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CHAPTER 9. UTILITIES ELEMENT

9.1 INTRODUCTION/PURPOSE

County residents rely on a number of basic services, or utilities, that help define their quality of life and maintain their health and well-being. Water supply and sewage waste disposal involving more than one user, and the delivery of natural gas, electricity, and telecommunication services are considered utilities. Yet without coordination and conscientious planning for future growth, service may be interrupted, inadequate, or prohibitively expensive.

This Utilities Element was developed consistent with Section 36.70A.070 of the Growth Management Act (GMA) to address utility service issues in Yakima County through the year 2040. Coordinating its goals and policies with the other **Horizon 2040** elements should ensure adequate and cost effective utility service for all County residents.

The Utilities Element has been developed in accordance with the County-wide Planning Policies and is integrated with all other planning elements to ensure consistency throughout the comprehensive plan. Maps of utilities in Yakima County are maintained and updated by the County Geographic Information Systems (GIS). In addition, County Utility Plans are hereby adopted by reference to meet the requirements of including capacity data; identifying existing and proposed facilities; and inconsistent with the County's GMA Update Schedule. All plans have been reviewed and can be provided upon request.

9.2 GROWTH MANAGEMENT ACT REQUIREMENTS

State laws RCW 36.70A.70 (4) and WAC 365-196-420 requires a Utilities Element that includes the general location, proposed location, and capacity of all existing and proposed utilities, including, but not limited to, electrical lines, telecommunication lines, and natural gas lines.

The GMA Procedural Criteria define "*utilities*" or "*public utilities*" as enterprises or facilities serving the public by means of an integrated system of collection, transmission, distribution, and processing facilities through more or less permanent physical connections between the plant of the serving entity and the premises of the customer. Included are systems for the delivery of natural gas, electricity, telecommunications services, and water, and for the disposal of sewage

(WAC 365-195-210 (36)). The **Horizon 2040** Utilities Element includes domestic water, irrigation, sewer, solid waste, electrical, natural gas, and telecommunications. Some of these utilities may also require capital facilities.

In order to meet these requirements, **Horizon 2040** compares the location and capacity of existing and proposed utility facilities with the Land Use Element, and asks the following questions: Is the capacity sufficient to serve the expected growth for the next 20 years? Where should utility lines and facilities be placed to serve the anticipated needs?

The Washington Administrative Code (WAC) recommends a common-sense approach to developing criteria for siting utilities. A key consideration is whether a siting proposal is consistent with the locations and densities for growth identified in the Land Use element. Another consideration is the public service obligations of the utility involved. The element must also consider how the siting decision will affect the utility's ability to provide service. Finally, local design considerations must be balanced against the need for system uniformity.

The Utilities Element should also call for effective coordination of transportation projects and permits. Joint use of transportation right-of-way and utility corridors are recommended. Interested utilities should be notified of road construction projects, maintenance and road upgrade projects to facilitate public and private utility trenching activities. Whenever possible, a proposed project and its utility permits should be approved simultaneously.

Finally, the element needs to address coordination among adjacent planning jurisdictions to ensure the consistency of each jurisdiction's utilities element and regional utility plans. The element's goal is to develop a coordinated process for siting regional utility facilities in a timely manner.

Washington State's Growth Management Act (GMA) contains 13 goals for the purpose of guiding the development of comprehensive plans and development regulations. The following GMA goals (goals 1, 2, 5, 6, and 12) specifically relate to utilities:

- (1) Urban growth. Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.
- (2) Reduce sprawl. Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.
- (5) Economic development. Encourage economic development throughout the state that is consistent with adopted comprehensive plans, promote economic opportunity for all citizens of this state, especially for unemployed and for disadvantaged persons, promote the retention and expansion of existing businesses and recruitment of new businesses, recognize regional differences impacting economic development opportunities, and encourage growth in areas experiencing insufficient economic growth, all within the capacities of the state's natural resources, public services, and public facilities.

- (6) Property rights. Private property shall not be taken for public use without just compensation having been made. The property rights of landowners shall be protected from arbitrary and discriminatory actions.
- (12) Public facilities and services. Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.

9.3 MAJOR ISSUES/OPPORTUNITIES

Recognizing the major issues is the first step in creating the utilities plan agenda. Once challenges have been identified in an orderly and meaningful fashion, a plan of action can be created. This section identifies issues that will be addressed through **Horizon 2040's** Utilities Element.

9.3.1 Service Provision

As growth occurs, utilities will need to be extended or developed. For water and wastewater, if no public system exists in the vicinity, satellite systems may need to be constructed, as noted in the County's 1988 Rural Water and Sewer General Plan and 2010 Water System Satellite Management Plan. These systems provide greater protection of groundwater supplies than a proliferation of individual wells and septic systems, allowing for a clustered land use pattern that facilitates eventual connection to a larger system. Within UGAs, the city, town, special purpose district or regional comprehensive plan should be first consulted to determine service providers and timing of service. Utility services must be based on the **Horizon 2040** Level of Service (LOS) standards. The following questions help to determine the desired level of service:

- What level of service is appropriate for each type of utility in urban and rural areas?
- What type of water and wastewater facilities are desirable in which locations: Who (i.e., what institution, municipality, public or private entity or other service provider) should provide them? Who should own them and be responsible for their operation?
- In what ways, does development of land within an irrigation district affect the supply of potable ground water, the availability of surface water for commercial agriculture (as opposed to weeds, pasture or lawns), and efficient irrigation system management?

9.3.2 Coordination Among Service Providers

The County must coordinate with service providers of water and sewer in order to provide efficient service, solve utility problems and accommodate growth. The County's role in providing these utility services needs to be redefined through the development of consolidated water systems plans and a sewerage general plan. The responsibility for the implementation of these plans would be defined through interlocal agreements between the County and the service providers. Where urban services cannot be provided by the municipality or district economically or equitably, the County may need to become a service provider.

9.3.3 Concurrency and Implications for Growth

As development occurs, system and facility improvements must keep pace to meet the higher demand. The improvements must take place within a certain time frame while maintaining appropriate levels of service. Establishing common-use corridors is an important element in meeting these requirements. The following factors may be taken into account:

- At what density or level of development is it feasible to provide each type of utility (water, sewer, telephone, natural gas, electricity, cellular phone access, solid waste disposal)? Is there a public cost, as well as a private cost, when these services are provided (e.g., aesthetic damage, obstruction of views, environmental damage, odor)?
- What is the County's role in assuring that the level of service provision is appropriate to the type and density of development that is occurring? Should the County require that certain services be available before development can occur in certain areas, or at certain densities?

9.3.4 Environmental Sensitivity

Important environmental issues associated with planned utility improvements must be addressed. They include the following utilities:

- Sewer: What are the impacts associated with pipeline construction? How can the specialized wastewater requirements of different industrial and commercial operations be accommodated?
- Water: What is the cumulative effect of 8-inch lines, which are exempted from SEPA requirements? What are the water withdrawal impacts of well development?
- Solid Waste: What impacts are associated with management of the solid waste system, siting of new transfer stations, and bio-solids management, and how can they be addressed?
- Satellite Systems: How can satellite water and wastewater systems be used to support clustered development? What incentives can the County offer to make satellite systems financially viable, given the state regulatory framework?
- Aesthetics: How can views be protected from excessive numbers of unsightly towers and lines? When (or in which areas) should the County require what types of utilities to be buried?

The answers to these questions will affect the feasibility of future plans for land use, housing, economic development, capital facilities, transportation, and even parks and open space.

9.4 WATER AND SEWER CONSIDERATIONS

9.4.1 Water and Sewer

Cities are the main service providers for water and sewage disposal within their boundaries. Outside of the cities, water and sewage disposal can be provided in various ways: extension of city services; extension of lines by existing water companies, water districts, and sewer districts; creation of new water and sewer districts; city-operated satellite water and/or sewer systems; County-operated rural domestic water systems, satellite water and/or sewer systems; water and/or septic systems (serving new structures and 2 to 9 or more units); or on-site water and/or septic systems. Some types of utilities are better suited than others to each of the zoning designations: 1) Urban Growth Areas, 2) Resource Areas, and 3) each of the five types of rural area zones.

In deciding which type of service is appropriate in each area, we need to consider development density (number of houses per acre), configuration of housing units, and environmental constraints (soils, depth to water table). Other considerations include quality of drinking water, quality of sewage effluent produced, availability and capacity of existing systems, government policy (e.g., not serving areas outside municipal limits), ease of maintenance, public liability for non-County systems, and financial feasibility. The water and sewer policy matrix from Yakima County Code (YCC), Title 19, Unified Land Development Code (Table 19.25-1 Water and 19.25-2 Sewer) summarizes these considerations for each zoning designation and system type.

Some service types may not be desirable in any area. For example, if a private water company or district cannot meet state or federal standards, and is forced into bankruptcy, the provider of last resort is the County in unincorporated areas. The County could end up owning a number of small water systems of varying quality, with no standardization of parts, making maintenance difficult and costly. If the County were able to design and be responsible for the systems from the beginning, it could have greater control over quality and require standardization. For these reasons, additional private water companies, water districts, and sewer districts are not favored. Yet existing systems, regardless of ownership, typically provide safe drinking water (or, in the case of sewage, properly treated effluent) at a reasonable cost to users, and should be used where they are available.

Within a land use area (e.g., rural settlement), the specific location, size, and financial and technical feasibility of a proposed development would determine the appropriate water and sewage system.

