipment layouts and existing conditions.
- 1.2.5 Provide a brief overview of the history of the water system using information from the previous WCP and historical summaries compiled and provided by the City. Include the current number of existing and approved service connections.
- 1.2.6 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.
- 1.2.7 Describe the City's existing and projected future service areas, including the Urban Growth Area (UGA), retail water service area, and water service agreements. Include existing plans for expanding the current service area.
- 1.2.8 Provide a brief overview of the operation of the existing water system.
- 1.2.9 Provide a table of water main inventory that includes total lengths, diameters, materials, and age, based on available data.
- 1.2.10 Review existing City standards pertaining to water system policies and criteria.
- 1.2.11 Identify existing policies and recommend additional or revised policies, as necessary, so that projected future City facilities can meet minimum and acceptable design standards and criteria. Use DOH, Washington State Environmental Protection Agency (EPA), American Water Works Association (AWWA), and standard engineering practices as the basis for identifying policies, criteria, and requirements.
- 1.2.12 Summarize each policy and design criteria.
- 1.2.13 Describe the process for responding to requests for new water service (individual and group services), including timeframes.
- 1.2.14 Describe the process for determining whether the system's capacity is adequate to provide water service requests for new service. *The process will include the determination of sufficient water rights.*

- 1.2.15 Describe conditions of a non-technical nature that may impact the City's ability to provide new water service (e.g., annexation procedures, local ordinances, and instream flow rule, etc.).
- 1.2.16 Describe the procedures for granting and/or requesting extensions of time during a project. Describe the procedures for handling disputes and appeals if requests are denied.
- 1.2.17 Describe policies for extensions of water service outside of current system boundaries. Describe how the policies are consistent with current local and County comprehensive land-use plans and development regulations.
- 1.2.18 Prepare color figures of the following:
 - Existing Water System
 - Existing System Hydraulic Profile
 - Service Area and Adjacent Systems

RH2 Deliverables:

- Descriptions and figures of existing system components for City review and comment. Attendance at one (1) facility visit with City staff.
- Descriptions of policies and design criteria for City review and comment.
- Chapter 1 of the WCP.

Task 1.3 – Basic Planning Data

Objective: Review planning-related documents and identify impacts on the City's water system for use in the WCP.

Approach:

- 1.3.1 Prepare and review an inventory of related plans to provide a summary of the impacts or constraints on the water system, including the *Benton County Comprehensive Land Use Plan* and the *Regional Water Supply Feasibility Study*, and review how the Growth Management Act (GMA) impacts the City.
- 1.3.2 Complete DOH's Consistency Statement Checklist for each planning agency with which the WCP must be consistent, specifically the City and County.
- 1.3.3 Identify existing and projected future land use patterns in and adjacent to the City and their potential impacts on existing and potential future facilities and water sources for the water system. Include discussions of the land use in the possible water system expansion area.
- 1.3.4 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.
- 1.3.5 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 GMA.
- 1.3.6 Prepare a color figure of the City's existing and future land use.

- 1.3.7 Tabulate monthly totals of metered consumption for each customer class and the average number of accounts in service for each year from 2010 through 2015 based on available information provided by the City. Identify the summer and winter variations in consumption for each customer class.
- 1.3.8 Tabulate monthly and annual usage for water supplied to other systems including, Metz Water System and Elliot Lake (Kennewick Irrigation District).
- 1.3.9 Tabulate ten (10) to twenty (20) of the largest water users and the total water use of each for the year 2015.
- 1.3.10 Tabulate monthly and yearly totals of water supply from each supply facility from 2010 through 2015.
- 1.3.11 Calculate per-capita demands, based on the average day demand (ADD), and water system population data from 2010 through 2015, based upon lands with and without irrigation water from other sources.
- 1.3.12 Calculate the number of equivalent residential units (ERUs) within the system, based on the water consumption and supply data.
- 1.3.13 Identify the total amount of distribution system leakage (DSL) from 2010 through 2015. Calculate the three (3)-year rolling average of the DSL.
- 1.3.14 Tabulate total consumption of customers within each pressure zone, based on the hydraulic model, and the parcel-consumption database provided by the City.
- 1.3.15 Calculate the system ADD, based on the yearly water supply data from 2010 through 2015.
- 1.3.16 Estimate the system's peak day demand (PDD) and peak hour demands (PHDs).
- 1.3.17 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.
- 1.3.18 Document the historical demands from 2010 through 2015.
- 1.3.19 Describe the basis for and results of the existing and projected future water demand evaluation.
- 1.3.20 Evaluate, describe, and prepare a graphic or table to demonstrate the summer and winter variations in consumption patterns for each customer class.
- 1.3.21 Document the results of the demand analyses in summary tables and the chapter text.

RH2 Deliverables:

- Descriptions and figures of planning data for City review and comment for the WCP.
- Descriptions and tables of historic and projected demand data for City review and comment.
- Chapter 2 of the WCP.

Task 1.4 – 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 pressure and fire flow hydraulic analyses.

Approach:

- 1.4.1 Describe water system design and construction standards for new construction.
- 1.4.2 Describe each pressure zone and existing facilities, including sources of supply, pressure reducing stations, pipelines, reservoirs, interties, and telemetry and supervisory control systems.
- 1.4.3 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).
- 1.4.4 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.
- 1.4.5 Identify and describe supply facility deficiencies.
- 1.4.6 Evaluate booster pump stations (BPSs) and briefly describe deficiencies.
- 1.4.7 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. Storage analyses will be performed for the system as a whole, as well as for individual pressure zones or storage operating areas.
- 1.4.8 Identify and briefly describe storage deficiencies.
- 1.4.9 Document the hydraulic analyses criteria and hydraulic model settings for the distribution system analyses.
- 1.4.10 Update the City’s existing WaterGEMS® hydraulic model with current water system mapping. Update the model with recent water system improvements.
- 1.4.11 Prepare a preliminary hydraulic model node diagram. Coordinate with the City to review water system facilities shown in the model and update the model, as necessary, based on input from the City.
- 1.4.12 Update elevation data in the model by transferring data from electronic contours to model junction nodes using customized routines.
- 1.4.13 Compute pipe roughness coefficients from available pipe material and age data using routines to accomplish initial calibration.
- 1.4.14 Allocate the existing (2015) demand data among the nodes in the model using a parcel-consumption database provided by the City and customized routines.
- 1.4.15 Update facility data into the model for supply sources, reservoirs, and pressure reducing valve (PRV) stations. Input pump curves developed under Task 5. Establish facility settings to reflect current settings and those to be used for the analyses.

