

APPENDIX F
CITY AGREEMENTS AND
WELLHEAD PROTECTION ORDINANCES

- F-1 Summary of City Agreements and Recommendations
- F-2 Summary of Wellhead Protection Ordinances and Recommendations
- F-3 Suggested Checklist of Topics for Biennial Meeting Agenda

APPENDIX F-1
SUMMARY OF CITY AGREEMENTS AND RECOMMENDATIONS

(by Kathy Callison)

CITY AGREEMENTS**I. Existing Agreements**

The City's agreements relevant to wellhead protection include agreements relating to regional groundwater protection, emergency response and mutual aid, reclaimed water and wellhead protection monitoring. The following section summarizes key provisions of city agreements, by category.

A. Regional Groundwater Program

1. Agreements

a. *Intergovernmental Agreement for Governance of the Regional Ground Water Program.*
2/5/1996

- Purpose: To continue a program for ground water protection in the area of Thurston County designated as Ground Water Management Area No. 10, North Thurston County by Department of Ecology Order dated September 14, 1987. [KC: get order].
- Committee will provide recommendations to regional jurisdictions.
- Scope includes providing policy on regional wellhead protection policies.
- Scope also includes implementation as feasible of Northern Thurston County Ground Water Management Plan, and conduct an annual, outcome-based performance audit to determine that the program goals and objectives are met.
- County will provide services.
- 1997 Regional Ground Water Program Work Program includes ground water protection, education, monitoring, data management and interpretation, hydrogeologic technical assistance, ground water model, and regional wellhead policy; committee support, (drafting and support for prioritized regional wellhead policy).
- Costs are allocated by percent population.
- **Term: Commencing 1/1/97, the contract will “continue from year to year unless terminated, upon approval of the work program and budget.”**

b. *Intergovernmental Agreement for Governance of the Regional Ground Water Program.*
December 16, 1996

1998 Interlocal Agreement of a Wellhead protection Monitoring Program (City and County).
11/3/98

- Sampling at 15 wells.
- Special nitrate sampling, Palermo wellhead area.
- Septic workshop to provide education on proper operations and maintenance of onsite systems.

c. *Intergovernmental Agreement for Governance of the Regional Ground Water Program Amendment 1999 (1.)*

12/7/98

- Short form contract.
- Original agreement amended to adopt 1999 scope and budget.

- Significant public education activities, Drinking Water Week, coordination of programs through a groundwater Technical Advisory committee and groundwater Policy Advisory committee.
- Separate funding is provided for septic workshops.
- Literature review is to be undertaken to identify water quality trends and probs.
- Wellhead protection policy development will consider existing and expanding uses, and policy to prevent ground water problems from new subdivisions on septic systems.

2, Recommendations

a. Work with regional groundwater program staff to discuss wellhead protection programs and policies, such as -

- Policies for uses and hazardous materials triggering heightened development review.
- Updating policies for wellhead protection based on current information, including regional studies and monitoring data, national or industry studies on containment sources and risks, and innovative approaches including treatment, storage or management methods that can reduce or effectively eliminate the risk of groundwater contamination.
- Consistent processes for review and approval of wellhead protection areas across jurisdictional boundaries.
- Regional wellhead protection monitoring and early warning protocols.
- Approach to septic system conversion.
- Outreach and education, including septic system and nitrates educational materials

b. Revise regional contracts as needed to support further regional policy or program development.

B. Emergency Response

1. Agreements

a. *Public Works Emergency Response Mutual Aid Agreement for Signatory Agencies in the State of Washington.*

Signed by Mayor Osgood September 9, 1997

- Facilitated by WSDOT Transaid.
- Purpose: To permit signatory agencies to coordinate resources, and maximize funding reimbursement during disastrous/emergencies
- “To protect life and property, when the event is beyond the capabilities of the affected entity.”
- Emergency is defined as “any event, expected or unexpected, involving shortages of time and resources; that places life, property or the environment in danger; that requires response beyond routine incident response resources.”
- Includes attached “Requesting agency checklist” – “Responding agency checklist” and other materials for organizing response.
- Mutual Aid Agreements Task Force included representatives of AWC, cities and counties.
- **Term: undefined**

b. *Mutual Aid Agreement Between the Cities of Tumwater and Olympia for the use of Emergency Water System.*

8/14/01

Signatories agree to provide water in a “proclaimed emergency” (RCW 38.52.010) [KC: Check] Water is to be provided for “fire fighting, drinking water and personal hygiene”. Potable water is to be provided at “emergency water system interties” at the intersection of Capitol Boulevard and Carlyon Avenue, and/or the intersection of State Route 101 overpass and Crosby Boulevard.