9.4.2 Water and Sewer Systems

Water and sewer system improvement needs to handle anticipated growth are similar under all land use alternatives. It should be noted that current and future deficiencies for sewer facilities within Urban Growth Areas are not listed since the respective city or town's comprehensive plan should address these service issues and establish LOS. Where the cities or special purpose districts either cannot or will not address sewer service deficiencies, it may be necessary for another service provider to step in, to maintain equitable access to service within the UGAs. A

Comprehensive Sewer Plan for the urban areas of Yakima County will help establish service deficiencies and prospective means for their solution.

9.5 DOMESTIC WATER

9.5.1 Potable Water Supply

More people moving to newly-developed areas means more demand on the ground water supply. As new residents install individual or community wells or connect to existing systems that rely on ground water, concerns about available (legal and physical) ground water grow. Residents of the West Valley, Wenas, North Selah, and Terrace Heights areas have already voiced their concern about declining well production.

While the quality of ground water in Yakima County in generally excellent, high concentrations of iron and manganese affect the taste in some areas. Local land use impacts have degraded water quality in a few locations.

The Washington State Wellhead Protection Program, adopted in 1994, requires all Group A public water systems (those serving at least 15 connections or 25 people) to develop a wellhead protection program to prevent contamination of groundwater used for drinking. The systems must delineate wellhead protection areas, inventory potential contaminant sources, and manage wellhead protection areas to prevent pollution. The Washington State Department of Health is responsible for enforcement. Yakima County is one of eight purveyors in the Upper Valley and member of the Regional Wellhead Protection Committee (RWPC) through an interlocal agreement.

9.5.2 Satellite Management Agencies (SMA)

Satellite Management Agencies are authorized and approved entities by the Washington State Department of Health under WAC 246-295-001 and RCW 70.119A.060 to own and/or manage and operate public water systems. Group A is regulated by Chapter 246-290 WAC Public Water Supplies and Group B by Chapter 246-291 WAC Public Water Systems. Yakima County has five approved agencies to operate and manage public water systems (see Table 9.5.2-1).

Table 9.5.2-1 Washington State Department of Health - Yakima County Approved Satellite Management Agencies (SMA)	
1.	Evergreen Valley Utilities SMA #149
2.	Nob Hill Association SMA #109 - Limited Service Area: Within Nob Hill's Service Area Boundary
3.	Northwest Water Systems SMA #119
4.	Valley Water Services SMA #155
5.	Yakima County Public Works Department SMA #117 - Limited Service Area: All of Yakima County except incorporated areas, the Yakima Firing Center, and certain areas of the Yakama Indian Nation.
*Eligible Systems: Within the Urban Growth Area, systems with 3 or more connections. Outside the Urban Growth Area, systems with 5 or more connections.	
Source: Washington State Department of Health (DOH)	

9.5.3 County-Owned Water Supply Systems

9.5.3.1 Group A and B Water Supply Systems

Yakima County owns and operates four Group A and twenty-five Group B water systems (see Table 9.5.3.1-1). The County assumed the management and planning role for these systems. Maps 9.5.3-1, 9.5.3-2, 9.5.3-3, and 9.5.3-4 shows the locations of Group A systems. The inventory of the Group A Water Systems are outlined in Table 9.5.3.1-2. The location of Group B systems can be seen in Maps 9.5.3-5 and 9.5.3-6.

Table 9.5.3.1-1 Yakima County Water Systems (Group A and B)

Number of Systems	Group A Water Systems	Location	Existing Number of Customers	Maximum Number of Customers
1	Buena	Buena	145	160
2	Crewport	Crewport	48	60
3	Gala*	N. of Selah	37	44
4	Terrace Heights	Terrace Heights	1530	Unspecified
		Total	1760	
Number of Systems	Group B Water Systems	Location	Existing Number of Customers	Maximum Number of Customers
5	Beckon Ridge	W. of Selah	8	8
6	Bittner	Terrace Heights	1	4
7	Bonair	Buena	6	6
8	Buchanan	N. of Selah	8	8
9	Fairway Estates	S.E. of Sunnyside	10	12
10	Gibson	Wenas	6	6
11	Heysman	N. of Selah	8	8
12	Horizon View	Terrace Heights	0	8
13	Kodi South 1	N. of Selah	8	8
14	Kodi South 2	N. of Selah	8	8
15	Meadowbrook	W. of Union Gap	6	8
16	Nagler	N. of Selah	7	7
17	Norman	Terrace Heights	4	8
18	Oliver	Terrace Heights	1	4
19	Pleasant Hill	Selah	4	8
20	Raptor	Terrace Heights	0	6
21	Ray Symmonds	E. Selah	6	6
22	Speyers	N. of Selah	6	7
23	Star Crest	Terrace Heights	4	4
24	Stein Lower	West Valley	7	8
25	Stein Upper	West Valley	7	8
26	Wenas-Button	Wenas	4	4
27	Wenas-Huntzinger	Wenas	4	4
28	Wendt Road	Terrace Heights	1	8
29	Wiseacre	E. Selah	7	7
		Total	131	173

*Gala Water System will not be expanding.

Source: Yakima County Utilities Division

Table 9.5.3.1-2 Yakima County Group A Water Systems

System Feature	Buena	Terrace Heights	Gala Estates	Crewport
Number of Customers (Original)	102	Terraced Estates: 277 Country Club: 520	11	45
Date of Startup	(1986)	Terraced Estates: (4/1/91) Country Club: (1994)	(1995)	(3/12/01)
Current (5/20/16)	145	1530	37	48
Number of Wells	2	6	1	2
Gallons per year delivered	14 million	238 million	2.78 million	7.1 million
Distribution pipe	3.5 miles	31 miles	1.4 miles	5,025 feet
Estimated peak hour demand	260 gpm	2,450 gpm	12 gpm	36 gpm
Storage Capacity (in gallons)	157,000	Res. #1: 1,500,000 Res. #2: 60,000 Res. #3: 88,000	73,000	173,000
Current Level of Service				
Minimum Fire Flow	500 gpm for 30 min	Existing Residence: 500 gpm for 30 min New Residence: 1,000 gpm for 30 min Industrial area: 2,250 gpm for 60 min	Not required due to lot size	1000 gpm for 30 min
Minimum Pressure	30 psi	30 psi	30 psi	30 psi
Potential Number of Connections*	160	Unspecified	44	60
*Estimated based on existing water rights.				
Source: Buena, Terrace Heights, Gala Estates, and Crewport Water Systems Plans				

Washington State defines public water systems as all systems serving more than one single family residence. Group A systems serve 15 or more connections, or 25 or more people per day, for 60 or more days per year. Group B water systems are all the smaller systems that serve more than one single family residence but are not large enough to fit into the Group A category.

The state Department of Health (DOH) in Spokane maintains a comprehensive list of all community water systems for the counties in eastern Washington. Group A water systems are required to develop a water system plan to be approved by the DOH and updated every six or ten years. The purpose of a plan is to evaluate the water system facilities and operations, and to develop an improvement plan to meet future needs for 6 and 20-year planning periods.

The DOH list of water systems for Yakima County is summarized in Table 9.5.3.1-3.

Table 9.5.3.1-3 Yakima County Water Systems	
System Type	Number of Systems
Group A, Community, Residential, Unincorporated	78
Group A, Community, Incorporated	14
Group A, Non-transient, Non-community	31
Group A, Transient, Non-Community	72
Group B	741
Total Number of Listings	936

Source: Washington State Department of Health (DOH), <https://fortress.wa.gov/doh/eh/portal/odw/si/Intro.aspx>

Group A, Community, Residential, Unincorporated systems serve residences in unincorporated areas while Group A, Community, Incorporated systems serve incorporated areas. Group A, Transient and Non-transient, Non-community systems serve hotels and other businesses that cater to people who do not live permanently at the site. Transient systems serve operations that experience intermittent use such as campgrounds and other seasonal businesses. Non-transient systems include businesses and other operations serving nonresidents more than six months out of the year.

The first category listed includes those systems that are clearly distinguishable as residential and not associated with a city or town's water supply. The largest of these independent water systems is the Nob Hill Water Association.

State Health Regulations now require new public water systems serving three or more connections to be operated by a Satellite Management Agency, where one is available. The DOH has approved Nob Hill Water Association and Yakima County as SMAs.

9.5.3.2 Yakima County Water Resource Systems

On December 10, 2013, the Yakima County Board of Commissioners adopted Resolution 399-2013, "In the Matter of the Formation of the Yakima County Water Resource System" which required the Director of the Public Services Department to develop and organize a water system to address a County-wide rural-domestic water supply to be available to those who would otherwise rely on the "exempt" well strategy offered by RCW 90.44.050. As part of the initial development of the water resource system a technical report called, "Assessment of the Availability of Groundwater for Residential Development in the Rural Parts of Yakima County," was developed to provide an assessment of potential mitigation strategies for providing rural domestic water in Yakima County. The report identifies mitigation strategies for providing water for rural development, while avoiding impacts to flows in main stem reaches and tributaries. The two primary mitigation strategies are: a) the purchase of main stem surface water rights where they are available and identified, and b) the establishment of well depth standards consistent with the hydrologic connectivity between the groundwater body and the senior surface water rights obtained. There is strong emphasis on the development of wells depth standards in the tributary basins, and the purchase of senior water rights mostly in the main stem reaches. The

report identifies measures to mitigate domestic groundwater development on the vast majority of currently undeveloped rural residential parcels in Yakima County.

