

RESOLUTION NO. 1495

A RESOLUTION ADOPTING A PROGRAM TO CORRECT THE PROBLEM CREATING THE MORATORIUM ON PLANNING APPROVALS FOR LAND DEVELOPMENTS THROUGHOUT THE CITY OF WILSONVILLE DUE TO A LACK OF WATER SYSTEM CAPACITY AND REPEALING RESOLUTION NO. 1441.

WHEREAS, on January 5, 1998, the Wilsonville City Council adopted Ordinance No. 493 entitled, "An Ordinance Adopting a Moratorium on Planning Approvals for Land Developments Throughout the City of Wilsonville Due to a Lack of Water System Capacity; and Declaring an Emergency"; and

WHEREAS, on June 15, 1998, the Wilsonville City Council adopted emergency Ordinance No. 497 entitled, "An Ordinance Extending a Moratorium on Development Throughout the City of Wilsonville Due to a Lack of Water System Capacity, Allowing for Tentative Land Use Approvals in Advance of the End of the Moratorium; and Declaring an Emergency", with effective date of July 5, 1998; and

WHEREAS, Oregon Revised Statutes 197.530 requires that a City that adopts a moratorium on construction or land development in conformity with ORS 197.520 shall within 60 days after the effective date of the moratorium adopt a program to correct the problem creating the moratorium. The program must be presented at a public hearing. The City is required to give at least 14 days advance notice to the Department of Land Conservation and Development (DLCD) of the time and date of the public hearing; and

WHEREAS, on March 2, 1998, the City Council adopted Resolution No. 1441 which was a program to correct the problem creating the moratorium on planning approvals for land developments throughout the City of Wilsonville due to a lack of water system capacity; and

WHEREAS, the program which was described in Resolution No. 1441 has been substantially modified due to a lack of information concerning the City's ability to obtain water from the Bull Run system, cost of participating in a subregional Willamette River

water treatment plant; and action taken by City Council on June 29, 1998, adopting Resolution No. 1487 entitled, "A Resolution Directing the City Staff to Expedite the Planning and Development of the Troutdale Aquifer as the Future Water Supply Source for the City of Wilsonville"; and

WHEREAS, 14 days advance notice has been given to DLCD, regarding adoption of Resolution 1495; and

WHEREAS, the public hearing has been scheduled for August 17, 1998, at 7:00 p.m.; and

WHEREAS, staff has developed a modified program to correct the problem creating the moratorium (Attachments A, B, C, D and E); and

WHEREAS, the modified program has been available to the public for seven (7) days prior to the public hearing; and

WHEREAS, the public hearing was conducted on August 17, 1998; and

WHEREAS, based on the staff report and public testimony (written and oral) the City Council finds the most reliable and expeditious solution to the current water moratorium is to develop wells in the Troutdale aquifer if possible and feasible; and

WHEREAS, the City will leave the record of this hearing open for seven (7) days, during which time the public shall have the opportunity to recommend additional factors which should be studied in developing wells in the Troutdale aquifer during the moratorium; and

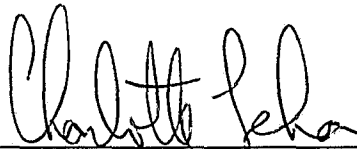
WHEREAS, the City Council hereby instructs City staff to continue with analysis of the Troutdale aquifer and provide a report of the results of the test drilling and pumping to Council along with an updated estimate of development costs and projected production capacity to Council in late January - early February of 1999.

NOW, THEREFORE, THE CITY OF WILSONVILLE RESOLVES AS FOLLOWS:

Based on the above recitals and findings incorporated herein, the City Council of the City of Wilsonville adopts the program to correct the problem creating the moratorium, as shown in: Attachment A, "Program to Correct the Long Term Water Shortage Creating the Moratorium on Planning Approvals for Land Developments Throughout the City of Wilsonville"; Attachment B, "Schedule to Solve Water Moratorium"; and Attachment C, "Memorandum Dated February 23, 1998 to Eldon Johansen, Community Development Director, from Jeff Bauman, Public Works Director, regarding Review of Wilsonville's Water Supply Planning"; Attachment D, "Memorandum dated November 7, 1997, to Mike Kohlhoff, City Attorney, from Jeff Bauman, regarding Water Supply Planning"; and Attachment E, "Legal Analysis of Alternative Long-Term Water Solutions", dated June 10, 1998, by Michael E. Kohlhoff, City Attorney.

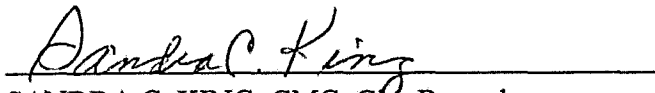
Based on the adoption of this resolution, Resolution No. 1441 is hereby repealed.

ADOPTED by the City Council of the City of Wilsonville at a regular meeting thereof on the 17th day of August, 1998.



CHARLOTTE LEHAN, Mayor

Attest:



SANDRA C. KING, CMC, City Recorder

SUMMARY OF VOTES:

Mayor Lehan	<u>Yes</u>
Councilor Helser	<u>Yes</u>
Councilor Barton	<u>Yes</u>
Councilor Luper	<u>Yes</u>
Councilor Kirk	<u>Yes</u>

ATTACHMENT A

A PROGRAM TO CORRECT THE LONG TERM WATER SHORTAGE CREATING THE MORATORIUM ON PLANNING APPROVALS FOR LAND DEVELOPMENTS THROUGHOUT THE CITY OF WILSONVILLE.

Introduction

This report together with the other attachments to Resolution No. 1495 constitutes the City of Wilsonville's program to correct the municipal water shortage that led to the enactment of a moratorium on new land development approvals on January 5, 1998 (Ordinance No. 493) and a six month extension of that moratorium on July 6, 1998 (Ordinance No. 497).

ORS 197.530, part of the State's Moratorium Statute, requires the City to adopt a program to correct the problem within 60 days of the enactment of the moratorium. The City adopted such a program with the enactment of Resolution No. 1441, on March 2, 1998. Circumstances have changed since that date, warranting this amendment to the program to correct the problem. For that reason, Resolution No. 1495 replaces Resolution No. 1441.

Summary

The City of Wilsonville must find an affordable, dependable, long-term source of water. It is needed to serve existing land uses and to serve the future growth of the community. Based on the best information available to the community at this time, there are three potential sources of water that meet the City's criteria.

- Willamette River;
- City of Portland (including the Bull Run River and Columbia Wellfield);
- Troutdale Aquifer.

Sufficient information is not yet available to decide on using the City of Portland as a long-term water source or to analyze participation in a Willamette River water treatment plant with Tigard and possibly other municipalities. The Troutdale aquifer Study by CH2M Hill indicated that we should be able to pump a peak capacity of 5.8 million gallons per day with a firm capacity of 5 million gallons per day from the Troutdale aquifer without adversely affecting wells with senior water rights. Based on this information, the City is diligently pursuing the analysis, hopefully leading to the proposed development of eight wells in the Troutdale Aquifer as a mid-term solution that would provide water for existing customers and for new development until we can participate in the acquisition of water from the City of Portland or in construction and operation of a Willamette River water treatment plant.

Additionally, conservation will be used and aquifer storage and recovery may be used to satisfy some part of the community's water needs on either a short or long-term basis. The City must continue to consider these options as components of the long-term solution.

The City will have limited resources with which to purchase or develop a new source of water. Once a decision is made on the solution, it must be the right decision. It must be a water source that is affordable and dependable over the long term. This program based on further analysis of the Troutdale aquifer is necessary to obtain assurance that we can obtain a Department of Water Resources permit to develop the wells, that we will not adversely impact water users with senior water rights, and that we will be able to obtain an adequate source of water for the interim period.

Program

The overall program to correct the long-term water shortage that led to the moratorium is scheduled in detail in Attachment B. The general summary is as follows:

Adopt the work program leading to development of wells to obtain water from the Troutdale aquifer at the City Council meeting on August 17, 1998.

Authorize staff to contract with the selected consultant to complete Phase 1 of the Troutdale aquifer wellfield development program, which includes site access, groundwater exploration and project permitting.

Complete test drilling and pumping and provide the City Council an updated estimate of the cost and the quantities of water available from the Troutdale aquifer at a Council meeting in late January, 1999, or at the first Council meeting in February.

Obtain Budget Committee, and subsequently City Council, approval of the funding program for development of the Troutdale aquifer by February 23, 1999.

Complete sufficient wells, transmission mains, treatment plants and reservoirs so that the moratorium can be ended by January 2000.

Legal Issues Associated with the Program of Correction

Acquisition of water from the Troutdale aquifer involves resolution of legal concerns. These concerns involve, among other things, review of the constitutional, statutory, charter, and ordinance authority to enter into governmental and private agreements; to enter into extra-territorial acquisition of property and easements if needed; to enter into long-term obligations based upon future appropriations, assessments and bonding authority; and to comply with or obtain approvals under a myriad of land use and water resource regulations promulgated by and reviewed in City, County or State administrative processes. The variables are complex and their legal assessment has been analyzed by Mr. Michael Kohlhoff, City Attorney, and his report is attached at Attachment E. An ambitious time table has been included in the overall schedule of tasks to be accomplished to ensure that the moratorium does not extend past two years.

ELDON R. JOHANSEN
COMMUNITY DEVELOPMENT DIRECTOR

Additional Attachments:

- B. 7/16/98 Schedule to Solve Water Moratorium
- C. 2/23/98 memo from Jeff Bauman to Eldon Johansen
- D. 11/7/97 memo from Jeff Bauman to Michael Kohlhoff
- E. Legal Analysis by Michael Kohlhoff, City Attorney

Schedule to Solve Water Moratorium			
	8/12/98		
Activity	Responsibility	Proposed Timeline	Actual Completion Date
For brevity, items from last fiscal year have been hidden from this printout	Eldon	7/1/98	7/15/98
Resume tentative approval of Stage II applications subject to availability of water	DRB	7/6/98	7/6/98
Engage water rights attorney to assist with permits application	Michael K	7/10/98	7/7/98
Provide 15 day notice to DLCD concerning updating program to end moratorium	Stephan/ Eldon	8/1/98	7/30/98
Provide written notice of intent to modify water system development charges (45 days prior to first public hearing to adopt)(orig 7/2/98)	Eldon	8/6/98	8/5/98
Identify properties for test drilling	CH2M Hill	8/14/98	
Approve Engr svc agreements to provide professional support for analysis of Troutdale aquifer and ASR study	Council	8/17/98	
Council approve modified program of correction to end moratorium	Council/ Stephan/ Eldon	8/17/98	
Distribute methodology and draft of ordinance adopting an increase in water systems development charges 30 days before first hearing to adopt the increase (orig 7/17/98)	Eldon	8/21/98	
Solicit bids to drill and pump test 8 test wells	CH2M	8/24/98	
Award contract to drill and pump test up to 8 test wells	Council	8/24/98	9/10/98
Coordinate with County Manager, Planning & Transportation for use of County right of way to drill wells	CH2M Hill/ CJ/ Mike	8/31/98	
Apply for land use approval within city	CH2M Hill	9/4/98	
Apply for county land use approval	CH2M Hill	9/4/98	
Conduct public meeting in Charbonneau to explain test drilling and pumping and impact on adjacent properties	CH2M	9/11/98	
Obtain property owner consent to test 8 wells, to encase and test pump up to 8 wells, to apply for land use approval from city or county and to apply for DWR permit	CJ	9/14/98	
Coordinate informal meeting with DWR to discuss pending application for permit to use Troutdale water	CH2M Hill	9/15/98	
Adoption of an ordinance increasing water systems development charges to reflect increased cost of capital for water production (orig on 8/17/98)	Council	9/21/98	
Apply for DWR permit for 8 wells	CH2M	10/8/98	

Schedule to Solve Water Moratorium			
	8/12/98		
Activity	Responsibility	Proposed Timeline	Actual Completion Date
Notice of Public Hearing on extension/cancellation of moratorium to DLCD & public	Stephan	11/2/98	
Approve city land use	Bob/DRB	12/4/98	
Approve county land use	County	12/4/98	
Complete application for DWR approval	CH2M Hill	12/9/98	
Council decision on extending or canceling moratorium effective January 5, 1999	Council	12/21/98	
Encase and pump test three holes for future water quality and quantity evaluation	CH2M	12/31/98	
Review preliminary ASR results and determine if Troutdale water should be treated to use for ASR.	Council	1/19/99	
Report results of test drilling and pumping to Council and provide updated estimate to develop within Troutdale aquifer as appropriate	CH2M	1/19/99	
Obtain Budget Committee approval of funding program for development within Troutdale aquifer	Gary	2/11/99	
Obtain Council approval of funding program for development within Troutdale aquifer	Council	2/23/99	
Complete 25% of design for wells, water lines, sequestering treatment plant, storage reservoir, and waterline crossing of Willamette and complete legal descriptions for acquisition of property	CH2M	4/1/99	
Apply for DRB approval of site plan for water treatment plant and storage reservoir	CH2M	4/1/99	
City oversizes and completes lines to Wilsonville reservoir adjacent to Tualatin reservoir for future interconnect to receive 2 MGD of Bull Run water	Mike	6/1/99	
Council decision on extending or canceling moratorium effective July 5, 1999	Council	6/21/99	
Complete design for wells, water lines, sequestering treatment plant, storage reservoir, and waterline crossing of Willamette and check legal descriptions for acquisitions of property against final design	CH2M	6/30/99	
Obtain appraisals and options to purchase property to construct wells, sequestering treatment plant, and reservoir and to obtain utility easements to construct waterlines	CJ	7/31/99	
Approve site plan for reservoir & treatment plant	DRB	8/1/99	
Department of Water Resources approval to construct and operate 8 wells	CH2M/ DWR	8/8/99	

Schedule to Solve Water Moratorium

8/12/98

Activity	Responsibility	Proposed Timeline	Actual Completion Date
<i>Obtain property to construct wells, sequestering treatment plant, and reservoir and obtain utility easements to construct waterlines subject to receipt of DWR permit</i>	<i>C.J.</i>	<i>8/17/99</i>	
<i>Award contract to construct and equip 8 wells subject to receipt of DWR permit</i>	<i>Council</i>	<i>8/17/99</i>	
<i>Award contract to construct water lines, sequestering treatment system, tie to existing Charbonneau reservoir, new reservoir and line across Willamette subject to receipt of DWR permit</i>	<i>Council</i>	<i>8/17/99</i>	
<i>Public Hearing to consider review of the moratorium</i>	<i>Council</i>	<i>8/17/99</i>	
<i>Moratorium ends</i>	<i>Council</i>	<i>1/4/00</i>	
<i>Resume Issuing building permits based on staff conclusion that water will be available before buildings will be occupied</i>	<i>Eldon</i>	<i>1/5/00</i>	
<i>Complete first three wells</i>	<i>Mike S.</i>	<i>2/1/00</i>	
<i>Complete second three wells</i>	<i>Mike S.</i>	<i>4/1/00</i>	
<i>Construct water lines, sequestering treatment system, new reservoir and tie to existing Charbonneau reservoir</i>	<i>Mike S.</i>	<i>5/1/00</i>	
<i>Water from first three wells starts flowing to relieve current capacity problems</i>	<i>Mike S.</i>	<i>5/1/00</i>	
<i>Water from next three wells starts flowing to provide long term capacity for future growth</i>	<i>Mike S.</i>	<i>5/1/00</i>	
<i>Complete water line across I-05 and remaining two wells</i>	<i>Mike S.</i>	<i>9/1/00</i>	
<i>Water from last two wells starts flowing to provide capacity for added long term growth to a max daily requirement of 8.02 MGD</i>	<i>Mike S.</i>	<i>9/1/00</i>	
<i>TVWD oversizes Tualatin lines to deliver 2MGD of water to Wilsonville for prison and City use</i>	<i>TVWD</i>	<i>4/1/01</i>	
<i>Bull Run water starts flowing to Wilsonville in April 2001</i>	<i>Mike S.</i>	<i>4/1/01</i>	
<i>Bull Run water stops flowing to Wilsonville in December 2005</i>	<i>Mike S.</i>	<i>12/31/05</i>	

This page revised by Resolution No. 1495 adopted by Council 8/17/98



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MEMORANDUM

DATE: FEBRUARY 23, 1998

TO: ELDON JOHANSEN,
COMMUNITY DEVELOPMENT DIRECTOR

FROM: JEFF BAUMAN,
PUBLIC WORKS DIRECTOR

RE: REVIEW OF WILSONVILLE'S WATER SUPPLY PLANNING

Historically, Wilsonville has relied upon wells in the local aquifer as its sole source for municipal water supply. However, in the early 1970s it became evident that local aquifers would not be adequate to meet the needs of this growing community. To assure a long-term supply, Wilsonville applied for and was eventually granted a municipal water right to the Willamette River. This right in the amount of 30 cubic feet per second (which translates to 19.4 million gallons per day) has a priority date of 1974, making it among the most senior of municipal water rights for this portion of the Willamette River.