- 1.4.16 Perform preliminary hydraulic analyses to identify locations for field pressure and hydrant flow tests and check potential performance at each site. Prepare a template that lists field test locations and data that needs to be collected at each test location. Coordinate with the City to establish methods and recordkeeping for field tests.
- 1.4.17 Attend one (1) day of hydrant-flow tests to observe that the pressure and flow test objectives and procedure are met for the purpose of calibrating the hydraulic model. *City staff will complete all hydrant flow tests on subsequent days without RH2 field assistance. City staff will operate hydrants, valves, and other water system facilities as directed by RH2. RH2 will provide calibrated pitot and pressure gauges for use during the hydrant-flow tests and will record the results of the tests. Operational status of facilities will be provided by City staff (in real-time or from the City's telemetry system following field testing), including flows into the system from supply sources and reservoir levels at the start and end of the tests.*
- 1.4.18 Perform hydraulic analyses to calibrate the model from the field flow and pressure test data for the purposes of steady-state hydraulic analyses.
- 1.4.19 Coordinate with the City to identify sources of 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 mains shown on system mapping or as-builts. Since this item is highly variable in nature, an initial allocation of twenty-four (24) hours of a water modeling specialist's time has 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 performing additional field flow tests and model calibration analyses.*
- 1.4.20 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.*
- 1.4.21 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.
- 1.4.22 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.
- 1.4.23 Export the results of the existing system PHD and fire flow analyses to a GIS shapefile for transmittal to the City.
- 1.4.24 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.*
- 1.4.25 Identify and input proposed water system improvements into the model, based on the results of the existing system hydraulic analysis and identification of deficiencies.
- 1.4.26 Perform a steady-state fire flow analysis for each node in the system while simulating future PDDs to check that the proposed improvements address 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, 10-year, and 20-year projections.
- 1.4.27 Prepare a table that summarizes the results of the existing system and future system fire flow analyses.

- 1.4.28 Identify and describe distribution system deficiencies and the results of the hydraulic analyses.
- 1.4.29 Evaluate and identify deficiencies for the existing water main, PRV stations, interties, and telemetry and supervisory control systems.
- 1.4.30 Perform an existing system, 6-year, and 10-year system capacity analysis to determine the unused, available system capacity expressed in equivalent residential units (ERUs). Prepare a 6-year and 10-year projected system capacity analysis with proposed improvements. Document the criteria and results of the analyses.
- 1.4.31 Document water supply characteristics and effects from existing and projected 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.
- 1.4.32 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.
- 1.4.33 Identify the water quality monitoring requirements for the City's water system.
- 1.4.34 Summarize the results and compliance status of recent source and distribution system water quality monitoring.
- 1.4.35 Identify improvements, as needed, to comply with the water quality requirements.
- 1.4.36 Meet with City staff to discuss the system analyses, deficiencies, and recommended improvements.
- 1.4.37 Document the results of the system analysis in summary tables and the chapter text.

RH2 Deliverables:

- Descriptions, tables, and figures of the water system analyses for City review and comment. Attendance at one (1) meeting with City staff.
- GIS shapefile containing the results of the existing system PHD and fire flow analyses. Calibrated WaterGEMS® hydraulic water model for use in steady-state hydraulic analyses.
- Water System Design Manual Table 6-1 for the existing, 6-, and 10-year system.
- Coordination with City to review accuracy of the hydraulic water model.
- Chapter 3 of the WCP.

Task 1.5 – Water Use Efficiency Program

Objective: Update the City's Water Use Efficiency (WUE) program and WUE goals for the water system.

Approach:

- 1.5.1 Evaluate the City's existing WUE program developed through the Regional Water Forecast and Conservation Plan Update and incorporate elements into the WCP necessary for consistency with regulations.
- 1.5.2 Prepare a summary of WUE planning efforts that have been completed since the WUE program was adopted.
- 1.5.3 Document the current and past efforts for WUE and their impact on water demand over the past six (6) years. Describe the WUE improvements.
- 1.5.4 Develop annual demand projections for the first ten (10) years and projections for year twenty (20), 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.
- 1.5.5 Coordinate with the City to provide data necessary to conduct the WUE public forum. *The City will conduct the meeting to satisfy the public forum requirements of the WUE program and to present the water use efficiency goals for adoption by the City Council.*
- 1.5.6 Identify and evaluate WUE measures for appropriateness and cost-effectiveness.
- 1.5.7 Prepare a schedule for implementation of the WUE measures and cost estimates for each measure.
- 1.5.8 Summarize the City's current water rights.
- 1.5.9 Perform a water rights evaluation that compares current water rights with existing and projected demands on a pressure zone or operating area basis.
- 1.5.10 Document water supply characteristics and effects from existing and projected 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.
- 1.5.11 Review adjacent water systems and provide a brief description of the adjacent water systems and the potential for emergency interties. Document existing interties and include agreements in the appendices.

RH2 Deliverables:

- Descriptions documenting the City's WUE program for City review and comment.
- Evaluation of existing water rights, including descriptions of existing water quality monitoring requirements and results of recent monitoring for City review and comment.
- Water Rights Self-Assessment for current use, 6-year, 10-year, and 20-year growth periods.
- Chapter 4 of the WCP.

Task 1.6 – Source Water Protection

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

Approach:

- 1.6.1 Prepare a summary of the state's regulatory requirements.
- 1.6.2 Document the City's past efforts toward protection of its water sources, including the monitoring program the City uses to assess the adequacy of watershed and wellhead protection.
- 1.6.3 Document the results of the City's susceptibility assessment and the monitoring waivers that were granted.
- 1.6.4 Prepare a description of the watershed and an inventory, including location, hydrology, land ownership, and activities that may adversely affect source water quality.
- 1.6.5 Perform delineation of the wellheads using the calculated fixed radius method and document the delineation method, results, and future requirements.
- 1.6.6 Prepare an inventory of potential contaminant sources and activities using available databases maintained by Washington State Department of Ecology (Ecology) and the EPA, and document the results of the inventory findings. The inventory will include site locations and owners/operators.
- 1.6.7 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 and wellhead protection programs.
- 1.6.8 Document watershed control and wellhead protection measures, including ownership and relevant written agreements, and monitoring of activities and water quality.
- 1.6.9 Document normal system operation and a contingency plan for operating the water system in the event of contamination of one of the City's water sources or other source-related emergency.
- 1.6.10 Document water quality trends of source water quality monitoring from past records.
- 1.6.11 Document implementation of the watershed control and wellhead protection program and provide recommendations.

RH2 Deliverables:

- Documentation of the City's watershed control and wellhead protection plan for City review and comment.
- Chapter 5 of the WCP.

Task 1.7 – Operations and Maintenance

Objective: Document the water system's operations and maintenance (O&M) program.