The Yakima County Water Resource System (YCWRS) was developed in accordance to the strategies identified in the report. All new rural domestic water users, prior to the land use approval or the issuance of a building permit must obtain a rural domestic water right certificate from the YCWRS (we need to also recognize that an applicant may have their own water right). The Yakima County Public Services Department is currently in negotiations for the purchase of senior surface water rights to provide at least a five-year supply of rural domestic water for anticipated rural domestic land development. As funds become available, YCWRS will continue to purchase the necessary senior water rights to adequately supply rural domestic water to rural land developers through the life of this plan. Details regarding the funding sources and operation of the YCWRS can be found in Yakima County Code Title 12.08 – Water System.

9.5.4 Independent Public Water System - Nob Hill Water Association

Nob Hill Water Association (Nob Hill Water) is an independent public water system that serves the West Yakima area with drinking water. Its system lies both within the corporate limits of the City of Yakima and in unincorporated Yakima County. Nob Hill Water currently has 11,326 service connections and serves a population of approximately 27,837 people. The Department of Health has approved Nob Hill Water for 11,951 connections, resulting in 625 Equivalent Residential Units (ERUs) additional connections available. Storage is currently the limiting factor. If storage capacity can be redistributed through the use of existing booster pumps, enhancements and operations (e.g. Pressure Reducing Valves (PRV's)), then source capacity will become the limiting factor instead. This would then increase the approved number of connections to 12,607. Nob Hill Water will also need to reduce their Distribution System Leakage (DSL), which consumes 2,381 ERUs, or construct new facilities for source, storage, etc., during the next couple of years in order to accommodate projected growth. The Nob Hill 2015-2035 planning period projects a population of 51,536 people and 22,226 ERUs.

Nob Hill Water was incorporated under the laws of the State of Washington on December 26, 1908 as a private non-profit organization. In 1983, it was converted from a private non-profit corporation to a (private non-profit) association.

Its initial source of water supply was the Pacific Power and Light Company which, at that time, owned the water system for the City of Yakima. In the 1940s, the City of Yakima took over ownership of the local water system from Pacific Power. Shortly thereafter, Nob Hill Water drilled its own well, becoming independent of the City of Yakima in 1946. Nob Hill Water has grown and expanded to become the largest private water system in the Yakima Valley except for the City of Yakima.

9.5.5 Existing Water Sources

The water supply for the Nob Hill Water Association comes from 5 wells (Map 9.5.5-1). Specific characteristics of each of the wells are detailed in Table 9.5.5-1.

Table 9.5.5-1 Nob Hill Water Supply Wells						
	Well 1	Well 2	Well 3	Well 4	Well 5	Well 7
Year Drilled	1945	1961	1970	1987	1985	1983
Static Level (feet)	160	166	392	277	0	50
Pumping Level (feet)	350	325	398	483	410	160
Pumping Capacity (gpm)	1,400	800	2,200	350	2,350	1,300
Horsepower	200	125	350	100	600	300
Type Pump	Turbine	Turbine	Turbine	Submerged	Turbine	Turbine
Well Depth (feet)	1,624	500	1,051	1,812	850	700
Treatment	Chl/Aer	Chl/Aer	Chl	Chl	Chl	Chl
Chl = Chlorination Aer = Aeration						
Source: Nob Hill Water System Plan						

The total production capacity from the six wells is 12,000 gallons per minute (gpm) or 17.28 million gallons per day (mgd). In 2002, a change in the original water rights certificate consolidated withdrawals from Wells 1 and 6 for a total capacity of 1,600 gpm or 980 acre-feet per year. However, Well 1 is primarily used to meet high summer demands and a backup source in the winter because of its hydrogen sulfide content. Well 6 is inactive and not necessary in backing up Well 1 as intended. When both wells are removed, the maximum capacity of Wells 2, 3, 4 and 5 is 10,400 gpm, 7,902 acre-feet per year, or 14.98 mgd, as indicated on an approved Department of Ecology 2003 change in application.

Water Association records show a daily per capita use of 144 gallons of water. Maximum day per capita usage was 302 gallons (2015 data). Peak day usage is typically higher in the summer than in the winter due primarily to local summer irrigation needs.

Storage for the system is provided by six reservoirs serving three distinct pressure zones. The reservoirs are located at four different sites, two of the sites containing two reservoirs each (see Table 9.5.5-2). Total storage is 4.23 million gallons. The distribution system comprises 165 miles of pipe.

Table 9.5.5-2 Nob Hill Water Reservoir Characteristics						
Characteristic	Minnesota Reservoir No. 1	Westbrook Reservoir No. 2	Minnesota Reservoir No. 3	Hayes Reservoir No. 4	Westbrook Reservoir No. 5	Barrett Reservoir No. 6
Location	56th Ave & Englewood Dr.	8001 Poplar View Way	56th Ave & Englewood Dr.	8403 Scenic Drive	8001 Poplar View Way	12900 Barrett Rd.
Status	Active	Active	Active	Active	Active	Active
Date Constructed	1947	1952	1955	1967	1974	1998
Storage Capacity (gallons)	150,000	276,400	1,000,000	1,000,000	803,100	1,000,000
Pressure Zone	Low	Low	Low	High	Low	Intermediate
Source: Nob Hill Water System Plan, 2015						

9.6 SEWER

9.6.1 County-Owned Sewer/Sanitation System

Most rural residents rely on-site septic tanks and drain fields for their waste water system needs. If residences are not served by a collection sewer, they're considered to be using an on-site system. All on-site systems in the County are permitted and regulated by the County Health District, which promulgates threshold standards for these systems.

Currently, the County-owned collection systems consist of the Buena, Fairway Estates, and Mtn. Shadows Sewer Systems. Maps 9.6.1-1, 9.6.1-2, and 9.6.1-3 shows the Yakima County Department of Public Works three systems.

Table 9.6.1-1 shows the location and current number of existing and maximum number of connections.

Table 9.6.1-1 Wastewater Systems			
Systems	Location	Existing Number of Customers	Maximum Number of Customers
Buena	Buena	282	390
Fairway Estates	S.E. of Sunnyside	10	12
Mtn. Shadows	West Valley	8	11
	Total	300	413

Source: Yakima County Utilities Division

Urban area residents receive sewer service either from a municipality, or in the greater Yakima Urban Area, from the regional wastewater system established under the three-party agreement between the cities of Yakima and Union Gap, and the Terrace Heights Sewer District. Service outside city limits may be provided subject to outside utility agreement (to annex) according to the jurisdiction's policies.

9.6.2 Sewer Districts

The two sewer districts in the County are the Cowiche Sewer District and Terrace Heights Sewer District. Together, they serve approximately 6,470 people in two distinct areas. In addition, the Port of Sunnyside owns and operates its own industrial sewer system. Details of these three systems are listed in Table 9.6.4-1.

9.6.3 Cowiche Sewer District

The Cowiche Sewer District (Map 9.6.3-1) was built in 2001 and came online the same year. Cowiche-Tieton Regional Wastewater Treatment Plant is owned and operated as a joint effort with both entities being involved in the building of the plant monetarily. The treatment plant also provides services to the city of Tieton through an interceptor line that runs down Summitview Road. The district currently has 142 connections in Cowiche and 435 connections in Tieton, all inclusive of commercial, industrial, and residential customers. The plant is at 35 percent capacity and estimated to reach capacity by 2040. The wastewater treatment plant consists of two sewage

ponds, four basins, and cooled by wetlands. Comprehensive land use planning for the sewer district is dependent on the County commissioners.

9.6.4 Terrace Heights Sewer District

Terrace Heights Sewer District (Map 9.6.4-1), serves about 2,500 units with a collection system that discharges to the city of Yakima collection system and treatment plant. The system was built in 1953 and is under continuous expansion as new residents move to the area. The system's current service level is 2,700 equivalent residential units (ERUs). One ERU = 760 Cubic feet/month. Improvements to the system completed in 2008 include a new lift station and pipeline that will last 50 years.

Table 9.6.4-1 Sewage Collection and Treatment

Agency	Population Served	Average, Annual Flow (mgd)	Treatment	Discharge
Cowiche S.D.	1,470	0.144	WWTP Lagoon	North Fork Cowiche Creek
Terrace Heights S.D.	5,000±	0.6	Yakima WWTP	Yakima R.
Port of Sunnyside	NA ¹	2	Aerated Lagoon, Anaerobic Lagoon, & Sequencing Batch Reactors	Surface Water & Land Application
<i>Note: 1 - Industrial Wastewater only</i>				
Source: Cowiche Sewer District, Terrace Heights Sewer District, and Port of Sunnyside				

The three-party agreement between Yakima, Union Gap and the Terrace Heights Sewer District coordinates sewer services among the jurisdictions. Moxee has a separate agreement with Terrace Heights and limits the amount of sewage both can dispose of at the regional wastewater treatment plant to 4 percent of the capacity of the treatment plant (currently 850,000 gpd). Terrace Heights Sewer District is well within capacity averaging 600,000 gallons per day. No further improvements will be needed. A new pipeline and lift station was just installed and will last until 2080.

