planning is needed. In developing the first CWSP, each purveyor provided an existing service area map along with requested boundaries for a future service area. The existing and proposed service areas of water purveyors were transferred to a master set of maps for review and inspection by the purveyors, agencies and the public. For the update, purveyors were sent a map depicting the location of their service area boundaries as understood by Pierce County. They were asked to verify boundaries. Any conflicts resulting from the updated information were sent back to the purveyors involved, for resolution.

4. A model interlocal service area agreement was prepared and sent to expanding water systems to assist adjacent purveyors in formalizing boundaries and identifying areas of responsibility for water service.

5. A "Satellite System Management Program" (SSMP) was developed to ensure that long-term operation and management are available for existing small systems and for new systems in areas not designated for service by an existing purveyor. The program was intended to provide a range of support services available for new and existing purveyors. The SSMP was adopted by the Pierce County Council on September 8, 1988 as "Ordinance 86-115S3" and codified as Chapter 19.72 of Pierce County Code. To date, two water purveyors have requested SSMA status, of which one has received DOH SSMA approval status. Recent legislation has changed the laws of the State to require new systems to be managed by an SSMA. The new law should result in the approval of additional SSMA's in Pierce County.

6. Because of the large number of existing water systems and possible conflicting interpretation of "reasonable water service and equitable service policies", a nonjudicial and timely review of the conflicting issues was thought to be necessary during the initial implementation phase of the CWSP. Consequently, an Appeals Panel was provided for. The Pierce County Council adopted the idea of an Appeals Panel on September 8, 1988 as "Ordinance 86-115S3" and codified as Chapter 19.72 of Pierce County Code. For the update, the difficulty of implementing the Appeals Panel, the fact that no dispute was ever requested to be resolved by the Panel and, therefore, the Panel was never formed, was examined by the WJCC. The appeals process, therefore, has been revised from an appointed panel authorized to hear disputes to a process that builds a record and attempts to mediate disputes.

7. Minimum water system standards are necessary to help establish a minimum level of water service from all public water systems in Pierce County and to ensure that interties and connections between systems may be accomplished in a cost-effective manner.
4. Ground water can and does play an important role in managing the use of surface water supplies. Conjunctive use relieves surface water demands during summer low flow periods, and allows ground water to recharge by maximizing surface water use in high-flow periods.

5. Only a few water systems have adequate ground water monitoring programs. The current database is inadequate to manage the ground water resources without the cooperation of all water purveyors and local governments.

D. Water Utility Planning and Operations

1. The "CWSP Regional Supplement" provides the framework for water supply and system planning. All water purveyors should incorporate these findings and conclusions in their individual water system plans.

2. Future population and water demand projections for 10 and 20 year planning periods have been prepared for Pierce County. The 1980 population was 485,634. The 1990 population was 586,203, an increase of 20.7 percent. The population in 1993 is estimated by the Washington State Office of Financial Management (OFM) to be approximately 640,000. Projected population for the year 2000 is 707,746 and for the year 2010, 785,347, and for the year 2020, 850,483 (OFM). The twenty-year population increase, from 1993 to 2013 is projected to be 182,000 persons. That represents an increase of 28.4 percent over the estimated population of 1993. The projected average water demand for 2010 would be 137.9 million gallons per day and for the year 2020, 147.8 million gallons per day. The twenty-year projections should be used by the purveyors to plan for improvements or expansion of the water systems. Fifty-year demand projections should be utilized in this CWSP to evaluate long-range water supply alternatives and to fulfill the requirements of the water right reservation process. That information is not currently available.

3. To efficiently use the area’s water resources to meet the demands, a regional supply and transmission system will be required. Several water purveyors have either active or emergency interties with adjacent purveyors. With additional interties and some additional transmission facilities with adjacent purveyors, the backbone of the regional supply facilities could be developed. This program would improve reliability for all participating systems and provide cost advantages in joint development of major facilities. It would also be consistent with the State’s fundamentals for water resource management.
4. Many of the more than 1500 (1994 estimate) water systems have been installed without the capability to expand to meet area needs or to provide fire flow service to the existing customers.

5. There are a large number of small water purveyors in the County which are operating with limited financial, staff, and water resources. These systems have difficulty in meeting current needs, and are unable to meet additional requirements imposed by growth and new water quality standards. The small size and inadequate revenue base of many of these purveyors will make it difficult for them to finance needed improvements. Staffing of such water systems is usually on a volunteer basis and needed maintenance and monitoring is likely to be overlooked. Support is needed from a County-sponsored program that will facilitate the development of a system of shared resources, adequate qualified staff, and economies of scale. Without such a program, many of the smaller purveyors will have difficulty in meeting more stringent State and Federal drinking water standards and providing even a minimum level of water service.

6. The provision of water for drinking and commerce is an essential public service. Facilities for the transportation, storage and treatment of water for drinking and commerce are essential public facilities. These facilities should enjoy the status of essential public facilities allowing for reasonable and timely processes for the approval of construction permits.

V. ROLES AND RESPONSIBILITIES OF PIERCE COUNTY DEPARTMENTS IN WATER RESOURCE PROTECTION AND MANAGEMENT

To provide high-quality water resource management services to residents and businesses in Pierce County, the County shall seek partnerships with water purveyors and appropriate agencies to implement the following strategy and priorities shown below:

Promote the reduction in demand. Use demand-side management techniques and available community building and conservation tools to empower residents to voluntarily reduce water resource use through behavior changes. These techniques have demonstrated achievable results and reduced water use in participating households.

Promote the development of local supplies. Support and encourage development and long-term sustainable use of local supplies, such as the Puyallup Basin and the Clover/Chambers Creek Basin.
Promote the efficient use of local supplies. Work to overcome the administrative and technical barriers to interties and water wheeling to cost-effectively use water resources available locally.

Promote the management of ground water resources. Develop a schedule for and implement the Groundwater Quality and Quantity Monitoring Program.

Over the past 15 years, numerous programs have emerged within Pierce County government to address the protection and management of water resources, particularly ground waters used for public water supplies. These programs have been implemented, or are being implemented, by a variety of county departments.

During the process of updating the "Pierce County Coordinated Water System Plan", the need for definition or clarification of the roles of County departments became apparent. The purpose of role definition is to:

- Promote effective coordination and minimize the potential for overlap and conflict among the various departments;
- Identify areas of potential overlapping responsibility between county departments and state agencies; and
- Promote a general understanding among the Water Utility Coordinating Committee, the Regional Water Association, individual purveyors, and local decision makers concerning the respective departmental responsibilities for protection and management of the County's water resources.

The following table (Table I-1) demonstrates departmental responsibilities for water resource protection and management as they are currently apportioned, noting that discussions between the various departments concerning those responsibilities are ongoing, and that it is the prerogative of the Pierce County Executive, the Pierce County Council, and the Tacoma-Pierce County Board of Health to modify, reassign, rescind, or increase departmental functions.

Following each identified responsibility, the institutional basis for the responsibility, whether legally mandated or undertaken by option, is indicated parenthetically. For legally mandated responsibilities, the statutory authority is also indicated.
TABLE I-1
WATER RESOURCE PROTECTION AND MANAGEMENT RESPONSIBILITIES

1) Pierce County Public Works and Utilities

A. Water Quality Programs/Activities:

- Manage stormwater disposal (mandated, Chapter 36.89 RCW),
- Operate public sewer system (mandated, Chapter 36.94 RCW),
- Conduct sewer planning (mandated, Chapter 36.94 RCW), and
- Conduct solid waste planning (mandated, Chapter 70.95 RCW).

B. Water Quantity Programs/Activities:

Provide for coordination of public water system plans with the "Pierce County Comprehensive Plan and Growth Management Policies" (mandated, Chapter 70.116 RCW).

