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**Brown** AND  
**Caldwell**

July 6, 2010

Mr. Darin Klein  
Regional Planner

Ms. Regina Grimm, P.E.  
Regional Engineer

Washington State Department of Health  
Office of Drinking Water  
P.O. Box 47823  
Olympia, Washington 98504

Subject: City of Yelm, ID #99350, Thurston County; Water System Plan;  
ODW Project #09-0602

Dear Mr. Klein and Ms. Grimm:

This letter represents responses to the comments provided by the Department of Health to the City of Yelm's Draft Water System Plan (WSP). Comments were communicated to the City in your letter dated October 16, 2009. This letter includes responses to each review comment; revisions to the draft WSP have been made to address those comments where appropriate.

Three copies of the final WSP are transmitted with this letter. In addition to the revisions to the draft Plan that have been made to address DOH comments, the WSP has also been updated to describe changes to the Yelm water system that have occurred since the submittal of the draft plan in June 2009.

Sincerely,

BROWN AND CALDWELL



Jeff Morgan, PE  
Project Manager



cc: Stephanie Ray, City of Yelm

**General Comments:**

1. The Water System Plan should demonstrate that the current system has adequate source, storage, and distribution capacity to meet projected demands during the next 6-year planning period following Department of Health (DOH) approval. If there is not adequate capacity for the 6-year planning period then DOH will not be granting an unspecified approval. The approval will be based on the existing capacity and the limiting factor for growth. Based on the analysis presented in the WSP, Yelm has almost reached their limit for the source, water right, and storage capacity. The annual water right in particular is almost at the allowed limit. Therefore, since DOH sets the approved number of connections at the existing capacity, we will be required to put Yelm "at capacity" and require that no additional ERUs are allocated until additional capacity (water right is currently limiting) is obtained. Yelm is in charge of monitoring their water budget in terms of ERUs.

**RESPONSE:** Discussions with DOH over the last year have led to the preparation of a new Water Facilities Inventory (WFI) form and capacity assessment. This assessment was approved by DOH on April 29, 2010 and a new WFI was issued on May 5, 2010 (see Appendix 4G). The approval limits the number of connections that can be made to the system until additional capacity can be provided. The WSP has been revised to describe the measures to be implemented to achieve that additional capacity.

2. The Thurston County Conservancy Board approval for the transfer of the McMonigle water right was denied by the Department of Ecology. This denial means that the McMonigle water right is not available to the city as they expected when preparing the water system plan. We understand that you are currently working with Ecology to resolve this and other issues identified in Ecology's letter dated August 11, 2009. Since the McMonigle water right was counted toward the current total water right portfolio, the information in the plan that was prepared based on this assumption must be corrected. Several specific comments are included in this letter requesting revisions related to the McMonigle water right. However, in general the plan should be consistent with this change and edits should be made accordingly.

**RESPONSE:** The McMonigle water right transfer is now anticipated to be complete by 2011. The WSP has been revised to reflect this. Additionally, the status of Water Right Certificate GWC 3561 was disputed by Ecology. This has been revised to be shown as a non-additive quantity, and the following statement has been included as applicable throughout the Plan, "The status of Qa of 112 acre-feet claimed by City is disputed by Ecology. While the City is not waiving or relinquishing its claim to the identified 112 aft, this Plan does not presently rely on that quantity for its current planning efforts. This right is shown as a non-additive quantity, but is subject to revision." This change is reflected throughout the revised WSP.

### Specific Comments:

The following comments are specific for each section of the WSP and require your response.

### Section 1 – Description of Water System

1. Page.1-13. According to the projections presented in Table 2-21, Yelm is currently over connected as of the 2009 projections. It is our understanding that the 2009 numbers are the first projected numbers and are actually higher than the current number of connections served. **Please provide current numbers so the table reflects accurate data.**

**RESPONSE:** Usage data for 2009 was provided separately in correspondence from the City to DOH at a March 1, 2010 meeting. In summary:

2009 projected demand = 848 ac-ft

2009 actual demand = 812 ac-ft

2009 projected ERUs = 3,502

2009 actual ERUs = 3,373

Actual usage data for 2009 have been referenced as a footnote in demand projections presented in Tables 2-20, 2-21, and 2-22. When analyzing system capacity in chapter 3, actual 2009 usage data were used. In addition, projections for 2010 have been revised to reflect the savings anticipated to be achieved through the implementation of a conservation plan that limits irrigation usage.