9.6.5 Port of Sunnyside

The Port of Sunnyside owns and operates an industrial wastewater treatment system serving the industrial facilities within the city of Sunnyside. The industries are primarily food processing industries. The largest industry discharging to the Port treatment works is a dairy processor producing cheese, whey powder, and infant formula. Other industries are primarily fruit and vegetable processors. The treatment system consists of two aerated lagoons, one anaerobic lagoon, two sequencing batch reactors, a storage lagoon, and a land application system. The total capacity of the storage lagoon is nearly 150 million gallons. The Port has a National Pollutant Discharge Elimination System (NPDES) permit which allows the treatment plant to discharge treated effluent both to surface water and to its land application system. In 2016, the Washington State Department of Ecology approved capacity of the treatment works is 2.0 million gallons per day.

9.7 SOLID WASTE SYSTEM

Yakima County owns and operates the Terrace Heights Landfill and Transfer Station; Cheyne Road Landfill and Transfer Station; and Lower Valley Transfer Station. The Anderson Limited Purpose Landfill and Caton Limited Purpose Landfills are privately-owned and operated, and are open to the public. The Yakima Waste Systems transfer station is also a privately-owned facility which serves self-haulers primarily from the Yakama Nation and vicinity. Yakima Training Center Limited Purpose Landfill operates a facility restricted to military use only. Map 9.7-1 provides the location and county service areas.

The County's solid waste system is a countywide, coordinated effort. The County and all the incorporated cities work together through a Solid Waste Interlocal Agreement. The County's service area includes all incorporated cities and the unincorporated area outside the Yakama Indian Reservation, the U.S. Military installation, and the Wenatchee and Snoqualmie National Forests.

State law has directed the County's solid waste programs. Yakima County's Solid Waste and Moderate Risk Waste Management Plan (Plan) is the guiding document that provides the details required by RCW 36.70A.070 (4) and WAC 365-196-420. The goals of the Plan seek to achieve convenient and reliable services; promote innovative and economical waste handling; and reduce environmental impacts associated with disposal and illegal dumping. The plan recognizes **Horizon 2040** as the policy framework for development and seeks consistency to incorporate policies. The Plan addresses the challenges with waste management through alternatives, while maintaining a list of implementation status of recommendations from previous solid waste management plan(s).

9.7.1 Collection System

Table 9.7.1-1 shows the collection services for all the municipalities in the County. In Yakima County, four of the 14 municipalities operate their own garbage collection systems. City, Basin Disposal Inc., and Yakima Waste Systems collect both residential and commercial waste. Commercial accounts in the City of Yakima are collected by Yakima Waste Systems.

Table 9.7.1-1 Yakima County SWMP Collection Services in Incorporated Areas		
Incorporated Areas	Collection Service	Mandatory Service
Grandview	City	Yes
Granger	City	Yes
Harrah	Yakima Waste Systems	Yes
Mabton	Yakima Waste Systems	Yes
Moxee	Basin Disposal Inc.	Yes
Naches	Yakima Waste Systems	Yes
Selah	Basin Disposal Inc.	Yes
Sunnyside	Yakima Waste Systems	Yes
Tieton	Yakima Waste Systems	Yes
Toppenish	City	Yes
Union Gap	Basin Disposal Inc.	Yes
Wapato	Basin Disposal Inc.	Yes
Yakima	City, Yakima Waste Systems	Yes
Zillah	Yakima Waste Systems	Yes
Unincorporated Areas	Basin Disposal Inc., Yakima Waste Systems	No

Source: Yakima County Solid and Moderate Risk Waste Management Plan, 2010

Residents living in the County's unincorporated areas are served by three garbage haulers: Basin Disposal LLC, Rabanco, and Yakima Waste Systems, Inc. Each hauler is certified by the Washington Utilities and Transportation Commission (WUTC).

According to the Yakima County Solid Waste Division, the Terrace Heights Landfill will reach capacity in 2027 and will then be closed. It will remain open as a transfer station to take in hazardous waste and recycling to be transferred to the Cheyne Landfill & Transfer Station. The permitted capacity of Cheyne is projected to the year 2053.

9.8 WATER, SEWER, AND SOLID WASTE LEVELS OF SERVICE

The purpose of LOS standards is to adequately serve both current and future residents without compromising the service they receive.

Levels of service (LOS) are established for the following Yakima County owned and operated utilities:

- Buena, Crewport, Gala, and Terrace Heights water systems;
- Buena, Fairway Estates, and Mtn. Shadows sewer systems;
- Potential future satellite water and sewer systems; and
- County-wide solid waste system.

9.8.1 Existing County Water, Sewer, and Solid Waste Facilities

LOS standards focus on present needs and future growth. The first step is to study the capacity of existing facilities and assess the need for facility improvements in order to accommodate growth. This is accomplished through capacity analysis, which estimates the number of years before improvement is required.

This approach is well suited to the County's water, wastewater, and solid waste utilities since they must already meet specific and stringent federal, state, and local standards for service, capacity and development. It also addresses the County's on-site septic systems, which are considered a type of wastewater facility. Capacity LOS for water and wastewater facilities rates the unused capacity of each system component, using an A-through-F rating system, where the A-level rating indicates a large amount of unused capacity (see Tables 9.8.1-1 and 9.8.1-2).

Table 9.8.1-1 Percent of Capacity (Operation) LOS for Water System Facilities

System Element	Parameter Defining LOS	Definition of Letter Rating (Percent of Capacity Used)					
		A	B	C	D	E	F
Supply Wells	Total Supply Capacity	0-20	21-40	41-60	61-84	85-100	>100
Pump Stations	Peak Pumping Rate	0-20	21-40	41-60	61-84	85-100	>100
Pipelines	Peak Flow Rate	0-20	21-40	41-60	61-84	85-100	>100
Reservoirs	Total Capacity	0-20	21-40	41-60	61-84	85-100	>100
Water Treatment Facilities	Treatment Capacity	0-20	21-40	41-60	61-84	85-100	>100

Table 9.8.1-2 Percent of Capacity (Operation) LOS for Wastewater Treatment Facilities

		A	B	C	D	E	F
Pipelines	Peak Flow Rate	0-20	21-40	41-60	61-84	85-100	>100
Pump Stations	Peak Pumping Rate	0-20	21-40	41-60	61-84	85-100	>100
Wastewater Treatment Facilities/Liquid Stream	Hydraulic Loading or Organic Loading (whichever is limiting)	0-20	21-40	41-60	61-84	85-100	>100
Wastewater Treatment Facilities/Solid Stream	Hydraulic Loading or Solids Loading (whichever is limiting)	0-20	21-40	41-60	61-84	85-100	>100

The capacity LOS for solid waste facilities (see Table 9.8.1-3) examines the availability of different system components. For example, how available are landfill sites, transfer stations, and recycling facilities? What are the collection days for waste pickup? Another important consideration is the geographical distribution of facilities. Future additional transfer stations, for instance, need to be sited near population center where they are needed. Appropriate siting is an important part of capacity LOS and future development of facilities.

Table 9.8.1-3 LOS Standards for Solid Waste Management Facilities and Services

Facility/Service	Letter Rating for LOS		
	A	B	C
Regional Landfills (Number of Facilities)	2	1	0
Regional Limited Purpose Landfills (Number of Facilities)	2	0	0
Regional Transfer Station (Number of Facilities)	4	1	0
Garbage Pickup (Pickup Days Per Month)	20	2	1
Curbside Recycling Pickup (Pickup Days Per Month)	10	2	1
Rural Recycling Centers (Number of Facilities)	4	0	0

Source: Yakima County Solid Waste Division

9.8.2 Future Satellite Wastewater and Water Systems

Under **Horizon 2040**, LOS standards must be adopted for future satellite systems that the County will manage. YCC, Title 19, Tables 19.25-1 Water and 19.25-2 Sewer provides the system options in order of priority for the zoning and number of lots/connections. All systems will be required to meet established County and state standards for design, construction, and performance. Water systems will be subject to State Health SMA requirements.

9.8.3 LOS Thresholds

Establishing LOS thresholds means that a base standard is applied to each County system. These thresholds provide the standards against which existing and new systems can be evaluated. System evaluations identify deficiencies, which can be remedied with facility upgrades or new construction. Assessing each system's needs will lead to realistic recommendations for necessary improvements. Then these improvement needs will be incorporated into the finance portion of this element.

9.8.4 Water and Sewer Facilities

Thresholds for both water and sewer facilities were established to identify deficiencies in the system that must be corrected in order to meet Growth Management Act requirements (see Table 9.8.4-1). These standards represent the proposed level of service the County would provide to residents for each type of facility. A facility with an LOS rating worse than the threshold is considered deficient and in need of improvement.

Table 9.8.4-1 Thresholds LOS for Water and Sewer/Sanitary Facilities	
Type of Water Facility	Percent-of-Capacity LOS
Supply Wells	D
Pump Stations	D
Pipelines	D
Reservoirs	D
Water Treatment Facilities	E
Type of Sewer Facility	Percent-of-Capacity LOS
Pipelines	D
Pump Stations	D
Wastewater Treatment facilities – Liquids Stream	E
Wastewater Treatment facilities – Solids Stream	E

These threshold LOS standards are to be applied to the existing systems and to future system growth anticipated under each land use alternative for the years 2015 and 2040 in order to identify facility needs.

9.8.5 Solid Waste Facilities

Thresholds for solid waste facilities are shown in Table 9.8.5-1. LOS threshold standards are used to identify deficiencies in the system that must be corrected to meet Growth Management Act requirements. Future solid waste facility upgrades will be based on the LOS ratings thresholds established in this section.