- No service charge will be assessed if service is for 72 hours or less.
- If water is provided, 72 hours to 14 days, payment will be made as agreed by the Public Works Directors.
- For provision of water between 7 and 14 days, payment will be made per metered billing or as agreed.
- Conservation is to be implemented so that water provided supports public health and safety, and “to meet the reasonable expectations” of customers.
- Expenses are to be covered.
- **Term: Indefinite unless unilateral termination takes place with 1 year’s notice, or by written agreement of the parties.**

2. Recommendations

- a. As needed, update checklists, protocols, and agency roles identified in agreements in cooperation with current emergency response team members, and protocols, amending agreement if necessary. Incorporate emergency responder meeting outcomes.
- b. Review physical condition and regulatory status of identified interties and amend agreements as needed.

C. Reclaimed Water

1. Agreements

a. *General Interlocal Agreement Between the LOTT Wastewater Alliance, Thurston County and the Cities of Lacey, Olympia, and Tumwater for Distribution and Use of Reclaimed Water.*

1/8/2004 (Date of last signature)

- Citing to 2000 Interlocal to develop additional capacity.
- “Implementing the LOTT Wastewater Resource Management Plan (“WRMP”) including development of reclaimed water and ground water recharge facilities located throughout the LOTT service area”. Subsection 1.3, Recitals
- Cites to RCW 90.46.005, by which Legislature encourages use of reclaimed water “to replace potable water in nonpotable applications to supplement existing surface and groundwater supplies, and to assist in meeting the future water requirements of the state.” Subsection 1.6
- Cites to RCW 90.46.005, stating reclaimed water use constitutes the development of new basic water supplies needed for future generations. Subsection 1.7
- General agreements to “effectuate the purposes” of the Reclaimed Water Act (RCW 90.46).
- Compliance with the LOTT NPDES permit and Reclaimed Water permit takes precedence under the Agreement over supply and beneficial use.

- Recharge of aquifers is as identified beneficial use.
- Reclaimed water is to be made available to all of partner utilities.
- Utilities are to take responsibility for end uses including ensuring LOTT Reclaimed Water permit requirements are met.
- Partners may use reclaimed water for their own purposes consistent with end uses and end user requirements of the Reclaimed Water Standards and LOTT's State Reclaimed Water permit.
- LOTT has the responsibility to ensure water quality requirements are met (with limited exceptions) ends at Delivery Point(s).
- LOTT partners are responsible for water quality as it may be altered beyond the delivery point(s).
- LOTT will become involved with LOTT partner's end user customers only to provide technical assistance at the request of a partner or as a last resort to ensure permit compliance. [KC: Check reclaimed water permit.]
- The price to each partner is \$1.00 per year for each Supply Agreement until changed by amendment to this Agreement.
- LOTT will construct and fund LOTT facilities, partners will construct and fund their own facilities, unless otherwise agreed.
- Resale to users by the City is authorized if the City has adopted an ordinance, and if the end user has signed a binding end use agreement.
- Policy, distribution and use issues are to be addressed cooperatively.
- An internal process for dispute resolution is agreed to prior to litigation.
- **Term: Indefinite, except that a partner may withdraw within 180 days notice.**

b. *Reclaimed Water Distribution Agreement No. 1 Between the LOTT Wastewater Alliance, Thurston County and the Cities of Lacey, Olympia and Tumwater.*

1/13/05

- Citing to Reclaimed Water General Agreement. 1/16/04
- Parties agree to distribution of 1st mgd, and 2nd mgd (Hawks Prairie).
- Attachment: Distribution Methodology. (Tables)
- Agreement will be appended to supply agreements.
- **Term: Effective until superseded by written agreement [KC: Check], or other action by parties superseding Table 1.**

2. Recommendation

Following reclaimed water studies currently being conducted by LOTT, work with the regional groundwater work group to provide recommendations to the LOTT TAC, for incorporation into updates to the Reclaimed Water General Interlocal Agreement, as appropriate.

D. Wellhead Protection Monitoring

1. Agreement

a. *Interlocal Agreement for Wellhead Protection Monitoring Program.*

4/12/11

- Agreement between City of Tumwater and Thurston County.
- Sampling and analysis of wells within City's WHPA, data management and reporting to the City.
- Scope: Water levels, inorganic chemicals, volatile organic chemicals, nitrate/nitrogen.
- 15 wells.
- [KC: Location of wells in light of new capture zones; review scope]
- **Term: 5-years**

2. Recommendation

Modify scope of work to include new monitoring points reflecting changed WHPA boundaries.

APPENDIX F-2
SUMMARY OF WELLHEAD PROTECTION ORDINANCES AND RECOMMENDATIONS

(by Kathy Callison)

I. WELLHEAD PROTECTION ORDINANCES

Tumwater's wellhead protection ordinance and associated land use provisions in the City's code reflect a very protective approach to the City's drinking water. When the City developed its wellhead protection plan as required by the Federal Safe Drinking Water Act, two primary factors motivated the City to take a conservative approach: the loss in 1993 of the use of the City's Palermo Wellfield following detection of TCE in tract amounts in City wells, and pride in the quality of the City's water. The Olympia Brewery, which was founded in Tumwater in 1896, was well known for its motto, "It's the Water". Preserving and protecting the City's excellent water quality have been, and remain, very important to the City's mission.