### Section 2 – Basic Planning Data

1. The definition of an Average Day Demand (ADD) states that the ADD is used to size sources and reservoirs. This is not accurate because the MDD and PHD are used for sizing sources and reservoirs. **Please revise.**

**RESPONSE:**

Because ADD is used to estimate future MDD and PHD conditions, it is indirectly used to size sources and reservoirs. This has been clarified in the text. The revised paragraphs are as follows:

**“Average Day Demand (ADD).** ADD is the average volume of water withdrawn from the ground on a daily basis. Projected future

ADD is used to estimate future maximum day and peak hour demands.”

2. Page 2-7 and Figure 2-2. **Please clarify whether the single family residential population comprises 62% or 69% of the water consumption.**

**RESPONSE:** Single family residential consumption comprises 62% of total water consumption. Multi-family residential comprises 7%. In total, 69% of Yelm’s water is used by residential customers (62% + 7%).

3. Page 2-9. **Please include the reasoning for deciding to use a three-year average for calculating the system ERU.**

**RESPONSE:** The three year average was used because the ERU values in 2005-2007 have fluctuated from a minimum of 206 (in 2007) to 228 (in 2005). The averaged value accurately reflects water usage characteristics in Yelm and allows for conservative projections should the ERU fluctuate in the future as the ERU value is expected to decrease as water rates charged to customers are increased. Averaging the three year’s values was based on our judgment that this represents a reasonable middle ground between the low and high values observed over those years.

4. Page 2-12. **Please explain in the plan the reasoning for using one year of data (2007) rather than more years for estimating the commercial water consumption per 1,000 square foot of commercial development.**

**RESPONSE:** 2007 was the only year that square footage data was readily available when the plan was written and projections were developed. Using 2007 data captures recent commercial growth in Yelm (including Wal-Mart). There has not been significant commercial growth in Yelm in the last two years.

### Section 3 –System Analysis

1. Since the McMonigle water right (G2-21613) cannot be used. **Please revise this section based on secured water rights already held by the city.**

**RESPONSE:** This section has been revised to show an existing water right of 796.66 ac-ft. Additional changes are summarized at the end of this document.

2. Capacity Analysis. The capacity analysis includes sources not yet constructed. **Please clarify how the City of Yelm will manage future**

**growth if additional water rights and sources of supply are not secured within the six year planning period.**

**RESPONSE:** If additional water rights and sources of supply are not secured within the six year planning period, Yelm will manage growth by implementing mandatory conservation measures and limiting the number of new service connections. The City of Yelm will permit new connections to the system consistent with limits imposed by DOH, including the limit specified in the May, 2010 approval of the new WFI and associated capacity assessment.

3. Table 3-1. System Capacity Analysis Criteria. In column 4, row 2, the note states that the MDD used is the highest 24-hour use in 2007. **However, in Table 2-22 shows that the MDD used is based on a peaking factor of 2.41. Please clarify the methodology for determining MDD in Table 3-1.**

**RESPONSE:** Table 3-1 has been clarified as follows:

Table 3-1. System Capacity Analysis Criteria		
Criteria	DOH Water System Design Manual Standards	City of Yelm Standards/Comments
ADD and MDD	ADD is determined from monthly water use records and indicates the amount of water used in a typical day. MDD represents the highest actual or estimated quantity of water that is, or is expected to be, used over a 24-hour period, excluding unusual events or emergencies.	Same as DOH. Future MDD is estimated as 2.41 times ADD, based on past water production records.