Table 9.8.5-1 Threshold LOS for the Solid Waste System	
Facility	LOS
Regional Landfills	B
Regional Transfer Stations	B
Garbage Pickup	B
Curbside Recycling Pickup	B
Rural Recycling Centers	B

9.9 IRRIGATION

The Yakima Project is an irrigation system that uses water developed by the Bureau of Reclamation to irrigate about 464,000 acres of land extending 175 miles along both sides of the Yakima River. The Yakima Project consists of an extensive system of reservoirs, canals and laterals, five diversion dams, three hydroelectric power plants, transmission lines, and pumping plants, which supply irrigation water for most of the irrigated land in the Yakima River Basin. Over 90% of the harvested cropland is located in Yakima County and Kittitas County, about half of Benton County, and a small area in Klickitat County.

Within Yakima County the Yakima Project is divided by Union Gap into upper and lower planning areas. As reported by the Bureau of Reclamation, the Yakima Project: consists of the Tieton, Roza, Sunnyside, and Wapato Irrigation Divisions. Private interests not included with the four Divisions contract their services with the Bureau of Reclamation. Private interests not included with the four Divisions contract their services with the Bureau of Reclamation. Irrigation Districts are governed by RCW Title 87. The Storage Division has supervision over the entire Yakima River water supply, both natural riverflow and the stored water in six reservoirs. The reservoirs have a total active capacity of 1,065,400 acre-feet. Map 9.9-1 provides the locations and service areas of Yakima County Irrigation Districts.

9.9.1 Upper Yakima Planning Area

The Tieton Division is west of Yakima between the Naches River and Ahtanum Creek and covers 28,000 acres. Irrigation waters for the district are diverted from the Tieton River via the Tieton Diversion Dam (a concrete weir, five feet high with an embankment wing, eight miles downstream from Rimrock Lake), and Tieton Canal (capacity 347 cubic feet per second). The Tieton division and its facilities are operated by the Yakima-Tieton Irrigation District.

Other irrigation districts within the Upper Yakima Planning Area include the Naches-Selah, Moxee-Selah, Terrace Heights, Union Gap, and city of Yakima. There are two irrigation districts in this area which are not part of the Yakima Project: the Wenas and Ahtanum Districts.

9.9.2 Lower Yakima Planning Area

The Lower Yakima Area is south of Union Gap and is heavily agricultural. It consists of Wapato, Sunnyside, and Roza Divisions. *Wapato Division* is the largest project operated by the Bureau of Indian Affairs. It receives its water supply from the Yakima Project and irrigates more than 136,000 acres. Its service area is in the Lower Valley West of Interstate 82 from Parker to

Highway 240 on the Yakama Reservation, covering more land west of U.S. Route 97 and State Route 22. The following details for Sunnyside and Roza irrigation divisions were assembled from the Bureau of Reclamation website for the Yakima Project – Lower Yakima Planning area.

The *Sunnyside Division* consists of 103,000 acres north of the Yakima River, extending from the Sunnyside Diversion Dam, a concrete weir near Parker (eight feet high with an embankment wing) and flows through the Sunnyside Canal to the vicinity of Benton City. Four irrigation districts in the Sunnyside Division pump water to their lands by hydraulic turbine pumps at drops along the canal. The Sunnyside Division and its facilities are operated by the Sunnyside Valley Irrigation District.

The *Roza Division* spans 72,500 acres north of the Yakima River, from Pomona to Benton City. The distribution system is supplied by the Roza Canal (capacity 2,200 cubic feet per second), which originates at the Roza Diversion Dam (a concrete weir, movable crest structure that is 67 feet high) on the Yakima River about ten miles north of Yakima. The Roza Power plant develops and delivers 12,937 kilowatts of power to pumping plants within the division along 70 miles of transmission lines. The Roza Division and its facilities are operated by the Roza Irrigation District. The other district within the Division is Buena.

9.9.3 Irrigation Water

The demand for irrigation water continues to grow. The need for irrigation water is likely to continue even when some land converts to non-agricultural uses. Gardens and lawns will also require water. Irrigation districts must be notified of proposed subdivisions, and the subdivision plat must be recorded and filed with the district, showing how the water is to be delivered to the irrigable acres in the subdivision. Under state law, an irrigation district must review each proposed subdivision within its boundaries. The district can require an internal distribution system as a condition of approval. The district must approve extensions of service to subdivided units, and can require the extensions of service to subdivided lots at the landowner's expense. The irrigation district's responsibility for delivering water ends at the established point of delivery.

If a farm is subdivided within an irrigation district, the developer must show how the water is to be delivered to the irrigable acres in the subdivision (as per RCW 58.17.310). Extensions of service to subdivided units are at the landowner's expense. The district's responsibility ends at the established point of delivery. The Project is not responsible for operation and maintenance of systems to serve the subdivided properties (see 25 CFR Ch. I, 171.6). While some of the County's irrigation districts have policies requiring the developer to install an internal irrigation water distribution system to serve the new parcels, others do not.

9.9.4 Irrigation Districts

The Yakima County Treasurer's office provides billing services for 16 irrigation districts in the County (Table 9.9.4-1). Other districts provide their own billing services.

Table 9.9.4-1 Yakima County Irrigation Districts
Ahtanum Irrigation District*
Buena Irrigation District*
Naches/Selah Irrigation District*
Naches Union Irrigation District*
Roza Irrigation District
Selah & Moxee Irrigation District*
South Naches Irrigation District*
Sunnyside Valley Irrigation District
Terrace Heights Irrigation District*
Union Gap Irrigation District*
Wenas Irrigation District*
Yakama Reservation Irrigation District*
Yakima City Irrigation
Yakima-Tieton Irrigation District
Zillah Irrigation District*
*County Treasurer provides billing service.
Source: Yakima County Treasurer & Utilities

9.10 ELECTRICAL

Yakima County's electricity is provided by Pacific Power & Light Company (PP&L), the Benton Rural Electric Association (Benton REA), and Yakama Power (see Map 9.10-1). These utilities are part of a regional power system. PP&L and Benton REA continually research means to expand supply and upgrade equipment since the law requires utilities to service all customers requesting service. Both power companies have a territorial agreement that minimizes duplication of service areas and promotes coordination of line extensions, looping of facilities, and other facility improvements.

System planners for utilities design and build their systems to follow population and employment growth projections based on County and city plans. The electricity load is determined from these plans and projections. An electric system plan is then developed to serve those loads at the reliability level prescribed by the individual utility, taking into account environmental, economic, financial, and operational factors. Utility construction is coordinated with the appropriate jurisdictions and agencies and is typically phased in as actual growth occurs.

Future electrical service plans are not only designed to provide for future growth and accommodate new and increased load. They also include changes to the existing systems to improve reliability, power quality, and looping of the system for redundancy backup service.

9.10.1 Pacific Power and Light Company (PP&L)

Most of Yakima County is served by Pacific Power & Light. PP&L builds, upgrades, operates, and maintains the electrical system serving approximately 105,500 accounts throughout the greater Yakima Valley area. The electrical utility has a very well developed backbone transmission system with major load centers near Grandview, Sunnyside, Toppenish, Wapato, Wiley Area, Tieton-Cowiche, Naches, Selah, Wenas, and White Swan.

Electric power reaches the Yakima Valley via five transmission lines, three supplying 230,000 volts each and two providing 115,000 volts each. The three large services are connected to Wanapum Dam on the Columbia River, the Bonneville Power Administration's (BPA's) Midway substation near Priest Rapids Dam on the Columbia River and BPA's Outlook substation northwest of Sunnyside. The two smaller transmission lines are connected to BPA's substations at Moxee and Grandview.

These transmission lines form an interconnected open access network across the western states. Consequently, Yakima County customers have access to Pacific Power's powered generation plants in Washington, Oregon, California, Wyoming, Utah and Montana. In addition, the network provides a connection to over 50 other electrical purveyors allowing exchanges of power, if the need arises.

The utility takes a proactive approach to system capacity, developing its system in anticipation of eventual growth. PP&L is very supportive of economic growth and diversification and tries to avoid being an impediment to the area's economic growth and vitality. Existing facilities place no restrictions on normal residential, commercial or industrial growth, and major industries and institutions can be readily accommodated. While the utility has an abundant supply of energy, its demand-side resource management policy encourages conservation to assure continued availability of power to accommodate new growth and keep the cost low.

Transmission for a 115,000-volt system can be accommodated on a single pole structure that uses the road right-of-way. A substation capable of serving 10,000 residential customers typically requires no more than 2 acres, and is compatible with most adjacent land uses.

9.10.2 Benton Rural Electric Association (Benton REA)

Benton Rural Electric Association provides electrical service to commercial/industrial users and residences in Yakima County. Its service is concentrated in the Lower Yakima Valley, south of Union Gap, although it draws some of its power from the Tieton Reservoir, northwest of Yakima. Benton REA service extends east to the Richland area in Benton County. Benton REA mainly serves the rural and the outskirts of cities.

9.10.3 Yakama Power

The following information comes directly from the Yakama Power website. Yakama Power is owned and operated by the Yakama Nation. Electrical services are only provided on the Yakama Reservation. The Wapato Irrigation Project is the renewable energy source between Drop 2 and

3 with three generators that have the capacity to produce 4.2 MW. Between them all 1000Kw=1MW is produced. 1MW of electricity can supply energy to power 1000 homes.

Yakama Power's overall mission is to provide employment with a local workforce, training, and eventually affordable and reliable electrical energy throughout the entire reservation. Growth and expansion of Yakama Power is dependent upon the qualifications of their employees. Yakama Power took on its first prospective customer, Legends Casino, on March 24, 2006.