Coordinate policy development and planning efforts for Pierce County related to ensuring that water resources are adequate to support development identified in the County's "Comprehensive Land Use Plan," and that such resources will be available at the time development occurs without decreasing current service levels below locally established minimum standards (mandated, Chapter 36.70A RCW).

Actively support efforts by water utilities to obtain water rights from the Department of Ecology necessary to meet demands associated with future development forecasted in the County's "Comprehensive Land Use Plan" (optional, proposed under CWSP update),

**Actively promote the full development of local and nearby water supplies for sustainable use concurrent with overcoming the administrative and technical barriers to interties and water wheeling.**

Prepare and periodically update the "Coordinated Water System Plan" (mandated, Chapter 70.116 RCW),

Maintain Water Service Area maps, document service area boundary changes and ensure that service area conflicts are resolved (mandated, Chapter 70.116 RCW),
TABLE 1-1 - continued

Operate public water system assistance program (optional, proposed under CWSP update),

Maintain pre-qualified "Satellite System Management Agencies" roster (optional, proposed under CWSP update),

Act as problem water system receiver of last resort (mandated, Chapter 43.70 RCW),

Serve as a wholesaler of public water supplies (optional, under consideration), and

Act as Lead Agency for the implementation of the CWSP (optional, proposed by CWSP update).

2) Pierce County Planning and Land Services Department

A. Water Quality Programs/Activities:

Maintain maps of critical areas (including "Aquifer Recharge Areas") and administer permitting processes which trigger review by appropriate departments and individuals of proposals that potentially affect critical areas (mandated, Chapter 36.70A RCW),

Enforce zoning codes, including administration of unclassified use and special use permits (mandated, multiple authorities including Chapter 36.70 RCW),

Administer the State Environmental Policy Act as it pertains to land and water use actions which may affect water quality (mandated, Chapter 43.21C RCW), and

Implement the Shorelines Management Act (mandated, Chapter 90.58 RCW).

3) Tacoma-Pierce County Health Department

A. Water Quality Programs/Activities:

Determine adequacy of water quality under requirements of "Growth Management Act", Section 63 for building permits to authorize construction of buildings requiring potable water (mandated, Chapter 36.70A RCW),
E. Water Purveyor - Planning and Operations

WP-Policy 1 All expanding water purveyors should update their water system plans based on expected land use and development in their service area(s). Purveyors should utilize the land use designations, as defined in the applicable Comprehensive Land Use Plan (as defined in this plan), and implementation ordinances. They should coordinate with PALS to establish locations of appropriate land use designations within their service areas. For the purposes of this document, the Pierce County Comprehensive Land Use Plan, as amended, will establish land use locations and designations for utility planning.

WP-Policy 2 Purveyors should include in capital facilities planning the capability to provide fire flow, as required by Chapter 15.40 of the Pierce County Code, entitled "Minimum Standards for Fire Flows, Water Mains and Fire Hydrants".

WP-Policy 3 Purveyors interested in regional supply network development should participate in the planning and construction of transmission, source, storage, and other facilities within their service area which could be jointly used by adjacent purveyors. Where such facilities are feasible, purveyors should develop joint financing and development programs based on mutual benefits.

WP-Policy 4 All water purveyors should develop interties with adjacent purveyors. The interties should be sized to accomplish the appropriate regional objectives of reliability, regional transmission, and emergency interties.

WP-Policy 5 Each water purveyor should install individual customer meters. Customer metering provides the ability to develop equitable rates, to manage water loss, and to affect meaningful conservation.

WP-Policy 6 All production wells should have recording meters to measure water production and the ability to monitor water level trends.

WP-Policy 7 All water purveyors should begin regular monitoring and recording of production well total output and water levels in order to develop a baseline set of data for groundwater resource evaluation. The data should be filed with the lead agency in the form and on the schedule specified. The lead agency should provide periodic summary reports to all water purveyors and provide access to the records for public benefit and education.
MS-Policy 15  Along County road rights-of-way in unincorporated areas, a
purveyor must obtain a franchise to place or repair infrastructure
within the right-of-way. The purveyor must also obtain a County
right-of-way permit for each individual project within the right-of-
way prior to construction. (See Page V-5)

MS-Policy 16  A hydrostatic pressure leakage test will be conducted on all newly
constructed water mains, fire lines, fire hydrant leads and stubouts
in accordance with DOT/APWA Section 7-11.3(11) or AWWA C-600
specifications. (See Page V-5)

MS-Policy 17  All pipe, reservoirs, and appurtenances shall be flushed and
disinfection in accordance with the standards of the DOH, WAC 246-
290 and 293. (See Page V-5)

MS-Policy 18  All source and booster pumping facilities required for maintaining
an average day supply of water in an emergency shall be equipped
with auxiliary power or with power pigtails and manual transfer
switching devices. Contingency plans for working toward providing
water during emergency situations shall be included in individual
water system plans. Purveyor's should include in their water system
plans provisions for education their customers about the proper
steps to take, concerning water use, in emergency situations. The
education should include ways to operate a household on a
minimal amount of water. (See Page V-5)

MS-Policy 19  When planning for installation of capital facilities, specific locations,
sizes, and alignment of major water lines, utilities should incorporate
the consideration and coordination of emergency interties with
adjacent water utilities. (See Page V-5)

MS-Policy 20  All service lines shall be installed so that each residential,
commercial, and industrial structure will have a separate metered
service for domestic water received from the purveyor. If approved
by the water purveyor, domestic water consumption may be
measured by a master meter for service to a complex, under single
ownership, and where water utility line subdivision is impractical.
Service lines providing fire flow may be required by the purveyor to
be equipped with a detector meter. (See Page V-6)

MS-Policy 21  All new groundwater sources shall be provided with devices for
measurement of depth to water and total production. Installation
of these devices is also recommended for existing groundwater
sources. All new sources for which water treatment is included shall
be provided with flow measurement. (See Page V-6)
MS-POLICY 15 Along County road rights-of-way in unincorporated areas, a
purveyor must obtain a franchise to place or repair infrastructure
within the right-of-way. The purveyor must also obtain a County
right of way permit for each individual project within the right-of-
way prior to construction.

F. Hydrostatic Pressure Test

MS-POLICY 16 A hydrostatic pressure leakage test will be conducted on all newly
constructed water mains, fire lines, fire hydrant leads and stubouts in
accordance with DOT/APWA Section 7-11.3(11) or AWWA C-600
specifications.

G. Disinfection and Bacteriological Testing

MS-POLICY 17 All pipe, reservoirs, and appurtenances shall be flushed and
disinfected in accordance with the standards of the DOH, WAC 246-
290 and 293.

H. Auxiliary Power/Emergency Planning

MS-POLICY 18 All source and booster pumping facilities required for maintaining
an average day supply of water in an emergency shall be equipped
with auxiliary power or with power pigtail and manual transfer
switching devices. Contingency plans for working toward providing
water during emergency situations shall be included in individual
water system plans. Purveyors should include in their water system
plans provisions for education their customers about the proper
steps to take, concerning water use, in emergency situations. The
education should include ways to operate a household on a minimal
amount of water.

I. Utility Interties

MS-POLICY 19 When planning for installation of capital facilities, specific locations,
size, and alignment of major water lines, utilities should incorporate
the consideration and coordination of emergency interties with
adjacent water utilities.
mgd that could probably be developed. The report concluded that it would be too expensive to filter and deliver the surface water.

3. Artificial Groundwater Recharge - The City of Tacoma is proceeding with plans to recharge the South Tacoma Wellfield with surface water from its Green River source. Previous studies indicated that this wellfield could supply 48 mgd for a period of 60 days with a continuous safe yield of 12-13 mgd. The City's goal is either to extend the allowable duration of pumping or to increase the aquifer yield.