4. Page 3-8. There appears to be a discrepancy between the Golf Course Well's anticipated pumping capacity (500 gpm) and the legal Qi capacity (460 gpm). **Please clarify the legal production capacity for this well.**

**RESPONSE:** The City is no longer pursuing development of the Golf Course well. All references to the well's pumping capacity have been removed and source capacity calculations and projections have been revised accordingly.

5. Page 3-16. Schedule for Well Development and Water Rights Actions. During one of our recent water system plan meetings you informed us of problems that have come up with pursuing the new Golf Course Well. Based on our discussion, you estimated it would be about a year before this well could be brought online. **The Well Development table should be updated to reflect the current expectations for having the Golf Course well brought online. In addition, with the delay in bringing the Golf Course well online it appears that the projected MDD for 2009 (1260 gpm) will exceed the available source capacity (1200 gpm). This is an indication that the current**

**source capacity is a limiting factor on growth and that the water system has currently reached its limit on available capacity.**

**RESPONSE:** The well development table has been updated to reflect the elimination of the planned Golf Course well. See comments at the end of this document for additional changes.

With regards to source capacity; the estimate of MDD based on 2.41 times ADD showed that the MDD for 2009 was equivalent to 1,214 gpm (3,373 ERUs). At a source capacity of 1,200 gpm the calculated source capacity of the system is 3,335 ERUs. On this basis, the system was slightly over-connected in 2009. Pumping records for 2009 show a peak day demand of approximately 1,111 gpm, slightly less than the rated source capacity of 1,200 gpm.

6. Page 3-16. **Please include the target chlorine residuals for CT6 and describe the CT6 compliance locations for Wells 1A and 2.**

**RESPONSE:** The text in Section 3.3.2.1 has been revised to include this. The revised WSP states:

**Disinfection.** The City system uses chlorine gas to disinfect the raw water from Wells 1A and 2. The dedicated transmission main from Wells 1A and 2 to the Baker Hill reservoir has no service connections to it and provides chlorine contact for the full distance between the wells and the reservoir. The chlorine contact time at a pumping rate of 1,200 gpm is approximately 30 minutes. Construction drawings for this line are provided in Appendix 3D. The City does not allow connections to this line. Additional contact time is provided in the reservoir prior to introduction into the distribution system.

According to the requirements described in WAC 246-290-451, water systems are required to have a target chlorine residual concentration that, when multiplied by the contact time at peak flow, is equal to a value of 6. For Yelm, this equates to a target chlorine residual concentration of 0.2 mg/L at or before the first service connection. Additionally, the distribution system is monitored to ensure that detectable residual disinfectant concentrations are present in all active parts of the distribution system.

The City is currently completing a project at the downtown wells which will change the configuration of the system before the first service connection. As part of this project, chlorine contact time will be re-evaluated and a new target residual will be established. The project will be constructed to include a sampling location after the designated contact time has been met. In the future, the City will conduct monitoring at this point to verify that CT6 requirements are met. This project is described further at the end of this document.

The City monitors residual disinfectant concentrations at the same locations as routine and repeat coliform sample locations. A map of these sample sites is included in the Coliform Monitoring Plan in Appendix 6D. The use of gas chlorination in highly populated areas where a leak may affect a population is a concern. The City will review disinfection alternatives to existing chlorination, including liquid sodium hypochlorite.

7. Tables 3.7 and 3.8. The footnotes in these tables indicate that the equalizing, standby, and fire flow storage components are added together to get the total required storage. **The footnotes should state that the operational, equalizing, and standby storage are added to determine the total storage required. Please revise.**

**RESPONSE:** This has been revised. See Tables 3.7 and 3.8 in the WSP.

8. Page 3-38, Table 3-9. Yelm Water System Plan Projected Demands for Modeling. It appears that demand has been applied evening to each node, regardless of considerations of variations on demand from high users. **Please explain why the demands were not adjusted as nodes that might have higher usage, such as high commercial users. Is the difference in these demands negligible for how the overall system modeling?**

**RESPONSE:** The review comment is correct, demands were spread evenly across all nodes. It was our judgment that this approach would adequately represent the system for the following reasons:

1. Modeling of current conditions showed that the model was well-calibrated.
2. There are no extremely large water users connected to the system. The single largest user is Safeway, which represents a flow of 3.92 gpm on an average basis (total usage in 2007 = 275,700 cubic feet). In comparison, the calculated per-node flow throughout the system (based on 2007 ADD of 238.1 MG and 536 nodes) is 0.84 gpm.
3. Residential demands currently represent about 70% of total demands in the system. By 2015, projected residential demands will be 74% of total demands. In 2008, during the peak usage month (August), residential usage represented 82% of the total demand. Given that commercial demands are spread across a majority of the service area and are relatively small compared to residential demands, particularly during maximum day demand and peak hour conditions, the modeling scenarios were developed by applying demands equally across all nodes.

4. Fire flow demands plus MDD scenarios are modeled at a fire flow of 3,000 gpm. Compared to MDD demands for existing and projected conditions in 2015 (1,063 gpm and 1,608 gpm respectively), fire flow demands are much larger and outweigh relatively small variations in flows at individual nodes that would occur if demands were adjusted based on water usage patterns.
5. The largest commercial users (Safeway, Wal-Mart, Rosemont Retirement, Yelm Plaza) all are located on large parcels and consequently the water usage on a per-acre basis is likely to be similar to that for residential demands. For example, Wal-Mart represents usage equal to 21 ERUs and occupies a 15-acre parcel.

**Section 4 – Water Resource Analysis and Water Use Efficiency (WUE)**

6. Water Use Efficiency. Page 4-1. The minimum required measures must be based on demand side savings. Supply-side measures such as leak detection and water audits do not count toward required measures because these activities help you understand and reduce water loss (already required). The additional measures for irrigation users do count toward your required measures. Measures must either be evaluated for cost-effectiveness or selected for implementation along with a schedule. The estimated schedule for your reclaimed water projects was included. **Please include your cost-effectiveness evaluation for the other measures or if measures will be implemented, please include the anticipated schedule.**

**RESPONSE:** This section has been revised to clearly state which measures have already been implemented and to include implementation dates for those not already in place. Yelm is required to evaluate or implement 5 measures. Those which Yelm counts as required measures are summarized in the table below. These were developed based on DOH’s *Water Use Efficiency Guidebook* (2007.)

City of Yelm WUE Demand-Side Measures <sup>1</sup>		
Measure	Notes	Implementation Schedule
Increase reclaimed water use.	The City already implements the use of reclaimed water and has outlined a schedule for projects related to reclaimed water use as part of a Sewer Comprehensive Plan update. In the future, the City will evaluate changes to existing development guidelines to promote the use of reclaimed water and reduce potable water usage in new development.	Already implemented.

City of Yelm WUE Demand-Side Measures <sup>1</sup> (continued)		
Measure	Notes	Implementation Schedule
Provide education outreach programs	This is additional education and is not included in the basic education of customers, which is a required measure.	Already implemented
Provide water conservation kits		Already implemented
Conservation rate structure-residential		Already implemented.
Conservation rate structure-irrigation		Already implemented.
Adopt an ordinance to aggressively identify leaks beyond the water meter and implement appropriate penalties	This ordinance addresses leaks on customer property and thus is included as a demand-side measure.	Already implemented.
Provide education and assistance to customers on identifying and repairing leaks.	The City Council has stated intent to develop additional methods of implementing this measure.	Already implemented.
Perform an audit on irrigation users.		Implement in 2010
Provide education and guidance on best irrigation practices to the top irrigation users		Implement in 2010

<sup>1</sup> Does not include required measures or supply-side goals and measures.

- Page 4-3, Table 4-3. Please note that the term “unaccounted for water” does not have a standard definition and is no longer used. The current terminology is distribution system leakage (DSL) and authorized consumption. **Please revise.**

**RESPONSE:** This table has been revised in the text. The term “unaccounted for water” has been replaced with “Distribution System Leakage.”