The system's capacity can deliver 16 million kilowatts of electricity or power 700 homes for one year, which makes it 7th out of eight Tribal Utilities in the United States. The approximate average usage is 4 megawatts. Yakima Power is at the final stage of providing retail electricity to retail, commercial, and industrial end users. Other renewable energy sources the Tribe are pursuing include solar, woody biomass, hydroelectric, wind, and geothermal.

The existing infrastructure consists of over 25,000 feet of underground conduit and vaults installed at the Tribal Campus. The purchases of existing utilities infrastructure will provide initial service in Toppenish. New distribution lines will be built to adjacent sovereign loads in White Swan and Wapato.

9.11 NATURAL GAS

Yakima County is served by two natural gas companies, Northwest Pipeline (NWP) and Cascade Natural Gas (CNG).

9.11.1 Northwest Pipeline

Williams Northwest Pipeline LLC is a natural gas transmission company which wholesales gas to local distribution companies. It owns and operates main feeder lines in Grandview, Sunnyside, Zillah, Moxee, Yakima, Selah, and the Yakima Training Center. Its major customer in Yakima County is Cascade Natural Gas. Occasionally, Northwest Pipeline receives a request from a private industrial operation for a direct hook-up to their network. After Northwest Pipeline provides a cost estimate for the construction of the pipeline, valves, and other facilities necessary to deliver gas to the industry requesting service, the industry can decide whether the cost savings of direct supply will offset the cost of the hook-up improvements. In the future, however, applicants may have to fund all necessary improvements. Granting of future or pending requests may be contingent upon the grantee funding all necessary improvements.

9.11.2 Cascade Natural Gas

Cascade Natural Gas (CNG) is an investor-owned utility serving customers in sixteen counties within the State of Washington. This section describes CNG's existing system within Yakima County.

Washington, Oregon, and Idaho receive natural gas from the southwestern United States and Canada. Natural gas is applied to the entire region via two interstate pipeline systems, Pacific Gas

Transmission Company and Northwest Pipeline Corporation. Both own and operate their respective regional pipeline networks.

System components include gate stations high pressure lines, pressure reduction stations and distribution mains. The gate station is the delivery point of natural gas from the upstream interstate pipeline to CNG's system. Gate stations normally include metering stations, odorizing stations and pressure reduction stations. High pressure lines transport gas to district regulators throughout CNG's service area. High pressure line mains may vary in size from 2 to 20 inches and in pressure from 150 to 600 pounds per square inch. Pressure reduction stations are installed at the point of delivery of natural gas from the high-pressure lines to the lower pressure distribution systems. Distribution system mains vary in size from 2 to 16 inches.

Cascade Natural Gas serves areas along I-82 and most of the cities in Yakima County. The natural gas supply system meets existing demands of residential, commercial, and public customers. CNG builds, operates, and maintains natural gas facilities serving Yakima County. CNG should be consulted for any proposed development that will require natural gas. The developer should not assume that service is available without checking with the local utility. CNG will build to any customer in its service area that meets the criteria in its financial feasibility formula. Additional customers can be served if they are willing to contribute to the cost of extending the lines. If additional customers connect to the same main, part of the contribution may be reimbursed. The utility that wants to serve development outside its service area must apply for a "certificate of convenience" from the Public Utilities Commission.

To accommodate future demand, the maximum capacity of the existing distribution system can be increased as required by one or more of the following:

- Increasing distribution and supply pressures in existing lines
- Adding new distribution and supply mains for reinforcement
- Increasing existing distribution system capacity by replacement with larger sized mains.
- Adding district regulators from supply mains to provide additional intermediate pressure gas sources to meet the needs of new development.

Future utility needs should be anticipated and planned for in advance. Yet connection to CNG's distribution system is driven by demand. This means that connections cannot be planned in advance. New customer hookups to the distribution system is governed by CNG's tariffs as filed with and approved by the WUTC.

Developers should consult Cascade Natural Gas if their proposed development will require natural gas. The developer should not automatically assume that service is available without checking. CNG will build to any customer in its service area provided they meet its financial feasibility formula criteria. CNG will serve other customers if they are willing to contribute to the cost of extending the lines. Those contributions may be refundable; if additional customers connect to the same main, part of the contribution may be reimbursed. To serve development outside its

service area, the utility will apply for a “certificate of convenience” from the Public Utilities Commission to include the area within its service area, if the proposed development meets the financial feasibility criteria.

9.12 TELECOMMUNICATIONS

The rapidly changing telecommunications industry has transformed the way service is delivered. Cellular and fiber optics are blurring the distinctions that separate data, video and voice technologies. As a result, assessing the future configuration of telecommunications service is very different.

Telecommunications is the transmission of information by wire, radio, fiber optics, electromagnetic or other similar means. In Yakima County, telecommunication utilities include, telephone, cellular telephone, satellite and cable television.

9.12.1 Telephone

The telephone exchange companies serving Yakima County that are registered and regulated by the Washington Utilities and Transportation Commission (WA UTC) include the Ellensburg Telephone Company, Frontier Communications Northwest, Inc., CenturyTel of Cowiche, Inc. – d/b/a CenturyLink, CenturyTel of Washington – d/b/a, CenturyLink, Qwest Corporation – d/b/a CenturyLink QC, and United Telephone Company of the Northwest (see Map 9.10-1). Telecommunication services delivery doesn’t always coincide with the exact location of customers. As a result, many of the telecommunication facilities are co-located with those of the electrical power provider.

Non-regulated services consist of cable, internet, wireless phones, and Voice over Internet Protocol (VoIP). Most if not all telecommunications companies also provide internet services. Many public areas offer access to free or paid Wi-Fi hotspots for laptops, personal devices or cell phones. People have become linked to the devices which require the constant exchange of electronic data whether for business, education, or pleasure.

9.12.2 Cellular Telephone

Yakima County is now served by a variety of wireless communication service providers including, but not limited to U.S. Cellular, AT&T, Sprint, T-Mobile, and Verizon. Cellular telephone companies are regulated by the Federal Communications Commissions (FCC) because they use radio signals rather than lines for communications. Siting and design of towers are regulated by the Federal Aviation Administration (FAA). Wireless Telecommunications technology and expanded FCC licensing will result in significant changes in this service over the life of **Horizon 2040**.

Cellular telephones require a network of receivers such as a cell site or wireless communication facility. Cell sites are placed on tall poles, lattice-type towers, or existing buildings. The County currently has 118 wireless communication facilities, with multiple carriers per facility. As the

demand for wireless service increases and as development moves to more remote areas of the County more wireless facilities are to be expected. Local residents sometimes object to cell sites in their neighborhoods. If siting is a problem, it may be worth considering using the special process developed for siting Essential Public Facilities. Local governments provide input to the siting process through their approval and conditioning responsibilities within their jurisdictions. Siting issues are expected. Siting and design of towers is regulated by the Federal Aviation Administration (FAA) and local zoning authority.

Each cell site has a coverage area of several miles, depending on topography and number of customers. As the cellular telephone user moves from one cell to the next, the call is passed to an open channel at an adjacent cell site. Transmission quality and dialing of cellular telephones are comparable to that of conventional wireline telephones.

9.12.3 Cable Television

Charter Communications serves the Yakima region. Cable generally follows electrical and telephone lines. Only easements are needed, and are not usually a problem. Anyone within 200 feet of the cable can hook up; otherwise, there would be an additional charge to the customer.

Wireless cable is regulated by the FCC, and does not come under local regulation since it does not use public rights-of-way. Direct TV (a subsidiary of AT&T) and DISH Network are the two satellite cable providers for the county and a great choice for rural internet. Satellite cable is virtually available everywhere if customers have a clear view of the southern sky.

9.13 UTILITIES GOALS AND POLICIES

The goals and policies listed in this element pertain to Yakima County, such as: Yakima County as a whole, City of Yakima's UGA including West Valley. The goals and policies are identified as follows:

- County-wide Utilities Goals and Policies – UT X.XX
- Yakima UGA Urban Land Use Goals and Policies – YKUT-U X.XX
- West Valley Neighborhood Plan – ^{WNVP}

GENERAL UTILITY:

PURPOSE STATEMENT UT 1

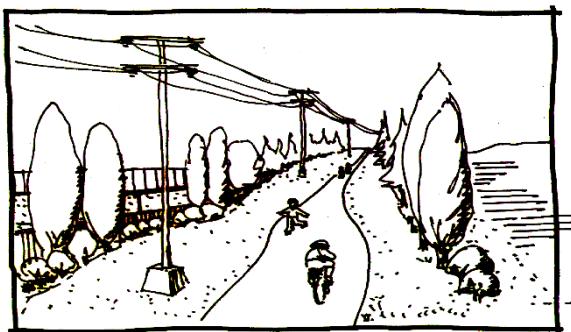
The County must plan for the utility and land use needs in a consistent manner, to ensure that growth occurs in areas which can be served by necessary utilities. This requires coordination with service providers for the location and timing of utility installation. This goal and its policies define how the coordination should take place.