Meanwhile as Wilsonville continued to grow, additional wells and pumping capacity have been installed. This has accelerated the depletion of the local aquifer. When the State of Oregon Water Resources Department granted Wilsonville a permit to drill its eighth (and final) well, one of the permit conditions stated in part: "The City of Wilsonville understands that reliance on ground water for a long-term water supply is unacceptable."

Beginning in 1992, Wilsonville has experienced varying degrees of water shortages each summer during periods of peak demand. These shortages have been addressed by a combination of: voluntary and mandatory water curtailment practices; deepening existing wells to increase their productivity; drilling an additional well; and installing additional reservoir storage capacity. The unprecedented growth of recent years has increased peak water demand to the limit of the City's ability to meet such demand - - even with all the operational and capital improvements being undertaken. All the while, the water table in the city's aquifer has been dropping, and this rate of depletion is accelerating as the City withdraws larger and larger quantities of water out of the ground.

Since 1989 Wilsonville has been actively involved in numerous efforts to secure a sustainable long-term water supply. A summary of these activities is included in my November 7, 1997, memo to Mike Kohlhoff (copy attached). Altogether, the planning efforts alone represent approximately \$4 million of work, of which Wilsonville's share has been more than \$368,000. In addition, the City is hiring an independent engineering consultant to further analyze the Troutdale aquifer south of Wilsonville as a potential source for future municipal water supply.

The remainder of this memo is a review of the water supply options which have been considered. I've structured the discussion in three categories: potentially viable long term sources; activities which significantly reduce peak season requirements, but which



cannot themselves meet the long term need; and options which do not effectively address the long term need.

I. POTENTIALLY VIABLE SOURCES

Bull Run

An interconnected regional water system to the north of Wilsonville is supplied by water from Portland's Bull Run watershed, and to a lesser extent from the Trask/Tualatin watershed. At the current time the water from these sources is available in excess of the demand from their respective service areas. Over time, however, these providers will need this water to serve growth in their own customer bases. According to the Regional Water Supply Plan (RWSP), all existing and committed sources of water will be fully utilized by approximately the year 2035, at which time a major new increment of water supply will be needed.

Potentially, the new increment of water supply could be the expanded utilization of the Bull Run watershed. This would require construction of an additional (i.e., third) dam in the Bull Run system. Given the status of environmental regulations, it is questionable whether construction of another dam is possible. Related concerns include impacts on salmon and steelhead runs being considered for listing as threatened/endangered species. It would literally take an act of the U.S. Congress to authorize a third dam in the Bull Run, and if this were to occur it would likely be 30 to 40 years before such an impoundment is constructed and operational.

Alternatively, the height of one of the existing dams could be increased and a water filtration plant could be added to the Bull Run system. A higher dam would impound more water in the reservoir. And a filtration plant would allow greater draw down of the water level during peak summer months. Currently such draw down is limited because of turbidity problems when the reservoir level is low. Portland estimates the cost of a higher dam plus filtration plant would be in the range of \$120 - 150 million. In addition, larger water transmission lines would need to be installed to deliver the needed quantities of water to Wilsonville. The cost of such transmission lines would be tens of millions of dollars, depending on the size and alignment of these facilities. If this option were selected, a series of interagency commitments would need to be made regarding the timing and cost sharing for the necessary capital improvements.

At best it would be a decade or two before major expansion of the Bull Run supply could be brought on line. In the meantime, it seems possible to provide Wilsonville with approximately 3 million gallons a day of "excess" Bull Run water. This would entail optimizing the capacity of existing transmission lines in the Portland, Tigard, and Tualatin water distribution systems. It would also necessitate unprecedented coordination between numerous water supply agencies to wheel the water from its source to Wilsonville.* Such considerations include:

* Similar short term arrangements could be made with water providers in the Clackamas basin to supplement Bull Run for delivery of approximately 3 million gallons per day to Wilsonville.

The new Joint Water Commission facility improvements would be operated in a way that assures the Tualatin Valley Water District (TVWD) obtains 12 million gallons per day, thereby enabling TVWD to reduce its purchase of Bull Run water. This "freed up" Bull Run water then becomes available for sale to other wholesale customers, such as Wilsonville.

The Columbia South Shore Well Field is available to the Portland Water Bureau not only for emergency backup supply, but also to meet maximum daily demand during the peak season.

The Portland Water Bureau would have to re-route water service in its Washington Park and Burlingame supply systems, and conduct further system hydraulics analyses to determine whether opportunities are available to increase transmission capacities through these systems.

Connections would need to be constructed at key locations in the existing transmission system.

The cities of Portland, Tigard, Tualatin, Sherwood, Wilsonville and the Tualatin Valley Water District would have to coordinate the daily (and at times hourly) storage and release of water as it flows through each jurisdiction from source to end user.

Mutually agreeable funding, ownership, operational, and maintenance arrangements would need to be formalized.

The cost of water supplied would have to be agreed upon by all parties involved.

Troutdale Aquifer

An extensive, relatively shallow, relatively porous underground zone known as the Troutdale formation is located south and east of Wilsonville's city limits. This aquifer contains vast quantities of ground water, and it has been suggested that Wilsonville consider it as a source for future water supply. Until recently the City did not view the Troutdale aquifer as a viable alternative because: years of study by 27 water providers in the Portland metropolitan region (plus Metro) concluded that ground water should not be a primary source to meet future demand; the permit issued to Wilsonville by the state for purposes of constructing municipal wells indicates that "reliance on ground water for a long-term water supply is unacceptable;" and it has been the City's understanding that state and county land use agencies have concerns about the extension of urban infrastructure into designated agricultural areas. Nonetheless, if the Troutdale aquifer is a viable source for Wilsonville's future water supply, it should be an alternative that is given full consideration. The Oregon Water Resources Department has clarified that the language cited in the permit for our final well is a restriction on the use of the basaltic aquifer, and does not necessarily restrict Wilsonville from using water from the Troutdale aquifer. Accordingly, an independent engineering consultant is being hired to conduct a technical, regulatory, and financial analysis of the Troutdale aquifer as a potential water supply for Wilsonville. The results of this study will be available by June, 1998.

Willamette River

As noted earlier in this memo, planners decades ago foresaw the need for Wilsonville to secure a new source of water to meet the future needs of this growing community. The City currently holds a water right for municipal use of the Willamette River in the amount of 19.4 million gallons per day. This volume of water, if coupled with a conservation program and local wells during peak summer periods, would be sufficient to meet the needs of the City at full development (including adjacent lands designated as urban reserve) based on the comprehensive plan. The Regional Water Supply Plan acknowledges Wilsonville's need for a new source of water as follows:

"The Regional Water Supply Plan process has focused primarily on regionally significant demands and resource options. The process did not address in detail the fact that certain localities in the region are facing more imminent needs than others. Examples of those entities which are likely to need new resource capacity prior to 2000 include the cities of Wilsonville, Tigard, Sherwood, Canby, and possibly the Damascus Water District.

This plan recognizes that steps must be taken in the near-term to meet these demands. . . . On the supply side, seemingly plausible source options (due to availability of existing systems, proximity to alternative sources, and water rights availability) include connection and contracted purchase of water from existing systems (e.g., Bull Run, Clackamas), ASR, or construction of first phase supply facilities on the Willamette River."

Currently the City of Corvallis uses the Willamette River as its water supply. A conventional water treatment plant is in operation which provides finished water that meets federal and state drinking water standards. Because the Willamette River downstream of Corvallis is subject to additional contamination, the question has been raised whether the river water in Wilsonville is too polluted to be safely used as a water supply. To evaluate and address this concern, several steps are being taken to assure that if the Willamette River is utilized for water supply, the water delivered to our customers will be safe to drink.

A pilot project was conducted to measure contaminant levels in the river, and to demonstrate the effectiveness of water purification processes in removing whatever pollutants are present. Water samples were analyzed for all the chemicals regulated under the drinking water standards plus other unregulated chemicals suspected to be of greatest concern in the Willamette watershed. In sampling over a two-year period, the vast majority of chemicals were not detected (even at trace levels) in the "raw water" taken from the river. Those chemicals that were measurable in the samples existed at low levels, and all were readily removed when processed through the pilot purification plant. The extensive findings and conclusions of this multi-year study are contained in a series of reports.

If the Willamette is used for municipal water supply, the City would construct a "multi-barrier" water purification plant which would more than merely meet state and federal drinking water standards. Steps beyond conventional water treatment

would be included to break down chemicals and remove organic pollutants, regardless of whether state or federal standards exist for them.

In addition to the water purification plant itself, further safeguards would assure the reliability of water supplied to customers. The City's contingency systems would include expanded water storage capacity; maintenance of City wells for backup supply; and constructing an interconnection to City of Tualatin's water transmission system for emergency service. Should the purification plant be taken off line for any reason, these contingency supplies would be available.

The City would support efforts to reduce water pollution in the Willamette basin. The Governor's Task Force on the Willamette River points out that municipal water supply is a designated use of this resource, and the Task Force has recommended over 100 steps be taken to protect and improve water quality in the Willamette. As these recommendations are implemented, the river will become cleaner and easier to treat.

The Willamette River is one of the very few options which is capable of meeting Wilsonville's long term water supply needs. It is also the option which is least dependent on decisions/actions of other agencies in terms of commitments or approvals needed. Nonetheless if a purification plant is built and operated, it would be financially advantageous for Wilsonville to partner with the City of Tigard and others who have a similar interest in the Willamette as a source of water.

II. ACTIVITIES WHICH SIGNIFICANTLY REDUCE PEAK SEASON REQUIREMENTS

Water Conservation

The City has been involved in water conservation activities (both voluntary and mandatory) every summer since 1992. Attached to this memo is a summary of the water conservation actions taken during the summer of 1997. While it is not possible to determine what the level of water consumption would have been without these measures, we've estimated that on peak days conservation measures have reduced overall demand by 13%. It is our goal to achieve at least 17% reduction in peak demand by implementing an even more vigorous conservation program. We believe these efficiencies can be gained by modifying the pricing structure of water service to provide further financial incentives for conservation; by increasing our public information and technical assistance efforts; and by updating the City Code to revise landscaping requirements in a way that promotes native and drought-tolerant vegetation (rather than turf and other irrigation-dependent plantings). Achieving the 17% goal translates into a savings of approximately 1 million gallons on days of peak demand in the near term, and could reduce peak demand by approximately 4 million gallons per day in the long term (i.e., at "build out" of the entire City). This goal is consistent with the conservation target recommended in the Regional Water Supply Plan.

Some people have suggested that the goal of 17% is too modest, citing the more ambitious accomplishments of communities in the Southwest and in California. While it is technically possible to conserve more water, those communities essentially had little choice in the matter. Water simply was not available. Experience suggests that a 17% to 20% reduction in peak demand is perhaps an upper limit on sustainable conservation when other water supply options are available.

Aquifer Storage and Recovery (ASR)

Water usage goes through seasonal cycles with peak demand in the summer months - - at the very time water supply is scarcest. The ASR procedure is a method to capitalize on available water in the winter months (when supply is high and demand is low) and store this water in underground aquifers for subsequent withdrawal during the peak demand period in the summer. In a way this can be thought of as a huge underground reservoir with no walls. This procedure is gaining regulatory agency acceptance as successful pilot projects demonstrate the ability to inject/withdraw water without plugging the well field, without contaminating the naturally occurring water table, and without interfering with adjacent groundwater resources. It should also be noted that ASR is one of the options recommended in the Regional Water Supply Plan.

In evaluating Wilsonville's water supply situation, ASR looks promising for several reasons.

Throughout the fall, winter and spring seasons, large quantities of relatively inexpensive water is available for Wilsonville to purchase from any or perhaps all of the sources described in the preceding pages. Not only do water supply agencies throughout the region have excess water during non-peak months of the year, but such water is likely to be available for many decades into the future (as opposed to "excess" water in the summer, which is available for only a few years).

Wilsonville's aquifer lends itself exceptionally well to ASR. The deep basaltic rock formation provides a suitable zone for injection/withdrawal of water. Intense pumping of this aquifer as Wilsonville's only source of water has resulted in the lowering of the water table at a rate of two to four feet per year. This has not only reduced the productivity of the well field, but is also increasing the concentration of iron and manganese in the well water as we pump from deeper levels containing higher mineral content. The "good news" is that by this substantial lowering of the water table, there is now room in the aquifer for very large quantities of water. For each million gallons per day injected into the aquifer during 9 months of the year, three million gallons per day could be extracted during maximum peak days in the summer.

Some of the needed infrastructure is already in place. Wilsonville has a series of well sites which could be adapted for both injection and withdrawal of ASR supplies. Furthermore, during non-peak times of the year, jurisdictions near Wilsonville are not using the full capacity of the water transmission lines currently in place. Millions of gallons per day could be transferred through the existing transmission system to Wilsonville for purposes of ASR. While some coordination would be necessary among impacted agencies, the type and extent of operational

responsibilities in the "off season" would be greatly simplified compared to the level of activity associated with peak season transfer of water into the Wilsonville service area.

If the City were to build a water purification plant using the Willamette River as a supply, ASR could be used in conjunction with such a plant to keep capital and operating costs at a minimum. Rather than design a purification plant to meet peak summer demand, a smaller plant could be built and operated at more or less a steady rate of production all year long. In the winter, "excess" water from the purification plant could be stored in the underground aquifer. In the summer, this stored water could be withdrawn from the aquifer on peak days. Not only would the smaller purification plant reduce construction costs, but operating such a facility on a "steady state" basis is a more efficient and reliable way to treat the water.

By raising the level of the water table in the aquifer, several benefits could be achieved. The City would no longer be drawing from the deeper levels and would thereby reduce the problems associated with iron and manganese content of the groundwater. The efficiency and productivity of the existing wells would be improved. And interference (if any) with nearby private wells would be eliminated. In fact, if there is any connection with neighboring wells, they could benefit from ASR.

In the past, the State's ASR permitting process has taken approximately 5 years for required site-specific pilot testing and subsequent authorization for full-scale operation. Recently this approval process has been streamlined somewhat. With a year of feasibility study plus a year of pilot testing, it is conceivable under a "best case" scenario that the City could have at least some ASR on line within three years of the decision to pursue this method. It would nonetheless be 5 years or so before approval could be obtained for permanent, full-scale use of ASR. There is not yet enough experience to accurately determine the capital, operating and maintenance costs for application of ASR to Wilsonville's aquifer. And while this technique seems encouraging, it is only a partial solution to Wilsonville's long term water supply needs.

III. OPTIONS WHICH DO NOT EFFECTIVELY ADDRESS THE LONG TERM NEED

Local Aquifer

As noted above, existing development (not to mention future growth) is depleting this resource. At best, the wells could be used as a supplemental source to meet demand on peak summer days. The wells could also be available as a year-round backup supply in the event of an emergency and/or temporary interruption of the new (primary) source of water. Another potential use of the local aquifer could be for ASR as described above.

Wilsonville's wells tap a thick layer of water contained in a massive basalt formation 300 to 700 feet beneath the City. Groundwater is also present at shallower levels above the basaltic rock. Indeed, private wells in and adjacent to Wilsonville already draw water

from this shallower formation. It has been suggested that the City use its wells in the deep aquifer only for domestic (i.e., indoor) uses and that the shallower aquifer be used for outdoor uses - particularly landscape irrigation during peak demand in the summer. This would necessitate extensive changes to the water distribution system throughout the City and/or widespread installation of new private wells. Furthermore, owners of active (shallower) wells in the area report that the water table is dropping due to current usage. It does not appear the shallower local aquifer could sustain repeated, large-volume withdrawals of water. Thus it does not seem practical to tap the shallow local aquifer on a large enough scale to make a significant contribution toward solving the City's water supply problem.

Clackamas River

Just as water could be delivered to Wilsonville from suppliers to the north, so could Wilsonville be supplied by water from purveyors in the Clackamas basin. In the near term, the Clackamas basin as a whole is capable of supplying more water than is used by customers within that service area. The City of Lake Oswego and the Clackamas River Water District have expressed interest in selling water to Wilsonville. However, both these agencies have indicated that they are unable to guarantee water to Wilsonville beyond a 7 - 10 year time frame. Eventually all water providers within the Clackamas basin will need their entire capacity to meet growth within their respective service areas. The Regional Water Supply Plan indicates that by the year 2035 the Clackamas service area will no longer be self-sufficient in terms of water supply, and will need to obtain water from outside the basin.