- Page 4-9. **Please update the Water Right Self Assessment Form for existing, 6 and 20 year demands and include only those water rights currently held by the city.**

**RESPONSE:** The McMonigle water right transfer is now shown as a pending water right application on the existing Water Right Self Assessment Form, and is shown as being acquired on the 6-Year Water Right Self Assessment form. Water Right Certificate GWC 3561 has been revised to be shown as a non-additive quantity, and the following statement has been included as a footnote: “The status of Qa of 112 acre-feet claimed by City is disputed by Ecology. While the City is not waiving or relinquishing its claim to the identified 112 acre-feet, this Plan does not presently rely on that

quantity for its current planning efforts. Shown as a non-additive quantity, but subject to revision.”

9. Tables 4-5 and 4-6. Anticipated Water Rights Capacity. **Please update these tables to reflect the water rights changes due to the denial of the McMonigle water right transfer.**

**RESPONSE:** Tables 4-5 and 4-6 have been updated. These tables are now consistent with the existing and future Water Right Self Assessment forms. The water right for 2007-2010 is shown as 796.66 acre-feet (per Ecology records, see response above). The McMonigle transfer is anticipated to be complete in 2011. Water Rights Self-Assessment Forms also include an additional water right the City anticipates being secured by 2011 as a credit for previously decommissioned wells.

10. Page 4-22. In addition to the scenarios presented in this section, please include water rights interruption as a scenario that could trigger a water shortage. **Please include a plan for handling water shortage due to water rights interruption.**

**RESPONSE:** Total interruptible water rights in the City’s water rights portfolio equal 77 acre-feet (Qa) and 380 gpm (Qi). In the unlikely event that these water rights were interrupted due to Nisqually River in-stream flow requirements in the winter months, the City’s remaining water rights would be 719.66 ac-ft and 1,920 gpm. DOH criteria state that water systems must be able to provide 200 gpd/ERU if water rights are interrupted. While this DOH requirement is higher than typical winter water usage in Yelm, the City’s non-interruptible water rights represent enough capacity to meet the more conservative DOH requirement. The remaining Qi provides more than adequate capacity to meet peak demands during the winter.

Water rights interruption is included as a trigger in the Water Shortage Response Plan that is described in Section 4.4.4 and has been updated in Appendix 4H.

## Section 5 - Source Water Protection

1. Page 5-4. The contingency plan should be updated as part of the water system plan update, rather than being done at a future time. **Please update the contingency plan and include a copy as an appendix.**

**RESPONSE:** A Contingency Plan has been prepared and is included in Section 5.4 of the revised WSP.

2. Page 5-6 states a spill response plan will be developed and integrated into the Emergency Disaster Plan with the development of the Southwest wellfield. A Spill Response Plan must be implemented as part of an approved WSP. **Please submit a Spill Response Plan that addresses Yelm's current water sources.**

**RESPONSE:** A Spill Response Plan has been prepared and is included as Appendix 5C.

## Section 6 – Operation and Maintenance

1. Page 6-2, Figure 6-1. The correct phone number for the Office of Drinking Water is 360-236-3030. **Please revise.**

**RESPONSE:** This has been revised in Figure 6-1.

2. Page 6-16, Emergency Response Plan (ERP). WAC 246-290-415 (2) (b) requires public water systems to have an emergency response plan as part of their approved water system plan. The Emergency Response Plan presented in the WSP is lacking significant information (please refer to the Emergency Response Planning Guide for Public Drinking Water Systems found on our website at, [http://www.doh.wa.gov/ehp/dw/Programs/water\\_sys\\_plan.htm](http://www.doh.wa.gov/ehp/dw/Programs/water_sys_plan.htm)). Although the City intends to prepare an emergency response plan with the development of the southwest Yelm wellfield, a current ERP is required to address potential emergencies in the existing system. **Please submit an Emergency Response Plan that addresses potential emergencies for the existing water system.**

**RESPONSE:** An Emergency Response Plan has been prepared and is included as Appendix 6F.

3. Page 6-18. Please describe the status for implementing the various elements of the Cross-Connection Control Program. If there are aspects of the program that are not fully being implemented please outline the schedule for implementation.