A. Background

The 1986 amendments to the Safe Drinking Water Act require each state and all Group A water systems that use groundwater as their source of supply to adopt a program "to protect wellhead areas within their jurisdiction from contaminants which may have an adverse effect on the health of persons." 42 USC Section 300h-7(a).

1. Federal Requirements

The City's wellhead protection ordinance and related ordinances and programs are guided by the requirements of the 1986 amendments to the federal Safe Drinking Water Act. The federal law requires programs to identify sources of potential contamination, and to "describe a program that contains, as appropriate, technical assistance, financial assistance, implementation of control measures, education, training, and demonstration projects to protect the water supply within wellhead protection areas from such contaminants; ..." 42 USC 300h-7(a)(4).

Wellhead protection programs must also "include a requirement that consideration be given to all potential sources of such contaminants within the expected wellhead area of a new water well which serves a public water supply system." 42 USC 300h-7(a)(6).

The federal law raises several important questions and is ambiguous in some respects, so the City had substantial discretion when developing specific ordinances and program elements of their programs. Examples of the questions raised by the law that provide opportunities for a range of solutions are the following:

- What does "implementation of control measures" in subsection (a)(4) mean? Are technical assistance and education, also named in that subsection, the principle means to be used?
- How are control measures to be implemented when the jurisdiction with authority over the water supply (city or utility) does not control regulation and land use approvals for all of the capture zone?
- The federal law calls for "consideration" to be given to potential contaminant sources in an "expected wellhead protection area." What level of "consideration" is appropriate?

- Public participation is required for development of wellhead protection programs. What level of involvement is appropriate for development of water system programs?
- How do the requirements for wellhead protection under the Safe Drinking Water Act integrate with local land use requirements as the City works to manage or eliminate contaminant sources potentially impacting City wells?

2. State Guidance

The City's wellhead protection program was developed during a period when the State's program was being formulated. Pursuant to federal statutory requirements, in 1994 the Washington Department of Health (DOH) adopted a rule requiring wellhead protection measures for all Group A water systems. Limited guidance was available at that time to guide development of the City's program. Existing aquifer protection programs such as the City of Renton and Spokane Rathdrum aquifer protection programs focused on protection of aquifers that had already been contaminated or whose aquifers were particularly vulnerable to contamination from residential or industrial/commercial sources. Thurston County also had an existing groundwater protection program. All of those programs were very protective of groundwater quality due to known aquifer vulnerability or existing impacts to local aquifers.

With respect to land use issues, state guidelines published in 2010 acknowledge, "local land use protection or design standards may be necessary to protect the water supply ...". (Wellhead Protection Program Guidance Document, Department of Health 3312-018 (Revised, June 2010)). Starting with the simple principle that there is a relationship between land use and protection of City wells, the City's ordinance was designed to address and prevent a repeat of the City's challenging experience with contamination of its wells.

B. City Ordinances

Given the City's experience with contamination of the Palermo wellfield and the vulnerability of its aquifers, the City's ordinance takes a proactive approach to protecting groundwater. At the time of adoption of the wellhead protection ordinance, for example, the city proposed to require certain prohibited land uses to be removed from areas close to City wells. Several owners of sites whose activities would be restricted or prohibited participated actively in commenting on the draft ordinance or testifying at meetings at which the draft ordinance was being considered. As a result of active involvement and input from affected landowners and other stakeholders, the City's wellhead protection ordinance and associated land use and zoning ordinances very precisely define the areas affected, pollutants of concern, and the means of modifying the boundaries of capture zones within which uses are limited. The requirements of several relevant ordinances are summarized below.

1. Chapter 16.26 TMC: Wellhead Protection

(a) Establishment of Wellhead Protection Areas

The ordinance describes the process by which the City, in consultation with State and County agencies, uses a groundwater model to identify areas contributing water to the City's wells. In

those areas land use protections will apply in the form of zoning restrictions, development review and pollution prevention requirements. The ordinance discusses the safety factor that was added to the modeled wellhead protection areas, resulting in regulated capture zones. TMC 16.26.030.

(b) Prohibited Uses

Within 6-month and 1-year capture zones, TMC 16.26.040 prohibits new and expanding uses including

- Gas stations, and petroleum storage with the exception of: storage of petroleum products in the amount of 1100 gallons for use onsite and emergency use, and above ground storage
- Wrecking yards
- Wood waste landfills
- Dry cleaners

In the 6-month, and 1-, 5-, and 10-year capture zones, TMC 16.26.040 prohibits the following uses:

- Landfills
- Hazardous waste transportation, storage, disposal
- Wood preserving
- Chemical manufacturing

(c) Exceptions to Use Prohibitions

Expansions of existing uses that do not increase pollution risk are allowed, as are groundwater protection projects and on-site septic systems. TMC 16.26.040.