GOAL UT 1:	Ensure that necessary and adequate utilities are provided to all development in Yakima County in a cost effective manner consistent with <i>Horizon 2040</i>.
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POLICIES:	
UT 1.1	Adopt and implement separate utility level of service standards for urban and rural areas.
UT 1.2	Ensure consistency of utility elements and utility plans by coordinating plans among adjacent jurisdictions.
UT 1.3	Develop interlocal agreements to coordinate procedures and standards in urban growth areas.
UT 1.4	Develop a coordinated process for siting regional utility facilities in a timely manner.
UT 1.5	Consult with service providers as part of the process of identifying land useful for future planned development and for the sharing of utility corridors.
UT 1.6	Coordinate the installation of utility facilities among utility service providers and with other infrastructure providers.
UT 1.7	Provide the private utilities with up-to-date County planning materials such as land use categories, population forecasts, etc. so that their utility delivery plans are accurate.

PURPOSE STATEMENT UT 2

Utility corridors, especially above-ground utilities, can have an impact on the natural environment. Camouflaging or screening utility structures and opening up utility corridors for trail or other recreational use can lessen the utilities' visual and physical impact on the natural environment. This goal and its policies describe steps that can be taken to lessen the impact of utilities.

GOAL UT 2:	Reasonably protect the physical and natural environment while providing utilities.
POLICIES:	
UT 2.1	Whenever possible, utility corridors should be made available for recreational use when such use does not negatively impact adjacent land uses and does not pose a public health or safety hazard, or result in property damage on adjacent lands.
	
<p>Figure 9.13-1 Recreational Use in a Utility Corridor. (UT 2.1)</p>	
UT 2.2	Encourage private utility structures (e.g., electric substations) to have design and screening that is compatible in bulk and scale with surrounding land uses.

UT 2.3	Assist and facilitate the siting of linear transmission facilities and utility-related infrastructure in a manner consistent with Horizon 2040 through land use planning and development review policies and procedures.
UT 2.4	Encourage energy resource development in locations within Yakima County that take advantage of the County's energy resources, existing infrastructure, and also are sited to minimize environmental impacts.
UT 2.5	Consider low impact development and other appropriate "green" building standards and guidelines to comprehensively address design elements such as transportation and storm water management utility infrastructure, in order to reduce costs and retain natural hydrology and processes, using appropriate techniques such as limiting impervious surfaces, clustering, and preserving open spaces and forests.

PURPOSE STATEMENT UT 3

Utility services are costly to the community. To the extent that location and timing of utility service installation can be coordinated, the community will save on the cost of utility provision. This goal and its policies suggest coordination methods that may be cost effective over the long term.

GOAL UT 3:	Ensure cost effective provision of utility services.
POLICIES:	
UT 3.1	Utility services should be provided in accordance with approved utility comprehensive plans that are consistent with future population projections and the preferred land use categories defined by Horizon 2040 .
UT 3.2	Solicit community input prior to county approval of private utility facilities which may significantly impact the surrounding community.
UT 3.3	Support electricity, natural gas, and water efficiency programs that include quantitative objectives for reducing energy and water consumption, specific programs to achieve objectives (including regular audits of facilities), a time schedule for implementation, identification of responsible departments, energy accounting, and identified sources of funding.
UT 3.4	Require timely and effective notification of interested utilities of road construction projects, and of maintenance and upgrades of existing roads to facilitate coordination of public and private utility trenching activities.
UT 3.5	Require that utility permits be considered simultaneously with the proposals requesting service and, when possible, approval of utility permits when the project to be served is approved.
UT 3.6	Preserve right-of-way needed for irrigation system maintenance.

WATER SUPPLY AND SEWAGE DISPOSAL:**PURPOSE STATEMENT UT 4**

Horizon 2040 should define where water and sewer systems are appropriate.

GOAL UT 4:	Ensure that water supply and sewage disposal facilities throughout the County support the desired land use, and are consistent with other goals, policies and objectives of <i>Horizon 2040</i> .
POLICIES:	
UT 4.1	Follow the guidance in YCC, Title 19, Tables 19.25-1 Water and 19.25.2 Sewer to ensure that the level of water and sewer service is appropriate and consistent with the land use goals and policies for each area of the County
UT 4.2	Specific physical location and site suitability should determine which of the "required" water and sewer utilities listed in YCC Title 19, Tables 19.25-1 Water and 19.25-2 Sewer is the most appropriate.
UT 4.3	Utilities for master planned resorts and new communities should be consistent with the guidance in YCC, Title 19, Tables 19.25-1 Water and 19.25-2 Sewer for the zoning designations in which they are located.
UT 4.4	Existing water companies, water districts, and sewer districts should be used if they have capacity to serve.

PURPOSE STATEMENT UT 5

These policies develop guidelines to promote a checks and balances system while encouraging efficient water use and water resource planning.

GOAL UT 5:	Ensure that future development does not exceed the available amount of raw water.
POLICIES:	
UT 5.1	Encourage water resource planning to promote more efficient management of both ground and surface water resources.
UT 5.2	Develop specific guidelines for determining the adequacy of water supplies proposed to serve new parcels and new structures and uses on existing parcels.
UT 5.3	In conjunction with the irrigation districts, evaluate the implications of the use of irrigation water for residential landscaping.
UT 5.4	File on unappropriated water rights within urban growth and transitional areas.
UT 5.5	Develop a water resource system that addresses the need for domestic water for development in unincorporated Yakima County that meets the water availability requirements of state law.

PURPOSE STATEMENT UT 6

Rural area residents depend on groundwater as their source of drinking water. Groundwater contamination is a major concern in the County. The purpose of this section is to minimize the risk to groundwater for new development, and to identify and mitigate existing threats to the quality of groundwater.

GOAL UT 6:	Protect the quality of groundwater used for domestic water supplies.
POLICIES:	
UT 6.1	Develop existing regulations regarding well construction standards

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UT 6.2	Implement a long-term groundwater quantity and quality monitoring program for basins that provide domestic water supplies.
UT 6.3	Minimize impacts of development and agricultural practices on groundwater supplies.
UT 6.4	Maintain and enforce a wellhead protection program.

PURPOSE STATEMENT UT 7

The city of Yakima takes most of its drinking water from the Naches River, just below the town of Naches. To protect this important source of drinking water, Yakima County should ensure that land use in the Naches and Tieton watersheds does not impact water quality in the tributaries that drain into the Naches River.

GOAL UT 7:	Protect the quality of surface water used for potable water supply.
POLICIES:	
UT 7.1	Support cooperation with other governmental agencies in conducting source identification studies in the Lower Naches River watershed (all lands draining into the Naches River below the confluence with the Tieton River) to determine the cause of elevated pH levels and water temperature.
UT 7.2	Encourage the use of best management practices in the Lower Naches River watershed, especially those targeted to reducing pH and temperature levels.
UT 7.3	Support cooperative efforts to develop and implement a comprehensive water quality monitoring program for the Upper Naches River (above the confluence of the Naches and Tieton rivers).
UT 7.4	Support water quality monitoring efforts in the Upper Naches River and Tieton rivers, and make information available for these purposes.
UT 7.5	Participate with other agencies to develop and implement water quality information and educational programs for recreational users of the Upper Naches and Tieton River watersheds.
UT 7.6	Participate in cooperative forest watershed management programs designed to protect water quality.
UT 7.7	Participate in cooperative programs to educate recreational users and residents in the Naches and Tieton River watersheds about proper sanitary practices.

PURPOSE STATEMENT UT 8

A key component of water quality management is to ensure the health, safety and welfare of Yakima County residents. To this end, existing problems must be mitigated, and new water and sewer systems must be installed in a manner which minimizes the risk to public health and safety. This goal and its policies encourages water quality management to meet this objective.

GOAL UT 8:	Ensure the safety of public and private potable water systems.
POLICIES:	
UT 8.1	Implement a satellite management program for new or failing water systems.
UT 8.2	Ensure that water service for new development complies with all applicable laws and regulations, including operating under an approved water system plan.
UT 8.3	Review water plans to ensure that they are compatible with land use planning.

UT 8.4	Require water systems to satisfy current regulations when expanding service to additional customers, with the new customers paying for their fair share of the cost of meeting current standards or reducing the level of service available to existing customers (e.g., provide funds for future replacement of undersized lines, looping systems to increase fire flow pressure, loss in pressure on maximum demand day).
UT 8.5	Support the efforts of privately-owned public water systems to bring systems up to public standards, at which point the County will consider owning and operating them, if requested.

PURPOSE STATEMENT UT 9

Water conservation should play a major role in a community's water resource management. Two ways to meet this goal are educational training on voluntary water use reduction and requiring the installation of water conserving devices in new construction. This goal and its policies describe these methods and encourage them as part of a water conservation program.

GOAL UT 9:	Promote water conservation.
POLICIES:	
UT 9.1	Encourage water purveyors to create and implement water conservation education programs.
UT 9.2	Promote water conserving fixtures in new buildings.
UT 9.3	Promote the use of water conserving landscaping.

PURPOSE STATEMENT UT 10

In order to reduce wastewater and the costs associated with treating it, water conservation should play a major role in a community's water resource management.

GOAL UT 10:	Minimize the amount of wastewater that requires treatment.
POLICY:	
UT 10.1	Follow policies UT 9.1-9.3, which are designed to conserve domestic water.

PURPOSE STATEMENT UT 11

To protect the health, safety and welfare of its citizens, Yakima County should ensure the quantity and quality of its water resources. This goal and its policies addresses this issue by requiring specific development standards for water and sewer services throughout the County.