Approach:

- 1.7.1 Document the current water staff organization and prepare an organizational chart.
- 1.7.2 Prepare a table listing water operations personnel, their positions, and certifications.
- 1.7.3 Provide a brief description of the key responsibilities of the water operations personnel.
- 1.7.4 Provide a list of major equipment, supplies, and chemicals used by the water system.
- 1.7.5 Comment on the general impacts and effects of changing water quality requirements regarding O&M responsibilities.
- 1.7.6 Identify safety procedures that must be followed to help avoid potential work place hazards. Incorporate the existing safety program activities and recent Labor and Industries' inspection reports.
- 1.7.7 Prepare a description of the water system, as required by the Coliform Monitoring Plan (CMP).
- 1.7.8 Document source water quality monitoring requirements and procedures.
- 1.7.9 Document distribution system water quality monitoring requirements and procedures, including a schedule for coliform monitoring.
- 1.7.10 Discuss the impact of expanding the use of water supply produced by the City on the water quality monitoring requirements.
- 1.7.11 Prepare a color figure of the locations needed to meet the various monitoring requirements.
- 1.7.12 Prepare a brief description of the City's existing Emergency Response Plan (ERP) and Vulnerability Assessment (VA). For security purposes, those documents will not be included in the WCP.
- 1.7.13 Review the City's existing cross-connection control ordinance and programs it has developed. Evaluate the documents and incorporate elements into the WCP necessary for consistency with regulations.
- 1.7.14 Describe the consequences for failing to comply with the cross-connection control ordinance.
- 1.7.15 Document the responsibility of each City department for implementing the program, and their relationship with one another and outside agencies.
- 1.7.16 Identify the primary and back-up staff positions delegated to the responsibility of organizing and implementing the cross-connection control program.
- 1.7.17 Identify the qualifications required for personnel working in the cross-connection control plan.
- 1.7.18 Document the City's approval of qualifications for cross-connection control testers and specialists.
- 1.7.19 Document procedures for prioritizing and conducting surveys of existing facilities to identify existing and potential cross connections.

- 1.7.20 Document guidelines for assessing the degree of hazard and the selection of the appropriate backflow assemblies.
- 1.7.21 Document standard requirements for installing and testing approved backflow assemblies.
- 1.7.22 Describe the recordkeeping system requirements for the cross-connection control plan.
- 1.7.23 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.
- 1.7.24 Document procedures for responding to backflow incidents.
- 1.7.25 Identify procedures for keeping and compiling records and reports. Provide a general list of records on file and identify where they are filed.
- 1.7.26 Identify maintenance schedules for each facility and summarize the unidirectional flushing program updated under Task 6.
- 1.7.27 Evaluate staffing requirements and document recommendations.
- 1.7.28 Identify O&M improvements and costs for budgeting purposes.
- 1.7.29 Document the O&M program in summary tables and the chapter text.

RH2 Deliverables:

- Descriptions and tables documenting the City's existing O&M program.
- Completed cross-connection control plan included in the WCP as an appendix.
- Descriptions and figures documenting the City's existing water quality and coliform monitoring programs for City review and comment.
- Chapter 6 of the WCP.

Task 1.8 – Distribution Facility Design and Construction Standards

Objective: Apply for submittal exceptions for distribution, booster pumps, and reservoir projects under WAC 246-290-125.

Approach:

- 1.8.1 Discuss the City's existing construction standards and include a copy in an appendix of the WCP.
- 1.8.2 Document the City's design and construction standards for distribution-related projects.
- 1.8.3 Document the City's design and construction standards for BPSs and reservoirs.

RH2 Deliverables:

- City construction standards.
- Design and construction standards for distribution-related projects.
- Design and construction standards for BPSs and reservoirs.
- Chapter 7 of the WCP.

Task 1.9 – Improvement Program

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

Approach:

- 1.9.1 Describe the water system improvements that have been completed since the last WCP update.
- 1.9.2 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.
- 1.9.3 Prepare a planning-level (approximate) cost estimate for each improvement, based on current industry prices.
- 1.9.4 Coordinate with City staff to establish criteria for prioritizing and scheduling improvements. Prioritization and scheduling will consider other scheduled utility and transportation projects based on information provided by the City.
- 1.9.5 Schedule improvements, based on the results of the prioritization. Prepare up to two (2) modified CIP schedules, based on input from the City from the results of the financial analysis.
- 1.9.6 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 ten (10) years and for the twenty (20)-year planning period.
- 1.9.7 Describe the criteria and procedures used for prioritizing and scheduling improvements.
- 1.9.8 Document the CIP prioritization analyses in summary tables and the chapter text.
- 1.9.9 Prepare color figures of the following:
 - Proposed Water System Improvements
 - Proposed Improvements Hydraulic Profile
- 1.9.10 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. GIS files containing proposed water main improvements. Attendance at one (1) meeting with City staff.
- Chapter 8 of the WCP.

Task 1.10 – Financial Analysis

Objective: Identify the financial requirements of the City's water system.

Approach:

- 1.10.1 Coordinate with the City during the project to provide information in support of the financial analysis chapter.

- 1.10.2 Summarize past income and expenses for 2010 through 2015 and identify trends.
- 1.10.3 Provide a balanced one (1)-year operational statement for 2016.
- 1.10.4 Develop a plan for collecting revenue necessary to maintain cash flow stability and to fund projected capital and emergency improvements.
- 1.10.5 Compare necessary revenue to the City's ability to pay, based upon current 1.5 percent of median household income for the City.
- 1.10.6 Evaluate conservation rate structures and the feasibility of implementing rate structures that encourage water demand efficiency.
- 1.10.7 Attend one (1) meeting with City staff to review draft financial analysis results before finalizing the financial chapter.

RH2 Deliverables:

- Attendance at one (1) meeting with City staff.
- Chapter 9 of the WCP.

Task 1.11 – Miscellaneous Documents

Objective: Prepare miscellaneous appendices for inclusion in the WCP.

Approach:

- 1.11.1 Obtain copies of signed minutes from informational meetings for consumers including notification.
- 1.11.2 Attach notices to adjacent utilities that the WCP is available for review and comment. Attach comments received.
- 1.11.3 Obtain a State Environmental Policy Act (SEPA) Checklist and Determination of Non-Significance (DNS) from the City to include in the appendices.
- 1.11.4 Obtain the City service area and intertie agreements and include in the appendices.
- 1.11.5 Obtain copies of applicable City resolutions/ordinances and include in the appendices.
- 1.11.6 Include copies of Water Facilities Inventory (WFI) forms.
- 1.11.7 Include copies of water right certificates and permits.
- 1.11.8 Include a copy of the most recent Consumer Confidence Report (CCR).
- 1.11.9 Include a copy of the City's construction standards.
- 1.11.10 Include copies of water system facilities data, consistency statement checklists, and agency review comments.

RH2 Deliverables:

- Miscellaneous appendices for inclusion in the WCP.
- Chapter 10 of the WCP.

Task 1.12 – Executive Summary

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

Approach:

- 1.12.1 Identify the purpose of the WCP and summarize the major system characteristics and significant changes that have occurred since the previous WCP was completed.
- 1.12.2 Briefly describe the key issues in the WCP.

RH2 Deliverable: Draft executive summary chapter for City review and comment.