There are three ways "excess" water in the short term could be wheeled from the Clackamas basin to Wilsonville. There is an existing transmission connection from Lake Oswego to Tigard. From there, the same water distribution system could be used as described above when considering the purchase of water from the Bull Run system. A second, less direct, method to transport water to Wilsonville would utilize a connection between the Clackamas basin and the Bull Run system. In essence, "excess" water from the Clackamas basin would be delivered to customers in the Bull Run service area thereby freeing up Bull Run water for delivery to the west through Tigard and Tualatin, ultimately reaching Wilsonville. Either of these delivery mechanisms would require the same (or perhaps greater) level of cooperation and coordination among numerous agencies as explained previously. And the maximum amount of water that could be delivered to Wilsonville through the existing transmission system is approximately 3 million gallons per day.

The third and most direct method of delivering water from the Clackamas basin would be to construct a new transmission main from the source to Wilsonville. It would not be cost effective to size and build such a pipeline merely to meet short term needs. Yet a transmission line with a capacity of at least 20 million gallons per day would cost tens of millions of dollars, depending on the size and alignment of the pipeline. It only makes economic sense to build such a transmission line if there is some assurance of a long term supply of water - a commitment that Clackamas providers are unable to make.

Willamette River (for non-potable use)

This option would require little or no purification, and would use water from the Willamette for landscape irrigation purposes. In practice, however, this option has several limitations. It would require installation of a separate water transmission system, which would be feasible only for large irrigation users (who, by the way, have been very cooperative by curtailing their water use during peak demand periods). As such, this component of peak demand has already been discounted in future forecasts as part of the 17% reduction due to conservation practices. If the Willamette is to significantly address overall demand for peak season irrigation use, a city-wide network of (non-potable) water lines would have to be installed. This would not only entail large cost and disruption, but it would create health risks if unsuspecting people mistakenly took a drink of this non-potable water from a garden hose or used this water in their children's wading pools. For all these reasons, use of the Willamette on a massive scale for non-potable purposes does not appear to be a feasible solution to Wilsonville's water supply problem.

Re-use of "Gray Water"

The term "gray water" applies to wastewater other than that discharged from toilets. Thus "gray water" includes such things as water from sinks, dishwashers, washing machines, bathtubs, showers, etc. Some people have suggested that "gray water" be used for non-potable purposes such as outdoor watering during the summer. While this could reduce the peak demand on the City's municipal water supply, there are significant practical limitations to this option. It requires extensive re-plumbing of virtually all buildings in the City, and it raises potential difficulties. State regulations are very restrictive about re-use of "gray water" because such water contains bacteria and other contaminants of potential health concern - - particularly if the untreated "gray water" is stored for any length of time allowing bacteria to incubate. For all these reasons, the re-use of "gray water" on a massive scale is not a feasible solution to Wilsonville's water supply problem.

Use of Cisterns

A cistern is essentially a container or tank whereby rainwater can be collected and stored for use at a later time. People have suggested that cisterns could be helpful in providing water for non-potable uses and thereby reduce peak demand on the City's municipal water system. To be of any significant help during peak season demand, cisterns would have to be installed on a massive scale on individual properties. Alternatively, larger cisterns (in the range of 30,000 to 50,000 gallons) would have to be installed to serve each 10 square block area. There would need to be an apparatus to collect rainwater plus a tank (either above ground or underground) to store the water. A series of plumbing connections and/or pumping facilities would have to be installed to deliver the water for the intended uses, presumably outdoor irrigation. Due to the potential for uncontrolled bacterial growth or other possible contamination in the cisterns and distribution system, backflow prevention devices would be needed to assure this water doesn't flow into the domestic water lines. Even if these considerations were satisfied, it is questionable whether

adequate rainwater is available to replenish storage levels in the cisterns during extended periods of peak demand in the summer months. An alternate use of cisterns would be for fire protection only. However, there are only limited areas in the City where cisterns could possibly be used for this purpose. Thus cisterns are of limited utility in addressing Wilsonville's water shortage and are not a feasible solution to meet the City's long term water needs.

Re-use of Treated Wastewater

Some people have suggested that effluent from the City's wastewater treatment plant could be used for non-potable purposes and thereby ease demand on the municipal water system. In fact, this is occurring to a limited extent. At the City's new wastewater facilities, treated effluent is being used for processes within the plant that were previously supplied by the municipal water system. Similarly the treated effluent could be used for irrigation of nearby landscaping (such as Boones Ferry Park) during the summer months. Thus where it is feasible to do so, effluent can and will be used for non-potable purposes. However, on a broader scale it is not practical to rely upon treated wastewater to address the City's overall water shortage for the reasons discussed in the sections above regarding the use of the Willamette for non-potable supply. It should also be noted that the total output of the wastewater treatment plant during summer months is less than 3 million gallons per day. Even if all the effluent were re-used, it would not be enough to address the City's water shortage.

Corral Creek

To the west of Wilsonville is a stream referred to as Corral Creek. Historically, impoundments (for agricultural purposes) have been built in this watershed. It has been suggested that the City use water from these impoundments - - or perhaps build a new dam - - to meet future demand for municipal water supply in Wilsonville. Given the needs for this water to support in-stream and agricultural uses, it is unlikely the State would authorize Wilsonville to withdraw large quantities of water from Corral Creek. But even if such water rights were granted, the cost of building/improving the necessary impoundments plus the cost of associated water treatment and transmission would be greater than other, more viable water supply options. Thus Corral Creek does not appear to be a promising source for the City's future water supply.

CONCLUDING REMARK

Several factors will need to be considered in selecting Wilsonville's future water supply. These factors include: health and safety, reliability, environmental stewardship, efficiency, certainty of future supply, degree of local control, compatibility with regional plans and programs, cost effectiveness, and time frame for implementation. It will also be important to distinguish between alternatives that truly address our water supply problem versus measures that merely "buy time" while the underlying problem gets even worse.

City of



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MEMORANDUM

DATE: NOVEMBER 7, 1997

TO: MIKE KOHLHOFF

FROM: JEFF BAUMAN *JB*

RE: WATER SUPPLY PLANNING

Over the past years, the city of Wilsonville has undertaken numerous steps to address future water supply needs. The following list identifies key activities that have occurred, with emphasis on planning and engineering studies that have occurred.

- 1989: Regional Providers Advisory Group
 Technical staff representing 35 agencies (including Wilsonville) convened monthly to discuss/coordinate water supply issues of regional interest.
- 1991-92: "Water Source Options Study"
 This engineering study represented Phase I of a regional planning effort. It evaluated 29 potential sources of water for the Portland/Vancouver metropolitan area. It concluded that 6 of these options merited further analysis. The study was conducted for the 35 agencies of the Regional Providers Advisory Group, which included the city of Wilsonville. The study was conducted by an engineering consulting team headed by CH2MHill.
- 1992 to present: Water conservation efforts and/or curtailment programs have been implemented every summer in Wilsonville (ranging from public education and requests for voluntary reduction in water usage, to mandatory restrictions during peak demand periods).
- 1992-94: Willamette River pilot plant
 A pilot-scale water treatment facility was set up in Wilsonville to demonstrate how "raw water" from the Willamette River could be treated with readily available technologies to provide water which meets all federal and state drinking water standards. The project was conducted by the Tualatin Valley Water District, with support from the city of Wilsonville.
- 1993: Second Elligsen reservoir placed in service.
- 1993: Canyon Creek well placed in service.
- 1993-96: "Regional Water Supply Plan"
 This engineering study represented Phase II of the regional planning effort. It evaluated the 6 most promising supply options in greater detail and concluded that a combination of sources (including the Willamette River) should be protected



and be available to meet future potable water needs of the region. The study was conducted by an engineering consulting team headed by Barakat & Chamberlin. Wilsonville was one of 28 agencies participating in this study.

1996: "Water Conservation and Management Plan"

This state-mandated report was prepared for Wilsonville by Montgomery Watson (consulting engineers). The report described the city's water resources, how to manage them efficiently, and forecasted future water supply needs of the city.

1996: "Willamette River Water Supply Study"

This engineering study evaluated potential service areas and water demands which might be served from a Willamette River water treatment plant. The lead agency for this study was the Canby Utility Board. The other participating agencies were: Wilsonville, Sherwood, Tigard, Tualatin Valley Water District, and Clackamas River Water District. The consulting engineer was Montgomery Watson.

1996: "Willamette River Water Treatment Plant Project Sizing and Regional Network Analysis"

This engineering study evaluated potential water treatment plant sites and water transmission line routes for supplying potable water from the Willamette River. The lead agency for this study was the city of Wilsonville. The other participating agencies were: Tigard, Sherwood, Tualatin, Tualatin Valley Water District, Canby Utility Board, and Clackamas River Water District. The consulting engineer was Montgomery Watson.

1996-97: "Clackamas Basin Water Treatment and Supply Options Study"

This engineering study evaluated alternative methods, sites, and transmission routes to develop additional water supply from the Clackamas River to meet future demand within the Clackamas sub-region - - and to potentially "export" water to other service areas (such as Wilsonville). The lead agency for this study was Clackamas River Water District. The other participating agencies were: South Fork Water Board, Oak Lodge Water District, Mt. Scott Water District, Damascus Water District, Gladstone, Lake Oswego, Milwaukie, Portland, and Wilsonville. The lead consulting firm was Black and Veatch.

1997: "Water Supply Study"

This engineering study evaluated alternative methods to meet the near-term and long-term water supply needs of the city of Wilsonville. It concluded that for Wilsonville, the least costly and most reliable future source of water would be the Willamette River. This study was conducted by Montgomery Watson (consulting engineers).

1997: "Washington County Supply Line Capacity Analysis"

This engineering study evaluated methods to divert water from the Trask/Tualatin and Bull Run water supplies to meet peak summer demand in portions of Washington County and in Wilsonville. The study pointed out that any such diversions would be interim in nature and would not address the long-term needs

November 7, 1997

Page 3

of the participating agencies. The lead agency for this study was the city of Tigard. Other participating agencies included: Wilsonville, Tualatin, Sherwood, Portland, Tualatin Valley Water District, and Clackamas River Water District. The consulting engineer was Murray, Smith & Associates.

1997 (ongoing): Regional Water Providers Consortium

This group of 28 agencies is an outgrowth of the Regional Providers Advisory Group. All 28 agencies have endorsed the Regional Water Supply Plan, and have designated elected officials from their respective governing bodies to serve on the Regional Water Providers Consortium Board. Wilsonville Mayor Charlotte Lehan was elected Vice-Chair of this Board.

1997 (ongoing): Columbia-Willamette Water Conservation Coalition

Wilsonville has joined this group of 18 agencies which work cooperatively to establish conservation goals, provide public information/technical assistance, and evaluate the effectiveness of conservation efforts. Wilsonville Public Works Director Jeff Bauman serves on the "core team" (i.e., steering committee) of the Coalition.

in process: "Willamette River Water Treatment Plant Project Concept Design"

This engineering study is a detailed site analysis as well as technical/financial feasibility analysis of a Willamette water treatment plant designed to meet Wilsonville's long-term water supply needs. The study is scheduled to be completed in 1998. The consulting engineer is Montgomery Watson.

in process: Construction has begun on the Boeckman well, which should be in service by the summer of 1998.

in process: Bids are being solicited for construction of an additional reservoir (2 million gallon capacity) to be in service by the summer of 1998.

Summer '97

City of Wilsonville
Water Conservation Actions Taken

- * Conservation insert in utility billings (late spring)
- * Free plumbing fixture "check-up" kits
- * Site visits to customers whose '97 consumption was significantly higher than '96 (check for leaks; encourage conservation)
- * "Compassionate Leak Repair" policy (i.e., financial incentive to fix leaks quickly)
- * Articles in "Boones Ferry Messenger"
- * Articles in "Seedling"
- * Articles every week in local newspaper throughout the peak season
- * Personal phone contact throughout the summer with 30 largest outdoor water users
- * Participation in regional "water audits"
- * Mandatory restrictions on outdoor watering
- * City ceased watering parks and landscaping
- * Direct mailing from City Manager and Fire Chief
- * Door hangers when wasteful practices observed
- * Final warnings and daily water meter readings for suspected violators

NOTE: New development in the past year should have increased peak season water consumption by 150,000 to 200,000 gallons per day. Instead, peak season consumption decreased by 150,000 gallons per day - - before mandatory restrictions were placed on outdoor watering. It appears more customers are incorporating conservation into their regular practices.

Additional Activities for the coming year:

- review/modify pricing structure to provide further financial incentives for conservation
- xerophytic demonstration project
- investigate irrigating park(s) with Willamette River water
- update City Code - - including revisions to landscaping requirements
- active participation in Water Conservation Coalition

**Legal Analysis of
Alternative Long-Term Water Solutions**

June 10, 1998

**Alternative Long-Term Solutions to
Cure Lack of Water Capacity**

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MEMORANDUM

To: Mayor and City Council

From: Michael E. Kohlhoff, City Attorney

Date: June 10, 1998

Re: Alternative Long-Term Solutions to Cure Lack of Water Capacity

INTRODUCTION

The City of Wilsonville has adopted a moratorium on processing development applications based on a lack of water capacity to serve new development. The City Council has identified three potential sources as alternative long-term solutions to cure the lack of water capacity: (1) Appropriate up to 30 cfs (20 mgd) from the Willamette River under the city's water rights and construct a water treatment plant either solely or jointly with other units of local government; (2) Enter into a contractual relationship with Portland to wheel Bull Run water to Wilsonville either through upgrading existing piping routing or creating a new route or a combination of the two, provided Portland can serve Wilsonville over the long run; or (3) Appropriate water from the Troutdale aquifer south of the Willamette River either from new or existing wells within or without the city or from a combination of locations.

Each alternative carries different technical feasibility issues, different time frames, and different financial considerations. The City will be addressing these issues outside the scope of this memorandum. Each alternative also brings different legal challenges to consider. It is the purpose of this memorandum to set forth the legal issues. Any such analyses begins with a review of the City's authority and what risk, if any, legal constraints may impose upon an alternative.

- I. **What is the City's authority to own, construct and operate waterworks and water systems within and without city boundaries?**
 - A. The City has a broad grant of powers.



The City of Wilsonville is a home rule, chartered city authorized under Art. II §2 of the Oregon Constitution. The city electorate adopted the Oregon League of Cities endorsed model City Charter, effective January 1, 1987. In Chapter II of the charter, the City is provided with broad powers of municipal authority.

"Section 4. POWERS OF THE CITY. The City has all powers that the constitutions, statutes and common law of the United States and of this state expressly or impliedly grant or allow municipalities, as fully as though this Charter specifically enumerated each of those powers.

"Section 5. CONSTRUCTION OF CHARTER. In this Charter no mention of a particular power shall be construed to be exclusive or to restrict the scope of the powers which the City would have if the particular power were not mentioned. The Charter shall be liberally construed to the end that the City may have all powers necessary or convenient for the conduct of its municipal affairs, including all powers that cities may assume pursuant to state laws and to the municipal home rule provisions of the state constitution."

B. The exercise of municipal powers is constrained to the territory within city limits, except when clearly expressed statutory authority exists.

A city generally may exercise authority only within its corporate limits. *City of Eugene v. Nalven*, 152 Or App 720, 724, ___ P2d ___ (1998). The sole exception to that general rule is that a city may exercise authority outside its boundaries when a jurisdiction from which it draws its powers to act — a county or the state — grants it authority. *Id.* The exception to the general rule has been qualified further by a requirement that any grant of extramural authority be "clearly expressed". *Id.*, citation omitted.

C. Clearly express statutory authority.

ORS 225.010 - 225.080 provides express authority for cities to acquire, own and operate utilities, including waterworks and water systems, within and without the city, including acquiring right-of-way, easements or real property within or without the boundaries of the city for such purposes. The legislative scheme also authorizes cities to construct, own or operate jointly in any proportion as they agree, waterworks and water pipelines, water rights and water.

ORS 223.005 authorizes condemnation for public improvements within and without city limits of any private property, water, water course and riparian rights to any public or municipal use for the general benefit and use of the people within or without the city.

ORS 195.003 et seq. provides for intergovernmental cooperation. The seminal thrust of this legislation is to provide broad authority to units of local government, which include cities, counties, districts or other public corporations to enter into written agreement for the performance of any and all functions and activities that a party to the agreement, its officers or agency, has authority to perform. The full text of the above recited statutes is attached as Appendix A.