4. Water conservation and reuse also offer opportunities for increasing the available water supply in the future. Simpson has already substantially reduced its water use, but has the potential for more conservation including reusing treated wastewater. Other industries in the area have also shown an interest in conservation.

It should be kept in mind that these sources are a way to withdraw the groundwater resources estimated earlier in this section and do not necessarily increase the available groundwater resources. However, the deeper aquifers such as the tide flats area may be recharged over a broader geographical area which could augment the area's water resources.

As previously stated, the City of Tacoma and the U. S. Army Corps of Engineers are jointly studying the feasibility of operational changes at Howard Hansen Dam that would increase the firm yield of the Green River. If feasible, this could increase the City's withdrawals in the future.

F. InterTies

InterTies are connections between systems that allow water to be exchanged between the systems.

In 1991, the Washington State Legislature passed legislation (second substitute Senate Bill 53358) relating to interties. This bill recognizes the value of interties and provides that effective January 1, 1991 any water system proposing to create an intertie with another system must file a written notice with both the Washington State Department of Health and the Department of Ecology. The notice must identify the location of the proposed intertie, the purpose and capacity. The Department of Health is supportive of intertie arrangements because it promotes reliability and quality of service. The Department of Ecology (DOE) generally appears to be supportive of interties so long as no increase in water rights is required, but the approval process is lengthy and DOE has been reluctant to approve these transfers.

Some of the water systems in the Urban Growth Area have been experiencing water shortages. This is related to growth and the inability of the water systems to obtain additional water rights, rather than a lack of water available in the
underlying aquifer. Some of the systems that have been experiencing shortages include Fruitland, Summit, Sound, among others. In part because of these issues, the purveyors in the area southeast of Tacoma have formed a cooperative for the purposes of jointly addressing their water supply needs. This Water Cooperative of Pierce County has sponsored a study of their water requirements as compared with the available water rights and is exploring interties to allow the systems to support each other, at least on an emergency basis. In addition, a number of systems have connections to the Tacoma water supply pipelines.

Table IX-2 summarizes the existing and proposed interties taken from information provided by the systems. These interties are proving very helpful by improving system reliability and providing emergency back-up to water-short systems and should be encouraged.

Existing [and proposed] interties should be shown in the CWSP and the individual water system plans. According to the legislation, the notice for interties existing prior to January 1, 1991 can be incorporated into the 5-year update of the water system plans, but must be filed no later than June 30, 1996. It should be noted, that emergency interties are exempt from the legislation, although there is value in filing for the intertie, should it be required on more than an emergency basis in the future.

As part of this CWSP update, the interties between the systems in the Cooperative were reviewed using the water system plans and other information supplied by the systems. It is difficult to evaluate the capabilities of the interties without performing a hydraulic analysis of the several water systems. It is recommended that each system identify its water supply needs through its interties and evaluate its ability to deliver water to its customers from the interties. Concurrently, the Coop members need to have discussions with adjacent systems to determine the practical limitations of the interties. Many of the systems have computer models, which should facilitate this analysis.

It is recommended that the individual systems continue to develop groundwater resources in their service areas to the extent that the groundwater aquifer will sustain the use and it is feasible to secure a water right. There may be opportunities for joint development of wells and/or storage by adjacent systems. It may be more efficient for the Cooperative systems to jointly prepare the notice for all of the interties and this approach should help to gain DOH and DOE approval. As a further step in regional cooperation, it is recommended that the area to be served by the water right include the entire service area of the Cooperative (or possibly be extended to include the south and east boundary of the Urban Growth Area). Further, it is suggested that filings for any new water rights also identify the entire area. This may eliminate the need to give notice on interties or, at least would make the notice a formality.

The Water Cooperative of Pierce County continues to work on issues of mutual interest to the member systems. Recently, they sponsored a study of their groundwater rights and well capacities as part of an effort to determine the
available resource, opportunities for cooperating in well development, interties, and to help gain Pierce County’s support for funding and other assistance. The study concluded that the annual groundwater recharge in the area served by the Cooperative is about 179,000 acre feet and that the annual usage is about 35,000 acre feet. The study estimates that 30 to 50 percent is potentially available as water supply so the safe yield would be 54,000 to 90,000 acre feet/year. In preparing the study, Robinson and Noble, Inc. noted that they had not assessed aquifer levels or trends in levels over time, which would provide better information on aquifer yield.

G. Regional Facilities

The interties discussed above were established as a means to provide water supply support between systems usually on an emergency or standby basis. Historically, water systems in Pierce County have been constructed to serve their respective service areas with little coordination with adjacent systems. As a result, the systems are constructed to deliver water from their wells to the customers, the distribution pipeline grid is relatively weak at the system extremities, and there are differences in system pressures (Figure IX-4). This means that the quantity of water available at an intertie is often limited and that water can probably flow in only one direction through an intertie unless it is pumped.

The City of Tacoma water supply pipelines cross much of the Urban Growth Area in central Pierce County. The City is already serving a substantial area outside of its City limits. Currently, new large-scale area developments at Fredrickson, Sunrise, Cascadia, and Sunrise View are resulting in the construction of large water supply facilities by the City south of its Transmission Pipeline No. 2. The City is expecting to complete a combination of 30 to 24-inch pipeline to Sunrise this year including the construction of a reservoir. The City of Tacoma’s surface supply and pipelines are a tremendous resource to the Pierce County Urban Growth Area. The price of City water is currently higher than the individual water systems pay for drilling wells and extracting the water, but the water supply is available and the pipelines are installed with some capability to deliver water to the various systems.

H. Recommended Actions For Central Pierce County

Conceptually, there are two pipeline improvements in Pierce County that will be important to meeting future water demands: (1) a pipeline along S. 176th Street E. connecting to the Tacoma system; and (2) pipelines connecting Pierce County’s groundwater rights at the Chambers Creek site to the Tacoma system. Based upon the present water supply situation and projected demands, probably the only improvement that might be constructed during the next six years is the pipeline along S. 176th Street E. The other improvements would be needed further into the future and the routes shown should only be considered schematic at this time.

1. Extending the pipeline along 176th Street E. west into Spanaway and then north along Waller Road to connect with Tacoma’s Pipeline No. 2 creates a looped
system with the ability to serve the Spanaway, and possibly Parkland, area. Parkland and the South East Tacoma systems could be served directly from Pipeline No. 2. These systems have pressure zones with hydraulic grade lines at 527 ft., 512 ft, and 568 ft. respectively. All should be able to receive water by gravity.

2. Chambers Creek Properties - The groundwater resources at Pierce County’s site could be connected to the Tacoma system at the intersection of 40th and Bridgeport Way where Tacoma has a 30-inch pipeline. In addition, if there was a need, a pipeline could be constructed from the site through the Lakewood and South East Tacoma systems to Pipeline No. 2 (see Figure IX-5) to allow the use of this source by these systems.

The pipeline along 176th Street E. is probably the only improvement that might be constructed during the next six-year period (i.e., by the year 2000). The pipeline could be phased, serving initially as an intertie between the purveyors and later connect to the Tacoma system. An engineering study will be required to determine the size, route, cost, and connections between the systems. It is recommended that the interested purveyor systems meet with the City of Tacoma to explore its construction. The water purveyors could: 1) contract with the City of Tacoma to build the pipeline and sell water; or 2) the systems could jointly construct and own the pipeline and contract to purchase water from the City. Since this pipeline also benefits the City of Tacoma service area, it appears reasonable that regardless of the ownership and financing arrangement that the City of Tacoma should be willing to pay a share of the cost.