(d) Uses on Part of a Parcel

If a new or expanding use is proposed on a parcel that is located on the boundary of the capture zone, the use is authorized on the portion of the parcel outside of the capture zone. TMC 16.26.040.

(e) Standard of New and Expanding Uses

If a new or expanding use involves any of the hazardous materials listed below, all known, available and reasonable technologies (AKART) must be incorporated into design, engineering, construction and operation of the facilities. TMC 16.26.050.

- Table 8001.15 – abcd of the International Fire Code, in 160 pounds minimum cumulative quantities.
- Cleaning substances in amounts equal to or greater than 800 lb., in packages less than or equal to 55 gal.
- Businesses handling “P” chemicals listed in WAC 173-303-9903.

(f) Determination of AKART

The determination that AKART has been met is made by the Community Development Director, based on his or her review of “documentation” submitted by the applicant demonstrating that AKART will be used to prevent impacts to groundwater. TMC 16.26.050. The code does not provide specific requirements or guidance regarding information to be provided by the proponent, or specific design standards or performance-based standards; nor does it specify input from others with expertise. TMC 16.26.050.

(g) Pollution Prevention Plan for Existing Uses

Upon request by the City’s Water Resources Program Manager, the owner/operator of an existing facility using chemicals listed in TMC 16.26.050 must submit a pollution prevention plan “that will ensure adequate protection of the source water supply”. TMC 16.26.055A. To trigger the requirement, minimum quantities are not required. This provision is similar to the County’s requirements for existing uses; however, the City does not identify the same chemicals as the County as the basis for regulation. TMC 16.26.055. Pollution prevention plan development is included in the definition of AKART. TMC 16.26.020.

(h) Farm Plans

“For good cause and with reasonable expectation of risk to groundwater”, at the request of the City’s Water Resources Program Manager agricultural facilities “shall develop and implement” a farm conservation plan relating to groundwater protection. TMC 16.26.055B. Development of farm plans is within the jurisdiction of the Natural Resources Conservation Service of the United States Department of Agriculture, and is not strictly enforceable by the City.

(i) Abandonment of Uses

The City code provides that prohibited uses, if ceased for six months, are deemed abandoned and may not be resumed. TMC 16.26.057. This provision is controlling over a contrary provision in the zoning code (Chapter 18 TMC) that provides that non-conforming uses in the City are abandoned after two years. (TMC 18.54.070 and TCM 16.26.040) However, it is not consistent with a County provision that provides for “vacation” of non-conforming uses after three years. TCC 20.56.040.

(j) Removal of Non-Conforming Uses

Existing uses that would be prohibited as new or expanding uses in 6-month and 1-year capture zones are required to be removed prior to the end of 2015. TMC 16.26.058. This provision was the subject of intensive discussion and input at Council meetings and other public meetings. At the time of ordinance adoption, investigations of potential sources of contamination were ongoing at the Palermo wellfield in under Washington’s Model Toxics Control Act (MTCA) and CERCLA (the federal Superfund Act). State and federal investigations had identified several potential sources of contamination affecting City wells, but were inconclusive as to the actual contribution attributable to a specific source or sources. Due to this uncertainty, the City elected to require removal of specified prohibited uses from areas near City wells. It is our understanding that existing uses affected by this provision have been removed or are in the

process of transitioning to new uses. The County does not have a requirement that non-conforming uses be removed.

(k) Timeframe During Which Standards Apply

The City's wellhead protection standards apply after water production has been implemented. The standards are ineffective after a well has been abandoned. TMC 16.26.060. This is not consistent with the County's application of WHP requirements based on the current geodata map.

(l) Revision of Wellhead Protection Area Maps

A capture zone may be revised based on the development of new wells, availability of new information, or information provided from other sources. TMC 16.26.070. In any of these circumstances, the Public Works Director will notify the Community Development Director of the proposed map revisions, and public notice will be provided to potentially affected property owners.

For establishment or modification of capture zones outside of the City's jurisdictional boundary, the City will request that the County modify its wellhead protection regulations "as appropriate", including "timely notification to affect property owners". TMC 16.26.070(D).

2. Chapter 18.39 TMC: AQP Aquifer Protection Overlay

This ordinance establishes an aquifer protection (AQP) overlay zone district **[Including the entire city? Need to check]** to "identify, classify and protect vulnerable aquifer recharge areas within the city and urban growth area." TMC 18.39.010. Certain uses are "restricted from locating within the boundaries of this district", in addition to the uses identified in the wellhead protection ordinance. TMC 18.39.040. Prohibited uses include:

- Chemical manufacturing
- Creosote/asphalt manufacture
- Electroplating
- Manufacture of flammable or combustible liquids
- Wood products preserving
- Hazardous waste treatment and storage

While the ordinance states that all uses in the district shall meet the requirements of Chap. 16 TMC (wellhead protection), it also provides an interesting example of an alternative approach to management of the above uses, which are prohibited unless the proponent provides "conclusive demonstration that application of a new or improved technology or best management practice will result in no greater threat to the groundwater resources than that posed by a nonrestricted use." TMC 18.39.050.