To date, the focus of the current case law interpreting the statutory grants of extramural authority under ORS 225.020 has been on the provision of the service. Voluntary contracting for the extramural provision of water and sewer service has been held to be clearly expressed: *Bell v. City of Corvallis*, 25 Or App 821, 828-29, 551 P2d 125, rev. den. (1976). However, the power to compel connection to municipal service outside the city boundaries is not clearly expressed under the language of ORS 225.020 or ORS 225.030 without an emergency health reason and, under the specific facts of the case being determined, without following the county's condition for a grant of authority. *City of Eugene v. Nalven, supra*.

Thus, it appears there is clearly expressed authority for the City to voluntarily contract with other cities, i.e. units of local government or private persons and entities such as with the City of Portland for Bull Run water; with other cities or units of local government such as the City of Tualatin for wheeling of water; other cities or units of local government such as the Tualatin Valley Water District for the joint acquisition, construction and operation of a water treatment and distribution system; and with private individuals and entities to acquire necessary extraterritorial easements for a water delivery system, purchase of water and/or acquisition of private property to procure water.

D. While the statutes recited above provide the express statutory authority to acquire private property by condemnation outside city boundaries for water purposes, the condemnation law contains a further limitation under the doctrine of lawful use.

ORS Chapter 35 establishes the procedure for taking property by eminent domain, but the authority for the condemnation entity to act must come from some other law. ORS

35.235(1); *State by and through DOT v. Shrock Farms*, 140 Or App 140, 143, 914 P2d 1116 (1996).

In examining the doctrine of lawful use in the *Shrock Farms* case, the court held ODOT could condemn EFU land for highway purposes although it was contrary to existing land use law. The court found sufficient the authority granted by ORS 366.320(1) which authorizes condemnation for rights-of-way that are deemed necessary for all primary and secondary state highways, and by ORS 366.340(4) which authorizes condemnation for any use or purposes that it deems necessary to carry out the purposes of the State Highway Act. Although those statutes did not provide authority to violate existing land use statutes, the court upheld the condemnation because it was necessary to acquire the land in order to seek a regulatory change, which ODOT had subsequently accomplished through the legislature (ORS 215.283(3)(a)). *Shrock Farms*, 140 Or App at 144-145. The court noted that the Oregon Supreme Court did not adopt the standard that a condemning authority, in order to prevail, must have either a reasonable probability or reasonable expectation of gaining the permits that are necessary to use the property for its intended purpose; albeit, the court did find that ODOT met such a standard. 140 Or App at 145.

The court also found immediate possession was not at issue distinguishing, *State ex rel City of Eugene v. Woodrich*, 295 Or 123, 136, 665 P2d 333 (1983), which suggested a court could deny a condemner immediate possession of the property if the proposed public use would be "unlawful" in the sense of requiring a change in the general law, such as a statute, a regulation, local ordinance or general plan. 140 Or App at 145-146.

While it appears that ORS 225.010 et seq. and ORS 223.005 provide the same type of express authority to municipalities to apply extramural condemnation authority for acquiring, owning and operating waterworks and water systems as the highway statutes recited above provide to ODOT, to the extent EFU lands may be involved, there are certain statutory standards which must be met. This raises the legal issue that immediate possession could not occur until the standards were met and whether, before condemnation is allowed, there will be applied to municipal condemnation entities a reasonable probability standard of meeting the EFU statutory standards for siting utilities or, alternatively, of changing the regulation in some manner to allow the siting of municipal water utilities. The EFU standards and probability of meeting the standards are more particularly discussed below, especially as they may apply to the Troutdale aquifer alternative outside the city's boundaries.

Similarly to potential limitations of EFU land use regulations, there are certain laws and regulations administered by the Water Resources Department governing the amount of water which may be appropriated and the purpose for which it may be used. Thus, while there is authority to condemn water extra-territorially, and setting aside EFU or other land use regulations, there may be water regulation limitations on the amount and use of the water to meet the cities' needs. Again, these issues are particularly discussed below.

II. The City's power to acquire, construct and operate water works and water systems under the three proposed alternatives: Willamette River, Bull Run and Troutdale aquifer.

A. Willamette River (surface water)

1. General Authority. The City holds a permit from the Water Resources Department to appropriate 30 cfs (20 mgd) of water from the Willamette River. In exercising that right, the city is subject to following state and federal laws in perfecting the water right and making beneficial use of the water and following applicable land use laws (discussed below). The City has negotiated an option to purchase property for the construction of a treatment plant adjacent to the Willamette River and the City's appropriation point. It clearly has the power and right to exercise its power within its city limits to acquire, own and construct a Willamette Water Treatment plant to supply potable drinking water and/or irrigation water to its inhabitants. It can through voluntary contracts supply such water outside its city limits, provided it can either acquire the necessary extramural easements through voluntary acquisition and intergovernmental cooperative agreements to use existing piping or piping to be constructed or, if necessary, by condemnation, provided any applicable land use regulations can be met or can be changed.¹ The City can also voluntarily contract with other units of local government to jointly own, construct and operate a water treatment plant and distribution system.

How such a treatment plant would be financed or the politics of using Willamette River Water is not within the scope of this memorandum. However, the City's municipal powers are sufficient to authorize financing of the project and there is authority under the Oregon law to enter into an intergovernmental agreement for financing of a jointly owned.

¹ A change involving regulating standards applicable to EFU or other land uses may occur other than by statutorily amending the regulation; a change may occur by a change in the land's status through annexation and/or re-zoning, thus rendering the regulations inapplicable.

constructed, and operated water treatment and distribution systems. State law does not limit the amount of general obligation bond financing for water. ORS 287.004(4). The risk for a joint venture is not in the legal authority to spread the cost and share the responsibilities, but in the business details of any such cooperative agreement. Such details must be satisfactorily negotiated and through the negotiation process judgment exercised to determine the necessary terms and conditions and whether they can be successfully implemented by the respective parties.

To the extent bonding may be involved in financing, the question has arisen whether financing through revenue bonds is possible without a vote. The answer is yes. However, under ORS 288.815 such a bond may be referred to a vote by a petition validly signed by 5% of the electorate. The petition must be filed within 60 days of the statutorily required published notice of the adoption of the authorizing ordinance or resolution.

2. Water Resources Department. The state Water Resources Department (WRD) administers a regulatory program for appropriation of surface water. Permit No. 46319 authorizes the city to appropriate 30 cubic feet per second (cfs) from the Willamette River, equal to 19,389,450 gallons per day (approximately 20 mgd). The permit is subject to senior water rights existing as of March 27, 1974, including pre-1909 water rights at Willamette Falls for hydroelectric and industrial use water rights held by PGE, Simpson Paper, and Jefferson Smurfit Co. As the city's point of diversion is upstream from Willamette Falls, it is unlikely that the city's use would be restricted by holders of pre-1909 rights.

Under the city's permit, construction is required to begin and water must be applied fully to beneficial use by October 1, 1998, unless the city obtains additional extensions. Following a recent Attorney General's Opinion, the Water Resources Department is currently drafting new administrative rules regarding extension of municipal permits. Rules will be published for public comment in July, 1998, and may reflect the Attorney General's opinion that actual construction of water works is necessary to receive an extension of time. If the city applies for an extension of time, the application may be held in abeyance until new rules have been adopted.

WRD administers a three-step process to obtain water rights. Once a permit to use water is granted, the city must construct a water system and actually use the water or apply the water to beneficial use. After the city submits a map and report describing how and

when water is being applied, and WRD determines that the use has been accomplished according to the permit, a final water right is issued. Under the prior appropriation doctrine, the city may only divert water to the extent supply is available, and subject to the needs of other water rights, including instream water rights for fish protection and unadjudicated rights held by PGE that are senior to the city's rights. The City need not perfect more than 25% of the authorized water right under a permit without fear of cancellation or loss of priority. ORS 537.260(4).

In order to get an extension of time, the city must prepare a water management and conservation plan and a long-term water supply plan and timetable. To perfect the permit, the diversion and delivery system must be built to a capacity of 30 cfs and water must be delivered and used for municipal purposes. Depending on the nature of construction of the water system and any agreements with Tualatin Valley Water District (TVWD) and other parties to jointly provide water, the city may need to apply to WRD for a change in the point of diversion or the place of use. The change may be granted if it is determined that it will not injure other water rights.

TVWD's diversion point is about 200 feet upstream of the city's diversion point. The place of use in the city's permit is a metes and bounds description of the area that the city intended to serve at the time of application. The place of use can be cured by amending the permit to change the stated place of use to include all lands within the city limit pursuant to ORS 537.211(4). Or the city may rely on ORS 540.510(3), which allows a municipality to apply water to lands acquired by annexation.

3. Land Use Law. In order to site a treatment plant and associated structures and facilities, the city must comply with state and city land use and zoning laws. In siting a treatment plant and intake, the city must follow the state planning and zoning laws, ORS 227.160 to 227.185. The development would have to meet all applicable city ordinances, including the city's Comprehensive Plan, Ordinance 464, and Willamette River Greenway regulations.

WC 4.001(104) defines "utility" to include "water service". WC 4.005(6) excludes from the requirement for development permit "except as otherwise required by the establishment, construction or termination of an authorized public facility that directly serves development, including such facilities as a sewer [or] water line . . . provided said construction complies with applicable Public Works Standards." Subsection (s) clarifies

that exclusion from a permit does not exempt the development or its use from applicable requirements of the Comprehensive Plan or from the requirements of Tree Preservation and Protection ordinance.

Under the city's Willamette River Greenway regulations, WC 4.500 et seq., a water treatment plant would fall under the definition of "water dependent" and the plant as a conditional use would be subject to a public hearing before the Development Review Board. Outside the Willamette Greenway, WC 4.177 regulates pumping stations and any above ground lines and treatment plants as conditional uses that are permitted in all zones and that would also be subject to land use review.

B. Troutdale Aquifer

1. General Authority. The southern corporate limits of the city lie south of the Willamette River and include the Troutdale aquifer. The same general authority as discussed above for the city to acquire, own, construct and finance for the appropriation of water and beneficial use for within and without its boundaries applies to groundwater. Again, WRD regulates groundwater appropriation and use. City land use ordinances and regulations likewise apply to appropriation and distribution within the city. To the extent the city is considering appropriating and using groundwater from the Troutdale Aquifer outside its boundaries, WRD administrative rules apply as do state and county land use laws and regulations.

2. Water Resources Department. Similar to surface water, the state Water Resources Department administers appropriation and use of groundwater. Water rights are personal property and can be purchased, assigned or otherwise transferred. A permit to withdraw groundwater is still subject to place of use limitations, unless an application for change of place of use is made under ORS 540.520. WRD publishes notice of the application and may conduct a hearing to determine whether the application would result in injury to existing water rights.

Application for change of use or place of use is made under ORS 540.520 and notice of the application must be published, allowing 30 days for protest by any person. If a protest is timely filed or the WRD director determines a hearing is necessary to determine whether the application would result in injury to existing water rights, the department holds a hearing. An application for temporary transfer of a water use may be made for not more

than five years. WRD has the authority to approve the request based on a determination of no injury to existing rights; however, the temporary transfer may be revocable if there is injury to an existing right. ORS 540.523.

The general rule is that water must remain appurtenant to the property upon which it is used and no change in use or place of use may be made without application to, and approval by, WRD under ORS 540.520 and 540.530. However, a holder of a use that is being transferred may change the use, place of use, and point of diversion without losing priority of the right previously established. WRD may not approve a transfer of a supplemental water right or permit if the transfer would result in enlargement of the original right or injury to an existing water right. Under ORS 540.510(3), any water used under a permit or certificate issued to a municipality may be used on lands to which the right is not appurtenant if the water is applied to land which is acquired by annexation and the rate and use of water allowed in the original certificate is not exceeded, and the use continues to be for municipal purposes and would not interfere with or impair prior vested water rights.

Application for a new groundwater right is provided for in ORS 537.615 et seq. Under ORS 537.620(2), the date of complete application is the priority date for the water right. ORS 537.620(5). No later than 30 days after application is complete, WRD notifies the applicant and allows 14 days to withdraw the application. Public notice and request for comments are included in the process. Under ORS 537.621, the criteria to be applied in reviewing the application include that the proposed use will ensure the preservation of public welfare, safety, and health. Other criteria include whether the proposed use is allowed in a basin program or preferred under ORS 536.310(12) whether water is available and a determination that the use will not injure other water rights. The "no injury" rule is a rebuttable presumption and may be overcome by a preponderance of evidence that one or more of the criteria for establishing the presumption is not satisfied, or that the proposed use would not ensure preservation of public welfare, safety and health as demonstrated in comments, or demonstrated in a protest against a final order, or contained in a department finding that shows a specific aspect of public welfare that is impaired or affected and how so. The final order granting the water right may include a flow rate and duty of water that is greater than the general standard depending on the demonstration of need by applicant.

Any protests must be submitted within forty-five (45) days after publication of notice of final order. Within sixty (60) days after close of the period for receiving protests, the Water Resources Department Director must issue a final order or schedule a contested

case hearing. A hearing must be held within forty-five (45) days after scheduling, and exceptions to a final order must be filed within twenty (20) days after it is issued. ORS 537.622. ORS 537.626. WRD must issue a final order or schedule a contested case within 180 days after proceeding with the application. If not, the applicant may apply for a writ of mandamus to compel issuance of the permit. ORS 537.627.

No application shall be approved when it will deprive those having prior rights of appropriation for a beneficial use of the amount of water to which they are lawfully entitled. ORS 537.628. When an application discloses a probability of undue interference with existing wells or that a proposed use will impair or interfere with existing rights to appropriate groundwater for thermal use or surface water, WRD may impose conditions or limitations or request the commission to initiate a rule-making proceeding to declare the affected area a critical groundwater area. ORS 537.629. Actual construction of a well or the means of securing groundwater must begin within one year after approval. ORS 537.630.

A certificate for a supplemental right (additional water rights that are granted to a primary right) is issued after a certification of completion and a copy of survey to perfect the appropriation. The applicant must have the facility capable "of handling the full rate and duty of water requested from the supplemental right." The certificate of registration or permit may be assigned to another, and the assignment must be filed with WRD to be binding.

Thus, while there are obvious process times involved, the more substantial risks for denial or adverse conditional limitations will come from protests of undue interference with existing wells and appropriation rights. An assessment of these risks are subject to site specific detail, which may be afforded by more precise technical reports of potential locations and potential availability.

3. State and County Land Use Laws and Regulations. The Troutdale aquifer is located in both Clackamas County and Marion County. Where cities go outside urban land for water, state law and county land use regulations apply, although attempts were made during the 1997 legislative session to make it more difficult to site uses on EFU land. ORS 215.283(1)(d) provides that the following use may be established in any area zoned for exclusive farm use in non-marginal lands counties:

"Utility facilities necessary for public service, except commercial facilities, for the purpose of generating power for public use by sale and transmission towers over 200 feet in height."

Clackamas County has incorporated similar language into its code. (Clackamas County Zoning and Development Ordinance 401.04(c)(39)). The phrase "necessary for public service" has been interpreted by the Court of Appeals to mean one which essentially could not be situated elsewhere. The applicant must establish and the county must find that it is necessary to situate the facility in the agricultural zone in order for the service to be provided. *McCaw Communications, Inc. v. Marion County*, 96 Or App 522 (1989). A Clackamas County hearings officer decided that the applicant Clackamas County Service District "must establish that the proposed facility must be situated on agricultural land in order for the applicant to provide its service." Clackamas Co. Case File No. Z1474-97-1(A) p 5.² The city may have to demonstrate through an analysis of alternatives that due to topographical, geological, or hydrological constraints, the facility cannot be sited elsewhere and cost may not be a factor in determining necessity. *Id.*

The City of Newberg, which had an existing well field in Marion County, was denied an application to site a well adjacent to the well field by a Marion County land use hearings officer. The decision held that although the city had analyzed its water conservation measures, and had rejected using surface water from its springs or the Willamette River based on cost, no "extensive" explanation of why additional wells in non-agriculturally zoned lands are not a viable option was ever developed. "Applicant did not show where non-resource lands are located, and then eliminate these lands as sources of water based on specific aquifer conditions, cost of piping, or other factors." *In the Matter of Application of City of Newberg*, Order in Case No. FP/ADM 96-13, p. 6.