**RESPONSE:** All aspects of the CCC Program are fully implemented.

## Section 7 – Distribution Facilities Design and Construction Standards

1. Page 7-1 and 7-4. Based on the standards that are currently used by the City, Yelm will only qualify for the distribution exception under WAC 246-290-125(2). In order to qualify for the exception for distribution-related projects under WAC 246-290-125(3) Yelm would need to submit much more information on their standards (essentially submitting the projects for pre-approval) to get the

distribution-related exception. **Please revise these pages to reflect the distribution exception is the only submittal exemption they qualify for.**

**RESPONSE:** Chapter 7 has been revised accordingly.

### Section 8 – Improvement Program

1. Capital Improvement Plan. Section 8.4 lists O&M and Non-Facility Improvements; however these improvements are not included in the 6 year and 20 year CIP. **Please revise or clarify where these projects are accounted for.**

**RESPONSE:** These projects are included in the O&M budget described in Chapter 9 and are incorporated into the rate analysis.

### Section 9 – Financial Program

1. Page 9-1 states the financial plan was developed prior to the developer not being able to meet its financial commitments to fund the Golf Course Well. Additionally, the city stated it would now be necessary to take the project over. However, this would delay all CIP projects by one year. **Please revise the financial program to include the costs associated with the city taking over the Golf Course Well project, and a revised CIP implementation schedule.**

**RESPONSE:** The City is no longer pursuing development of the Golf Course Well. Therefore, no revisions are needed in this section, other than to remove references to the Golf Course Well project.

2. Due to the denial of the McMonigle water right transfer, it appears the City is at their water right capacity as of 2009. Page 9-4 states that 50% of the system development charges will be dedicated to capital needs and 50% will go to pay for debt service. Furthermore, 15% of SDC revenue will apply to the 20 year capital funding strategy. **Given the uncertainty of the city's ability to provide new connections, please explain how this will affect the city's capital funding strategy and what the city will do to address this issue.**

**RESPONSE:** The City has evaluated their ability to support the CIP independent of revenue generated by SDC charges. Chapter 9 has been revised to describe a no-growth scenario and the corresponding rate increases required to support the 6-year CIP.

## Section 10 – Miscellaneous Documents

1. **Before ODW can approve the plan, the final WSP submittal must be signed and stamped by a licensed, professional engineer.**

**RESPONSE:** The final WSP is submitted along with this response letter. The document is stamped by a licensed professional engineer.

2. **Prior to ODW approval of the WSP, the governing body or elected board must approve the WSP (WAC 246-290-100(8)(b)). Please include documentation showing the WSP has been adopted.**

**RESPONSE:** Approval of the WSP by the Yelm City Council is pending. Once the WSP has been adopted, the associated documentation will be forwarded to DOH.

3. **Please provide any comments received from adjacent water utilities concerning the draft WSP along with your response to those comments.**

**RESPONSE:** Chapter 10 lists the comments the City received on the draft WSP. These comments have been included in Appendix 10A. Changes to the draft WSP to address these comments are included in this letter.

## Appendix 1

4. 1-B. Yelm Municipal Code Ch. 13.04.120 defines an ERU as an equivalent flow of 900 cu ft or less pre month. This is an ADD of 221 gpd/ERU. **Is this number going to be revised? How does this code effect allocation of water to customers?**

**RESPONSE:** This number will be revised after approval of the WSP. The ERU is currently in the municipal code to calculate connection charges. Rather than putting the ERU value in the ordinance, the ordinance will be revised to reference the current WSP.

