CHAPTER 9

UTILITIES

1. INTRODUCTION

> *Utilities use category refers to 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, telecommunication, and water services; for the collection of stormwater, and for the collection and disposal of sewage and refuse.* ***(PMC 20.06.040)***

The Utilities Element has been developed in accordance with Section 36.70A.070 of the Growth Management Act (GMA) to address present and future utility services in the City through the year 2035. This element includes an inventory and analysis of existing utilities, assessment of future utility needs, and it establishes goals and objectives. The Utilities Element is important in implementing the Comprehensive Plan.

The Utilities Element complies with both the King County and Pierce County Countywide Planning Policies, and has been integrated to include other applicable planning elements to ensure consistency. The Utilities Element specifically considers the general location, proposed location, and capacity of existing and proposed utilities, including, but not limited to, electrical, natural gas, and telecommunication lines utilized by private providers. This element also includes utility services provided by the City of Pacific and other public agencies, as well as public/private partnerships.

Co-planning and co-location of utilities is encouraged when feasible. Major utility corridors are identified as part of this element. More detailed information on current facilities and future needs can be found in the Capital Facilities element of this Comprehensive Plan.

1.1 Urban Growth Area

The Urban Growth Area (UGA) boundaries, as shown in the Land Use chapter, were adopted in 1995. The UGA of the West Hill (Jovita Heights) is primarily served by the Lakehaven ~~Water~~ Utility District currently and has no sanitary sewer infrastructure. The area has a combination of asphalt and gravel surfaced roads as well as stormwater infrastructure in the form of ditches and culverts. The City will incorporate plans prepared by other providers into its comprehensive planning efforts in order to identify ways of improving the quality and delivery of services provided in the designated UGA.

1.2 Achieving Community Goals

The Utility Plan goals and policies ~~in this element~~ will guide decision making to achieve the following: ~~applicable Vision Statement goals as shown~~:

- Provide an effective stewardship of the environment, by protecting critical areas and conserving land, air, water, and energy resources.
- Encourage changes that promote livability. Provide a safe environment for citizens. Use local resources whenever possible to encourage local involvement in community actions, and to enhance community pride.
- Infuse the local economy by providing a predictable development atmosphere.
- Encourage consistency and efficiency in the permitting process, and the fullest protection of property rights.

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2. GOALS AND POLICIES

The development and provision of utility facilities and services are key components of this planning process. In addition to the discussion below, the Comprehensive Plan map has been developed to illustrate the various land uses and growth management strategies. The analysis of existing conditions and projected needs in the previous section highlighted the areas of concern and opportunities for Pacific.

~~2.1 Vision Statement Goals for Private Utilities:~~

- ~~Facilitate the development and maintenance of all utilities at the appropriate levels of service to accommodate anticipated growth.~~

- ~~Facilitate the development of utility infrastructure to ensure public safety, environmental sensitivity, and reliability that is aesthetically and environmentally compatible with surrounding land uses and results in reasonable economic costs.~~

- ~~Process permits and approvals for utility facilities in a fair and timely manner and in accord with the development regulations, which encourage predictability and co-location in trenches or on poles.~~

- ~~Create public/private partnerships with utility providers to participate in future utility planning and achieve cost-effective service to all users in the City's planning area.~~

- ~~Develop utility design requirements and standards to facilitate emergency management operations and improve reliability during natural and man-made disasters.~~

~~2.2 Vision Statement Goals for Public Utilities:~~

- ~~Protect public health and safety by providing efficient and cost-effective water, sanitary sewer, storm drainage and solid waste services to the community.~~

~~*Policy: The provision of urban services to utility customers is a critical role played by the City of Pacific. Pacific is committed to providing these services in the most efficient and cost effective manner.*~~

- ~~Ensure that development will only occur if the urban services necessary to support the Project will be available at the time of development.~~

~~*Policy: As growth occurs it can become difficult to provide services to support new development. Pacific will only permit development if adequate public utilities are, or can be guaranteed to be, available to support new development in a timely manner.*~~

- ~~Develop programs to encourage the efficient use of water resources.~~

~~*Policy: The City will promote conservation through public education on the City website, through notices in utility billings and other education materials. The establishment of an inclined block water rate structure (The more units you use, the higher the cost per unit in set increments) will reinforce the City's commitment to water conservation.*~~