Task 1.13 – Finalize, Print, and Present Draft WCP

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

Approach:

- 1.13.1 Develop a cover format that includes the WCP name and revision date.
- 1.13.2 Transmit electronic copies of the draft WCP documents to the City for review and comment.
- 1.13.3 Revise the WCP, based on City review comments.
- 1.13.4 Attend one (1) meeting to present the completed WCP to City staff, City Council, and the public.
- 1.13.5 Bind the final WCP documents and print up to three (3) sets of the WCP and color figures. Two (2) sets of the WCP will be supplied to DOH.
- 1.13.6 Create an electronic PDF document, including all chapters, appendices, and figures of the WCP. *The electronic WCP will contain hyperlinks and an organizational format that will be fully functional.* Provide up to ten (10) copies of the electronic plan on CD format.
- 1.13.7 Submit the final WCP to adjacent water systems for their review and comment.
- 1.13.8 Submit the final WCP to the County and DOH for their review.

RH2 Deliverables: Up to three (3) sets of the final WCP in three-ring binder format and ten (10) copies in electronic PDF format on CD. Attendance at one (1) meeting to present the final draft WCP to City staff, City council, and the public.

Task 2 – DOH and Agency Review Revisions to WCP

At the completion of Task 1, the WCP 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 WCP modifications from review by the regulatory agencies and adjacent water purveyors are difficult to predict.

Objective: Finalize the WCP.

Approach:

- 2.1 Respond to DOH, Ecology, County, and adjacent water purveyor comments.

- 2.2 Attend up to two (2) meetings with the City and DOH to address concerns with the final conclusions and approach.
- 2.3 Print revised maps and chapters and distribute three (3) hard copies and provide up to ten (10) copies of the updated electronic plan on CD format.

RH2 Deliverables: At the completion of the project, a copy of the computer files of the WCP Word documents, water model, and AutoCAD® and GIS figures will be provided to the City.

Task 3 – Regional Water Forecast and Conservation Plan Update

Task 3.1 – Data Collection and Ecology Coordination

Objective: Assist the cities of Kennewick, Pasco, Richland, and West Richland (cities) in collecting data for the water system documentation and forecasting process. Coordinate with Ecology throughout the development of the plan.

Approach:

- 3.1.1 Attend a kickoff meeting with cities, County, and Ecology staff.
- 3.1.2 Coordinate with cities staff during the data collection process. This includes coordinating via telephone, submitting the list of data needed, and reviewing data provided by the cities.

***Assumptions:** To reduce the level of effort needed to update the WCP, RH2 will rely on the accuracy and completeness of existing information, data, and materials provided by the cities and others in relation to this Scope of Work. Benton County will be invited but is not required to attend the kickoff meeting.*

RH2 Deliverables: Attendance and meeting minutes for one (1) meeting with City, County, and DOH staff.

Task 3.2 – Introduction and Background

Objective: Describe the purpose and history of the cities of Kennewick, Pasco, Richland, and West Richland (the Quad City) water rights and report of current conservation measures and regional issues.

Approach:

- 3.2.1 Describe the history of the quad city water rights and purpose of the Regional Water Forecast and Conservation Plan (RWFCP).
- 3.2.2 Outline the RWFCP organization and content.

RH2 Deliverables: Chapter 1 of RWFCP update.

Task 3.3 – Area Description

Objective: Describe the local area geology, climate, population and municipal subdivisions.

Approach:

- 3.3.1 Describe the geography and climate of the quad city area.

- 3.3.2 Summarize the population served and the current and future services areas.
- 3.3.3 Describe the customer mix, water needs, and the impact of land use change.
- 3.3.4 Describe the municipal systems and the relationship of the municipal systems with irrigation districts within and adjoining current and future service areas.
- 3.3.5 Summarize municipal water rights for the quad cities and the mechanisms for transmitting regional supplies to each city.

RH2 Deliverables: Chapter 2 of RWFCP.

Task 3.4 – Conservation Program Components

Objective: Describe the conservation programs that are in place and evaluate their effectiveness on increasing efficiencies within the region.

Approach:

- 3.4.1 Meet with the cities and review existing conservation goals and objectives.
- 3.4.2 Update goals and objectives, based upon accomplishments and opportunities present in the current environment.
- 3.4.3 Describe existing and proposed conservation measures within each jurisdiction and regionally.
- 3.4.4 Collect data from the cities regarding current conservation measures and water use impacts.
- 3.4.5 Perform a water balance and determine net consumptive use within the municipal service areas.
- 3.4.6 Prepare a table of production and metered consumer use on a per-capita basis.
- 3.4.7 Describe and summarize non-revenue water use.
- 3.4.8 Evaluate the existing conservation program and opportunities to improve the program through various mechanisms.

RH2 Deliverables: Chapter 3 of RWFCP.

Task 3.5 – Regional Joint Use Strategy for Quad City Water Right

Objective: Describe the current use of the quad city water right, allocate the water rights for the next six-year period, and identify mitigation measures.

Approach:

- 3.5.1 Describe the current condition of the quad city water rights and where it is being used.
- 3.5.2 Tabulate the 2021 (6-year) and 2035 (20-year) allocation of the quad city water right and where it is anticipated to be used.
- 3.5.3 Describe mitigation required by each city, based on the allocation of the quad city water rights.

RH2 Deliverables: Chapter 4 of RWFCP.

Task 3.6 – Final Draft Regional Water Forecast and Conservation Plan

Objective: Prepare a final draft of the RWFCP and submit it to review agencies.

Approach:

- 3.6.1 Develop a cover format that includes the RWFCP name and revision date.
- 3.6.2 Transmit electronic copies of the draft RWFCP documents to the cities for review and comment.
- 3.6.3 Revise the RWFCP, based on cities review comments.
- 3.6.4 Attend one (1) meeting to present the completed RWFCP to cities staff, City councils, and the public.
- 3.6.5 Bind the final RWFCP documents, and print up to five (5) sets of the RWFCP and color figures. Two (2) sets of the RWFCP will be supplied to Ecology.
- 3.6.6 Create an electronic PDF document, including all chapters, appendices, and figures of the RWFCP. The electronic RWFCP will contain hyperlinks and an organizational format that will be fully functional. Provide up to ten (10) copies of the electronic plan on CD format.

RH2 Deliverables: Up to five (5) sets of the final RWFCP and ten (10) copies in electronic PDF format on CD. Attendance at one (1) meeting to present the final draft RWFCP to cities staff, City councils, and the public.

Task 4 – Ecology and Agency Review Revisions to RWFCP

At the completion of Task 3, the RWFCP will be in a final format, ready for review by the regulatory agencies and adjacent water purveyors. The number of comments, meetings, and amount of required RWFCP modifications from review by the regulatory agencies are difficult to predict.

Objective: Finalize the RWFCP.

Approach:

- 4.1 Respond to Ecology and water purveyor comments.
- 4.2 Attend up to two (2) meetings with the cities and Ecology to address concerns with the final conclusions and approach.
- 4.3 Print revised maps and chapters, distribute up to five (5) hard copies of updates, and provide up to ten (10) copies of the updated electronic plan on CD format.