1. Water Wheeling

The Regional Water Supply Plan discussed above also presents opportunities for wheeling water through the system or exchanging water from different sources. When Tacoma completes Pipeline No. 5, it will be used to supply a portion of the City’s requirements, “freeing up” capacity in Pipelines 2 and 4 that could be used to supply other systems. Wheeling is used extensively by electric utilities, but has not been highly developed for water systems. In Pierce County, the Tacoma water supply pipelines could be used for wheeling water. As discussed above, there are opportunities in the future for water supply from the County’s Chambers Creek property, among others. At this time, neither of these entities are water purveyors in Pierce County. To take the County’s groundwater supply as a possible example of wheeling, there are water supply shortages, as discussed above, in some of the systems southeast of Tacoma. Using the wheeling concept, the County might contract with the City of Tacoma to deliver a quantity of water to the Tacoma system and, in return, Tacoma could deliver a similar quantity of water from its pipeline through connections to the systems needing water. The City of Tacoma would charge the water systems the price for the water that it is purchasing from Pierce County, plus a wheeling charge for use of the City of Tacoma facilities. This
1.2.2 Supply Area

The source of supply for the CWSP and the management area is a combination of sub-regional systems (City and PUD) serving the urban areas and other Group A and Group B public systems (see Exhibit 1-1) serving development in rural areas. The urban systems rely primarily upon surface water sources and the rural systems upon groundwater/wells.

1.2.3 Supply Area - Interties

Interties between existing water utilities are designated to allow conjunctive use of surface and groundwater, emergency supply, and wholesale delivery of supply in accordance with the CWSP. The CWSP and associated water rights for the City and PUD authorize the use of the two supply systems interchangeably.

1.2.4 Water Supply and Land Use

The CWSP is consistent with the city and County Comprehensive Plans. As the functional water plan for the city and County Comprehensive Plans, the CWSP will continue to be amended as the land and resource management plans are further evaluated, considered, and adopted through annual amendments.

As the land use and WSPs for the rural area are further developed, the routing of water system distribution and transmission lines through previously unsewered areas should consider their potential impact on development patterns. Pipe sizing must also reflect long-term plans for public water service in rural areas and should not be based on speculative land uses.

1.2.5 Designated Service Area

The designated water service areas represent the geographical area where the identified utility has accepted responsibility to provide a safe and adequate water supply in a timely and reasonable manner consistent with the State Environmental Policy Act (SEPA), the State Growth Management Act (GMA), and the County-wide Planning Policies and Comprehensive Plans of local governments with land use authority. The expanding water system must update its WSP at least every six years and be consistent with the Comprehensive Plan.

1.2.6 Receivership and Satellite System Management

Existing State law provides for the County to be the “receiver of last resort” of any of the existing 185 public water systems in the study area that are
4.5.5 Hydrostatic Pressure Test

A hydrostatic pressure leakage test will be conducted on all newly constructed water mains, fire lines, fire hydrant leads and stubouts in accordance with DOT/APWA Section 7-11.3(11) or AWWA C-600 specifications, unless specified otherwise by the designated utility.

4.5.6 Disinfection and Bacteriological Testing

All pipe, reservoirs, and appurtenances shall be flushed and disinfected in accordance with the standards of DOH, AWWA C651-86 and C652-86, or DOT/APWA Section 7-11.3(12), unless specified otherwise by the designated utility.

4.5.7 Utility Interties

Planning for specific locations, size, and alignment of major water lines should consider emergency interties with adjacent water utilities.

4.5.8 Flow Measurement

All Group A service lines shall be installed so that each residential, commercial, and industrial structure will have a separate metered service for domestic water received from the utility. If approved by the designated utility, domestic water consumption may be measured by a master meter for service to a complex, under single ownership, and where water utility line subdivision is impractical. Service lines providing fire flow may be required by the utility to be equipped with a fire detection check valve and/or appropriate cross-connection control devices as required by WAC 246-290-490.

All new groundwater sources for public water supplies shall be provided with an access port for measurement of depth to water, and measuring devices for determining flow rate and total production. Installation of these devices is also recommended for existing groundwater sources. All new sources for which water treatment is included shall be provided with flow measurement.

4.5.9 Cross Connection Control

Where the possibility of contamination of the supply exists, water services shall be equipped with appropriate cross connection control devices in accordance with Chapter 246-291 (Group B) or 246-290 (Group A) WAC. The designated utility and/or the County cross-connection control program shall determine the need, size, kind, and location of the device.
10.1 Introduction

The 1977 Public Water System Coordination Act and the Water Resources Act of 1971 both recognize and encourage the joint use of public water facilities to promote regional water use efficiency and resource management. In addition, the intertie legislation of 1991 (RCW 90.03.383) reinforces this legislative policy and adds the objective of encouraging interties for the purpose of improving the reliability of public water systems.

Joint use of facilities through intergovernmental agreements is an essential component of an effective implementation program. The Coordinated Water System Plan (CWSP) is designed to further expand the joint use concept and seeks to establish a phased program to construct new transmission facilities that intertie major utilities and sources of supply within the urban area of Skagit County (County). Interties with utilities in Island County and between the Public Utility District No. 1 of Skagit County (PUD) and City of Anacortes (City) now exist, and future interties with utilities in Snohomish County are anticipated.

10.2 Joint Use Facilities

The City and the PUD now operate a number of interties between their public water supply systems.

The City and the PUD continue to operate under agreement developed under the 1993 CWSP (Appendix B) to develop a Skagit Regional Water Supply System.

The Agreement recognized the past cooperative programs of the two parties for operating reliable public water systems in Skagit County. The Agreement further established the following intent as set forth in Section 2:

- It is the intent of the parties to cooperate in the development of additional waterworks and facilities that would form a Skagit Regional Water Supply System. The City and PUD will work cooperatively in the development of additional of expanded water resources and systems for distribution within Skagit County. Absent further agreement, the City and PUD will maintain present service areas, and their customers will continue to enjoy the present level of supply and service.

- This Agreement provides a framework for development of each new joint facility. Each joint facility not specifically addressed by this
Agreement shall be addressed by amendment to this Agreement. The specific intent of this Agreement is to make provisions for a standardized method to expand the Skagit Regional Water Supply System to meet the public water supply needs, and to establish a basis for agreement between the City and PUD for financing, ownership, construction, and operation of new joint facilities required for the Skagit Regional Water Supply System.

☐ It is the further intent of the parties that this agreement be incorporated into the Skagit County CWSP.

This CWSP does establish the current framework for additional projects, projection of need and schedule, and the general guidelines for the regionally coordinated program.

Joint use facilities may require changes in source of supply water rights. Any source of supply proposed for use as a joint facility should be carefully evaluated to determine water right implications. The existing City and PUD water rights provide for water use within their respective service areas. Extension of this use under the regional concept embodied in the Agreement will require modification of the rights as to the authorized place of use of water. The 1991 intertie legislation (see discussion in Sub-Section 11.5) provides the framework for addressing water right requirements.

Section 9 presents the recommended supply plan for the study area to the year 2050. The evaluation of all supply strategies should be undertaken with the Agreement conditions as a reference. All significant projects will require use and development of joint facilities.

The State, Tribes, and local governments entered into a 50-Year Memorandum of Agreement (MOA) regarding cooperative water resource management of the Lower Skagit River and Cultus Mountain Streams. This updated CWSP and the MOA will continue to be an integral part of the water resource planning for Skagit County.

Collectively, the CWSP, the Water Resources Act of 1971, the MOA, and the Growth Management Act (GMA) establish a program of joint study, resource management, and facility development. The City of Anacortes-PUD Agreement is consistent with the envisioned intent and all of the referenced programs.

During the life of the 1999 CWSP Skagit County will address watershed planning and coordination of all water policies with the Environmentally Sensitive Area (ESA). It is the intent of the CWSP to provide a functional plan that links all water resource planning documents. To achieve that coordination with the CWSP will be periodically reviewed for consistency with the intent of all referenced programs.
C. Supply Area - Interiors

Interiors between existing water utilities will allow conjunctive use of surface and groundwater, emergency supply, and wholesale delivery of supply in accordance with the CWSP.