- ~~Create policies that protect the waters of the State of Washington~~

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~~*Policy: The City will develop policies that meet the requirements established in the Department of Ecology's NPDES II permit. These policies will be promoted in educating the public through the City website, notices in utility billings, and other education materials.*~~

- ~~Allow for alternative design standards and/or materials.~~

~~*Policy: Encourage low impact development projects and low impact development techniques on non-LID projects to conserve and utilize existing natural site features; integrate distributed, small-scale stormwater controls; and prevent measurable harm to streams, lakes, wetlands, and other natural aquatic systems from commercial, residential, or industrial development sites by maintaining a more hydrological functioning landscape.*~~

- ~~Develop utility design requirements and standards to facilitate emergency management operations and improve reliability during natural and man-made disasters.~~

~~*Policy: The City will update it's Public Works Standards to improve utility reliability and reduce the potential of damage during natural and man-made disasters, and develop interties with adjacent water purveyors to provide alternative water supplies for expansion or emergencies.*~~

PLANNING OF UTILITIES

GOAL U1: Implement timely processes and promote responsible planning of utilities**.**

POLICIES

Policy U1.1: *When reasonably feasible, promote co-location of new public and private utility distribution facilities in shared trenches and coordinate construction timing to minimize construction-related disruptions to the public and reduce the cost of utility delivery.*

Discussion: Co-location of utilities is cost effective and it helps reduce congestion for future utilities. All new development will be required to provide co-location of utilities.

Policy U1.2: *Process utility permits and facility approvals in a fair and timely manner.*

Discussion: Comprehensive plans establish policy supporting the long range community vision. As essential tools to implement policy, development regulations and other municipal codes must be reviewed and updated to support plan policy. In addition, cross-consistency helps streamline development permitting and ensures community support for proposals.

Policy U1.3: *Encourage provision of an efficient, cost effective and reliable utility service by ensuring land will be made available for the location of utility lines, substations, and generating facilities including location within transportation corridors.*

Discussion: Transportation projects often require additional right-of-way to meet vehicle and pedestrian needs. The City will continue to engage with the franchise utilities early in the process to determine their relocation and upgrade needs.

Policy U1.4 *Encourage communication among the City, Washington Utility Trade Commission (WUTC), and utilities regulated by the WUTC, regarding service provision concurrently or in advance of demand.*

Discussion: Annually the City provides the franchise utility companies with a copy of the Six Year Transportation Plan (STIP) and Capital Facilities Plan (CFP). This allows the entities to work together to provide a cohesive plan serving the stakeholder with minimal disruption.

Policy U1.5: *Review and amend existing regulations, including critical areas ordinances, as necessary to allow maintenance, repair, installation and replacement of utilities.*

Discussion: Wetlands and critical habitat areas are an important part of Pacific's ecosystem, and are considered highly important aesthetic, educational and recreational assets by residents. As a valuable asset to the community these areas should be preserved. However, there is existing infrastructure in and around these areas that must be repaired and maintained. A carefully balanced approach to maintenance and operation and preservation of critical areas should be maintained to assure cost-effective utility service operation and maintenance.

Policy U1.6: *Endeavor to ensure that the Comprehensive Plan and Development Regulations are consistent with, and do not otherwise impair, the fulfillment of utility service obligations.*

Discussion: Public facilities and services necessary to support new projects shall be adequate to serve the development at the time of construction without decreasing current service level standards below locally established minimums.

Policy U1.7: *Facilitate the development of utility infrastructure to ensure public safety, environmental sensitivity, and reliability that is aesthetically and environmentally compatible with surrounding land uses and results in reasonable economic costs.*

Discussion: The development of the utility infrastructure will need to consider "critical areas" and potential impacts to those areas as part of their development. The first option would be to completely avoid "critical areas". Should avoidance not be possible, impacts should be minimize with enhancement of the critical area.

Policy U1.8: *Create public/private partnerships with utility providers to participate in future utility planning and achieve cost-effective service to all users in the City's planning area.*

Discussion: As required under the Growth Management Act (GMA), cities need to plan for anticipated growth. This planning should be in coordination with other public/private utility providers to ensure that new growth is provided to the levels of service adopted by the City.

Policy U1.9: *Protect public health and safety by providing efficient and cost-effective water, sanitary sewer, storm drainage and solid waste services to the community.*

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Discussion: The provision of urban services to utility customers is a critical role played by the City of Pacific. Pacific is committed to providing these services in the most efficient and cost effective manner.