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

Task 5 – Pump Condition and Energy Efficiency Evaluation

Objective: Determine the baseline operation and energy efficiency of the existing pumping units at the Columbia River Surface Water Treatment Plant (WTP), Ranney Collectors 4 and 5, booster stations at the golf course, W 18th Avenue and S Kellogg Street, W 19th Avenue and S Olympia Street, N 28th Avenue and W Irving Street, W 45th Avenue and S Olympia Street, W 47th Avenue

and S Olympia Street, Canyon Lakes, W 54th Avenue and S Olympia Street, Thompson Hill, Layton Park, soccer association, Kiwanis, Columbia Park campground, and the new aquifer storage recovery (ASR) well.

Approach:

- 5.1 Collect data at the well and BPSs to conduct a frequency vibration analysis, determine the energy signature, wire to water efficiency, and develop a pump curve. Data will be collected with only one (1) well or pump operating at a time at each site. *It is assumed that the City will provide a water system operator to turn pumps on and off and to adjust valve settings, and that the City will provide an electrician to connect RH2's electrical monitoring equipment into each control panel. It is also assumed that flow meters and upstream and downstream pressure can be measured or reasonably estimated at each site.* Three (3) data points will be tested at each site, as follows:
 - 1 – Operating at normal flows and pressures.
 - 2 – Partially throttled by a downstream valve (approximately 10 to 15 percent flow reduction from normal flows).
 - 3 – Further throttled by a downstream valve (approximately 20 to 30 percent flow reduction compared to normal flows).
- 5.2 Input field data into spreadsheets. Develop pump curves and calculate energy signatures for each pump.
- 5.3 For each pressure zone, summarize the energy signature of each supply pump, calculate the 2015 baseline total amount of water supplied, energy consumed, peak power demand, and the energy and demand charges on an annual basis.
- 5.4 Based upon the results of the frequency vibration analysis, evaluate the following:
 - Status regarding incoming power, including voltage and current measurements.
 - Status regarding motor conditions, including rotors, static/dynamic eccentricities, connection faults, and load-related problems, etc.
 - Motor/pump bearing problems.
- 5.5 Based on the results of the frequency vibration analysis, recommend and prioritize cost-effective replacement or overhaul improvements to address deficiencies identified in the analysis. Provide planning-level cost estimates for the recommended improvements.

RH2 Deliverables: Recommendations for improving the energy efficiency of the water system and assessment of the existing condition of the pumps in the system.

Task 6 – Unidirectional Flushing Program

Objective: Develop a unidirectional flushing program for the City.

Approach:

- 6.1 Update the model with the location of existing gate valves and hydrants in the system for use in updating the unidirectional flushing program.

- 6.2 Identify and describe the water supply needed to meet flushing criteria. Document the hydraulic analysis criteria and hydraulic model settings for the distribution system flushing analyses.
- 6.3 Perform a steady-state hydraulic analysis of the system simulating a maximum day demand (MDD) condition with a standard flushing flowrate at each hydrant to determine the pressures and flow distribution during this demand condition, using the hydraulic model of the water system.
- 6.4 Find operational bottlenecks and locations where additional isolation valves and hydrants would assist in meeting flushing flows while mitigating the impacts to users, using WaterGEMS's rule-based operational controls and unidirectional flushing utility.
- 6.5 Prepare a table summarizing the results of the existing system and updated system flushing flow analyses.
- 6.6 Identify and describe distribution system deficiencies and unsuitable pipe materials together with the results of the hydraulic analyses.
- 6.7 Prepare a map book consisting of 11-inch by 17-inch color figures (at 1 inch equals 200 feet scale) showing pressure zone, hydrant number, valve number, pipe size, type, and age over screened base map. Prepare draft, final draft, and final versions, as needed.
- 6.8 Prepare a flushing plan with the source of supply, pressure zone, line ID, location, map page, flushing port, flow control (required valve closures), and recommended flow times. Notes for each line shall include flushing history, documented flushing problems, contemporary problems, and customer complaints. Index and general directions will identify the recommended flushing schedule, priority, and frequency for line flushing. Prepare draft, final draft, and final versions, as needed.

RH2 Deliverables:

- Draft water system analysis and flushing program for City review and comment. Provide one (1) 11-inch by 17-inch full-set printed copy of draft maps and report.
- Attendance at one (1) meeting with City staff, based upon comments received from first draft. Provide one (1) PDF copy of final draft maps and report.
- Final hydrant and valve maps by pressure zone. Provide one (1) 11-inch by 17-inch full-set printed copy and one (1) PDF copy.
- Flushing program final report. Provide one (1) full-set printed copy and one (1) PDF copy.

EXHIBIT B

City of Kennewick

Water Comprehensive Plan Update

Fixed Fee Contract (Tasks 1, 3, 4, 5 and 6), T&M Not-to-Exceed Contract (Task 2)

Estimate of Time and Expense

		Total Hours	Total Labor	Total Expense	Total Cost
	Classification				

Task 1 Water Comprehensive Plan

Subtotal Water Comprehensive Plan Update Tasks	985	\$ 162,747	\$ 21,903	\$ 184,650
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Task 2 DOH and Agency Review Revisions to WCP

Subtotal DOH and Agency Review Revisions to WCP Tasks	30	\$ 4,952	\$ 1,048	\$ 6,000
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Task 3 Regional Water Forecast and Conservation Plan Update

Subtotal Regional Water Forecast and Conservation Plan Update Tasks	146	\$ 25,001	\$ 2,611	\$ 27,612
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Task 4 Ecology and Agency Review Revisions to RWFCP

Subtotal Ecology and Agency Review Revisions to RWFCP Tasks	44	\$ 7,550	\$ 1,068	\$ 8,618
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Task 5 Pump Condition and Energy Efficiency Evaluation

Subtotal Pump Condition and Energy Efficiency Evaluation Tasks	90	\$ 14,259	\$ 1,281	\$ 15,540
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Task 6 Unidirectional Flushing Program

Subtotal Unidirectional Flushing Program Tasks	130	\$ 21,694	\$ 3,724	\$ 25,418
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PROJECT TOTAL	1425	\$ 236,203	\$ 31,635	\$ 267,838
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**EXHIBIT C
RH2 ENGINEERING, INC.
SCHEDULE OF RATES AND CHARGES**

2015 HOURLY RATES

CLASSIFICATION		RATE	CLASSIFICATION		RATE
Professional	IX	\$206.00	Technician	IV	\$134.00
Professional	VIII	\$206.00	Technician	III	\$126.00
Professional	VII	\$196.00	Technician	II	\$94.00
			Technician	I	\$87.00
Professional	VI	\$184.00			
Professional	V	\$173.00	Administrative	V	\$127.00
Professional	IV	\$165.00	Administrative	IV	\$105.00
			Administrative	III	\$88.00
Professional	III	\$155.00	Administrative	II	\$74.00
Professional	II	\$144.00	Administrative	I	\$64.00
Professional	I	\$135.00			

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.

**City of Kennewick
Water Comprehensive Plan Update
Data to be Provided by the City**

The following list contains the information and data to be provided by the City of Kennewick (City) that is needed to update the City's Water System Plan (WSP). Available resources from previous planning work will be utilized to reduce the level of effort necessary. RH2 will rely on the items listed herein. The list below is organized according to the Scope of Work activities.