D. Water Supply and Land Use

The CWSP has incorporated the land use and projected development program of the portion of the county and the cities included within the city of Everett’s existing and new retail and wholesale service areas.

E. Designated Service Area

The designated water service areas represent the geographical area where the identified utility has accepted responsibility to provide a "safe and adequate" water supply in a "timely and reasonable manner." The appeals process of this CWSP is the process that will be used to confirm this responsibility. No new water system (two or more customers) will be permitted to be formed unless the designated water system is "unable or unwilling" to provide water service in a "timely and reasonable" manner.

When a new system is formed, the approving agency must require a demonstration of financial viability for system operation and management (WAC 246-290-035).

Existing non-viable water systems within the designated service area of a utility will be referred to the designated utility for ownership transfer or receivership proceedings (WAC 246-290-035).

F. Classification of Existing Systems

Water systems fall into the following categories:

1. Group A water systems – serve 15 or more connections or 25 or more people for 60 days of the year. The Washington State Department of Health has total jurisdiction over these systems.
2. Group B water systems – serve 3 to 14 connections.
3. Two-party well systems – serve 2 connections. The Snohomish Health District regulates these systems at the time of building permit issuance only.
4. Individual/private wells – serve 1 residential connection. The Snohomish Health District regulates these systems at the time of building permit issuance only.
G. Satellite System Management and Receivership

Existing state law provides for the county to be the "receiver of last resort" of any of the public water systems in the study area that are unable to comply with the federal and state regulations and customer service requirements specifically outlined in federal, state, and local (CWSP) procedures.

The CWSP provides for the designated utility (designated service area) to assume lead responsibility in lieu of the county for correcting the deficiencies of the small systems if receivership is invoked. If the designated system does not assume responsibility or, the systems are not located within a designated service area, the goal of the CWSP is for a designated satellite system management agency (SSMA) to accept receivership responsibility.

H. Minimum Design Standards

The Minimum Design Standards from the state Department of Health, developed by the WUC, and discussed in Section IV, meet the requirements of the Public Water System Coordination Act and Snohomish County design and development standards. The standards reference urban and rural areas and are consistent with Growth Management Act criteria on infrastructure planning.

I. Individual Wells and Groundwater Management

Groundwater availability and quality are subject to high variability. Therefore, future water service in the urban areas should be deferred to the designated utility and the potential for water service in rural areas should be confirmed before building permits and/or platting is approved. The development of new sources of supply must be carried out in compliance with instream flow rules from the Washington Administrative Code.

The above does not preclude wells that meet county siting criteria.

J. Regional Supply System

The City of Everett Comprehensive Water System Plan forecasts long-term supply and demand for a large portion of the CWSSA, and is summarized within the CWSP. The Central Puget Sound Water Suppliers Forum also conducts periodic analyses of regional supply. The regional supply system represents the framework to meet the growth management needs of North Snohomish County for public water supply and will require continuing evaluation to establish the most cost-effective program consistent with public policy. The CWSP encourages the creation of joint operating agreements and interties to maximize the efficiency of the system.
SECTION IV
WATER UTILITY DESIGN STANDARDS

1. INTRODUCTION

This Section of the Coordinated Water System Plan (CWSP) provides a set of minimum design and performance specifications for new water utilities and for all existing utilities planning to install capital facilities for expansion purposes in that part of Snohomish County included in the Critical Water Supply Service Area (CWSSA). Municipalities are included in this definition.

The application of these minimum design standards for water utility planning and construction is detailed in Subsection 3. The design standards themselves are described in Subsections entitled: 5. General Provisions, identifying laws, regulations and standard specifications which are applicable unless otherwise superseded; and 6. Specific Provisions, detailing specific design standards adopted by the Water Utility Coordinating Committee (WUCC) of Snohomish County.

The Public Water System Coordination Act and the procedures outlined in the CWSP apply uniformly to all public water supply systems in Snohomish County’s Coordinated Water System Planning Area/Critical Water Supply Service Area (Figure I-1) as it relates to design standards in the unincorporated area, and other administrative procedures. However, municipally owned water utilities and local government authorities are not preempted by the CWSP within their municipal boundaries. These standards do not supersede any other legally constituted and applicable standards that are more stringent.

2. PURPOSE

The purpose of these standards is to set a base level of utility planning, design, and construction for public water utilities. This base level must provide for development which is consistent with adopted land use plans of the agencies with jurisdiction. Uniformity and consistency in standards will, in the long-term, reduce costs to consumers as system interties and/or consolidation of utilities takes place. Reliability of water supply will also be improved.

Subject to certain exceptions contained in the Public Water System Coordination Act, each utility, including municipalities, adopts design standards as a part of its water system plan. It is intended that a utility may adopt the minimum design standards described herein or may adopt higher standards, provided such standards are not inconsistent with applicable land use plans.
E. Hydrostatic Pressure Test

A hydrostatic pressure leakage test will be conducted on all newly constructed water mains, fire lines, fire hydrant leads and stubouts in accordance with DOT/APWA Section 7-11.3(11) or AWWA C-600 specifications, unless specified otherwise by the designated utility.

F. Disinfection and Bacteriological Testing

All pipe, reservoirs, and appurtenances shall be flushed and disinfected in accordance with the standards of DOH, AWWA C651-86 and C652-86, or DOT/APWA Section 7-11.3(12), unless specified otherwise by the designated utility.

G. Utility Interties

Planning for specific locations, size, and alignment of major water lines should consider emergency interties with adjacent water utilities.

H. Flow Measurement

All service lines shall be installed so that each residential, commercial, and industrial structure will have a separate metered service for domestic water received from the utility unless otherwise directed by a designated utility. If approved by the designated utility, domestic water consumption may be measured by a master meter for service to a complex, under single ownership, and where water utility line subdivision is impractical. Service lines providing fire flow may be required by the utility to be equipped with a fire detection check valve and/or appropriate cross-connection control devices as required by WAC 246-290-490.

All new groundwater sources for public water supplies shall be provided with an access port for measurement of depth to water, and measuring devices for determining flow rate and total production. Installation of these devices is also recommended for existing groundwater sources. All new sources for which water treatment is included shall be provided with flow measurement.

I. Cross Connection Control

Where the possibility of contamination of the supply exists, water services shall be equipped with appropriate cross connection control devices in accordance with Chapter 246-290 WAC. The designated utility and/or the county cross-connection control program shall determine the need, size, kind, and location of the device.
SECTION X

JOINT USE FACILITIES AND ADMINISTRATION

1. INTRODUCTION

The 1977 Public Water System Coordination Act and the Water Resources Act of 1971 both recognize and encourage the joint use of public water facilities to promote regional efficiency and resource management. Joint administration, through intergovernmental agreements, is an essential component of an effective implementation program.

The CWSP is designed to further expand the joint use concept and seeks to establish a phased program to construct new transmission facilities that intertie all major utilities and sources of supply within Snohomish County. Inter-ties with utilities in adjacent counties are anticipated.

2. JOINT USE FACILITIES AND INTER-TIES

Inter-ties are defined by the state as interconnections between public water systems that permit the exchange or delivery of water between those systems for non-emergency supply purposes that result in better management of public water supply. Inter-ties include interconnections between systems for primary or secondary sources of supply, but do not include development of new sources of supply to meet future demand (RCW 90.03.383). Inter-ties are a valuable tool to improve the reliability of public water systems and improve the efficient use of water resources.