An application for utility siting must show it would not disrupt agricultural use. "A permitted use having no direct supportive relationship to agricultural use of the land should be understood as being as nondisruptive of farm use as the language defining the use allows." *Id.*, p. 3-4. In determining that the city had not met the "nondisruptive" prong of *McCaw*, the hearings officer noted the larger issue was that the city's long-range plan called for development of additional wells, but the city had not studied the cumulative effect of the entire well field development, including well head protection, to determine interference with agricultural production. *Id.*, p. 6.

² Decision is on appeal to LUBA.

Notwithstanding any private contracts or intergovernmental agreements, in the event the city purchases water or property outside the city for municipal purposes, there would be public hearings for the application by the county or counties involved, and opportunity for comment and potential hearing at WRD.

There is a substantial risk that the presence of the city's Willamette River appropriation, or even source from the Troutdale Aquifer within the city, will negate the ability of the city to meet the "must be situated on agricultural land test", given that cost alone is not likely to be sufficient as an off-setting factor under the decisions to date.

C. Bull Run - purchase from another municipal system.

1. General Authority. The Bull Run water system is owned and operated by the City of Portland, a municipal corporation. The City of Portland has informed its users outside the Portland city limits that it cannot guarantee water supply beyond the year 2005. The City of Portland is facing a need to develop further capacity and has not determined which alternative it will choose, use of existing reservoir with filtration plant, building up the existing dam, the building of a third dam in the Bull Run watershed area, or some combination. There are too many unknowns including environmental considerations, costs to rate payers and how such water would be delivered to Wilsonville, rendering an analysis of legal challenges impractical. Additionally, there are complex federal issues concerning damming of waterways and protection of salmon runs which will also need to be addressed. The City of Tigard is facing an upcoming long-term supply shortage and in its exhibit to its May 15, 1998, letter to Portland Commissioner Erik Sten, outlines through a series of questions the complexities of the unknowns of Bull Run as future supply for non-Portland communities. See, Appendix B attached.

What is known is that the existing piping will need to be extensively upgraded, including new routing, to wheel Bull Run water to the City. See, *Portland Water Bureau Supply Scenarios, May 1998*, attached as Appendix C. Again, while there is authority to enter into cooperative agreements with the several jurisdictions involved to wheel water to the City, what the price will be to upgrade line capacity, what the purchase cost of the water to the city will be and whether there will be any excess Bull Run capacity, in any event, to serve the City beyond the year 2005 is unknown. However, a rough estimate of the city's potential share may provide sufficient information to the City Council for its business decision regarding the probabilities of the city's ability to finance this alternative. In any

event, there is significant legal risk in committing to a course of upgrading piping for wheeling the city's needed long-term capacity without knowing if there will be any extra Bull Run capacity in the long term, and if capacity is available when water might be provided given the complexities of the issues.

mek:jsk:dp

**MUNICIPAL OWNERSHIP
AND OPERATION OF
PUBLIC UTILITIES GENERALLY**

225.010 Definition. As used in this chapter, unless the context requires otherwise, "city" means any incorporated city or town.

225.020 Authority of cities to acquire, own and operate utilities within and without city limits. (1) When the power to do so is conferred by or contained in its charter or act of incorporation, any city may build, own, operate and maintain waterworks, water systems, railways and railroads, electric light and power plants, within and without its boundaries for the benefit and use of its inhabitants and for profit. To that end it may:

(a) Acquire water systems and use, sell and dispose of its water for domestic, recreational, industrial, and public use and for irrigation and other purposes within and without its boundaries.

(b) Build, acquire, own and operate railways operated by steam, electric or other power within and without its boundaries and running from such city to other towns, cities and points without its boundaries.

(c) Acquire right of way, easements or real property within and without its boundaries for any such purpose.

(2) In exercising such powers, any city may bring actions for the condemnation or taking of private property for public use in the same manner as private corporations are now authorized or permitted by law to do. [Amended by 1967 c.306 §1]

225.030 Utility may provide services outside city limits. Any city owning, controlling or operating a system of waterworks or electric light and power system for supplying water or electricity for its inhabitants and for general municipal purposes, and any person, persons, or corporation controlling or operating any water system or electric light and power system under contract, lease or private ownership, may sell, supply and dispose of water or electricity from such system to any person, persons, or corporation within or without the limits of the city in which the water or electric light and power system is operated, and may make contracts in reference to the sale and disposal of water or electricity from such system, for use within or without the corporate limits.

225.040 Validation of prior municipal contracts. All contracts or agreements made prior to May 20, 1911, and in effect as of that date, for sale and disposal of water or electricity by any city, person, persons or corporation operating, controlling or owning water

or electric light and power systems, to any person, persons or corporations within or without the limits of the city in which the system is operated, are ratified and declared legal and valid contracts in so far as the right of the city to contract with reference to same is concerned.

225.050 Joint acquisition, ownership and operation of waterworks; joint financing. (1) Any or all cities may construct, own or operate jointly, in such proportion as they may agree, waterworks and water pipe lines, water rights and water.

(2) For the purposes of subsection (1) of this section, the cities may:

(a) Purchase, own, hold, appropriate and condemn land, rights of way, water or water rights in their own names or in the name of a joint or other commission or agency.

(b) Purchase one from the other or others waterworks, water pipe lines, water rights or water or any interest therein or in either of them.

(c) Provide joint or other commissions or agencies for construction, operation or control of the matters listed in this section.

(d) Issue, sell or otherwise dispose of bonds or other securities of the city for the purpose of carrying out any of the provisions of this section.

Note: Section 1, chapter 231, Oregon Laws 1995, provides:

Sec. 1. (1) The Coos Bay-North Bend Water Board, a joint agency of the cities of Coos Bay and North Bend, organized and operated pursuant to ORS 225.050, is authorized to construct and operate a dam on property owned by the board and located on Joe Ney Creek in Coos County if the location and the plans for the dam are submitted to and approved by the Chief of the United States Army Corps of Engineers and the Secretary of the Army.

(2) This section does not exempt the board from compliance with any local, state or federal permit or approval requirement. [1995 c.231 §1]

225.060 Joint ownership, operation and financing of municipal utilities with another state. (1) Whenever authorized by their charter or incorporation law, cities and other municipal corporations may, either severally or in joint agreement, purchase, own, operate and maintain any works in an adjoining state necessary or pertinent to the furnishing of water supply or electric power, or both, for the benefit and use of their inhabitants and for profit, in so far as authorized and permitted by the laws of the adjoining state.

(2) For the purposes stated in subsection (1) of this section, and subject to its limitations, cities and other municipal corporations may purchase, own, appropriate and condemn land, rights of way, and water or water rights or both.

**CONSTRUCTION OF SEWER SYSTEM;
ASSESSMENT PLAN**

224.010 Definitions for ORS 224.010 to 224.170. As used in ORS 224.010 to 224.170, unless the context requires otherwise:

(1) "City" means any incorporated city or town.

(2) "Council" means the council or other municipal authority of a city.

224.020 Authority of city to construct sewage system. Whenever the council of any city deems it necessary or expedient to construct a sewer partially within and partially without the city, or to construct a sewer outlet, or do any other work, acts or things without the city for proper disposal of sewerage and drainage, the city, through its council, may acquire by purchase, condemnation or otherwise, any property rights of way, easement and other rights without the city as may be needed or deemed essential for the construction of the sewer, sewer outlet, or other works. It may also provide for and do all things which may be necessary or deemed essential for proper construction of such sewer, sewer outlet, and for other works, acts and things which may be deemed necessary or essential for the proper disposal of sewerage and drainage from the city and adjacent territory.

224.030 Authority of city to alter water flow; limitations. A city, through its council, may divert water and waterways, fill or drain lakes, ponds or other waters, increase or diminish the flow of waters in natural channels or dam channels and do such other acts and things as may be found necessary or essential for the matters provided for in ORS 224.010 to 224.120 and in ORS 224.170. However, no property rights or other vested rights shall be taken without agreement with the owner or a proceeding of condemnation.

224.040 Assessment of property; collection. The council may provide for and make a local assessment for benefits against any and all property whether within or without the city or partially within or partially without the city and enforce a collection of such assessments.

224.050 Rights of owners outside city limits. The owners of property without the city shall be given like notice and shall have like opportunities of remonstrance and have all other rights and remedies which the owners of property within the city may have or be given, including the privileges of the Bancroft Bonding Act or similar charter provisions relating to bonding of assessments.

224.060 (Amended by 1959 c.220 §1; repealed by 1967 c.280 §1 (224.065 enacted in lieu of 224.060))

224.065 Writ of review. Notwithstanding any of the provisions of ORS 224.010 to 224.170, owners of any property against which an assessment for a local improvement under this chapter has been imposed may seek a review thereof under the provisions of ORS 34.010 to 34.100. [1967 c.280 §2 (enacted in lieu of 224.060 and 224.070)]

224.070 (Amended by 1959 c.220 §2; repealed by 1967 c.280 §1 (224.065 enacted in lieu of 224.070))

224.080 Record and effect of judgment. Upon final determination of the review a transcript of the judgment shall be filed with the auditor, clerk or other official of the city having charge of the assessment records, whereupon it shall be entered in the records of the city and other records as provided in ORS 224.090 and 224.100 and shall constitute the assessment against the property. It shall bear interest from the date that other assessments for such sewer or work bear interest and shall be enforced and collected in like manner as the assessment is collected against other property which may have been assessed for such sewer or other work. In case the judgment on appeal is for the same amount as the assessment, no entries need be made of the transcript. [Amended by 1967 c.280 §3]

224.090 Assessment lien on property outside city limits; priority. No assessment under ORS 224.040 against property beyond the limits of the city shall be a lien on the property until a certified transcript of the assessment in so far as it affects such property has been filed with the county clerk or other person having custody and charge of the mortgage records of the county. From the date of such filing the assessment shall be a lien and charge against the property upon which it is imposed, prior and superior to all other liens and encumbrances whatsoever thereon, except general taxes.

224.100 Records and indexes of transcripts; effect of review. The clerk or officer referred to in ORS 224.090 shall record the transcript referred to in that section in the mortgage records of the county and properly index it. The issuance of a writ of review shall not prevent the filing, recording and indexing of such transcript, but upon final determination of the review a further transcript shall be filed showing the amount of the assessment. A notation shall be made upon the margin of the record of the first transcript showing that it has been merged into the second transcript. The second transcript shall be indexed and recorded and the same shall, for the amount specified therein, have the same force and effect as the first transcript would have had. [Amended by 1967 c.280 §4]

CONDEMNATION FOR CITY IMPROVEMENTS: SPECIAL PROCEDURE

223.005 Condemnation for public use within and without city limits. Any incorporated city may:

(1) Appropriate any private real property, water, watercourse and riparian rights to any public or municipal use or for the general benefit and use of the people of the city, including but not limited to appropriation for an aviation field, park, city hall, city buildings, jail, or to protect the city from overflow by freshets.

(2) Appropriate any real property, water, watercourse and water and riparian rights, including power sites, to any public or municipal use or for the general benefit and use of the people within or without the city, and to build dams, reservoirs and conduits for the purpose of storing and using water to aid in developing the necessary power to generate electricity for the use and benefit of the people within or without the city.

(3) Condemn for its use private property for the purpose of erecting and maintaining electric lines thereon for the purpose of generating and conveying power to light and heat the city, and to be used and sold by the city for manufacturing, transportation, domestic and other purposes, either within or without the corporate limits of the city, and for the purpose of constructing electrical systems for municipal uses. [Amended by 1971 c.134 §1]

223.010 Right of city to enter upon, survey, examine and select property to be condemned. For the purposes of ORS 223.005, a city may enter upon, survey, examine and select any such property or rights for the purpose of constructing any ditch, drain, dam, dike, canal, flume, sewer, reservoir, septic tank, filter bed, sewer form or purifying plant or laying or constructing and maintaining any pipe, sewer, drain, aqueduct, dam, dike, canal, flume, reservoir, septic tank, filter bed, sewer form or purifying plant or other plant, building or electric lines or system for municipal uses, including but not limited to, aviation fields, parks, city hall, city buildings, jails, docks, piers, slips, shore and terminal structures. [Amended by 1971 c.134 §2]

223.015 Manner of condemnation; compensation. After selection of such rights and property under ORS 223.010 in such manner as the council provides, the city seeking to make the appropriation may proceed in the manner prescribed by the statutes for the appropriation of land for corporate purposes, and not otherwise, unless

otherwise provided by law, to have such property appropriated and the compensation therefor determined and paid. However, the compensation for such condemnation by a city shall be paid by a deposit in the court of an order drawn upon the city treasurer for the amount of compensation.

223.020 Scope of condemnation. Appropriation of property under ORS 223.005 may extend beyond the corporate limits of the city to or along and including any lake, spring, stream or power site.

223.025 [Repealed by 1963 c.297 §1]

223.030 [Repealed by 1963 c.297 §1]

223.035 [Repealed by 1963 c.297 §1]

223.040 [Repealed by 1963 c.297 §1]

MUNICIPAL CONDEMNATION PROCEEDINGS

223.105 Proceedings to condemn property for city improvements when owner and city disagree on price. (1) The provisions of this section apply to every city, whether organized under general law or otherwise.

(2) Whenever the council of any incorporated city deems it necessary to take or damage private property for the purpose of establishing, laying out, extending or widening streets, or other public highways and places within any city, or for rights of way for drains, sewers or aqueducts, or for widening, straightening or diverting channels of streams and the improvement of waterfronts, and the council cannot agree with the owner of the property as to the price to be paid, the council may direct proceedings to be taken under the general laws of this state to procure the same.

223.110 [Repealed by 1971 c.741 §38]

ECONOMIC IMPROVEMENT DISTRICTS

223.112 Definitions for ORS 223.112 to 223.132. As used in ORS 223.112 to 223.132, unless the context requires otherwise:

(1) "Council" means the city council or other controlling body of a city.

(2) "Economic improvement" means:

(a) The planning or management of development or improvement activities.

(b) Landscaping or other maintenance of public areas.

(c) Promotion of commercial activity or public events.

(d) Activities in support of business recruitment and development.

(e) Improvements in parking systems or parking enforcement.

INTERGOVERNMENTAL COOPERATION

190.003 Definitions for ORS 190.003 to 190.125. As used in ORS 190.003 to 190.125, "unit of local government" includes a county, city, district or other public corporation, commission, authority or entity organized and existing under statute or city or county charter. [1967 c.550 §2]

190.007 Policy; construction. In the interest of furthering economy and efficiency in local government, intergovernmental cooperation is declared a matter of statewide concern. The provisions of ORS 190.003 to 190.125 shall be liberally construed. [1967 c.550 §3]

190.010 Authority of local governments to make intergovernmental agreement. A unit of local government may enter into a written agreement with any other unit or units of local government for the performance of any or all functions and activities that a party to the agreement, its officers or agencies, have authority to perform. The agreement may provide for the performance of a function or activity:

- (1) By a consolidated department;
- (2) By jointly providing for administrative officers;
- (3) By means of facilities or equipment jointly constructed, owned, leased or operated;
- (4) By one of the parties for any other party;
- (5) By an intergovernmental entity created by the agreement and governed by a board or commission appointed by, responsible to and acting on behalf of the units of local government that are parties to the agreement; or

(6) By a combination of the methods described in this section. [Amended by 1953 c.161 §2; 1963 c.189 §1; 1967 c.550 §4; 1991 c.583 §1]

190.020 Contents of agreement. (1) An agreement under ORS 190.010 shall specify the functions or activities to be performed and by what means they shall be performed. Where applicable, the agreement shall provide for:

- (a) The apportionment among the parties to the agreement of the responsibility for providing funds to pay for expenses incurred in the performance of the functions or activities.
- (b) The apportionment of fees or other revenue derived from the functions or activities and the manner in which such revenue shall be accounted for.
- (c) The transfer of personnel and the preservation of their employment benefits.

(d) The transfer of possession of or title to real or personal property.

(e) The term or duration of the agreement, which may be perpetual.

(f) The rights of the parties to terminate the agreement.

(2) When the parties to an agreement are unable, upon termination of the agreement, to agree on the transfer of personnel or the division of assets and liabilities between the parties, the circuit court has jurisdiction to determine that transfer or division. [Amended by 1967 c.550 §5]

190.030 Effect of agreement. (1) When an agreement under ORS 190.010 has been entered into, the unit of local government, consolidated department, intergovernmental entity or administrative officer designated therein to perform specified functions or activities is vested with all powers, rights and duties relating to those functions and activities that are vested by law in each separate party to the agreement, its officers and agencies.

(2) An officer designated in an agreement to perform specified duties, functions or activities of two or more public officers shall be considered to be holding only one office.