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
Task 1.2 – Introduction and Existing Water System Descriptions			
1. Reservoir information that includes reservoir name, as built, 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	Provided as part of Regional Water System Feasibility Plan	Delivered
2. Pressure reducing station data that includes station name, as built, 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	Provided as part of Regional Water System Feasibility Plan	Delivered
3. List of check valves and zone valves (closed isolation valves between pressure zones) in the distribution system.	H	Provided as part of Regional Water System Feasibility Plan	Delivered
4. Intertie information that includes adjacent system name, as built, location, water main size, control valve size and model number, and any other facility information.	H	Provided as part of Regional Water System Feasibility Plan	Delivered
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	Provided as part of Regional Water System Feasibility Plan	Delivered
6. Water treatment information that includes location of treatment facilities, as built, 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	Provided as part of Regional Water System Feasibility Plan	Delivered

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
7. Booster pump station data that includes pump station name, as built, 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	Provided as part of Regional Water System Feasibility Plan	Delivered
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	Provided as part of Regional Water System Feasibility Plan	Delivered
9. Copy of most recent Department of Health (DOH) Sanitary Survey.	M		
10. Copy of GIS files of the base map, aerial photo, existing water system (including all water main, sources, pumping and storage facilities, gate and check valves, and hydrants), and contours.	H	Provided as part of Regional Water System Feasibility Plan	Delivered
11. Describe the process for responding to requests for new water service (individual and group services), including timeframes.	L		
12. 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		
13. 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		
14. 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		
15. 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		
16. Copy of sample letter and certificate of water availability that is issued prior to receiving a building permit.	L		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
Task 1.3 – Basic Planning Data			
1. Copy of the City’s Comprehensive (Land Use) Plan.	H	Provided as part of Regional Water System Feasibility Plan	Delivered
2. Summary of City’s efforts and involvement in regional water system planning.	H	Provided as part of Regional Water System Feasibility Plan	Delivered
3. Identify on a map the areas where growth is expected to occur.	M	Provided as part of Regional Water System Feasibility Plan	Delivered
4. List of planned developments. Provide name of development, type of development, number of units and development schedule.	M	Provided as part of Regional Water System Feasibility Plan	Delivered
5. Copy of GIS file showing existing retail and future service area boundaries.	H	Provided as part of Regional Water System Feasibility Plan	Delivered
6. Copy of GIS file showing existing and future land use.	H	Existing land use shapefile provided, but not future land use shapefile.	
7. How often are customer meters read (monthly, every other month, etc.)?	H		
8. Hourly and daily reservoir level records (telemetry data, circular charts, data sheets, etc.) from each storage facility for 2010 through 2014 (to be used to determine the system’s peaking factors).	H		
9. Hourly and daily water production records from each source of supply for 2010 through 2014 (to be used to determine the system’s peaking factors).	H		
10. Monthly water production totals from each source of supply from 2010 through 2014.	H	2013 data already provided.	
11. Monthly water supply data for water supplied to other systems (Metz, Elliot Lake, etc.)	H		
12. Monthly (or bi-monthly) metered water consumption totals for each customer class from 2010 through 2014.	H	2013 data already provided.	
13. Average number of connections for each month for each customer class from 2010 through 2014.	H	2013 data already provided.	
14. Total number of multi-family units (number of apartment, condo, or townhome units) served in 2010 through 2014	H		
15. List of customers (approximately 10 to 20) that used the most water in 2014 (as measured by individual meters), customer address and amount of consumption of each customer for the year.	H		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
16. 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		
17. General level of service fire flow requirements and duration for all land use classifications, such as single-family, multi-family, commercial, industrial, etc.	M		
18. Is water usage for construction projects, fire department activities, water main flushing recorded, and in the City's treatment processes (backwash or priming water) metered? If so, provide total annual amounts from 2010 through 2014.	H		
19. Database of monthly totals of 2014 metered water consumption data for each meter, including address and parcel number, if available.	H		
Task 1.4 – Water System Analyses			
1. Copy of water system policies and design criteria not contained in the previous WSP.	L		
2. List of known water system deficiencies and unsuitable pipe materials.	M		
3. List of past water main breaks dating back to 2010. 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. As-builts for recent water system improvements not contained in the existing hydraulic model.	H		
6. Normal operating range of each reservoir (water elevation that well, intertie or control valve is called to fill reservoir or the normal drawdown in each reservoir).	H	Provided as part of Regional Water System Feasibility Plan	Delivered

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
Task 1.5 – Water Use Efficiency Program			
1. Copy of existing Water Use Efficiency Program.	H	Confirm that previous WCP and Regional Conservation Plan have the current WUE Program information.	
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	Confirm that previous WCP and Regional Conservation Plan have the current WUE Program information.	
3. List of current water use efficiency goals.	H	Confirm that previous WCP and Regional Conservation Plan have the current WUE Program information.	
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	Confirm that previous WCP and Regional Conservation Plan have the current WUE Program information.	
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	Confirm that previous WCP and Regional Conservation Plan have the current WUE Program information.	
6. Amount budgeted for each individual water use efficiency measure that is part of the water use efficiency program.	L		
7. Copy of water rights permits, certificates and other related information for all sources.	M		
Task 1.6 – Source Water Protection			
1. Copy of any recent reports and studies for the sources of supply (including the Wellhead Protection Plan, Watershed Control Plan and regional water supply studies).	M		
2. Copy of DOH Susceptibility Study.	M		
3. Summarize the City’s past efforts towards protection of its water sources.	L		
4. List of known and potential water contaminant sources located within the watershed/wellhead protection areas.	L		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
19. List of known backflow assemblies installed in the system.	L		
20. Copy of latest cross-connection control program summary report that is submitted annually to DOH.	L		
21. Copy of past lead and copper monitoring results (2010 through 2014).	M		
22. Copy of asbestos monitoring results (2010 through 2014).	M		
23. Copy of source water quality monitoring results (2010 through 2014) for volatile organic chemicals, synthetic organic chemicals, inorganic chemical and physical substances, and radionuclides.	M		
24. Summarize the results of past (2010 through 2014) 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		
25. Summarize the results of past (2010 through 2014) 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		
26. Summarize the results of past (2010 through 2014) disinfectants and disinfection by-product monitoring and Initial Distribution System Evaluation.	M		
27. Summarize the method of disinfection and initial dosage at each source (2010 through 2014).	M		
28. Provide the initial dosage of fluoride at each source.	M		
29. Copy of Coliform Monitoring Plan.	M		
30. List of dirty water complaints (2010 through 2014), including date and location of each complaint.	M		
31. Copy of the most recent Consumer Confidence Report (CCR).	M		
32. Copy of 2010 through 2014 Water Quality Monitoring Reports (WQMR) from DOH that lists the specific monitoring requirements for the City's system.	M		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
5. 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		
Task 1.7 – 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		
13. Provide copies of the City's Emergency Response Plan and Vulnerability Assessment (For security purposes, the documents will not be included in the WCP).	L		
14. Copy of existing cross-connection control ordinance/resolution.	L		
15. Copy of existing Coliform Monitoring Program.	M		
16. Sampling rotation schedule for coliform monitoring, if not contained in coliform monitoring program.	M		
17. List of water source sampling sites. Indicate source of sample.	M		
18. Copy of monitoring waivers and related DOH correspondence.	M		