Policy U1.10: *Ensure that development will only occur if the urban services necessary to support the Project will be available at the time of development.*

Discussion: As growth occurs it can become difficult to provide services to support new development. Pacific will only permit development if adequate public utilities are, or can be guaranteed to be, available to support new development in a timely manner.

Policy U1.~~7~~11: *Encourage system design practices intended to minimize the number and duration of interruptions to customer service. The City is obliged to service existing users and put measures into effect to make additional users pay for maintaining Level of Service (LOS).*

Discussion: Level of service (LOS) standards are benchmarks for measuring the amount of a public facility and/or services provided to the community. Level of service means an established minimum capacity of public facilities or services that must be provided per unit of demand or other appropriate measure of need. Level of service standards will be a determining factor for when and where development will occur. This is because level of service is intricately tied to concurrency

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Policy U1.~~8~~12: *Service existing utility users first, and put measures into effect to make additional users pay for maintaining the utility's level of service.*

Discussion: Many residents have expressed concern that growth pay for itself whenever possible, keeping taxes low and reducing effective subsidies for unwanted growth. This urges the City to balance the costs of service and infrastructure provision with community desire and the ability to absorb new development, ensuring service investments are either strategically desirable or self-sustaining.

Policy U1.~~9~~13: *The Capital Facilities Plan (CFP) will provide equitable distribution of utility service based on the area served.*

Discussion: Some capital improvements are developed by system demand and undersized facilities. ~~and o~~Other CIP projects are developed based on community standards. The CFP development process will ensure that projects are equitably distributed, to the extent feasible, providing all stakeholders with the highest level of service.

Policy U1.1~~0~~4: *Encourage the undergroundi~~ng~~ng of utility networks in new developments in the City and where significant work in existing rights-of-way will occur.* ~~*In addition, where significant work in existing rights-of-way will occur, the City should investigate with service providers the possibility of replacing existing overhead lines with buried lines. Underground distribution lines would be in accordance with Puget Sound Energy applicable tariffs on file with the WUTC.*~~

Discussion: Current City codes have thresholds for requiring the undergrounding of utilities. Undergrounding of utilities increases aesthetics and property values, and reduces potential lo~~w~~ss of service due to storms. In addition, where significant work in existing rights-of-way will occur, the City

should investigate with service providers the possibility of replacing existing overhead lines with buried lines. Underground distribution lines would be in accordance with Puget Sound Energy applicable tariffs on file with the WUTC.

Policy U1.1~~1~~5: *Investigate cooperative partnerships with telecommunications investors and utilities to provide fiber optic service to all residents and businesses.*

Discussion: As communication technology continues to advance, there is a need for the facilities that help manage that communication. Fiber optic services provide the means for business and residents to advance communication and data sharing.

Policy U1.1~~2~~6: *Participate in regional coordinated planning efforts to address public safety and infrastructure concerns in the event of a natural or man-made disaster.*

Discussion: Disaster management requires detailed coordination between emergency services, service providers, neighboring jurisdictions, other public entities, state and national governments. Cities are best prepared when disaster plans are in place and equipment and procedures are available, understood and practiced by employees. Public service announcements and practice drills prepare citizens in case of disasters.

ENERGY CONSERVATION

GOAL U2: Promote energy conservation and conversion

POLICIES

Policy U2.1: *Facilitate and encourage conservation of resources to delay the need for additional facilities for electrical energy and water resources and achieve improved air quality.*

Discussion: Energy conservation helps reduce immediate costs and the need for long-term upgrades to system capacity, aids City sustainability goals, encourages compact development patterns, and offers opportunity for technological innovation.

Policy U2.2: *Facilitate the conversion to cost-effective and environmentally responsible alternative technologies and energy sources.*

Discussion: Energy conservation often helps reduce immediate costs and the need for long-term upgrades to system capacity, aids City sustainability goals, encourages compact development patterns, and offers opportunity for technological innovation.

Policy U2.3: *Encourage environmentally responsible alternative "green" energy development such as solar cells and panels, passive heat capture, heat pump conversions, and energy conservation.*

Discussion: Environmental sensitivity in developing new resources for use by utility customers is a key

element of the City's commitment to environmental stewardship.