(3) An elective office may not be terminated by an agreement under ORS 190.010. [Amended by 1967 c.550 §6; 1991 c.583 §2]

190.040 [Amended by 1953 c.182 §2; 1957 c.428 §1; repealed by 1963 c.189 §3]

190.050 Fees for geographic data; uses.

(1) An intergovernmental group may impose and collect reasonable fees based on market prices or competitive bids for geographic data that have commercial value and are an entire formula, pattern, compilation, program, device, method, technique, process, data base or system developed with a significant expenditure of public funds. An intergovernmental group may enter into agreements with private persons or entities to assist with marketing such products. Notwithstanding any other provision of law, intergovernmental group software product programming source codes, object codes and geographic data bases or systems are confidential and exempt from public disclosure under ORS 192.502. Nothing in this section authorizes an intergovernmental group to restrict access to public records through inclusion of such records in a geographic data base or system.

(2) Fees collected under subsection (1) of this section shall be used:

(a) For maintenance of the formula, pattern, compilation, program, device, method, technique, process, data base or system; and

(b) To provide services through the formula, pattern, compilation, program, device, method, technique, process, data base or system to public bodies paying a service charge to the intergovernmental group.

(3) As used in this section, "intergovernmental group" means two or more units of local government that have entered into a written agreement under ORS 190.010. [1991 c.335 §2]

190.070 Agreement changing service responsibilities requires changes in tax coordination resulting from change. (1) If any agreement entered into under ORS 190.010 to 190.030 or 190.110 between or among units of local government includes changes in service responsibility, that agreement shall set forth any changes in tax coordination resulting from the change in service responsibility.

(2) This section applies to agreements entered into after September 29, 1991, and before January 1, 1996. [1991 c.396 §9; 1993 c.424 §3]

Note: 190.070 was enacted into law by the Legislative Assembly but was not added to or made a part of ORS chapter 190 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

190.080 Powers of intergovernmental entity created by intergovernmental agreement; limits; debts of entity are debts of parties to agreement; procedure for distribution of assets. (1) An intergovernmental entity created by an intergovernmental agreement under ORS 190.010 may, according to the terms of the agreement:

(a) Issue revenue bonds under ORS 288.805 to 288.945 to accomplish the public purposes of the parties to the agreement, if after a public hearing the governing body of each of the units of local government that are parties to the agreement approves, by resolution or order, the issuance of the revenue bonds;

(b) Enter into agreements with vendors, trustees or escrow agents for the installment purchase or lease, with option to purchase, of real or personal property if the period of time allowed for payment under an agreement does not exceed 20 years; and

(c) Adopt all rules necessary to carry out its powers and duties under the intergovernmental agreement.

(2) An intergovernmental entity shall not have the power to levy taxes or issue general obligation bonds.

(3) The debts, liabilities and obligations of an intergovernmental entity shall be, jointly and severally, the debts, liabilities and obligations of the parties to the intergovernmental agreement that created the

entity, unless the agreement specifically provides otherwise.

(4) A party to an intergovernmental agreement creating an intergovernmental entity may assume responsibility for specific debts, liabilities or obligations of the intergovernmental entity.

(5) Any moneys collected by or credited to an intergovernmental entity shall not accrue to the benefit of private persons. Upon dissolution of the entity, title to all assets of the intergovernmental entity shall vest in the parties to the intergovernmental agreement. The agreement creating the entity shall provide a procedure for:

(a) The disposition, division and distribution of any assets acquired by the intergovernmental entity; and

(b) The assumption of any outstanding indebtedness or other liabilities of the entity by the parties to the intergovernmental agreement that created the entity.

(6) An intergovernmental entity created by intergovernmental agreement under ORS 190.010 may be terminated at any time by unanimous vote of all the parties to the intergovernmental agreement or as provided by the terms of the agreement. [1991 c.583 §4]

190.085 Ordinance ratifying intergovernmental agreement creating entity. (1) Prior to the effective date of an intergovernmental agreement creating an intergovernmental entity, each of the parties to the intergovernmental agreement shall enact an ordinance ratifying the creation of the intergovernmental entity. An ordinance enacted under this subsection shall:

(a) Declare that it is the intent of the governing body enacting the ordinance to create an intergovernmental entity by intergovernmental agreement;

(b) Specify the effective date of the intergovernmental agreement;

(c) Set forth the public purposes for which the intergovernmental entity is created; and

(d) Describe the powers, duties and functions of the intergovernmental entity.

(2) Not later than 30 days after the effective date of an intergovernmental agreement creating an intergovernmental entity under ORS 190.010, the parties to the intergovernmental agreement shall file with the Secretary of State copies of the ordinances required under this section together with a statement containing the name of the intergovernmental entity created, the parties to the agreement, the purpose of the agreement and the effective date of the agreement. [1991 c.583 §5]

190.110 Authority of units of local government and state agencies to cooperate; agreements with American Indian tribes. (1) In performing a duty imposed upon it or in exercising a power conferred upon it, a unit of local government or a state agency of this state may cooperate, by agreement or otherwise, with a unit of local government or a state agency of this or another state, or with the United States, or with a United States governmental agency, or with an American Indian tribe or an agency of an American Indian tribe. This power includes power to provide jointly for administrative officers.

(2) With regard to an American Indian tribe, the power described in subsection (1) of this section includes the power of the Oregon Department of Administrative Services to enter into agreements to insure that the state, a state agency or unit of local government does not interfere with or infringe on the exercise of any right or privilege of an American Indian tribe or members of a tribe held or granted under any federal treaty, executive order, agreement, statute, policy or any other authority. Nothing in this subsection shall be construed to modify the obligations of the United States to an American Indian tribe or its members concerning real or personal property, title to which is held in trust by the United States. [Amended by 1963 c.189 §2; 1967 c.550 §7; 1985 c.267 §1]

190.120 [1955 c.164 §1; 1959 c.662 §3; 1961 c.108 §8; renumbered 297.910]

190.125 Agreements to deliver water; joint board of control. (1) A unit of local government established to deliver water may enter into a written agreement with any other such unit or units of local government for the performance of specified activities by a joint board of control composed of the district managers of the parties to the agreement. A joint board of control, at the direction of the parties to the agreement, may perform any or all functions and activities under the agreement that a party to the agreement, or its officers or agencies, has authority to perform.

(2) A joint board of control created under this section may undertake cooperative activities, such as:

- (a) Sharing personnel;
- (b) Entering into joint contracts for operations;
- (c) Sharing use of equipment, facilities and fiscal resources;
- (d) Preparing basin and subbasin conservation plans and other planning functions; and
- (e) Any other cooperative activity authorized by the parties to the agreement.

(3) An agreement under this section shall specify the functions or activities to be performed by the joint board of control and by what means they shall be performed. The agreement shall provide that the elected boards of the parties to the agreement must approve the operating policy of the joint board of control. The agreement shall also provide that the joint board of control act on behalf of the parties to the agreement and under their policy guidance.

(4) As used in this section, "unit of local government established to deliver water" means an irrigation district organized under ORS chapter 545, a drainage district organized under ORS chapter 547, a diking district organized under ORS chapter 551, a water improvement district organized under ORS chapter 552, a water control district organized under ORS chapter 553 or a nonprofit corporation for irrigation, drainage, water supply or flood control organized under ORS chapter 554. [1997 c.215 §2]

190.130 Effect of ORS 190.125. The authority granted by ORS 190.125 is in addition to any other authority and powers possessed by units of local government established to deliver water and does not increase or expand the authority or the powers of such units of local government relating to water rights or water use under other state laws. [1997 c.215 §3]

Note: 190.130 was enacted into law by the Legislative Assembly but was not added to or made a part of ORS chapter 190 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

190.150 Agreements under federal Watershed Protection and Flood Prevention Act. (1) Districts that may enter into agreements with the United States, or any agency or instrumentality thereof, under the Watershed Protection and Flood Prevention Act, as amended (16 U.S.C. 1002), are:

- (a) People's utility districts organized under ORS chapter 261.
- (b) Domestic water supply corporations organized under ORS chapter 264.
- (c) Irrigation districts organized under ORS chapter 545 and ORS 548.005 to 548.120 and 548.305 to 548.715.
- (d) Drainage districts organized under ORS chapter 547 and ORS 548.005 to 548.120 and 548.305 to 548.715.
- (e) Diking districts organized under ORS chapter 551.
- (f) Water control districts organized under ORS chapter 553.
- (g) Irrigation, drainage, water supply or flood control corporations organized under ORS chapter 554.

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May 15, 1998

APPENDIX B



Commissioner Erik Sten
1220 S. W. Fifth Avenue
Portland, Oregon 97204

Dear Commissioner Sten:

The City of Tigard participated last night in a public forum dealing with the issues related to Tigard's options for a long term water supply. A significant portion of those attending the forum expressed a strong desire to continue exploring the Bull Run option. In response to some of the concerns raised at that forum, I want to reiterate, on behalf of Tigard, our keen interest in receiving and reviewing your proposals for meeting our city's water needs.

As you know, Tigard asked the Portland Water Bureau on two occasions in 1995 to negotiate a long term water supply contract. Portland's other wholesale water customers have been asking the Bureau since 1992 to begin renegotiations on their contracts, which expire in the period 2003 to 2007. The long lead time on these negotiations is necessary to protect the citizens of the wholesale customers who must be able to depend on a certainty of supply. In the event that the supply contracts are reduced or terminated, or contract terms cannot be agreed upon, these providers must have time to locate other water supply sources, including time to design, permit, and construct new facilities if necessary.

Each of these requests was met with the response that the city was not ready to begin negotiations. As recently as February of this year, the Water Bureau staff told the Bull Run Managers Group that it was hoping to be ready to begin these discussions in late 1999.

In late February, you directed the Water Bureau to prepare a proposal by the end of May. As we understood your direction, the Water Bureau is to consider all possible options for Portland to deliver water to Tigard and Wilsonville, which is also suffering from an immediate water supply crisis. Shortly afterwards, Bureau staff informed us that it would not be ready to present its proposal until June. At this week's Bull Run Managers group we were told that it was unlikely to be ready even then. We have not been given a date when we could expect to see a complete proposal.

Tigard is sincerely interested in hearing Portland's proposals for meeting our needs. But we are seriously concerned that the information we need from Portland to evaluate a Bull Run supply option for the city will not be available in a timely manner. I am writing to express the urgency of this matter for Tigard, and to ask you to assure us that we will receive a proposal soon.

To enable Tigard to make a thorough evaluation of your proposals they must address a number of items. In the attached exhibit, I have identified the factors we believe are critical to a thorough evaluation. Please be sure that those items are explained in your proposal when it is delivered to us.

Commissioner Erik Sten
May 15, 1998
Page 2

Because it has been suggested that water conservation measures could alleviate Tigard's need to seek a new water supply, that exhibit also includes a discussion of the considerations that must be addressed as part of a conservation solution. Tigard strongly supports the commitment to conservation made by the region's water suppliers in the Regional Water Supply Plan. Our city has recently increased its staffing for conservation programs, and plans to consider adoption of a block rate system later this year. However, because we do not have a back-up supply available in case a conservation solution fails, we will view such a proposal very critically.

We have earlier asked that we be granted the courtesy of meeting with you to receive your proposals before they are released to the public. As you can see from the lengthy set of considerations we have identified, this problem will not have a simple solution. Our citizens deserve a better response to your proposals than we could give if we receive them simultaneously with the news media. We look forward to that meeting with you and your staff.

Sincerely,



Ed Wegner
Public Works Director

cc Mike Rosenberger, Water Bureau
Jim Nicoli, Mayor of Tigard
Bill Monahan, City of Tigard
Jesse Lowman, Tualatin Valley Water District
Arlene Loble, City of Wilsonville
Jeff Allen, Oregon Environmental Council
Regna Merritt, Oregon Natural Resources Council

EXHIBIT

1. *Factors to be Covered in Portland Supply Proposal to Tigard*

- How much water will be made available to Tigard? The city's current water demand averages 7-8 mgd, with peaks of 13 mgd during the summer. Under the Regional Water Supply Plan, peak demands are projected to reach 20 mgd by the year 2025. Will Portland be prepared to supply that full amount?
- What will be the contract term? Portland's wholesale contracts have historically been for 25-year terms. The standard planning horizon for water suppliers is 50 years. Will the contract term be increased to 50 years? If not, what assurance does Tigard have that the contract will be renewed at the end of the term? If Portland cannot make such longer term commitments and Tigard will have to build its own supply source in 25 years anyway, it may be advisable for the city to avoid the inevitable cost increases and go ahead with its own source now.
- What is the source of the water to be delivered? Will the water come from the existing reservoir system, will it require that the existing dam be raised, or will it require construction of a new dam and reservoir?
- If Tigard's immediate needs can be met by Portland without raising the dam or building a new dam, at what point would Portland have to expand the Bull Run storage system to be able to meet its commitments to its residents and to all of its wholesale customers, including Tigard?
- How will the water be delivered to Tigard?
 - a. Tigard's existing connection to the Portland system is at Bradley Corner, the end of the distribution system for Portland's southwest neighborhoods. Portland has allowed Tigard to receive 4 mgd through that connection during the week, and up to 7 mgd on weekends. With Portland's southwest neighborhoods experiencing continued growth, can that connection be used to meet Tigard's full needs? If so, how long can Portland commit that Tigard can receive all of its contracted supply through that connection?
 - b. If some or all of Tigard's water needs must be met through a different connection, what connection does Portland propose be used? Tigard does not own any transmission capacity in and is not currently connected to the Washington County Supply Line. A study completed last summer on the supply line's capacity concluded that by 2005 the other water providers who own the supply line transmission capacity will need the full design capacity of that line, so none would be available to supply Tigard's needs. The study reported that adding pumps to the line could extend that date to 2016. However, some of the other owners of the Supply Line have indicated that they might not be willing to approve the addition of pumps. The supply line was designed as a gravity system, not for the additional stresses imposed by pumps. The other providers have indicated that they are

concerned about the risk of line breaks that would require frequent repairs or replacement. They are particularly concerned about the potential for such breaks occurring as the line passes under the Willamette River, where repairs would be very expensive.

- The proposal should identify the costs of all of the facilities required to get the promised water to Tigard, along with your proposal of how and among whom these costs would be allocated.
 - a. At a minimum, it is apparent to us that a new transmission line will be required from Powell Butte to Tigard. (See the previous discussion.)
 - b. Will a water filtration and treatment plant be required? Past discussions about expanding Bull Run capacity have concluded that the existing reservoir could produce more water for municipal use simply by adding a treatment plant, allowing a greater drawdown of the reservoir. Likewise, the assumption has been that raising the dam or building a new dam would trigger the need to treat the water.
 - c. Will new storage be required at Powell Butte?
 - d. Will one or more new conduits be required from Bull Run to Powell Butte?
 - e. Will any pumping facilities be required?
 - f. Will any of your existing wholesale customers need to make adjustments or significant changes to their operations to make the water available to Tigard?
- How much water will be available for new municipal customers under the proposal? How does that quantity affect the allocation of costs related to making the water available? Also, how is that capacity affected by the current or potential requirements for augmenting streamflows in the Bull Run River to improve conditions for fish?
 - a. Tigard is not the only municipality in need of a new supply source. In particular, the city of Wilsonville is experiencing a severe water shortage, and they are awaiting your proposal as well. We were told by Water Bureau staff recently that, if the existing dam were raised, the first call on the expanded water supply would be for augmenting streamflows in the Bull Run River to improve conditions for fish. They estimated that approximately 25 mgd would then be available for municipal use. That amount would just barely meet the projected needs of Tigard and Wilsonville through 2025. If that were the case, it would appear that our two communities would be liable for the bulk of the improvement costs, since we would be the only two beneficiaries of the expanded capacity.

- b. On that same point, when would the releases for fish flows most likely be required?

If the augmentation releases must be done in the peak municipal demand period of June – August, how would that affect our ability to meet our peak supply needs?

- c. If your proposal includes construction of a new dam to meet short and/or long term Tigard needs, has your staff projected the likelihood for approval of such a project? Our legal advisors have suggested that it is very unlikely that a new dam and reservoir could be approved, given the old growth timber and accompanying wildlife habitat that would be inundated by the dam. The Regional Water Supply Plan estimated that habitat for some 60 species would be affected by such a project. The Endangered Species Act listing of the steelhead demonstrates the possible impacts in the basin. Does your staff have a different view of those environmental and other regulatory obstacles? Would any of these obstacles also apply to a proposal to raise the existing dam?

- Finally, would the wholesale customers, in return for the substantial investments they would presumably be required to make in expanded Bull Run capacity, receive any ownership interest in and control of the new water supply (not simply facilities), or would we and others continue to have to periodically negotiate with Portland for short term water supply contracts?