Scope of Work/Information Needed	Priority	Notes	Status/ Delivered
Task 1.8 – Distribution Facility Design and Construction Standards			
1. Copy of the City’s water system construction standards.	L		
Task 1.9 –Improvement Program			
1. List of desired water system improvements not contained in previous CIP.	M	Provided as part of Regional Water System Feasibility Plan	Delivered
2. List of projects completed since the last WSP. List can be descriptive or map based.	M	Provided as part of Regional Water System Feasibility Plan	Delivered
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	Provided as part of Regional Water System Feasibility Plan	Delivered
Task 1.10 – Financial Analysis			
1. Data request will be issued at a later date.	L	To be provided at a later date.	
Task 1.11 – Miscellaneous Documents			
1. Copies of information meeting minutes (if any).			
2. SEPA Checklist (to be provided upon completion of final draft WSP).	L	To be provided at a later date.	
3. Copy of current service area agreement. This was likely prepared during the development of the County’s <i>Coordinated Water System Plan</i> .	L		
4. Copy of water resolutions or ordinances not specifically identified under other activities above.	L	Provided as part of Regional Water System Feasibility Plan	Delivered
5. Copy of most recent Water Facilities Inventory (WFI) form.	H		
6. Copy of standard maintenance logs and forms used.	L		
7. Copy of intertie agreements.	M	Provided as part of Regional Water System Feasibility Plan	Delivered
Task 3 – Regional Water Forecast and Conservation Plan Update			
1. RH2 will coordinate directly with other cities for data required, as indicated in the following pages.			No action needed.
Task 5 – Pump Condition and Energy Efficiency Evaluation			
1. Electric rate schedules for each pumping facility.	M		

Exhibit D-1
Regional Water Forecast and Conservation Plan Update
Data to be Provided by Cities
City of Kennewick

The following list contains the information and data to be provided by the Cities of Kennewick, Pasco, Richland, and West Richland that is needed to update the Regional Water Forecast and Conservation Plan (RWFCP). All data provided must be consistent with each city's 2015 Water Comprehensive Plan (WCP). Acknowledging that WCP preparation has not yet commenced, RH2 Engineering, Inc., (RH2) will estimate values to prepare a draft of the RWFCP update in summer/fall 2015, and will update the values, as needed, once each city provides data that is consistent with their WCP.

Please note: If data is not available, not applicable, or if the request is unclear, please notify RH2 and alternative information and assumptions can be discussed.

~~Strikethrough~~ items have been previously provided or resolved.

1. Briefly describe the service and repair schedule relating to source meters in the past 5 years (2008 RWFCP section 3.2.2).
2. Briefly describe the testing schedule for customer meters that are larger than 2 inches (2008 RWFCP section 3.2.3).
3. Briefly describe the residential retrofit program progress in the past 5 years (2008 RWFCP section 3.2.5).
4. Briefly describe the water audit schedule for large water users (2008 RWFCP section 3.2.6).
5. Does the city provide any irrigation management practices that ensures WUE with irrigation water? If so, please briefly describe these practices. (2008 RWFCP section 3.2.10).
6. Monthly 2015 water volume returned to the McNary Pool via the wastewater treatment plant and water treatment plant backwashing (2008 RWFCP Table 3-2).
7. Monthly 2015 count of septic systems within water service area (2008 RWFCP Table 3-2).
8. Briefly describe past mitigation efforts and future mitigation plans relating to the Quad City Water Right (2008 RWFCP section 4.4).

Exhibit D-2
Regional Water Forecast and Conservation Plan Update
Data to be Provided by Cities
City of Pasco

The following list contains the information and data to be provided by the Cities of Kennewick, Pasco, Richland, and West Richland that is needed to update the Regional Water Forecast and Conservation Plan (RWFCP). All data provided must be consistent with each city's 2015 Water Comprehensive Plan (WCP). Acknowledging that WCP preparation has not yet commenced, RH2 Engineering, Inc., (RH2) will estimate values to prepare a draft of the RWFCP update in summer/fall 2015, and will update the values, as needed, once each city provides data that is consistent with their WCP.

Please note: If data is not available, not applicable, or if the request is unclear, please notify RH2 and alternative information and assumptions can be discussed.

~~Strikethrough~~ items have been previously provided or resolved.

1. 2015 and projected 2035 city limits population (2008 RWFCP Table 2-2).
2. 2015 and projected 2035 water service area population (2008 RWFCP Table 2-2).
3. Existing number of water service connections within each customer class in 2015 (2008 RWFCP Table 2-3).
4. 2015 metered water consumption totals for each customer class, including breakdowns of irrigation supply for customers that irrigate with potable water (2008 RWFCP section 3.3.2).
5. Water use efficiency (WUE) goals (2008 RWFCP section 3.1).
6. WUE measures to be implemented to meet the WUE goals (2008 RWFCP section 3.2).
7. Briefly describe the service and repair schedule relating to source meters in the past 5 years (2008 RWFCP section 3.2.2).
8. Briefly describe the testing schedule for customer meters that are larger than 2 inches (2008 RWFCP section 3.2.3).
9. Briefly describe the residential retrofit program progress in the past 5 years (2008 RWFCP section 3.2.5).
10. Briefly describe the water audit schedule for large water users (2008 RWFCP section 3.2.6).
11. Provide a list of incentives provided to customers that encourage WUE (2008 RWFCP section 3.2.10).
12. Does the city provide any irrigation management practices that ensures WUE with irrigation water? If so, please briefly describe these practices (2008 RWFCP section 3.2.10).
13. Monthly 2015 water production totals from each source of supply (2008 RWFCP Table 3-2).
14. Monthly 2015 water volume transferred through each intertie (2008 RWFCP Table 3-2).
15. Monthly 2015 water volume returned to the McNary Pool via the wastewater treatment plant and water treatment plant backwashing (2008 RWFCP Table 3-2).
16. Monthly 2015 non-revenue water volume, such as flushing, water used by contractors, water used for fire protection, etc., (2008 RWFCP Table 3-2).
17. Monthly 2015 count of septic systems within water service area (2008 RWFCP Table 3-2).

18. Briefly describe any leak detection efforts in the past 5 years (2008 RWFCP section 3.3.3).
19. Provide the water system's 2015 distribution system leakage percentage (2008 RWFCP Table 3-4).
20. Provide current water right information for water rights not included in the Quad City Water Right (2008 RWFCP section 2.5).
21. Briefly describe past mitigation efforts and future mitigation plans relating to the Quad City Water Right (2008 RWFCP section 4.4).