Policy U2.4: *Conserve the use of energy in the City-owned facilities.*

Discussion: Environmental sensitivity in the efficient use of services by utility customers is a key element of the City's commitment to environmental stewardship. This is achieved by periodic review of pumps and other equipment for energy efficiency.

Policy U2.5: *Support tree planting along street edges, where appropriate, to create a pleasing environment and reduce heat absorption by asphalt, which increases ambient temperatures. Protection measures shall be taken to assure non-interference with public/private utilities and transportation infrastructure.*

Discussion: Current development guidelines require the installation of street trees in subdivisions. Additionally, commercial and industrial developments are required to install 10 feet of street frontage landscaping.

Policy U2.6: *Support new technology, such as fiber optic service, which will encourage telecommuting and information industries, reduce pollution and car trips per household, and reliance on heavy industry and import/export trade.*

Discussion: Access to high quality telecommunication and broadband services are increasingly recognized as a critical component of economic development and maintaining a competitive business environment and increase the ability to telecommute.

COORDINATE LAND USE

GOAL U3: Coordinate utility provision with the Land Use Element

POLICIES

Policy U3.1: *Coordinate City land use planning with the utility providers' planning requirements. The City will encourage providers to utilize the Land Use Element and Urban Growth Area in their long term planning of future facilities.*

Discussion: Annually the City provides the franchise utility companies with a copy of the Six year Transportation Improvement Plan (STIP) and Capital Facilities Plan (CFP). This allows the entities to work together to provide a cohesive plan serving the stakeholder with minimal disruption

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Policy U3.2: *Provide utilities and comprehensive planning concurrent with development*.

Discussion: Residents express concerns that growth pay for itself whenever possible, keeping taxes low and reducing effective subsidies for unwanted growth. This urges the City to balance the costs of service and infrastructure provision with community desire and ability to absorb new development, ensuring

service investments are either strategically desirable or self-sustaining.

Policy U3.3: *Assure that the comprehensive plan designates areas available for the location of utility facilities.*

Discussion: Transportation projects often require additional right-of-way to meet vehicle and pedestrian needs. The City engages with the franchise utilities early in the process to determine their relocation and upgrade needs.

Policy U3.4: *The City recognizes that utility providers have an obligation to serve and provide the same level of service to all customers.*

Discussion: Transportation projects often require additional right-of-way to meet vehicle and pedestrian needs. The City engages with the franchise utilities early in the process to determine their relocation and upgrade needs.

COORDINATION WITH ADJACENT JURISDICTIONS

GOAL U4: Coordinate utility provision and cooperate with adjacent jurisdictions.

POLICIES

Policy U4.1: *Coordinate and cooperate with adjacent jurisdictions to implement multi-jurisdictional utility additions and improvements, and to adopt procedures for making specific land use decisions to achieve consistency in timing and substantive requirements, and address regional environmental issues.*

Discussion: Inter-jurisdictional coordination is a fundamental GMA concept. Certain capital facilities are linear in nature and pass through more than one jurisdiction. These facilities often require significant inter-jurisdictional coordination. Other capital facilities may be site specific but regional in nature. These capital facilities serve a population beyond City limits and may have a disproportionate financial burden on the jurisdiction where sited. These facilities also require considerable coordination and may have specific siting criteria.

UTILITY STANDARDS

GOAL U5: Improve utility standards to improve reliability during public emergencies.

POLICIES

Policy U5.1: *Update utility design and construction standards to minimize utility service impacts during natural and man-made disasters.*

Discussion: The safety and uninterrupted operation of utilities is a critical function of government. Periodic review of design standards of infrastructure functionality increases reliability and reduces impact caused by natural and man made disasters.

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3. INVENTORY AND ANALYSIS

The utility inventory presented in this element provides useful information for the planning process. Many public and private agencies are involved in regulation, coordination, production, delivery, and supply of utility services. This inventory identifies service providers and the controlling regulatory agencies. The analysis of this information is located in **Section 9-3.1**.

3.1 Utility Regulation

3.1.1 Federal and State Laws and Regulations

Federal Water Pollution Control Act
The Federal Water Pollution Control Act (FWPA) of 1956, as subsequently amended, may require "Industrial Cost Recovery" or "Industrial Waste Surcharge" programs. King County Metro may impose additional sewer charges under these programs, and the City will charge for implementing them.