5. 1-D. Yelm Comprehensive Plan Chapter V – Public Facilities and Utilities. Under the Levels of Service section of this document (p. V-3) it states that for planning and concurrency purposes, the City requires 300 gallons per day per connection. It also states that thirty percent of the City's existing water rights are set aside for industrial development. These statements are inconsistent with what is presented in the main body of the water system plan. **Please clarify**

**what these numbers represent and how this discrepancy will be resolved.**

**RESPONSE:** The Yelm Comprehensive Plan will be updated once the WSP is finalized.

#### **Appendix 5. Wellhead Protection Plan**

1. The Wellhead Protection Plan (WHPP) was last approved in 2001. WAC 246-290-135(3)(c)(iii) requires an inventory of all potential and known sources of ground water contamination (past and present) within the wellhead protection area boundaries that may pose a threat to the water bearing zone utilized by the well, spring or wellfield. The inventory findings should be prioritized and grouped by time of travel zones. The inventory of potential contaminants is required to be updated every two years. **Please provide this updated inventory list. Additionally, please discuss any improvements or changes to the WHPPP that have been made or anticipate making.**

**RESPONSE:** The updated inventory list is included in Appendix 5B. The WHPP has not been revised. Once the City completes a new well, the WHPP will be revised.

2. Appendix 5-C. The sample notification letters reference a Taylor Gulch Water System. **Please provide documentation showing when the City of Yelm notified the appropriate regulatory agencies, local governments and owner/operators of the identified known and potential contaminate sources of the wellhead protection area boundaries, including inventory findings and contingency plan conclusions.**

**RESPONSE:** Notification letters are currently being sent to regulatory agencies, local governments, and owner/operators. Sample letters and lists of recipients are included in Appendix 5B.

#### **Appendix 6-D. Coliform Monitoring Plan**

1. Page 2. The number of required routine samples to be taken each month is 6 not 2 as indicated the submitted Coliform plan. **Please revise. Additionally, the required 6 monthly samples should be scheduled to be taken throughout the month.**

**RESPONSE:** The Coliform Monitoring Plan has been revised to reflect the current number of required routine samples (revised in January, 2010 to 10 per month). The updated plan is included in Appendix 6-D.

2. Page 3. Repeat and follow-up sampling. 3 repeat samples are required for each routine sample that has unsatisfactory results. The following month, return to the required 6 samples. **Please revise to include this.**

**RESPONSE:** This has been revised.

3. Page 3. Please note that the upcoming Groundwater rule (December, 2009) will require you to collect repeat samples from the sources in the affected area. If a routine coliform sample is unsatisfactory, all sources must be sampled, in addition to, the coliform repeat samples. **Please include this in the revised Coliform Monitoring Plan and make sure all sources have sample taps for source samples.**

**RESPONSE:** The text has been revised.

4. The map is difficult to read. **Please provide a map clearly showing routine and repeat sample sites, well location, storage and pressure zones.**

**RESPONSE:** The revised map is included with the updated Coliform Plan in Appendix 6-D.

5. If a routine sample or repeat sample is *E-coli* positive, please contact Southwest Regional Office or call our after-hours emergency line (1-877-481-4901) immediately. During office hours, please contact our Coliform Program Manager, Sandy Brentlinger, at 360-236-3044. We will work with you on the needed number of repeat and extra samples, locations and health advisory procedures. **Please incorporate this procedure into your Coliform Monitoring Program.**

**RESPONSE:** The above statement has been included in the Coliform Monitoring Program.

#### **Appendix 6-H. Cross Connection Control Plan**

1. The Cross Connection Control Plan is presented as a “2001 draft” plan. **Please provide a finalized Cross Connection Control Plan.**

**RESPONSE:** Appendix 6H has been updated with the final CCC plan.

#### **Recommendations (Response not required)**

1. Page 1-23. The retail service area includes the future Master Planned Community (MPC) located inside the city limits. Your service area policies specify the need for developers to have their own water rights for property outside of city limits or for those properties inside the retail service area that have yet to be annexed. Yelm may want to be more specific with their

service area policies that addresses how service will be provided (terms and conditions) within the retail service area and inside city limits.

**RESPONSE:** The following additions have been made to the policy section in Chapter 1:

- The City reserves the right to pursue water systems, water rights, through the exercise of eminent domain.
- City continues to plan for and intends to develop and/or acquire other water rights as may be necessary to carry out this plan.
- Other minor edits to the policy section were completed to clarify the definition of “timely and reasonable” and to ensure consistency with City policies laid forth in the Comprehensive Plan and elsewhere.