3. Chapter 18.54 TMC: Non-Conforming Uses

This chapter prevents movement of a non-conforming use from one part of a parcel where it is prohibited to another part where it is allowed, “except as otherwise specified in the applicable zoning district text”. TMC 18.54.050.

4. Chapter 18.56 TMC: Conditional Use Permits

This Code section authorizes issuance of conditional use permits through an application and payment of a fee to the Community Development Department. Consideration of the application includes a hearing before the City’s hearing examiner after notice to all property owners within a 300’ radius of the property boundaries, notice in the newspaper and notice posted at the site. Conditions may be placed on approval by the hearing examiner to meet the intent of this chapter and to “mitigate any adverse effect upon neighborhood properties.” TMC 18.56.040. The conditional use must be consistent with the City’s comprehensive plan and consideration of “special requirements” and “possible safety hazards”. TMC 18.56.010. It is not clear that the conditional use process adequately provides the procedural and substantive framework to fully incorporate the requirements of the City’s wellhead protection program.

C. County Code

Prior to establishment of the State wellhead protection program under the 1986 Safe Drinking Water Act amendments, Thurston County established special management areas and restrictions to protect groundwater. In 1990 the McAllister area was designated as a geologically sensitive area and provided with additional regulatory protections, by Resolution No. H3-90, adding a new Section 30 to Article IV of the Thurston County Code.

The County’s wellhead protection responsibilities include the following:

- Responsibility to establish and implement a wellhead protection program as the owner/operator of Group A public water systems.
- Responsibility under its health code and land use ordinances to protect sensitive areas, including groundwater and drinking water sources.

While not strictly required by law, the County also provides the following:

- Implementation of hazardous waste programs, through education and enforcement activities.
- Working with affected water purveyors to incorporate wellhead protection considerations into development review, education and enforcement programs.

The following code provisions are relevant to protection of the City’s water supply in wellhead protection areas within County jurisdiction.

1. Chapter 17: Environment

The County is currently revising Chapter 17.15, Agricultural Uses and Lands Critical Areas. Part 300, Review Standards, and Part 500, Aquifer Recharge Areas, are relevant ordinance sections relevant to wellhead protection. The County development approval authority reviews applications in consultation with the water purveyor. TCC 24.10.030 F. At the discretion of the Health Officer, the developer is required to submit a groundwater report to ensure no detrimental impact on groundwater. Table 1A, Chapter 17.15.530 TCC. The County requires best

management practices (BMPs), “including all known, available and reasonable treatments to ensure the highest degree of aquifer protection” TCC 17.15.530-535. In some cases the services of an outside consultant will be engaged to evaluate the potential impacts of a proposed project. TCC 17.15.535, TCC 24.10.030 F. If the County determines such services are appropriate, the County will provide a cost estimate to an applicant prior to engaging the services of the outside consultant. TCC 24.10.030 F. If the applicant is unwilling to pay for consulting services required by the County, the application will be closed.

2. Chapter 20 TCC: Zoning Code

Title 20 TCC identifies areas within which proposed or existing development must meet standards designed to protect groundwater. The County’s official zoning map at adopted is at Chapter 20.06 TCC.

a. Area Within which Code Provisions Apply

The wellhead protection areas within which heightened review and approval requirements are applicable are identified in Thurston County’s official zoning maps at Thurston Geodata. Permit review, coordination with health staff, and compliance programs are conducted based on the location of a parcel on Geodata maps. TCC 20.06.010.

b. Abandonment of a Use

A non-conforming use that has been vacated for three years may not be returned to a non-conforming use. TCC 20.56.040.

3. Chapter 24.10 TCC: Critical Aquifer Recharge Areas

The Critical Areas Ordinance has been adopted by the County pursuant to the requirements of the state’s Growth Management Act. RCW 36.70A.60 and RCW 36.70A.170. The County’s Critical Areas Ordinance update was adopted July 24, 2012, by Ordinance 14773. Appendix B Chapter 24.10 of the Ordinance relates to Critical Aquifer Recharge Areas, or CARAs, and restricts uses in those areas. Under TCC 24.10.010, soil types are important in identifying groundwater bodies requiring special protection. Wellhead protection areas are also included in the “extreme aquifer sensitivity” category.

(a) Development Review Process and Requirements

The County provides heightened review of land uses in wellhead protection areas. Specific requirements in development review include the following:

- This decision is made “in consultation with others having expertise or jurisdiction” ... Chapter 24.10.030(c).
- The “approval authority” makes the determination that groundwater is adequately protected based on “hydrogeologic reports ... to determine ... potential impacts to groundwater and surface water”. Chapter 24.10.030(B) TCC.