Natural Gas Policy Act
The central theme of the National Gas Policy Act (NGPA) is encouragement of competition among fuels and suppliers across the country. Natural gas essentially has been decontrolled. The NGPA also contained incentives for developing new natural gas resources and a tiered pricing structure encouraging the development of nation-wide transmission pipelines.

1974 Safe Drinking Water Act
The Federal Safe Drinking Water Act of 1974 as administered by the State of Washington Department of Health provides the frame work for regulating the safe operation of drinking water utilities.

1991 Clean Air Act Amendments
The Washington State Clean Air Act in 1991 indicates a state intent to promote the diversification of fuel sources for motor vehicles. This is in response to a need for both to reduce atmospheric emissions and to reduce the nation's reliance on gasoline for strategic reasons. This Act promotes the use of alternative fuels by requiring 30% of newly purchased state government vehicle fleets to be fueled by alternative fuel by July 1992, (increasing by 5 % each year). It also studies the potential and encourages the development of natural gas vehicle refueling stations.

Federal Energy Regulatory Commission
The Federal Energy Regulatory Commission (FERC) is an independent five-member commission with the U.S. Department of Energy. FERC establishes rates and charges for the interstate transportation and sale of natural gas, for the transmission and sale of electricity, and the licensing of hydroelectric power projects. In addition, the Commission establishes rates or charges for the interstate transportation of oil by pipeline.

King County Department of Natural Resources (DNR)
The King County DNR *Surface Water Design Manual (latest approved edition)* provides rules and procedures for implementing drainage standards and policies in King County.

Municipal Water Law
Washington State established the Municipal Water Supply-Efficiency Requirements Act in 2003. This law commonly called the Municipal Water Law requires each municipal water purveyor to provide

documentation that their Water System Plan is in compliance with local planning objectives. In addition, the law requires that each municipal water purveyor establish water conservation goals.

National Marine Fisheries Service (NOAA Fisheries)
NOAA Fisheries is a division of the U.S. Department of Commerce National Oceanic and Atmospheric Administration (NOAA). Their objectives are to recover and sustain fisheries and protected species. NOAA evaluates competing land and water use for power and agriculture that may negatively impact the sustainability of fish populations. The Draft *NOAA Fisheries Strategic Plan for FY2016 -FY2020* was released in May 2003.

National Pollution Discharge Elimination System Phase II Permit (NPDES II)
In January 2007, the Washington State Department of Ecology (Ecology) issued two new "NPDES Phase II" municipal stormwater permits that affect many cities in Washington. These permits were reissued in 2013 for the 2014 – 2018 period. These permits were issued under the authority delegated to Ecology to implement requirements of the Federal Clean Water Act. The stormwater permits cover municipal storm sewer systems that discharge to surface waters, which are not part of a combined sewer system. ~~The permit's requirements phase in over the next five years and will be challenging and costly to implement.~~

Northwest Power Planning Council (NWPPC)
The NWPPC focuses on the generation of electricity; however, its policies have implications for gas, too. The NWPPC, in its power plan, has directed the region to develop cogeneration as an energy resource and hydro-firming as a power back-up system.

"Cogeneration" is the use of heat, as a by-product of power generation, for industrial processes or for space and water heating. Natural gas is often used as a fuel source for cogeneration. "Hydro-firming" is the back up of the region's intermittent excess spring hydro generation with gas-fired combustion turbines to provide back up when hydroelectric power is insufficient.

These two policies could have a major impact on natural gas consumption in the northwest. However, providing natural gas directly to customers for heating purposes is up to 50% more efficient than generating electricity with gas and providing that electricity to the customer for the same heating function. The most efficient use of natural gas is direct application for space and water heating. Gas distribution thereby contributes to a balanced regional energy policy.

Puget Sound Clean Air Agency (PS Clean Air)
Established by state law in 1967, this agency works with the U.S. Environmental Protection Agency, the Washington State Department of Ecology, industry, local jurisdictions, and private citizens. Their policies and programs are designed to meet and maintain air quality standards, protect human health, prevent injury to plants and animals, and protect views in the Puget Sound Region.

Revised Code of Washington (RCW) and Washington Utilities and Transportation Commission (WUTC)
The RCW and WUTC regulate utilities in Washington. The WUTC, composed of three members appointed by the governor, is empowered to regulate utilities (including, but not limited to, electrical, gas irrigation, telecommunication, and water companies). State law (WAC 480-120) regulates the rates and charges, services, facilities and practices of utilities. Any change in customer charges or service provision policy requires WUTC approval.