The state will permit requests for inter-ties, per RCW 90.03.383, when the intertie improves overall system reliability, enhances the manageability of the systems, provides opportunity for conjunctive use, or delays or avoids the need to develop new water sources. However, each public water system’s water use must not exceed the instantaneous or annual withdrawal rate specified in its water right authorization, must not adversely affect existing water rights, and must not be inconsistent with other approved water system plans with proposals for construction of inter-ties.

Inter-ties commencing after January 1, 1991, must be incorporated into water system plans or coordinated water system plans per RCW 90.03.383. Snohomish County purveyors identify inter-ties in their water system plans, so they are not incorporated into this document.

The CWSP establishes a policy to encourage joint use facilities where appropriate. Joint use facilities and joint operating agreements have the potential to improve system reliability and enhance efficiency. The WUCC recommends that, during their reviews of Water System Plans, Snohomish County and DOH ask purveyors if they have considered entering into Joint Operating Agreements with other purveyors. Neither the county nor DOH can require entities to enter into such agreements.
1. The service areas arrived at during this planning process should be maintained in accordance with the Interlocal Service Area Agreement contained in Appendix A. In future updates of this Plan, purveyors should consider further expansion of the service areas agreed to herein.

2. Proliferation of new public water systems within the Vashon CWSSA should be restricted by King County policy, DSHS support and by existing purveyors utilizing their options for satellite management of areas within and adjacent to their existing service areas which can not be readily served by existing facilities.

3. King County implementation of the Utility Service Review Procedures and New and Small System Management Plan is critical to the desired limitation of new public water systems (two or more connections) within the Vashon CWSSA.

4. Alternatives for restriction of new private water systems (one connection) should be examined by the Vashon Groundwater Management Program, King County and the State of Washington.

5. Purveyors are required to construct all new water facilities in accordance with the Minimum Design Standards established in Part IV of this Plan. It is further recommended that purveyors consider upgrading existing facilities which do not meet the criteria established in the Minimum Design Standards portion of this document when developing their individual Capital Improvement Programs.

6. To analyze the existing capabilities of existing groundwater sources and determine viable options for future groundwater supply and protection, all purveyors are encouraged to provide whatever support and assistance necessary for the development and implementation of the Vashon Groundwater Management Program.

7. Additional information is required to assess the future potential of groundwater supplies on Vashon. The Vashon Groundwater Management Program should address the items listed in Part VIII B.4. in its data collection and analysis.

8. A strong program for the protection of groundwater quality should be developed. Some of the items to be addressed in such a program are contained in Part VII. These items should be the addressed by the Groundwater Management Plan and implemented by DSHS, King County, Island purveyors and citizens:

9. **Emergency response planning is discussed in Part VII of this document. Purveyors are required to develop such plans as part of their water comprehensive plans and are encouraged to coordinate and cooperate with each other to determine interties and other options in the event of an emergency.**

I - 3
1. **Source and Storage Requirements**

Minimum source and storage requirements are established by the State DSHS and are put forth in "Sizing Guidelines for Public Water Supplies". Table III-5 illustrates these minimum requirements for each system and indicates existing conditions.

Source capacity is directly tied to the Island's groundwater supply addressed in the Regional Issues Part of this Plan (Part VII) and additional information on available supply source and future options are expected form the upcoming Vashon Groundwater Supply Management Program.

Additional storage required should be included in individual purveyors plans for system improvements. A potential mitigating measure to deficient storage is the construction of system interties which would provide additional flow and storage in the event of an emergency. Mechanical interties may also be considered in the calculation of available and required storage if water is available on a demand basis. This is, however, dependent on each systems available source and storage capacity and the excess available for use by others. In addition, for interties to be considered in calculating available source, specific DSHS approval is required and purveyors must demonstrate actual water use and that water conservation programs are in effect.

2. **Fire Flow Requirements**

Fire flow requirements vary according to land use and construction types and are ultimately determined on an individual basis by the King County Fire Marshall at the time of building permit application based on such statutes, codes, regulations, ordinances, established standards and criteria as he shall deem pertinent. For purveyor planning purposes King County has established Fire Flow Planning Criteria, which is contained in Appendix D of this document. This criteria is to be used for appropriate and logical purveyor planning by a development classification system (in accordance with WAC 248-57).

To determine the available flows in select locations of the primary systems, emergency fire flow conditions were simulated by computer. The results of these simulations are shown on Plate III-2. The results shown are initial flows only and do not reflect drawdown in storage facilities. They are intended to illustrate areas of low flow to be further examined. In addition, Plate III-2 lists computer simulated improvements to existing facilities and the resulting flows. These simulated improvements are shown as examples of the kinds of options available to purveyors for increasing flows if necessary to meet fire flow requirements.
7. **Disinfection and Bacteriological Testing**
   All pipe, reservoirs, and appurtenances shall be flushed and disinfected in accordance with the standards of the DSHS, AWWA C601 and D105, and DOT/APWA Section 7-11.3(12), unless specified otherwise by the designated utility.

8. **Power Consideration**
   Reduction in the amount of standby storage required because of multiple sources is permissible only if adequate standby power is available or the power supply is shown to be reliable by meeting both of the following criteria:

   - **Frequency:** Outages shall average three or less per year based on data for the three previous years with no more than six outages in a single year. Power must be lost for a minimum of 30 minutes to qualify as an "outage."

   - **Duration:** Outage duration shall average less than four hours based on data for the three previous years. Not more than one outage during the three previous year period shall have exceeded eight hours.

   Where standby power is provided, all source and booster pumping facilities required for primary supply in an emergency should be equipped with auxiliary power or with power pigtail outlets and at least manual transfer switching devices. If the pigtail outlet power approach is taken, the purveyor must either own and maintain a portable power unit or have an acceptable rental agreement assuring the use of a unit when needed.

9. **Utility Interties**
   Specific locations, size and alignment of major water lines should consider emergency interties with adjacent water utilities.

10. **Flow Measurement**
    Unless otherwise directed by the designated utility, all service lines shall be installed so that each residential, commercial, and industrial structure will have a separate metered service for domestic water received from the designated utility.

    If approved by the designated utility, domestic water consumption may be measured by a master meter for service to a complex, under single ownership, and where water utility line subdivision is impractical. Service lines providing fire flow may be required by the utility to be equipped with fire detection check.

    Wherever possible, new groundwater wells shall be provided with access for measurement devices. All new sources shall be provided with flow measurement in accordance with DSHS policy.
h. Other Potential Sources of Contamination - The GWMP will address other potential sources of groundwater contamination, such as sludge application, small hazardous waste generators and household hazardous waste disposal, forestry practices, improperly abandoned wells, etc.

2. Groundwater Protection
The above paragraphs detail the potential for groundwater contamination. The following recommendations summarize possible planning measures which would facilitate future groundwater resource protection:

- Monitoring of individual septic systems to detect overloading of soil adsorption capacity and educating owners of on-site sewage disposal and proper maintenance procedures.

- Continued water quality monitoring downgradient of the municipal landfill.

- Educating the public as to safe disposal practices of household solvents, pesticides, herbicides, paints, solvents and waste oils.

- Monitoring of groundwater adjacent to commercial agricultural facilities for contamination by degradation products such as fertilizers, herbicides and pesticides.

- Monitoring and/or replacement of underground storage tanks and site assessments in accordance with EPA Underground Storage Tank Regulations (40 CFR 280).

It is recommended that the Vashon Groundwater Management Plan further address these and other options for the continued protection of groundwater quality within the CWSSA.

D. WATER SYSTEM COORDINATION
1. Interties
   In that many areas of the Island have inadequate flows for fire protection and several of the primary systems are deficient in storage, the below listed interties should be considered as an option for increasing flows and drawing on stored water in other systems in the event of an emergency. Such interties should operate on a demand basis but be set at an appropriate pressure setting so as to activate only under severe demand conditions such as a fire emergency or water main break.
Recommended Interests Include:

- Heights Water Association - Water District No. 19
- Westside Water Association - Water District No. 19
- Burton Water Company - Water District No. 19
- Maury Mutual - Water District No. 19.