2. *Conservation Program Issues*

Tigard's concerns about a conservation program can be stated much more briefly. There are two main points that must be addressed:

What steps is Portland prepared to take to assure Tigard that conservation mandates will be achieved so that Tigard has a reliable year-round water source?

What costs and facilities investments will be required of Tigard and other municipalities to achieve these conservation mandates?

How to achieve consistent, permanent reductions in water use

Tigard now receives 90% of its water supply from Portland under contracts for purchase of surplus water. Only 5% of Tigard's water supply is owned by the city, from 3 wells which produce 13 mgd (The remaining 5% comes from spot purchases from Lake Oswego.) Because our wells are located in a state-designated critical groundwater area however, they can be used only 3 months out of the year

Unlike Portland's other west-side wholesale customers, Tigard does not own any transmission capacity that could give it a greater assurance that water will actually be made available as needed. There also remains the question of whether Tigard will continue to receive any water at all from Portland after the expiration of our current contract.

In any case, it is evident that Tigard is incapable of meeting its long term water needs simply through its own conservation efforts. Tigard's lack of control over its own water supply requires that it have an iron-clad assurance from Portland that its water needs will be met. Portland has the advantage of being able to stretch its own water supply through a well-planned conservation effort, with the assurance that all the water it needs is ultimately available. Tigard has no back-up supply to fall back on if a conservation program falls short of the goal.

In fact, it is apparent to us that for conservation to provide an assured supply for Tigard, Portland and all of its customers must successfully undertake an aggressive conservation program. Without this region-wide approach, insufficient water will be saved to transfer from the existing users to Tigard, Wilsonville, and other communities that are currently considering development of their own source.

If Portland's southwest neighborhoods don't achieve substantial reductions in use, the current Tigard connection at Bradley Corner can't provide continued assurance that surplus water will be available for use by Tigard. Any restrictions imposed on those neighborhoods would probably have to be imposed citywide, for reasons of equity, and may even have to be extended to your eastside wholesale customers. Likewise, if the providers served by the Washington County Supply Line don't achieve significant reductions, it would be pointless for Tigard to connect to that system. As noted earlier, last year's study of the capacity of the supply line concluded that the current customers will meet the design capacity of that line by 2005.

What conservation measures would be included in this program? Tigard and other communities are already practicing a number of conservation measures. The Regional Water Supply Plan list of potential conservation measures covers several pages. How many of these measures must be successfully implemented to assure Tigard a share of the Bull Run supply?

The need for such a broad new program puts Tigard in a very precarious position. If all of those pieces do not fall into place, Tigard will not have adequate water, no matter how aggressively it pursues conservation. An assured water supply for Tigard depends on all of those suppliers not simply encouraging conservation, but actually achieving it, year after year. If they fall short, Tigard can't simply turn a valve and get its water someplace else. Instead, the city will be forced to go without.

As you can imagine, we are understandably concerned that residents of Portland and your other customers will not be motivated to consistently and persistently, year after year, make significant reductions in their water use simply to assure that Tigard residents have adequate water. Any altruistic motives that may be at work outside of Tigard will also be reduced by the lack of immediate financial incentives. Even if individual customers reduce their use, their current water bills will decline only slightly or will remain stable because the water supplier – Portland – must assure that its fixed costs for investments in assets will still be covered.

So our primary question remains, how will Portland guarantee that its residents and those of its wholesale customers will permanently reduce their water demands sufficiently to allow Bull Run supplies to be delivered to Tigard?

Adequacy of facilities

Our major concern is assuring that adequate transmission capacity be available to deliver the needed water to Tigard. Our current connections only allow us to receive 6 mgd from the Portland system. Our current peak demand level is 13 mgd. Even if our current peak demand were reduced by 20% to 10.4 mgd, that 6 mgd supply would leave Tigard short of its water supply needs by 42%. That deficit would grow as our community grows.

At what point would new transmission lines or other facilities have to be built to deliver water to Tigard? Would the lines have to come all the way from Powell Butte or even Bull Run, or is there an interim point from which a connection could be made? Who would benefit from the new transmission lines, and how would their costs be allocated? What are the operation and maintenance risks associated with these new transmission facilities?

Long term supply needs beyond the next 25 years are also an issue for Tigard. Even with conservation, at some time the limits of the current Bull Run system will be met. When does the city estimate that limit would be reached? At that point all of the issues raised in section 1 of this exhibit will apply; they should be addressed now so the overall long term costs of the proposed conservation approach can be evaluated.

APR 21 1998

APPENDIX C

PORTLAND WATER BUREAU
SUPPLY SCENARIOS

MAY 1998

Prepared by the Portland Water Bureau
for
Commissioner Erik Sten



INTRODUCTION

This analysis of how the Portland Water Bureau would develop source, transmission, and major storage to address the needs of the residents of Portland and additional wholesalers on the west and east sides of the City is prepared to assist the public and the wholesale customers in their future decision making. It is primarily designed to address different ways in which Portland could meet future water demands. This is a preliminary analysis and more work is being conducted to further refine the materials presented at this time.

The City of Portland Water Bureau and the City of Portland as a contract agent is able to meet not only the water demands of the residents of the City of Portland, but also a number of other water provider entities as it has done over the last seventy years. The benefits of sharing this regional water resource are significant for both the City residents and to the wholesale customers. As a water provider the City of Portland offers the following advantages:



Portland has a long history of forward thinking water resource development and water contracting.



The Portland water supply from the Bull Run is one of the highest quality water sources available to the region which is closed to most human activity.



The Portland Water Bureau has a significant resource in its workforce both in terms of breadth and technical expertise with a long history of accomplishments.

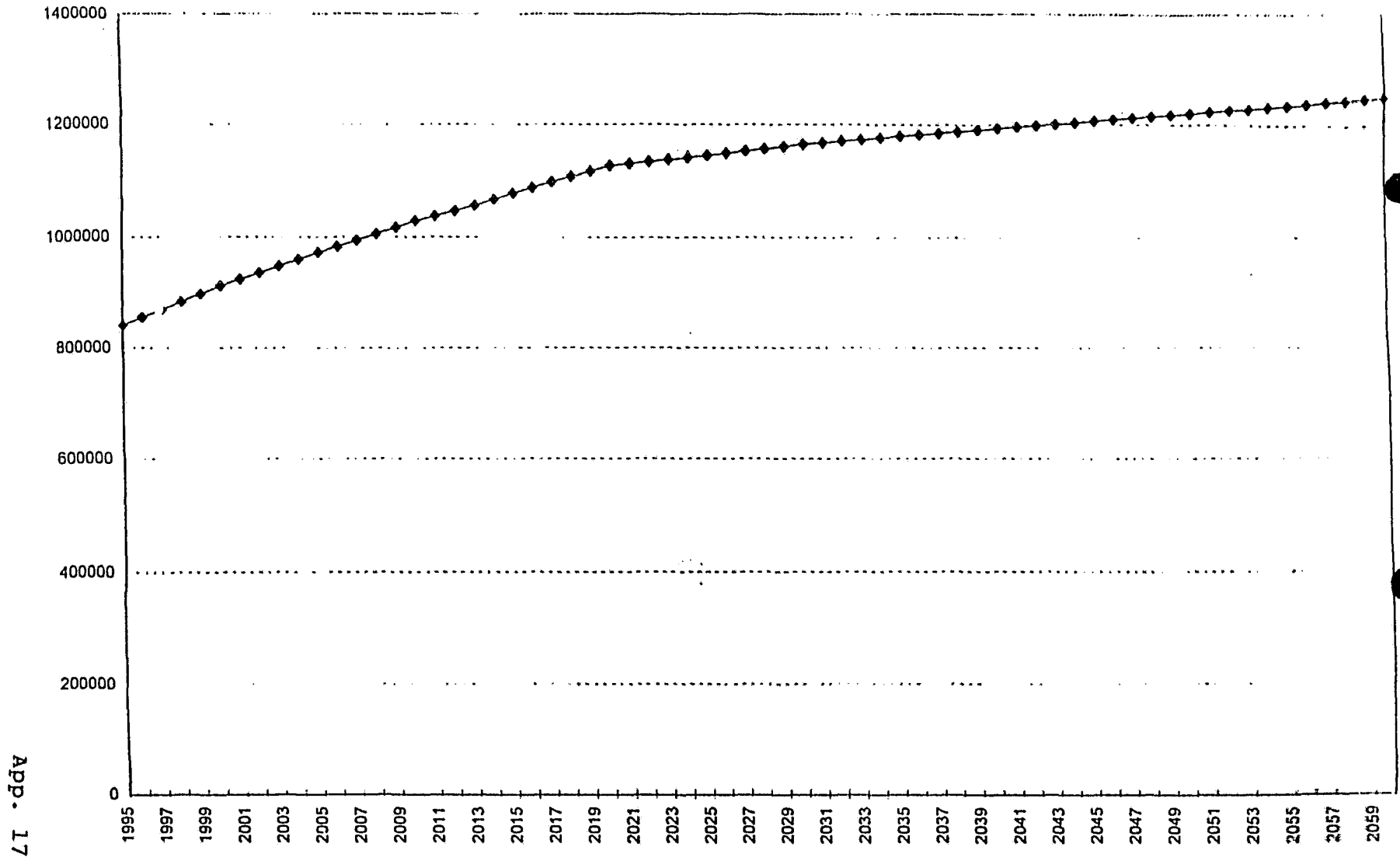


Portland has a willingness to enter into new partnerships and to consider the interests of customers in meeting future water needs.

The following three scenarios are presented to indicate how the Portland water system could be improved over the next 60 plus years to meet water demands of a specific service area. This area includes the current wholesale water customers and additional supplies for the cities of Tigard, Sherwood, and Wilsonville. Specific questions should be directed to the Bureau Administrator, Michael Rosenberger at the Portland Water Bureau. Further refinements will be developed as a part of the Bureau's Infrastructure Master Planning and contract renewal processes.

	Theme	Demands Met	Strengths	Weaknesses
SCENARIO #1	Enhance current system with treatment, GW, and transmission	Meets demands during average and longer peak season and peak day but relies on conservation programs to fully meet demands.	Is a less costly alternative based on timeliness of supplies. Does include peak season and transmission enhancements	Relies on just in time supply enhancements to meet needs may result in curtailments if fish or other environmental mitigation targets are higher. Requirements very careful peak season management
SCENARIO #2	Enhance current system with treatment, GW, and transmission, ASR at two locations and raises Dams 1 & 2	Meets demands during average and longer peak season and peak day without relying on conservation to fully meet targets	Provides added reserves for peak season supplies and gives more flexibility to meet fish mitigation and other environmental requirements. Spreads costs over more years	Does not bring on line large new increments of supply to provide large cushion to meet peak season demands will require summer season management
SCENARIO # 3a	Expands the Columbia South Shore GW, provides treatment, transmission improvements, and large increment of supply with Dam #3	Meets all demands across the board with extra supplies available for sales to other entities. Does not rely on conservation targets to be met.	Would allow the wellfield to be retired from summer service, brings on line substantial new supplies, makes fish & environmental mitigation easier. Has cost advantages in later years	Has substantial environmental hurdles to receive permits, requires larger revenues during the finance period in the early years.
SCENARIO # 3b	Expands the Columbia South Shore GW, provides treatment, transmission improvements, and large increment of supply with Dam #3. Includes transmission to Clackamas area	Meets all demands across the board with extra supplies available for sales to other entities including the Clackamas area. Does not rely on conservation targets to be met	Would allow the wellfield to be retired from summer service, brings on line substantial new supplies, makes fish & environmental mitigation easier. Has cost advantages in later years. Includes sales to the Clackamas area to help defray early year costs	Has substantial environmental hurdles to receive permits, costs more during the finance period in the early years

Population Forecast for Potential Portland Water Service Area



App. 17

OPTION	Scenario #1	Scenario #2	Scenario #3a	Scenario #3b	Feasibility	Comments
Upgrade South Shore Wellfield w/ASR* - 90 mgd Cost \$29 million	2005	2005	2005	2005	High	Includes upgrade of the current infrastructure to allow 90 mgd of peak production using 20 mgd of ASR
Treatment of Bull Run 250 MGD cost \$125 million	2020	2015	2005	2005	High	Treatment location not selected but could be at Powell Butte Lusted, or any other selected site along the Conduitt routes
Next Increment of Treatment 50-60 MGD Cost \$30 million	2040	2030	2040	2040	High	Expansion of treatment facility is expected to occur in increments as demands require
Raise Dams 1 & 2 2.6 BG Cost \$11.5 million		2025			Moderate/High	Permitting issues will require dealing with similar issues to Dam #3 but on a smaller scale
Bull Run Dam #3 19 BG Cost \$185 million			2015	2015	Moderate	Significant permitting issues are expected with this project specifically associated with 401 and ESA issues
ASR* at Powell Valley 2.4 BG Cost 17 million		2035			Moderate	More detailed work needed on this option related to feasibility and permitting

* = Aquifer Storage and Recovery - Bull Run water supplies could also be utilized for ASR on the west side of the region, but this project would not be built by Portland

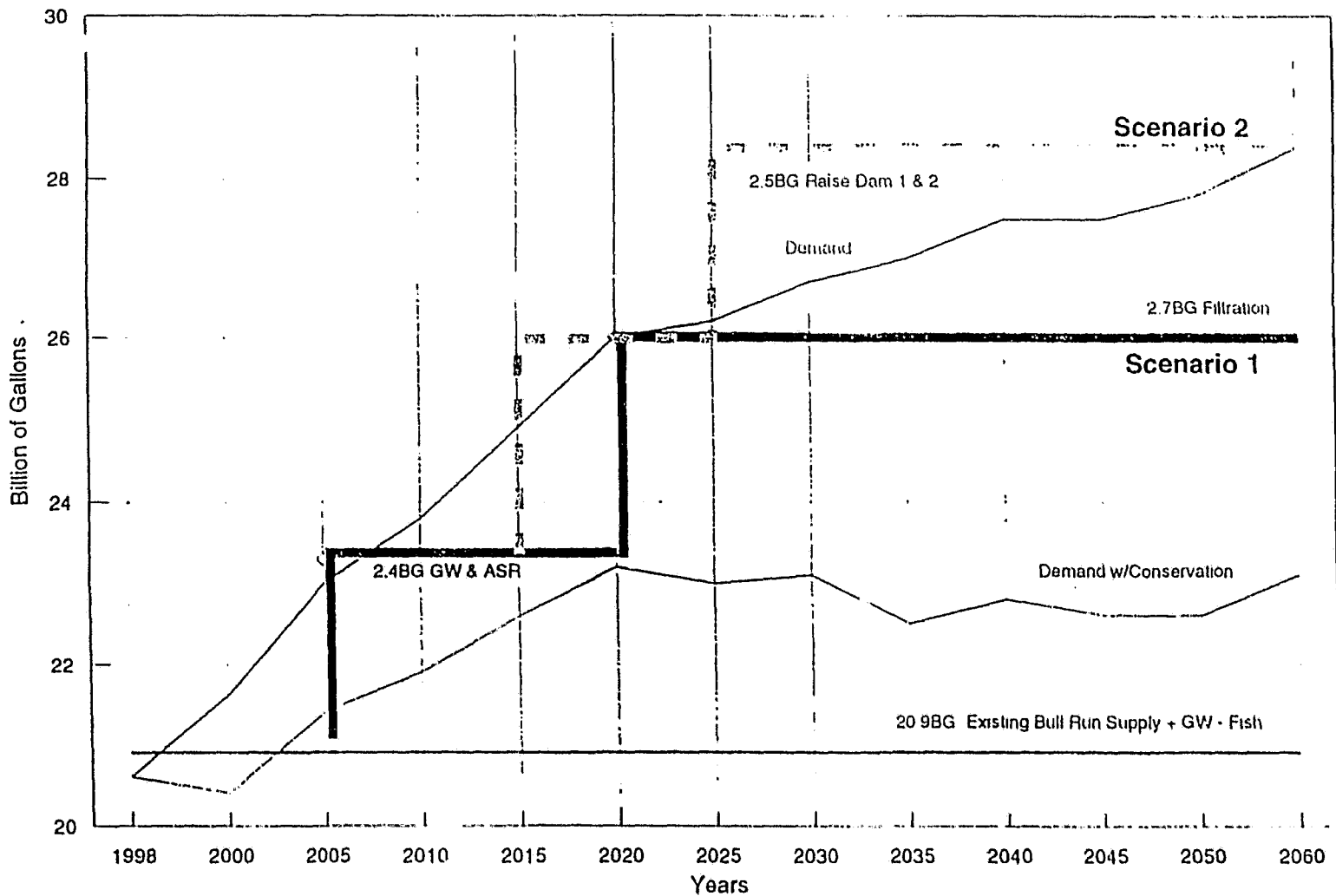
Feasibility + Regulatory Feasibility

Table 2 - Portland Supply Scenarios
Transmission and Storage

OPTION	Scenario #1	Scenario #2	Scenario #3a	Scenario #3b	Feasibility	Comments
Pumping at Tigard on WashCo Supply Line Cost \$7.2 Million	2000	2000	2000	2000	High	Some technical issues remain regarding the capabilities of conducting pumping on this existing line
Tualatin/Wilsonville Pipeline leg (48-36") Cost \$14 Million	2000	2000	2000	2000	High	
WashCo to Tualatin Pipeline Leg (60-48") Cost \$25 Million	2005	2005	2005	2005	High	
Washington County Supply Line II Cost \$80 Million	2010	2010	2010		High	Also provides redundancy to major supply line to the west side. Requires additional routing work to place line
Downstream leg of Conduit 5 Cost 15 Million	2015	2015	2015	2015	High	Significant permitting issues need to be addressed
Canyon Leg Conduit 5 Cost \$55 Million	2030	2030	2030	2030	Moderate	Significant permitting issues need to be addressed
Complete Conduit 5 Cost \$96 Million		2040	2040	2040	Moderate	Significant permitting issues need to be addressed
Powell Butte to Clackamas Pipeline (140 mgd) Cost \$62 Million				2010	High	Much more work needed to determine feasible routes for this line
Clackamas to Tualatin Pipeline (80 mgd) Cost \$66 Million				2010	Moderate	Much more work needed to determine feasible routes for this line including now crossing of the Willamette River
Powell Butte II 50 MG Cost \$25 Million	2010	2010	2010	2010	High	Already contemplated by Powell Butte Master Plan
Powell Butte III 50 MG Cost \$25 Million	2025	2020	2025	2025	High	Already contemplated by Powell Butte Master Plan