Washington State Department of Ecology
The Washington State Department of Ecology requires the City of Pacific's compliance with the July ~~2002~~ 2015 Puget Sound Water Quality Management Plan. The City through the Municipal Code has

adopted the latest Ecology approved King County Surface Water Design Manual. The City has a stormwater management ordinance in place to comply with this plan and provide for enforcement.

3.2 Private Utilities

3.2.1 Natural Gas

Natural Gas service is provided by Puget Sound Energy (PSE). According to the utility, there is capacity to meet existing and future demands for both the incorporated City Limits as well as the Urban Growth Area. The current and future areas of service for the Natural gas distribution system are shown on Map 9-1.

3.2.2 Electrical Utilities

The City of Pacific is served electricity by Puget Sound Energy (PSE). According to the electrical utility, there is capacity to meet existing demand for both the incorporated City Limits as well as the Urban Growth Area. Electrical facilities are shown on Map 9-2.

3.2.3 Telecommunications Utilities

CenturyLink is the primary provider of telecommunications service to the City of Pacific. However, national deregulation of the telecommunications industry has created opportunities for numerous providers to enter the market and provide this service. Various facilities are located throughout the County and the City. Many of the telecommunication facilities, aerial and underground, are co-located with those of the electrical power and cable television providers.

The telecommunications industry is currently in the midst of tremendous advances in technology. Both cellular and fiber optic technologies have transformed the way service is delivered in the City of Pacific, and beyond. These changes have also fostered a competitive industry, which makes prediction of future configurations of telecommunications facilities difficult. The trend has been to increase "multiplexing" in which greater and greater numbers of signals are transmitted through fewer and fewer physical wires, cables, and switching centers.

Cellular (radio) telecommunications are provided by a number of companies within and beyond Pacific. The nature of the industry, and of radio transmission itself, is that the exact location of individual facilities is not critical to the provision of service. For this reason, cellular telecommunications facilities are not mapped.

3.2.4 Entertainment and Information Service Utilities

Comcast is the primary provider of cable entertainment and information services to the City of Pacific. However, satellite and high-speed internet entertainment service is also available from multiple service providers.

3.2.5 Solid Waste/Recycling

Solid waste (garbage) and recycling service is provided by Waste Management in the City of Pacific. The company also administers account billing for the customers. The City is covered under the King and Pierce County Solid Waste Management Plans.

3.3 Public Utilities

A detailed discussion of the City of Pacific's public facility operations and planning is contained in the Capital Facilities element of this plan. Summaries of City of Pacific Utility plans may be found in the Appendices of this Comprehensive Plan, and copies of current utility plans are available for review at City Hall.

The City is establishing measures and policies to secure and minimize impacts to public utilities for emergency operations during natural and manmade disasters.

3.3.1 Water Utility

The City of Pacific supplies water for the entire City, with the exception of properties on the West Hill that are served by the Lakehaven Utility District. Water rates, connection charges and usage fees are established by the City Council for customers served by the City water system. The Lakehaven Board of Commissioners establishes the rate for customers on the West Hill.

3.3.2 Sanitary Sewer Utility

"Sanitary sewer" means a sewer which carries sewage and into which storm, surface and ground waters are not intentionally admitted. (PMC 14.04.160)

The City of Pacific administers the conveyance of a sanitary sewer system. Sewage treatment for Pacific is provided by King County Metro, and Metro owns and operates the main pump station in Pacific. The City of Pacific's service area is confined by the City's municipal boundary, except for the inclusion of a small portion of the City of Algona where sewer service is provided to homes along 5th Avenue N.W., Ellingson Road, Pacific Avenue, and 1st Avenue E., with approval from King County. The West Hill area of Pacific is currently not served by a wastewater collection and conveyance system. The homes and businesses in the area utilize on-site wastewater (septic) systems.

The City of Auburn currently serves a small area north of the White/Stuck River and east of the East Valley Highway (A Street) located within the corporate limits of the City of Pacific.

Sewer rates, connection and inspection fees are established by the City Council for all connections to the sewer system.

3.3.3 Stormwater Management

"Stormwater" means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels or pipes into a defined surface-water channel, or a constructed infiltration facility.