Additional interests may be possible as existing systems expand or other conditions warrant. These include:

- Heights Water Association - Westside Water Association
- Westside Water Association - Other Class 4 Water Systems
- Maury Mutual - Dockton.

2. Water Shortage and Emergency Response Planning

Emergency response planning is a DSHS requirement for water system plans. In accordance with DSHS "Emergency Planning Instructional Guide" (April 1982) emergency plans should include a vulnerability analysis identifying the emergencies most likely to occur and a list of procedures in the event of emergency.

Items developed as part of a systems emergency response plan such as emergency telephone numbers, priority service list, and emergency and support call-up list should be distributed to all utilities with which a system has interests and to adjacent purveyors. Coordination of emergency response plans between Island purveyors is recommended as a means of enhancing overall response procedures on the Island.
6. Water Conservation
Development of a strong water conservation program is recommended for all purveyors and citizens of Vashon/Maury Island. Each purveyor's comprehensive Water System Plan should address the elements outlined in Appendix G and include measures for water conservation such as installation of source and service meters where they are not already installed, repair of leaking mains and facilities, close monitoring of water use records, etc.

In addition, it is recommended that the purveyors and other interested citizens develop an Island-wide program for water conservation. Such a program should include extensive public education and monitoring of progress.

7. Water Shortage Response Planning
Purveyors are encouraged to prepare Water Shortage Response Plans in accordance with the DSHS Publication No. 22-647 and to develop Emergency Response Plans in accordance with "Emergency Planning Instructional Guide" (April 1982) published by DSHS. Emergency response plans should include further analysis and consideration of the potential system interties discussed previously in this Plan.

8. Plan Updates
This document satisfies the requirements of the regional supplement to the Coordinated Water System Plan. A complete Coordinated Water System Plan includes the current comprehensive water plans of the purveyors within the Critical Water Supply Service Area. Purveyors are required to update their comprehensive plans within 12 months of the approval of this regional supplement to include the provisions contained herein. In accordance with DSHS and King County requirements, both the regional supplement and individual purveyor comprehensive plans are to be updated at least every five years.

9. WUCC to Remain in Effect
In order to be effective, implementation of this Plan must be monitored by the participating purveyors and agencies. For this reason, the WUCC is to remain in effect until June 30, 1992, or longer, if extended by the King County Council. The Committee will be responsible for approving any changes or amendments to the Plan, and for meeting periodically, at least annually, to review the progress of implementation. It is also recommended that the WUCC remain in effect for the purpose of developing and/or coordinating emergency response plans, proposed system interties and for review and comment on the Vashon Groundwater Management Plan. If information from the Groundwater Management Plan necessitates a change in the CWSP prior to the mandated five year update, the WUCC will consider an amendment to the CWSP.
Section 5 provides guidance on minimum planning and design standards that apply to water service delivery, assessment of feasibility of shared source, transmission, storage facilities, interties and emergency interties between systems, and system reliability. Section 5 also includes minimum standards for fire flow, minimum standards for fire hydrants, and addresses alternate methods for fire protection that are developed pursuant to RCW 70.116.080.

It should be noted that the DOH encourages standard construction specifications be developed by each utility and submitted as part of their individual WSP.

2.2.4 Utility Service Review Procedure

RCW 19.27.097 and WCC 24.11.060 require that each application for a building permit necessitating potable water shall provide evidence of an adequate water supply for the intended use of the building.

A primary goal of the Coordination Act is to provide both guidance and “a strategy to ensure an adequate supply of potable water for domestic, commercial, and industrial uses is readily available with a minimum of loss or waste.”

The Utility Service Review Procedure (USRP) is discussed in Section 6. The USRP describes the various options for obtaining water service within the CWSSA when public water is readily available and also when public water service is not readily available (e.g., if a public system exists but is not able to serve in a manner that is “timely and reasonable,” or when a public water system (municipal water supplier) is not subject to a “duty to serve” in its retail service area, or when no public water system is available). The USRP details specific steps that apply when establishing remote systems, satellite management systems, and private wells.

Section 9, Plan Implementation, provides a path to a voluntary dispute resolution process when there are differing opinions between either the County, the water purveyor, and/or the applicant, developer, or project proponent as to what constitutes delivery of water service in a “timely and reasonable” manner, a water purveyor’s “duty to serve,” or when the County Health Department has denied an applicant’s request to drill a private well. The first step consists of a voluntary pre-hearing conference where information sharing, negotiation, and agreement can take place and, if this is unsuccessful in resolving the problem, a process is outlined where an aggrieved party may request resolution to a dispute utilizing the appropriate existing process.

Under current law, disputes regarding service in retail service areas are resolved in Superior Court. Disputes regarding water service in future service areas are resolved by a process beginning with the County Hearing Examiner, followed by the County Council, and Superior Court appeals system.

The intent of the voluntary dispute resolution process is to develop a locally-driven, less expensive and, hopefully, faster way of resolving disputes. Details of this process are included in Section 9.

The revised USRP are revised in Section 6.

2.2.5 Issues with Potential Implications for Public Water Systems in Whatcom County

Several issues with potential implications for public water systems in Whatcom County are discussed in Section 8. Topics addressed include the Lummi Peninsula Groundwater Settlement; tribal requests to the federal government regarding their claimed federal reserved water rights; an
Minimum Design Standards

- Ensure provision of urban levels of water service to urban growth within areas designated for urban growth.
- Periodically review Urban Growth Areas to ensure adequate water supplies.
- Encourage annexation of areas zoned for urban densities concurrent with extension of urban level services.
- The County should work closely with purveyors and the State Department of Health in the development and review of Comprehensive Water Plans to ensure consistency with land use and urban growth area needs.
- The County will work with the Department of Ecology, City of Bellingham, the Port of Bellingham, the PUD, and local, regional, and state economic development agencies to ensure an adequate water supply to areas planned for industrial development.

Goal: Ensure that potable water supplies required to serve development are available at the time the development is available for occupancy and use.

- Building permit applicants, new subdivisions, short plats, and binding site plans will be required to provide evidence that adequate and legal (in consultation with the Department of Ecology) supplies of water are available prior to their approval by the County.
- Work with purveyors to assist them in modifying their systems as required to support the land use element of the comprehensive plan.

The design standards presented herein have been reviewed by the WUCC to ensure compliance with the policies of the County's Comprehensive Plan.

5.2 Minimum Design Standards

5.2.1 Purpose

The purpose of these standards is to set a base level of utility planning and design for public water utilities. Once the CWSP update is approved by the DOH, these standards will apply to expanding public water systems or to the construction of new public water systems. The base-level planning must provide for development consistent with adopted land use plans of the agencies with jurisdiction per WAC 246-290-100. Uniformity and consistency in standards will, in the long-term, reduce costs to consumers as system interties and/or consolidation of utilities takes place. Reliability of water supply will also be improved.

Subject to certain exceptions contained in the Coordination Act, each utility must adopt minimum design standards as a part of its WSP (WAC 246-290-100). It is intended that a utility may adopt the minimum design standards described herein or more stringent standards, provided such standards are not inconsistent with applicable land use plans. As discussed, the development and submittal of standard construction specifications for larger utilities is encouraged by the DOH and is separate from these minimum design standards.