- Ecology water quality regulations, including non-degradation standards, guide decision-making.
- Review of agricultural operations and their potential impact on groundwater is undertaken through coordination with farm owner/operators under the regional groundwater program and health code in cooperation with the Natural Resources Conservation Service of the U.S. Department of Agriculture. TCC 17.15.520 and 525. The standard of review for farm plans is best available science.
- Above ground storage tanks must meet spill containment requirements.
- Stormwater systems must be designed and operated consistent with best management practices.

(b) Prohibited Uses

Table 24.10-1 in Chapter 24 TCC identifies uses and activities that are prohibited and categories of new expanding altered activities that require heightened review. The table includes prohibited uses within the 5- and 10- year capture zones in addition to uses prohibited by the City.

(c) Hazardous Materials Limitations

The approval authority may require the owner of any existing use involving materials above minimum quantities to submit a hazardous materials management plan. The requirements of which are in TCC 24.35.045. The County Code establishes hazardous materials limitations based on Department of Ecology regulations and definitions. For example, limitations on commercial uses of hazardous materials are based on WAC 173-303.TCC 24.10.100. A decision will be made regarding the plan based on consultation with the water purveyor, and if warranted, others with expertise. TCC 24.10.030 (H).

(d) Standards for New Uses in WHPA

An application will be denied if the hydrogeological report(s) indicate that a groundwater maximum contaminant level (MCL) under State groundwater quality regulations will be violated as a result of due proposed development TCC 24.10.030(J). The proposal is also unacceptable if the hydrogeological report(s) conclude that the project will reduce the assimilative capacity of the aquifer by more than 10% for a contaminant of concern TCC 24.10.030(K).

(e) Use on Part of a Parcel

The County looks at uses on affected parcels, whether these are wholly or partially in an identified capture zone. For proposed expansions, all equipment and facilities involving hazardous materials on the land, whether within the capture zone or not, must be brought into conformity with County requirements. TCC 24.10.030(I).

(f) Specific requirements

- For above ground storage, covered secondary containment is required, with the capacity to hold 110% of the design volume.

- Leak detection is required for double-walled tanks.
- Residential above-ground storage tanks and vaults are regulated by the International Fire Code.
- Criteria are established for commercial composting and other specific uses. TCC 24.10.030 et seq.

(g) New Wellhead Protection Areas

Wellhead protection area boundaries are officially adopted as part of the County's critical areas annual review. However, informal implementation takes place immediately following entry of new boundary information into the Geodata system. The delineation of those areas is based on information gathered in wellhead protection program updates, and as otherwise provided pursuant to governing critical areas updates.

D. Recommendations

The City is currently planning for the establishment of wells outside of the City's jurisdictional boundaries. Because the new wells will produce water from vulnerable aquifers in urbanizing areas, it is important the City and County have a strong working relationship, as well as consistent ordinances and programs, to protect those aquifers. City and County ordinances and review processes should be evaluated to ensure prevention of impacts on groundwater. In addition, the City's own ordinances should be reviewed. This section discusses potential discussion items with the County, recommendations for changes to the City's ordinance and ideas for the means to accomplish the City's wellhead protection goals through ordinance changes.

1. Coordination with the County

It is recommended that the City meet with the County to discuss issues relevant to aquifer protection, including prohibited and limited uses, processes for land use review, standards for approval and other relevant matters. Specific issues might include the following:

a. Consistency of Regulated Materials

Regulated materials differ between the City ordinances and County code. Determining which materials are of concern will become more confusing as the City's source(s) of supply are located outside of the City's jurisdiction. Regulated materials should be reviewed and made consistent where possible.

b. Identification of Prohibited Uses

The County's list of prohibited uses was updated in 2012 and includes uses that are not prohibited under the City's ordinances. The City and County ordinances should be reviewed and made consistent to the extent feasible.

c. Review Process

Currently the County has specific requirements for reports to be submitted by developers, and prescribed County review processes, including engagement of 3rd party consultants where needed. Decision-making authority includes a requirement to consider input from those with expertise. It is recommended that the City meet with County staff to review processes for existing and expanding uses in both City and County jurisdiction, and to make those processes consistent to the extent feasible, to ensure implementation of the City's goals and to provide greater certainty for landowners and developers.

d. Abandonment of Use

It is recommended that the City discuss the inconsistent timeframes for abandonment of uses in the City and County ordinances, which are currently inconsistent, and modify ordinances as appropriate.