In 2000 the City of Pacific implemented a storm and surface water utility, known as the Stormwater Management Utility. The boundaries of the utility are the corporate limits of the City. The utility's purpose is to:

- Promote sound development policies and construction procedures which respect and preserve the City's watercourses;
- Minimize water quality degradation and control of sedimentation of creeks, streams, ponds, lakes, and other water bodies;

- Protect the life, health, and property of the general public;
- Preserve and enhance the suitability of waters for contact recreation and fish habitat;
- Preserve and enhance the aesthetic quality of the waters;
- Maintain and protect valuable groundwater quantities, locations, and flow patterns;
- Insure the safety of City roads and rights-of-way; and
- Decrease drainage-related damages to public and private property.

In accordance with State law (RCW 35.67.020), the City establishes the rates and charges necessary to carry out the purpose of the Stormwater Management Utility.

4. FUTURE NEEDS AND ALTERNATIVES

4.1 Private Utilities

4.1.1 Natural Gas

~~The location, capacity and timing of gas system improvements depend greatly on opportunities for expansion and on how quickly the City grows. There are usually several possible routes to connect different parts of the system. The final route taken will depend on the right-of-way permitting, environmental impact, and the opportunities to install gas mains with new development, highway improvements, or other utilities. However, the improvements shown on the map give an indication of the natural gas company's present intent.~~

~~Puget Sound Energy expands its supply system to serve additional natural gas customers as requested. The continually perform load studies to determine system capacity.~~

~~Customer hook-up to the distribution system is determined by WUTC rules. System extension is driven by demand. This means that connections cannot be planned in advance; rather, connections are initiated by customer request. This includes installation service for new development and conversion from electricity or oil to natural gas.~~

Customer and Growth Information

Puget Sound Energy (PSE) provides natural gas service to more than 750,000 customers in six Western Washington counties: Snohomish, King, Kittitas, Pierce, Thurston, and Lewis.
It is estimated that PSE currently serves over 2,160 customers within the City of Pacific.

Existing Distribution System

Natural gas comes from gas wells in the Rocky Mountains and in Canada and is transported through interstate pipelines by Williams Northwest Pipeline to Puget Sound Energy's gate stations.

Supply mains then transport the gas from the gate stations to district regulators where the pressure is reduced to less than 60 psig. The supply mains are made of welded steel pipe that has been coated and is cathodically protected to prevent corrosion. They range in size from 4" to 20".

Distribution mains are fed from the district regulators. They range in size from 1-1/4" to 8" and the pipe material typically is polyethylene (PE) or wrapped steel (STW).

Individual residential service lines are fed by the distribution mains and are typically 5/8" or 1-1/8" in diameter. Individual commercial and industrial service lines are typically 1-1/4", 2" or 4" in diameter.

Future Facility Construction

PSE does not have any major projects planned in Pacific at this time, but new projects can be developed in the future at any time due to:

1. New or replacement of existing facilities to increased capacity requirements due to new building construction and conversion from alternate fuels.
2. Main replacement to facilitate improved maintenance of facilities.
3. Replacement or relocation of facilities due to municipal and state projects.

PSE Gas System Integrity-Maintenance Planning has several DuPont manufactured main and service piping and steel wrapped main replacements planned for 2015. There will be several pipe investigations throughout the city to determine the exact location of the DuPont manufactured pipe. Identified DuPont manufactured piping in PSE's entire system will be ranked and replaced accordingly.

4.1.2 Electrical

~~The delivery of electricity to the City of Pacific in order to meet future demands will take a coordinated process between the City and the utility provider. Puget Sound Energy relies on local, regional and state government growth projections to forecast servicing future demand. There are several policies, which address the issues of coordinating between the City and the utility providers.~~

Puget Sound Energy (PSE) is an investor-owned utility providing electrical service to approximately 1,000,000 residential, commercial, and industrial customers in a nine county, 4,500 square mile service territory in western Washington. To provide reliable service, PSE builds, operates, and maintains an extensive electrical system consisting of generating plants, transmission lines, substations, and distribution systems. PSE is regulated by the Washington Utilities and Transportation Commission (WUTC) and is obligated to serve its customers subject to WUTC rates and tariffs.