The WUCC found that the minimum design standards from the 2000 CWSP were generally acceptable in their current state. Additional clarification was requested from the County Fire
General Standards – Selection of materials and construction of water system facilities in the County shall conform to the provisions outlined above, with the additional provisions:

- All owners/operators of water systems that have water mains in County road rights-of-way must comply with franchise requirements outlined in ordinances passed by the County Council authorizing such use of the road and rights-of-way (Whatcom County Code Chapter 12.27);
- Construction within incorporated areas remains subject to municipal permitting requirements; and
- All projects requiring design by a registered professional engineer shall be inspected by the utility or its designated representative before closure of any excavation.

Hydrostatic Pressure Test

A hydrostatic pressure leakage test will be conducted on all newly constructed water mains, fire lines, fire hydrant leads, and shutoffs in accordance with WSDOT/APWA Section 7-11.3(11) or AWWA C-600 specifications, unless otherwise specified by the designated utility.

Disinfection and Bacteriological Testing

All pipe, reservoirs, and appurtenances shall be flushed and disinfected in accordance with the standards of AWWA C651-86 and C652-86, or WSDOT/APWA Section 7-11.3(12), unless otherwise specified by the designated utility.

Utility Interests

When a utility or utilities are planning to install new or replacement water mains, the utility should evaluate the feasibility of emergency or permanent interties with nearby water systems as a potential means of improving efficiency and reliability of their water supplies.

Flow Measurements

All new groundwater wells used as water sources for new and expanding public water supplies shall be provided with an access port for measurement of depth to water (WAC 173-160-291), and measuring devices for determining flow rate and total production (WAC 246-290-496). Installation of these devices is also recommended for existing groundwater sources. Water users are advised to examine their water right documents to determine whether metering requirements are included as a condition of their water right.

Cross-connection Control

Where the possibility of contamination of the supply exists, water services shall be equipped with appropriate cross-connection control devices in accordance with WAC 246-290-490. The designated utility shall determine the need, size, kind, location, maintenance, and testing requirements of the device as specified in WAC 246-290-490.

5.2.4 Specific Provisions

If a public water system has adopted specific design standards that have been approved by DOH, those standards shall apply instead of the specific provisions discussed below, and shall be at least as stringent (WAC 246-290-200).
that application and make a determination of whether the change could be approved. This process often took a long time due, in part, to the backlog of water rights, but it did allow for notification of potentially affected third parties via a legal notice process. The Municipal Water Law provided another avenue for changing the place of use of a municipal purpose water right.

Under RCW 90.03.386(2), a municipal water supplier may now modify their place of use of water by amending their water system plan or an engineering document that is approved by DOH. In submitting the document to DOH, the system must attest that the change is in compliance with their water system plan and is “not inconsistent” with other local planning documents. This change eliminated the need to file a water right change application with Ecology in order to change the place of use specified for the water right. However, it is still necessary to file a change application if the supplier wants to change the point of withdrawal or diversion of a municipal water right.

Appendix 3 is Ecology’s Municipal Water Law Interpretive and Policy Statement. In the discussion of RCW 90.03.330(3) on page 8, it states:

“Inchoate portions of water rights for municipal supply purposes found to be in good standing through this assessment (mentioned above), are eligible for change or transfer. This approach may, among other things, allow for the inchoate portion to be transferred to another municipal water supplier or integrated into a regional water system.”

Ecology views the municipal water law as a law that is intended to make the management of municipal water supplies easier and less cumbersome and that includes interties as they relate to the potential creation of regional water supplies. Systems wishing to develop new interties are advised to consult with both Ecology and DOH early in the process to ensure that the proposal addresses the concerns of these agencies.

Another key element of the Municipal Water Law related to WUE is discussed in more detail in Section 8.7.

The DOH and Ecology share responsibilities under the Municipal Water Law, and have developed agreements to coordinate planning, engineering, and public health and safety matters relating to water systems and water resources. The DOH is responsible for ensuring safe and reliable drinking water, and reviews and approves planning and engineering documents for water systems. Ecology administers the state’s Water Resource Program, including water rights administration and watershed planning.

8.2.4 Changes or Transfers of Water Rights

In 2001, the legislature amended RCW 90.03.380 and 90.44.100, to clarify that Ecology could process applications for changes to existing water rights in a separate line from applications requesting new water rights. This splitting of the processing lines has reduced the processing time for change applications considerably.
SECTION 8

maintenance, conserving water, and limiting the use of herbicides and pesticides on lawns and
gardens.

During the update of the CWSP, the WUCC expressed the need for a process to incorporate
results from delineating wellhead recharge areas or vital source protection areas into the
Comprehensive Plan. The WUCC felt that the state and federal mandate for water utilities to
delineate time-of-travel zones and wellhead protection plans is ineffective if these areas are not
reflected as critical aquifer recharge areas by the Growth Management Act (GMA) and
incorporated into land use decisions. To address this concern, it is recommended that Goal 11F,
especially Goal 11F.3, of the Comprehensive Plan should be coordinated with water
resource information and protection efforts of water systems.

8.6 Lack of Joint Facilities and System Interties

8.6.1 Joint Facilities

Many times water systems will plan improvements without taking into account the plans of
neighboring utilities. Through coordination, sharing a facility can sometimes eliminate
duplication. Several types of shared source projects have proven to be very effective solutions to
quantity, quality, and economic problems in the State of Washington. Advantages include:

- Combining sources can assist a utility in meeting water needs until additional sources can
  be developed.
- Neighboring systems experiencing quality problems can jointly afford the construction
  and maintenance costs of a treatment facility that is too expensive to provide separately.
- System reliability problems can be resolved by using different sources of supply during
  different time periods.
- Water of marginal quality may be combined with higher quality water to avoid the costs
  of treatment.

8.6.2 Intereties

An intertie is an interconnection between public water systems that permits the exchange or
delivery of water between the systems. An intertie can be used for emergency or seasonal supply,
during repairs or facility maintenance only, or on a continual basis. Intereties are recognized as a
valuable management tool for public water systems because they improve overall system
reliability, enhance the manageability of the system, provide opportunities for conjunctive use, or
delay the need to develop new water sources.

Legislation related to public water system interties was enacted in 1991 that enables utilities to
address water right matters related to system interties through submittal of water system plans or
CWSPs to DOH. Its provisions are codified at RCW 90.03.383 and summarized as follows:

- Intereties are recognized as a valuable management tool for public water systems and are
defined to allow other than emergency use of water by systems other than the one holding
the water right subject to certain conditions.
Issues with Potential Implications for Public Water Systems in Whatcom County

- The place of use of water resulting from interties which were existing and in use as of January 1, 1991, shall be recognized for water right purposes subject to certain conditions.

- System interties where use commenced after January 1, 1991, are to be incorporated into the CWSP or utility's water system plan for review and approval by DOH and Ecology as part of the plan review process. Water right requirements are to be addressed in this process. The plan is to state how the intertie will improve overall system reliability, enhance the manageability of the system, provide opportunities for conjunctive use, or delay or avoid the need to develop new water sources.

- Interties may be necessary to supply adequate potable water to those areas planned for growth, since the place of use described on water rights is not always perfectly aligned with anticipated growth. Interties also avoid the need to develop new water sources and they provide a valuable tool to ensure reliable public water supplies. When facilities join together to share water treatment facilities, reservoirs and water lines, the cost of operating the water systems will lower capital facility costs for the county as a whole.

- Municipal water law was established to increase the flexibility of municipal purpose water rights, including the creation of interties to facilitate regional water solutions where such solutions are deemed appropriate.

Table 8-6 lists the existing permanent and emergency interties between Group A water systems within the CWSSA as identified through the Sentry database. The geographic locations of the systems are shown on Figure 8-3. Public water systems should identify interties in their WSPs. In those plans, the utility providing the water should identify the receiving utility's service area as all or part of their wholesale service area, and the receiving system should indicate the existence of the intertie in their WSP as well. Systems should also identify emergency interties in their WSPs but do not need to include the receiving area as a wholesale service area.