2. City Ordinance Revisions

a. Uses on Part of a Parcel

Uncertainties in groundwater modeling technologies are partially accounted for by the establishment of safety margins in adopted capture zones. However, once capture zones are adopted, the City's ordinance identifies the boundary as a fixed line, beyond which a landowner is not bound by wellhead protection limitations. This approach disregards the continuing uncertainties in groundwater modeling, and relies on unrealistic expectations that prohibited or regulated activities can be allowed on one part of a parcel without impacting the portion of the same parcel that is within the delineated capture zone. It is recommended that all uses on a parcel be regulated consistent with wellhead protection goals and requirements, rather than allowing prohibited uses to operate on that portion of a parcel outside of the capture zone.

b. Standards for Existing Uses

It is recommended that the City review the materials requiring a pollution prevention plan, and clarify the requirements for pollution prevention plans.

c. Review Process for New and Expanding Uses

A more clearly defined process for determining whether AKART standards have been met will provide the City with greater certainty as to the appropriate level of regulation. The City's ordinance does not clarify the documentation or consultation with 3rd party experts that may be required to support such a determination. It is recommended that the determination of AKART be made by the Public Works Director and provided to the Community Development Director, who makes final decisions on land use applications.

As the determination would be made basis for the determination, the ordinance might be modified to identify the information that, in his or her discretion, the Public Works Director might require of the developer, including -

- A groundwater (hydrogeologic) study provided by the proponent.
- Consultation with those with expertise
- As deemed necessary by the Public Works Director or his/her designee, a 3rd party consultant evaluation of required study or studies, paid for by the proponent. This approach clarifies the role of the Public Works Director in determining adequate protection for the City's water supply, brings the City code into alignment with the County process, and provides a clear expectations for project review.

d. Timeframe within which Standards Apply

(1) The City's ordinance as currently written is effective at the time of water production. In theory, applying wellhead protection standards for new or expanding uses could be approved prior to production, avoiding potential impacts to new wells. It is recommended that the ordinance be revised to provide that WHPA standards become effective when preliminary WHPAs have been delineated and adopted following exploratory drilling and the City has made the decision to proceed with production well drilling. These "provisional" WHPAs would be based on estimated production volumes based on pumping tests, and could be modified as new information was available. Early delineation would allow the City to initiate outreach to the County and affected landowners, and to take steps provided in City and County codes prior to the initiation of production well pumping.

(2) The City Code provides that the wellhead protection ordinance ceases to be effective after "abandonment" of a source. The code provides no guidance as to how abandonment is defined or how it is recognized for regulatory purposes. The City should establish a standard and a process for declaring when a source is "abandoned", at which time wellhead protection provisions will no longer apply.

e. Conditional Uses

It is not clear that the conditional use process authorized under TMC 18.56.010 adequately provides the procedural and substantive framework to fully incorporate the requirements of the City's wellhead protection program. The City should evaluate whether the conditional use provision should be modified to ensure to wellhead protection requirements are met.

3. Mechanisms for facilitating policy and program coordination including discussion of potential ordinances changes, with other jurisdictions.

a. Existing Contracts

City and County policy and program coordination might be undertaken under the existing regional groundwater contract or under the wellhead protection agreement between the City and the County. The City may also wish to contract with the County under these agreements for periodic outreach to regulated businesses.

b. County Ordinance Applicable to Tumwater UGA

Chapter 22 TCC provides for regulation of activities in the City's Urban Growth Area. That code section could be revised to provide for agreed review processes, substantive standards and performance requirements applicable in the City's WHPAs in the UGA.

c. Coordination with Other Jurisdictions

If the City anticipates that City wellhead protection areas will be established that may extend into other jurisdictions, such as the City of Olympia, discussions with those entities could be undertaken under the umbrella of the regional groundwater program.

II. EMERGING POLICY ISSUES

A. Brewery Wells

The regional jurisdictions are participating in the establishment of new wells at the former Brewery property. All of the water purveyors involved in the project and related agreements have an interest in protecting the source of supply located within the City of Tumwater's jurisdiction. The regional groundwater program and contract could be used as the basis for discussions relative to protection of the new Brewery wellfield as a regional source of supply.

B. Septic Systems

"Properly permitted and operating on site septic systems" are not prohibited in the City's WHPAs. TMC 16.26.040. The County currently allows the development of onsite septic systems so long as the cumulative impact does not exceed 10% of the assimilative capacity of the aquifer.

Studies published since adoption of the City's ordinance have found that OSS increases the risk of potential contamination from constituents such as nitrates. These systems may be more likely to pose a threat in urbanizing areas. This is true for properly functioning systems, as well as failing systems.

Currently, regional discussions are ongoing relating to septic systems and means of preventing impacts to groundwater. The City should consider relevant policies and update ordinances accordingly, based on outcomes of the regional process.

Options the City may wish to consider include -

- Prohibiting new septic systems in wellhead protection areas.
- Requiring existing systems in 6-month and 1-year WHPAs to be properly decommissioned and those businesses and residences hooked up to sewer.
- Providing funding in the utility capital budget for removal of high-risk septic systems and hook-up to sewer or community STEP systems, as part of the budget for new wells or wellfields.

C. Reclaimed Water

The LOTT Clean Water Alliance is currently undertaking a scientific study of the potential impacts of reclaimed water infiltration on regional water quality. It is anticipated that the study and associated peer review and public involvement will be completed in 2016.