Exhibit D-3
Regional Water Forecast and Conservation Plan Update
Data to be Provided by Cities
City of Richland

The following list contains the information and data to be provided by the Cities of Kennewick, Pasco, Richland, and West Richland that is needed to update the Regional Water Forecast and Conservation Plan (RWFCP). All data provided must be consistent with each city's 2015 Water Comprehensive Plan (WCP). Acknowledging that WCP preparation has not yet commenced, RH2 Engineering, Inc., (RH2) will estimate values to prepare a draft of the RWFCP update in summer/fall 2015, and will update the values, as needed, once each city provides data that is consistent with their WCP.

Please note: If data is not available, not applicable, or if the request is unclear, please notify RH2 and alternative information and assumptions can be discussed.

~~Strikethrough~~ items have been previously provided or resolved.

1. 2015 and projected 2035 city limits population (2008 RWFCP Table 2-2).
2. 2015 and projected 2035 water service area population (2008 RWFCP Table 2-2).
3. Existing number of water service connections within each customer class in 2015 (2008 RWFCP Table 2-3).
4. 2015 metered water consumption totals for each customer class, including breakdowns of irrigation supply for customers that irrigate with potable water (2008 RWFCP section 3.3.2).
5. Water use efficiency (WUE) goals (2008 RWFCP section 3.1).
6. WUE measures to be implemented to meet the WUE goals (2008 RWFCP section 3.2).
7. Briefly describe the service and repair schedule relating to source meters in the past 5 years (2008 RWFCP section 3.2.2).
8. Briefly describe the testing schedule for customer meters that are larger than 2 inches (2008 RWFCP section 3.2.3).
9. Briefly describe the residential retrofit program progress in the past 5 years (2008 RWFCP section 3.2.5).
10. Briefly describe the water audit schedule for large water users (2008 RWFCP section 3.2.6).
11. Provide a list of incentives provided to customers that encourage WUE (2008 RWFCP section 3.2.10).
12. Does the city provide any irrigation management practices that ensures WUE with irrigation water? If so, please briefly describe these practices. (2008 RWFCP section 3.2.10).
13. Monthly 2015 water production totals from each source of supply (2008 RWFCP Table 3-2).
14. Monthly 2015 water volume transferred through each intertie (2008 RWFCP Table 3-2).
15. Monthly 2015 water volume returned to the McNary Pool via the wastewater treatment plant and water treatment plant backwashing (2008 RWFCP Table 3-2).
16. Monthly 2015 non-revenue water volume, such as flushing, water used by contractors, water used for fire protection, etc., (2008 RWFCP Table 3-2).
17. Monthly 2015 count of septic systems within water service area (2008 RWFCP Table 3-2).

18. Briefly describe any leak detection efforts in the past 5 years (2008 RWFCP section 3.3.3).
19. Provide the water system's 2015 distribution system leakage percentage (2008 RWFCP Table 3-4).
20. Provide current water right information for water rights not included in the Quad City Water Right (2008 RWFCP section 2.5).
21. Briefly describe past mitigation efforts and future mitigation plans relating to the Quad City Water Right (2008 RWFCP section 4.4).

Exhibit D-4
Regional Water Forecast and Conservation Plan Update
Data to be Provided by Cities
City of West Richland

The following list contains the information and data to be provided by the Cities of Kennewick, Pasco, Richland, and West Richland that is needed to update the Regional Water Forecast and Conservation Plan (RWFCP). All data provided must be consistent with each city's 2015 Water Comprehensive Plan (WCP). Acknowledging that WCP preparation has not yet commenced, RH2 Engineering, Inc., (RH2) will estimate values to prepare a draft of the RWFCP update in summer/fall 2015, and will update the values, as needed, once each city provides data that is consistent with their WCP.

Please note: If data is not available, not applicable, or if the request is unclear, please notify RH2 and alternative information and assumptions can be discussed.

~~Strikethrough~~ items have been previously provided or resolved.

1. 2015 and projected 2035 city limits population (2008 RWFCP Table 2-2).
2. 2015 and projected 2035 water service area population (2008 RWFCP Table 2-2).
3. Existing number of water service connections within each customer class in 2015 (2008 RWFCP Table 2-3).
4. 2015 metered water consumption totals for each customer class, including breakdowns of irrigation supply for customers that irrigate with potable water (2008 RWFCP section 3.3.2).
5. Water use efficiency (WUE) goals (2008 RWFCP section 3.1).
6. WUE measures to be implemented to meet the WUE goals (2008 RWFCP section 3.2).
7. Briefly describe the service and repair schedule relating to source meters in the past 5 years (2008 RWFCP section 3.2.2).
8. Briefly describe the testing schedule for customer meters that are larger than 2 inches (2008 RWFCP section 3.2.3).
9. Briefly describe the residential retrofit program progress in the past 5 years (2008 RWFCP section 3.2.5).
10. Briefly describe the water audit schedule for large water users (2008 RWFCP section 3.2.6).
11. Provide a list of incentives provided to customers that encourage WUE (2008 RWFCP section 3.2.10).
12. Does the city provide any irrigation management practices that ensures WUE with irrigation water? If so, please briefly describe these practices. (2008 RWFCP section 3.2.10).
13. Monthly 2015 water production totals from each source of supply (2008 RWFCP Table 3-2).
14. Monthly 2015 water volume transferred through each intertie (2008 RWFCP Table 3-2).
15. Monthly 2015 water volume returned to the McNary Pool via the wastewater treatment plant and water treatment plant backwashing (2008 RWFCP Table 3-2).
16. Monthly 2015 non-revenue water volume, such as flushing, water used by contractors, water used for fire protection, etc., (2008 RWFCP Table 3-2).
17. Monthly 2015 count of septic systems within water service area (2008 RWFCP Table 3-2).

18. Briefly describe any leak detection efforts in the past 5 years (2008 RWFCP section 3.3.3).
19. Provide the water system's 2015 distribution system leakage percentage (2008 RWFCP Table 3-4).
20. Provide current water right information for water rights not included in the Quad City Water Right (2008 RWFCP section 2.5).
21. Briefly describe past mitigation efforts and future mitigation plans relating to the Quad City Water Right (2008 RWFCP section 4.4).

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P.O. Box 293 (525 North 3rd Avenue) Pasco, Washington 99301 / www.pasco-wa.gov

TRANSMITTAL LETTER

To: Pete Rogalsky, PE
Director of Public Works
City of Richland
505 Swift Boulevard
Richland, WA 99352

Date: August 20, 2015
Project: Interlocal Cooperation Agreement
Our Number: _____
Your Number: _____

RE: Interlocal Cooperation Agreement - Regional Water Forecast Update


Originals Photocopies Other: _____

Quantity	ID Number	Date	Description
1		07/21/2015	Interlocal Cooperation Agreement for Administration and Funding of a Regional Water Forecast and Conservation Plan Update

Remarks:

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SEP 09 2015
RICHLAND CITY CLERK

cc: _____

By: Precilla Andaya 
Title: Admin Assistant to Director of PW

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[Faint, illegible text, possibly a letter or document header]

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RICHMOND CITY CLERK