GOAL UT 11:	Protect surface and ground water quality and quantity.
POLICIES:	
UT 11.1	Development proposed for individual wells and septic systems should be allowed only at densities which meet self-sufficiency standards.
UT 11.2	The intensity to which a specific parcel can be used should be determined, to a large degree, by regulations pertaining to environmental, health, and safety concerns.

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UT 11.3	In urban areas where sewer is not currently available but may be available in the future, developers shall be required to sign sewer hookup covenants and install dry lines from the septic systems to the future sewer easement.
UT 11.4	Encourage the appropriate use of community/public water and sewerage systems in Rural Transitional and Rural Settlement areas and other areas where small lots are allowed.
UT 11.5	Require urban density development within the urban growth area to be served by public sewer service.
UT 11.6	Municipal Public sewer service should not be extended outside the urban growth area unless: <ul style="list-style-type: none"> • Public sewer service will remedy an existing ground water contamination or other health problem by replacing septic systems and community on-site sewage systems; or • A formal binding agreement to service an approved planned development was made prior to the establishment of an Urban Growth Area; or • It is mandated by the State Department of Health, Ecology, or other regulatory agency with jurisdiction over local ground water quality.
UT 11.7	Interim on-site approved septic systems may be permitted within the urban growth area if public sewer service is not available, only if: <ul style="list-style-type: none"> • Ground water protection policies are enforced; and • The design incorporates stub-outs to facilitate future hook-up; and • The applicant agreed not to object to future Local Improvement Districts (LID) or hook-up actions; and • Land use densities and soil conditions allow for safe operation of the septic system.
UT 11.8	Sewage system expansion must be consistent with Yakima County's Horizon 2040 and other land use planning documents, as well as the sewage treatment plant capacity.
UT 11.9	Review current local planning and interlocal service agreements and restructure governmental and financing mechanisms as needed to ensure timely, scheduled access to regional sewer services.

URBAN WATER:

PURPOSE STATEMENT UT 12

To protect the health, safety and welfare of its citizens, Yakima County should ensure the quantity and quality of its water resources. This goal and its policies addresses this issue by requiring specific development standards for water and sewer services in unincorporated urban areas.

GOAL UT 12:	Ensure protection of public health, safety and welfare by safeguarding surface and groundwater resources.
POLICIES:	
UT 12.1	Require all new urban development to connect to public drinking water supplies, or provide proof of water availability, both legal and physical, prior to the County's land use or building permit approval.

UT 12.2	Encourage use of community (public) water supply wells where area wide public water supply systems are not available.
UT 12.3	Establish well location and construction standards that will facilitate future interconnection with other public water supply systems.
UT 12.4	Encourage development or consolidation of public water supplies through: <ul style="list-style-type: none"> • County application for water rights from the state for cluster development; • Developing financing mechanisms for public water supplies; • Establishing latecomer agreements to compensate and encourage use of existing public water supplies.

RURAL WATER:

PURPOSE STATEMENT UT 13

To protect the health, safety and welfare of its citizens, Yakima County should ensure the quantity and quality of its water resources. This goal and its policies addresses this issue by requiring specific development standards for water and sewer services in rural areas.

GOAL UT 13:	Ensure groundwater resources are safeguarded to protect public health and welfare.
POLICIES:	
UT 13.1	Limit number of wells penetrating the aquifer to protect groundwater quality and supply.
UT 13.2	Encourage use of community (public) water supply.
UT 13.3	Encourage development and consolidation of community water supplies through: <ul style="list-style-type: none"> • County application for water rights for cluster development; • Establishing financing methods for public water supply; • Developing latecomers' fees to compensate/encourage use of existing public water supplies.

NATURAL GAS:

PURPOSE STATEMENT UT 14

Natural gas can supplement electric power needs in the County. This goal and its policies encourages its use through cooperation with the utility provider in the installation of new lines in conjunction with road improvement or new construction projects.

GOAL UT 14:	Coordinate natural gas service within Urban Growth Areas that have or desire service.
POLICIES:	
UT 14.1	Foster the extension of natural gas distribution lines to and within Urban Growth Areas.

UT 14.2	Coordinate land use and facility planning to allow eventual siting and construction of natural gas distribution lines within rights-of-way which are being dedicated or within roads which are being constructed or reconstructed.
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SOLID WASTE:

PURPOSE STATEMENT UT 15

This goal and its policies encourage continued improvements in methods of reducing landfill waste and recognizes that planning for future land needs is an important cost-control method.

GOAL UT 15:	Manage the solid waste system in a manner that cost effectively preserves the environment and protects the public health.
POLICIES:	
UT 15.1	Identify and adopt measures to improve the energy efficiency of recycling and trash collection, and implement feasible and effective measures.
UT 15.2	Review and revise the County Solid and Moderate Risk Waste Management Plan at least every five years; continue to assess the need for solid waste transfer facilities, recycling centers, and materials recovery facilities, identifying potential locations and suggesting revisions to the zoning code as needed.
UT 15.3	Provide an environmentally safe bio-solids management program to provide for present and future bio-solids utilization needs.

PURPOSE STATEMENT UT 16

In order to reduce the amount of waste that ends up in landfills, this goal and its policies encourages recycling and educational programs designed to reduce and minimize waste.

GOAL UT 16:	Improve existing waste reduction/recycling programs.
POLICIES:	
UT 16.1	In developing and implementing waste reduction/recycling programs, strive to maximize the use of local markets, capabilities, and resources.
UT 16.2	Establish requirements for the use of recycled and used materials in construction activities undertaken by the County or its contractors.
UT 16.3	Provide convenient recycling opportunities to the public to maximize participation in waste reduction/recycling programs.
UT 16.4	Encourage owners of new and existing multifamily, commercial and industrial buildings to provide space for separating and storing recyclable materials.
UT 16.5	Encourage recipients of construction and demolition permits to separate, recycle, and/or reuse demolition debris.
UT 16.6	Encourage applicants for construction permits to use recycled and used materials, where practicable.
	<ul style="list-style-type: none">• Provide information on how and where to obtain used and recycled materials.

- Assess the economic, legal, and technical feasibility of requiring the use of specific recycled or used materials in certain types of construction.

ELECTRICITY:

PURPOSE STATEMENT UT 17

System planners for electrical utilities design and build their systems to follow population and employment growth projections. The electrical system is planned and designed to serve the electrical loads that are projected, based on county and city plans. Construction is typically phased in as growth actually occurs. Future electrical service plans are designed for not only the new and increased load from future growth, but changes to improve reliability and power quality. Availability of low cost, reliable electrical power is an important consideration for many industries. Transmission lines are typically sited on a single pole, located within the road right-of-way. Electrical substations are fenced, are generally impenetrable, are not energized below nine feet, and are generally compatible with most other land uses.

GOAL UT 17:	Promote the delivery of electrical services, on demand, within the County consistent with utility's public service obligations.
POLICIES:	
UT 17.1	Yakima County and the utilities should identify and preserve corridors to accommodate future electric power transmission and distribution lines. Corridors designation should include: <ul style="list-style-type: none"> • Identification of appropriate shared uses; • Recognition of County roads as utility corridors; and • Evaluation of proposed facility plans on a system-wide basis, rather than project by project.
UT 17.2	When new, expanded or upgraded transmission is required, use of existing corridors should be evaluated first. Yakima County should facilitate appropriate corridor sharing among different utility types and owners.
UT 17.3	Yakima County should encourage underground placement of existing distribution lines through such tools as local improvement districts.
UT 17.4	Install new utilities lines underground where feasible. ^{WVNP}
UT 17.5	Work with electrical utility providers and neighboring jurisdictions to meet regional service needs and to accommodate future facility improvements.
UT 17.6	Ensure there are sufficient electric utility facilities that are sufficient to support economic development. Foster cooperation among private enterprise, the County, and the utility provider.

TELECOMMUNICATIONS:

PURPOSE STATEMENT UT 18

Telecommunications are important to Yakima County's economic future. This goal and its policies supports the installation of telecommunication systems, encourages coordination with

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service providers, and seeks to reduce telecommunications' impact on the physical and natural environment.

GOAL UT 18:	Promote reliable and cost-effective telecommunication systems to facilitate communication among members of the public, public institutions, and business.
POLICIES:	
UT 18.1	The County's development regulations should be flexible and receptive to innovations and advances in telecommunications technology.
UT 18.2	Minimize visual impacts when authorizing the siting of new telecommunication facilities by requiring low visibility technology, including: <ul style="list-style-type: none"> • Reduced heights; • Low mass/slender profile poles; • Use of existing towers and buildings; • Co-locating multiple users on a single site/facility; and, • Requiring removal of abandoned telecommunication sites when new replacement site approvals are authorized.

YAKIMA URBAN GROWTH AREA UTILITIES GOALS AND POLICIES:

Water

GOAL YKUT-U 1	Provide adequate water services within the urban area in a manner that is environmentally sensitive, safe and aesthetically compatible with surrounding land uses.
POLICIES:	
YKUT-U 1.1	Coordinate with other jurisdictions and suppliers in the Urban Area to ensure a reliable, economic source of water and to address the long-term regional water demand needs of all of the area's agencies and suppliers.
YKUT-U 1.2	Encourage the conservation of water resources and undertake actions, when possible and appropriate, to conserve water and water resources.

Wastewater

GOAL YKUT-U 2:	Protect public health and environmental quality through appropriate and efficient design, installation and maintenance of sanitary sewer facilities.
POLICIES:	
YKUT-U 2.1	Work with adjoining jurisdictions, and local purveyors to manage, regulate and maintain the regional sewer systems.