Chapter 24.10.190(B) TCC (Critical aquifer recharge areas – reclaimed water) provides, with respect to infiltration of reclaimed water (application to the land’s surface above agronomic rates), “Critical area regulations will be proposed when more information is available to Thurston County from the Regional Groundwater Recharge Scientific Study, and using other studies and information for reclaimed water following the requirements of the Growth Management Act chapter 36.70A RCW.”

The City should review that report and other information to determine whether and how its ordinances and programs, including planning for capital improvements should be modified. Given the timeframe for review of the important issue, capital planning should focus on locating planned infiltration facilities in areas outside of wellhead protection areas if possible.

III. PROGRAM MODIFICATIONS OR UPDATES

A. Removal of Prohibited Uses

The County does not require removal of prohibited uses close to municipal wells. It is recommended that initial studies for exploratory wells identify potential prohibited uses and that the City then meet with the County regarding potential alternative approaches, including outreach to landowners and stakeholders. Based on that evaluation, the City and County should discuss whether removal is critical, in which case the County would have to amend its code; or whether alternatives would be allowed under County code provisions, similar to Tumwater’s Aquifer Protection District provisions, TMC 18.39.050.

B. Alternative Approaches

Wellhead protection provisions relating to prohibited uses are controlling over other provisions in the Tumwater code. TMC 16.26.040. However, the City may wish to consider an approach such as provided in TMC 18.39.050, allowing approval based on improved technology. If such an approach is considered, substantive and procedural requirements should be stated. **[KC will add more here - cite to other WHPP’s - County approach - Limits on variances. Currently researching other programs.]**

C. County Hazardous Materials Program

The City may wish to engage the services of County staff with expertise to provide outreach to businesses. The County provides outreach and education to businesses through a program involving site visits and inspection. Specific uses are visited on a rotating schedule on an annual basis; for example, dental clinics might be visited one year and automotive repair shops the next year.

D. Outreach

The City and County should coordinate outreach programs to avoid or eliminate duplication of outreach efforts to the extent feasible to take advantage of existing expertise in existing or planned programs. The County and Cities should also coordinate written materials reflecting general messages, as well as targeted messages, such as those relating to nitrates.

E. Farm Plans

Early in the process of establishing a new WHPA, as well as periodically in the City's outreach program, it is recommended that the City coordinate with the County and the NRCS to ensure that farms requiring farm plans are identified, contacted and making necessary improvements.

F. Process for establishment of new wellhead protection areas in the County

Although both City and County codes provides for consultation and outreach, currently, the timing and process for outreach to affected landowners and others as appropriate is not clearly defined. The City's update of its wellhead protection program does not necessarily coincide with either the initial drilling notice to the County or subsequent production well drilling. No specific timeframe is provided in either the City or County ordinance for wellhead protection planning or delineation of WHPAs for new sources.

T Once the City makes a commitment to develop production wells; actually getting those wells developed and in operations takes a substantial period of time. During that time, new expanding or existing uses in the surrounding area may pose a potential threat to the new source. Regulatory controls should therefore be considered early in the production well development process, to avoid impacts to future wells.

State of Washington has contracted with Thurston County to approve well sites and oversee new well development. For that reason, the County and City's earliest communications relating to the development of new City wells or wellfields will take place at the time of notice from the City to the County requesting well site approval for a new municipal well. These communications will take place at the time of exploratory drilling and testing. Initial test wells, if successful, may be followed by production well development, which is also approved by the County.

The City and County should meet to discuss the process for outreach, details regarding the information provided, management of the outreach process (such as planning and management of meetings) and who should be notified.

APPENDIX F-3

**Suggested Checklist of Topics for
Biennial Regional Groundwater Protection Meeting Agenda**



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Suggested Checklist of Topics for Biennial Regional Groundwater Protection Meeting Agenda

Biennial Regional Groundwater Protection Agenda Checklist

- Provide update on groundwater protection efforts.
- Review policies for uses and hazardous materials triggering review of proposals for more intense development.
- Update policies for wellhead protection based on new information, including regional studies and monitoring data, national or industry studies on containment sources and risks, and innovative approaches including treatment, storage or management methods that can reduce or effectively eliminate the risk of groundwater contamination.
- Consistent processes for review and approval of wellhead protection areas across jurisdictional boundaries.
- Regional wellhead protection monitoring and early warning protocols.
- Approach to septic system conversion to piped sewer treatment system.
- Outreach and education, including septic system and nitrate educational materials
- Review, confirm and/or update checklists, protocols, and agency roles identified in agreements in cooperation with current emergency response team members, and protocols, amending agreement if necessary. Incorporate emergency responder meeting outcomes.
- Review physical condition and regulatory status of identified interties and amend agreements as needed.
- Modify scope of work of County under the groundwater monitoring program to include new/different monitoring points reflecting changed WHPA boundaries and/or needs.