2. Page 3-11. Source Deficiencies and Proposed Improvements. The second paragraph of this section describes using a conservative assumption for meeting MDD, it is assumed one well is kept out of service. However, in the case of the two downtown wells (Yelm’s total source capacity) there are physical limitations that prevent using both wells at once. We think it would be more accurate to clarify that the current source limitations only allow considering only one well for meeting the MDD condition.

**RESPONSE:**

This is stated in Section 3.3.1.1, Existing Conditions:

“Hydraulic conditions in the piping from the wells to the Baker Hill tank limit pumping from the wells so that only one well can operate at any one time when operating at full capacity of 1,200 gpm.”

Over the past year, following the submittal of the draft WSP, the City has initiated a project to increase the capacity of the downtown wells, as described below.

3. Appendix 6-H. Update BAT contact list (last updated 2001) for Cross Connection Control Plan. The list can be found on our website at, [http://www.instruction.greenriver.edu/wacertservices/bat/countysearch\\_publiclist.asp](http://www.instruction.greenriver.edu/wacertservices/bat/countysearch_publiclist.asp)

**RESPONSE:** The updated BAT is included in the CCC plan.

## **Additional Revisions to the Draft WSP**

After receiving the above comments on the Draft WSP, several additional changes have taken place. Where applicable, these changes have been documented in the final WSP. These changes are listed below:

### **2010 Conservation Program**

In 2010, the City implemented a mandatory conservation program for all irrigation customers. This program limits water used through water meters dedicated to irrigation use to a specific amount. This amount was determined by the City for each customer based on irrigation practices recommended in the Washington Irrigation Guide, the total landscaped area on individual properties, and historical water use. Once a customer reaches the predetermined amount, the irrigation meter on the property will be locked for the remainder of the year. This conservation program was approved by DOH in a letter dated April 29, 2010. A WFI completed by DOH on May 5, 2010 stated that the City had 47 remaining single family connections (ERUs) until the system capacity of 3,308 ERUs is reached. It is anticipated that the City will allow new connections until this capacity is reached in 2010. The WSP has therefore been revised to show an anticipated demand of 3,308 ERUs in 2010 for the non-MPCs scenario. Projections from 2011-2030 remain unchanged from the Draft WSP.

### **Downtown Well Project**

In 2010, the City began planning for a project which would increase the capacity of the downtown wells. This work is expected to increase capacity by 500 gpm, expanding the total source capacity of the system to 1,700 gpm (4,725 ERUs). This project is anticipated to be completed by late 2010 or early 2011, and is considered a new CIP project. The WSP has been revised to include this project. The system analysis presented in Chapter 3 accounts for the increased capacity beginning in 2011, and the CIP presented in Chapter 8 has also been revised. The project is also referenced throughout the WSP, as applicable.

### **Water Rights Status**

The City is completing negotiations to secure the McMonigle water right transfer. This transfer is now anticipated to be complete in 2011. The WSP has been revised to reflect this change. Additionally, the City has completed an application to receive water rights as a credit for decommissioned wells. This water right application is expected to be approved by 2011 and have a  $Q_a$  of 31.26 ac-ft, and a  $Q_i$  of 0. This water right is now included in the Plan.

### **Well Name Change**

Southwest Yelm Well 1 has been changed to SW Yelm Well 1A throughout the document.

### **MPC Scenario**

The draft WSP evaluated two different development scenarios. For the most part, the “with MPC scenario” has not been updated. At this time, it is very unclear as to when development of the MPCs would resume. The information presented for the “with MPCs” scenario is intended to describe projected water demands for those areas and the water system infrastructure that would be required to serve the MPCs, based on development plans that had been communicated to the City at the time the draft WSP was prepared. When it is determined that the MPCs are ready to develop, these projections will need to be reevaluated and the City’s WSP will need to be updated.

The “without MPC” scenario has been updated throughout the final WSP to reflect anticipated growth and the expansion of the system to support that growth through the implementation of the Capital Improvement Plan described in Chapter 8. The final WSP represents a planning document for the “without MPC” scenario.