Water availability
(Supply)

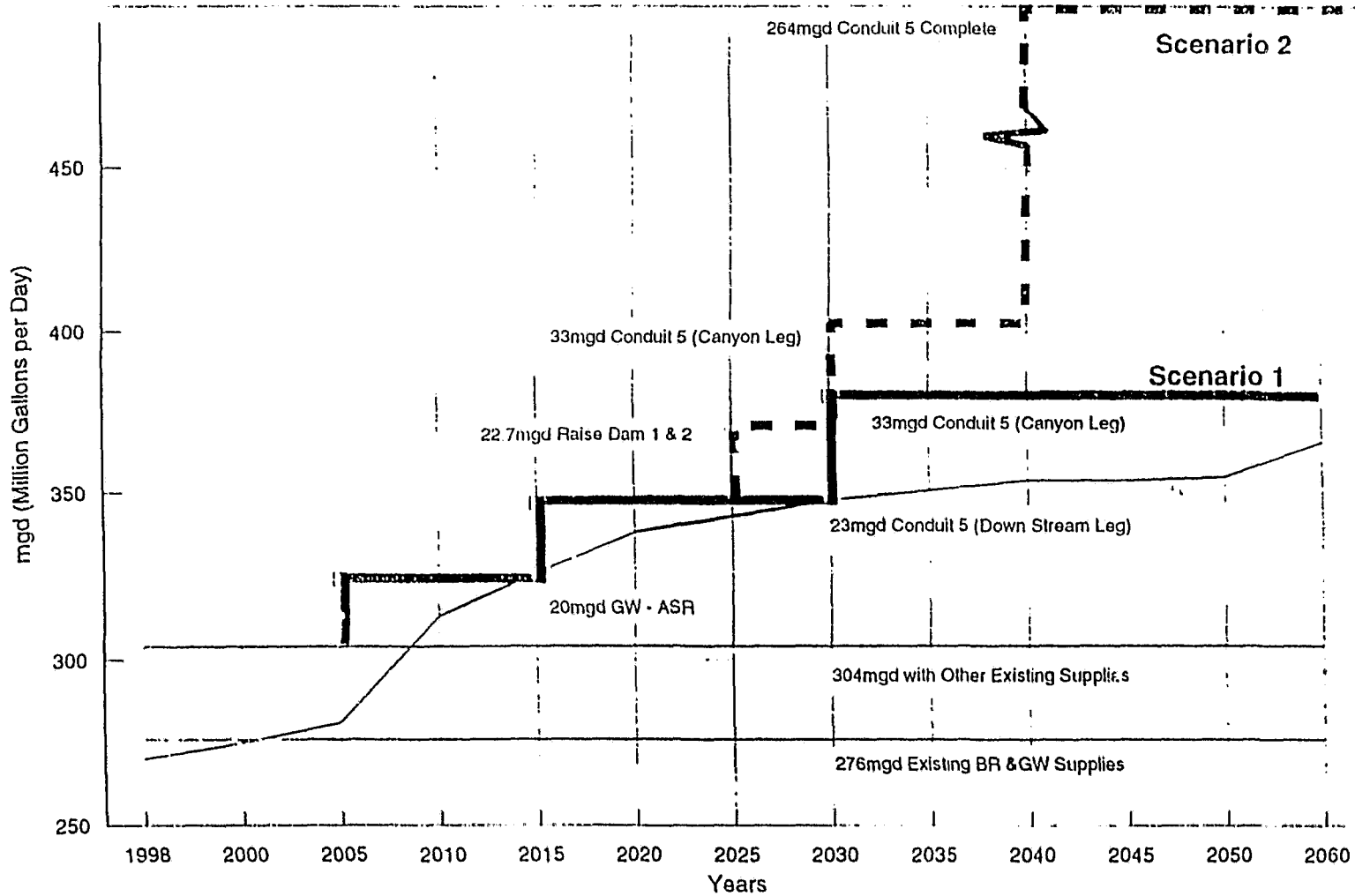
Peak Season Supply



Scenario 1 includes naturally occurring water from conservation results

20.9 BG Existing Bull Run Supply + GW + Fish

Peak Day Supply



Total costs on a per ccf basis (costs for current system assets plus debt, and O&M for future assets) - costs are in 1998 dollars

SCENARIO 1 - BASE CASE

	1998	2000	%change	2005	%change	2010	%change	2015	%change	2020	%change	2030	%change	2040	%change	2050	%change	2060	%change
Portland	\$1.22	\$1.22	-0%	\$1.29	6%	\$1.29	6%	\$1.26	3%	\$1.41	15%	\$1.39	13%	\$1.28	5%	\$1.22	-1%	\$1.16	-5%
East	\$0.50	\$0.50	2%	\$0.54	8%	\$0.55	12%	\$0.54	8%	\$0.70	42%	\$0.69	39%	\$0.59	19%	\$0.52	5%	\$0.48	-3%
West	\$0.50	\$0.65	32%	\$0.78	56%	\$1.16	135%	\$0.97	97%	\$1.00	102%	\$0.70	41%	\$0.60	21%	\$0.53	7%	\$0.49	-1%

SCENARIO 2 - BASE CASE PLUS PEAK SEASON ENHANCEMENTS

	1998	2000	%change	2005	%change	2010	%change	2015	%change	2020	%change	2030	%change	2040	%change	2050	%change	2060	%change
Portland	\$1.22	\$1.22	-0%	\$1.29	6%	\$1.29	6%	\$1.52	24%	\$1.47	20%	\$1.48	20%	\$1.46	19%	\$1.35	10%	\$1.23	0%
East	\$0.50	\$0.50	2%	\$0.54	8%	\$0.55	12%	\$0.80	61%	\$0.76	53%	\$0.78	57%	\$0.77	55%	\$0.65	32%	\$0.55	10%
West	\$0.50	\$0.65	32%	\$0.78	56%	\$1.16	135%	\$1.24	150%	\$1.06	113%	\$0.79	59%	\$0.78	57%	\$0.66	34%	\$0.56	12%

SCENARIO 3 - BUILD STORAGE IN BULL RUN - West side option Washco 2

	1998	2000	%change	2005	%change	2010	%change	2015	%change	2020	%change	2030	%change	2040	%change	2050	%change	2060	%change
Portland	\$1.22	\$1.22	-0%	\$1.56	27%	\$1.52	24%	\$1.68	37%	\$1.55	27%	\$1.43	17%	\$1.30	6%	\$1.24	1%	\$1.18	-3%
East	\$0.50	\$0.50	2%	\$0.80	61%	\$0.78	58%	\$0.95	93%	\$0.84	70%	\$0.73	48%	\$0.61	23%	\$0.54	9%	\$0.50	1%
West	\$0.50	\$0.65	32%	\$1.04	110%	\$1.39	181%	\$1.39	181%	\$1.14	130%	\$0.74	49%	\$0.62	25%	\$0.55	11%	\$0.51	3%

SCENARIO 3 - BUILD STORAGE IN BULL RUN - West side option Clackamas connection

	1998	2000	%change	2005	%change	2010	%change	2015	%change	2020	%change	2030	%change	2040	%change	2050	%change	2060	%change
Portland	\$1.22	\$1.22	-0%	\$1.56	27%	\$1.62	32%	\$1.72	40%	\$1.58	29%	\$1.40	14%	\$1.38	13%	\$1.29	5%	\$1.17	-5%
East	\$0.50	\$0.50	2%	\$0.80	61%	\$0.78	58%	\$0.92	86%	\$0.81	63%	\$0.70	42%	\$0.69	39%	\$0.59	19%	\$0.49	-2%
West	\$0.50	\$0.65	32%	\$1.04	110%	\$1.42	186%	\$1.38	178%	\$1.13	127%	\$0.71	44%	\$0.70	41%	\$0.60	21%	\$0.50	0%
Clackamas	\$0.00	\$0.00		\$0.00		\$0.42		\$0.56		\$0.45		\$0.30		\$0.28		\$0.18		\$0.09	

Assumptions:

Portland costs include distribution system costs and the regional costs are supply & transmission only.

Current levels of Capital and O&M for the existing system are built in and are expected to increase with inflation.

Inflation = 4%, Debt = 20 years and Interest rate for new debt = 6%

The costs are allocated based on the cash basis (i.e. total costs associated with an entity are divided by total projected demand).

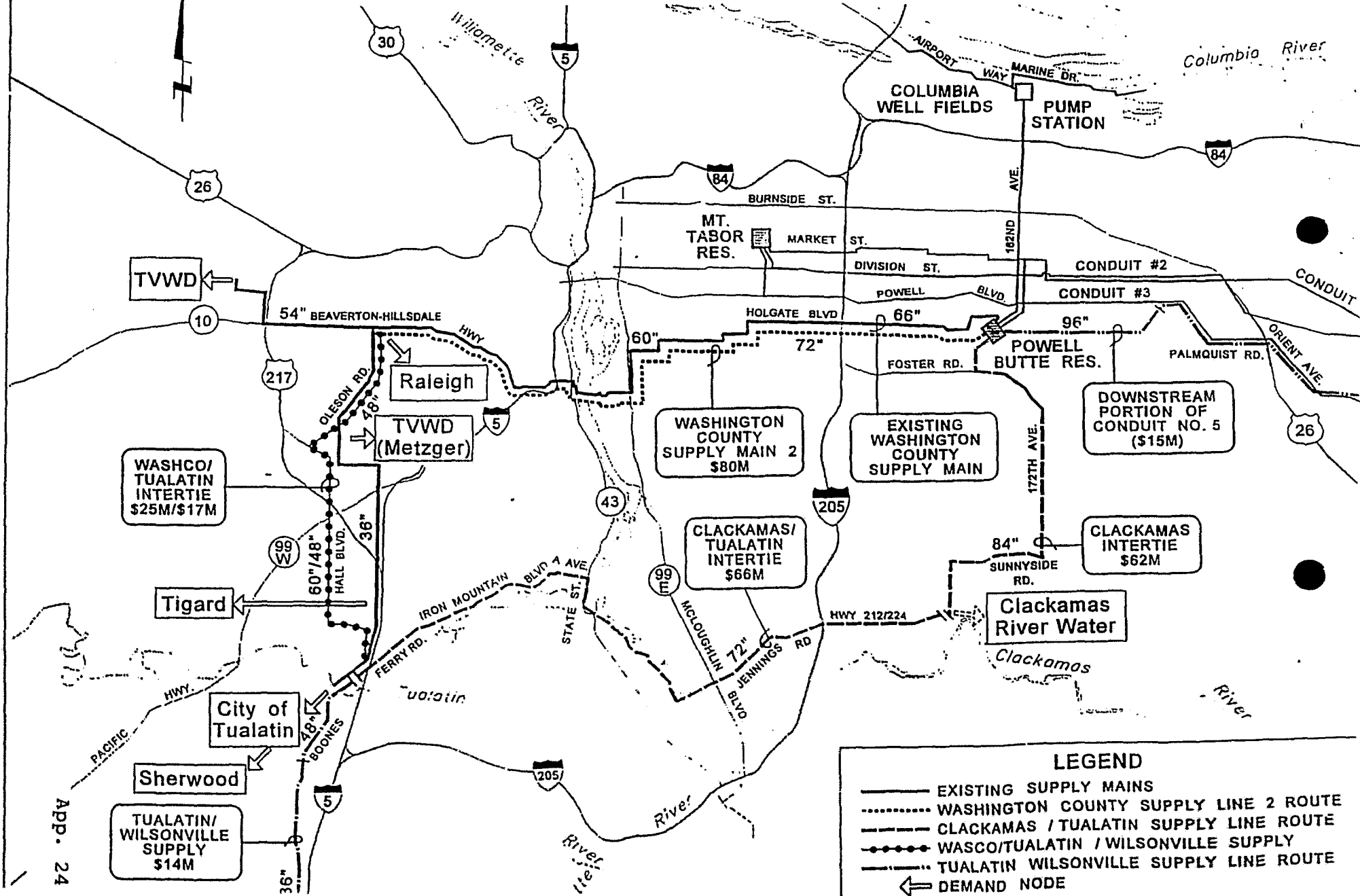
Future assets are funded by debt and paid for by cash. There is no SDC revenue for future assets -- an ownership position needs to be defined.

NEXT STEPS

The Water Bureau will continue to refine these scenarios and to address specific issues that will arise over timing, identification of the need for all of the improvements included (with emphasis on vulnerability), and meet with the various entities that desire more detailed presentation and analysis. Specific next steps include:

- * A brief presentation to the Consortium Board on May 27th of the nature of the scenarios being developed.
- * Meetings with Wilsonville and Tigard specifically to address their issues and concerns with the proposal being presented by Portland.
- * Further work on the Infrastructure Master Plan to refine the demand projections for specific entities, modeling work on the specific sources, transmission, and storage to assess the timing and size of proposed infrastructure improvements, and decision support for the Bureau to narrow down the preferred option for future supply.

MAJOR REGIONAL TRANSMISSION ALTERNATIVES



LEGEND

- EXISTING SUPPLY MAINS
- WASHINGTON COUNTY SUPPLY LINE 2 ROUTE
- CLACKAMAS / TUALATIN SUPPLY LINE ROUTE
- WASHCO/TUALATIN / WILSONVILLE SUPPLY
- TUALATIN WILSONVILLE SUPPLY LINE ROUTE
- ← DEMAND NODE

City of

WILSONVILLE
in OREGON



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Notice of Decision Wilsonville City Council

Proposed Action: Program Amendment. Program To Correct Water Deficiencies.

Affected Location: City of Wilsonville

After conducting a public hearing on August 17, 1998, the City Council voted to adopt Resolution No. 1495, "A Resolution Adopting A Program To Correct The Problem Creating The Moratorium On Planning Approvals For Land Developments Throughout The City Of Wilsonville Due To A Lack Of Water System Capacity And Repealing Resolution No. 1441."

This decision has been finalized in written form as Resolution No. 1495 and placed on file in the city records at the Wilsonville City Hall this 18th day of August, 1998, and is available for public inspection. The date of filing is the date of decision. Any appeal(s) must be filed with the Land Use Board of Appeals (LUBA) in accordance with ORS Chapter 197, within twenty-one days from the date of decision. Copies of Resolution No. 1495 may be obtained from the city recorder, 30,000 SW Town Center Loop Road East, Wilsonville, OR, (503)570-1506.

For further information, please contact the Wilsonville Planning Division, Community Development Building, 8445 SW Elligsen Road, Wilsonville, or telephone (503)682-4960.



Serving The Community With Pride