Existing System

In east Pacific near SR 167, PSE has a 100 foot fee-owned right of way on which there are three 115 kV transmission lines. In central Pacific, PSE has a single 115 kV line adjacent to the UPRR tracks. These transmission lines deliver power into the area from PSE transmission substations located in Sumner and Auburn via the following distribution substations shown below:

Distribution Substations:

- Peasley Canyon
- Ellingson
- Dieringer
- Edgewood

Existing Capacity to serve the City of Pacific

The power utilization factor of all distribution substations serving the City of Pacific and the surrounding area is at 63 percent. The utilization factor is a comparison of current peak system load (during the winter

heating season), divided by the design capacity of the substations in the area. The following table illustrates the capacity versus peak winter loads for the Pacific distribution substations.

Table U-1
Existing Capacity: Electrical Utilities

Distribution Substations	Capacity (MVA)	Winter Capacity (MVA)	Winter Load (MVA) (Dec 1, 2014)
Peasley Canyon	25	33	18.7
Ellingson	25	33	18.2
Dieringer	25	33	28.2
Edgewood	25	33	18.2
Total	125	132	83.3

(MVA = Mega Volt Amperes)

The electrical system can be expanded as the area load develops. The timing of future construction is largely dependent on the development growth of an area, and the associated increase electric demand (load), as well as facility maintenance requirements, reliability related improvements, or system replacement needs.

Projected Needed Capacity

PSE's future Electrical Facilities Plans are developed for all of King and Pierce Counties to support the projected load level in the county including the city of Pacific and surrounding areas.

The population and employment forecasts are based on a regional economic and demographic model and then allocated into each of the counties within the service territory. The regional forecasts account for the latest assumption about the national economy and reflect the historical structure of employment and population within each county as well as their recent growth patterns. The historical population data by county is based on the state's Office of Financial Planning reports, while the employment data is based on the state's Employment Security Department's monthly reports. The projection of these inputs together with the company's projections of conservation, retail rates and any known short term large load additions or deletions form the company's forecast of energy and peak loads.

Proposed System

Puget Sound Energy has identified system and transmission improvements required to serve the forecasted load growth in King and Pierce Counties. Many improvements are in progress or planned for the future; others have been identified as future improvements to meet the growth demand. These improvements are intended to meet the growth and reliability demands for the City of Pacific and the surrounding area, as well as other portions of King and Pierce Counties.

Future Transmission Improvements:

- PSE has plans in the future to construct a 230kV double circuit steel tower 230kV line on the 100 ft. PSE right of way (fee-owned) connecting the existing White River substation in Sumner with the future Christopher substation in Auburn. A similar 230kV line currently exists along the right of way between Auburn and Renton. The exact date for the construction of this line has not yet been determined.

4.1.3 Alternative Energy Sources

Use of alternative environmentally-friendly energy sources and energy-efficient systems, as allowed in the current adopted Building Code, is encouraged by the City of Pacific. Washington State Code (RCW 39.35.010 (5)) also finds that "the use of energy systems in these facilities which utilize renewable resources such as solar energy, wood or wood waste, or other non conventional fuels, and which incorporate energy management systems, shall be considered in the design of all publicly owned or leased facilities."

4.1.4 Telecommunications

The provision of telecommunication services is driven by the needs of its customers. As the City grows, telecommunication facilities will be upgraded to ensure adequate service levels. It is also feasible that facilities will be upgraded as technology advances. For example, the upgrade from copper to fiber optics was made independent of copper's capacity for any individual user.

State law requires CenturyLink to provide adequate telecommunications services on demand. Accordingly, CenturyLink will provide facilities to accommodate growth within Pacific, regardless of the growth pattern.

4.1.5 Cellular Service

Unlike other utilities, the cellular telephone industry does not plan facilities far into the future. Market demand is analyzed to determine expansions into new service areas.

4.1.6 Entertainment and Information Services

The provision of cable entertainment and information services is driven by the needs of its customers. As the City grows and technology advances, entertainment and information facilities will be upgraded to ensure adequate service levels.

4.2 Public Utilities

4.2.1 Water

The City has adequate sources and storage of potable water to meet its needs in the near future. However, Pacific is exploring a number of options, including the possibility of purchasing additional water from adjacent purveyors and promoting conservation, to assure an adequate supply for long term growth.

A series of intertie upgrades with adjacent purveyors will permit the wholesale purchase of water and provide an integrated supply for the emergency needs of the regional partners.

The Capital Facilities element of this Comprehensive Plan discusses Pacific water system needs in greater detail. The City of Pacific Water System Plan is summarized in the Appendices, and the entire current Plan is available for review at City Hall.

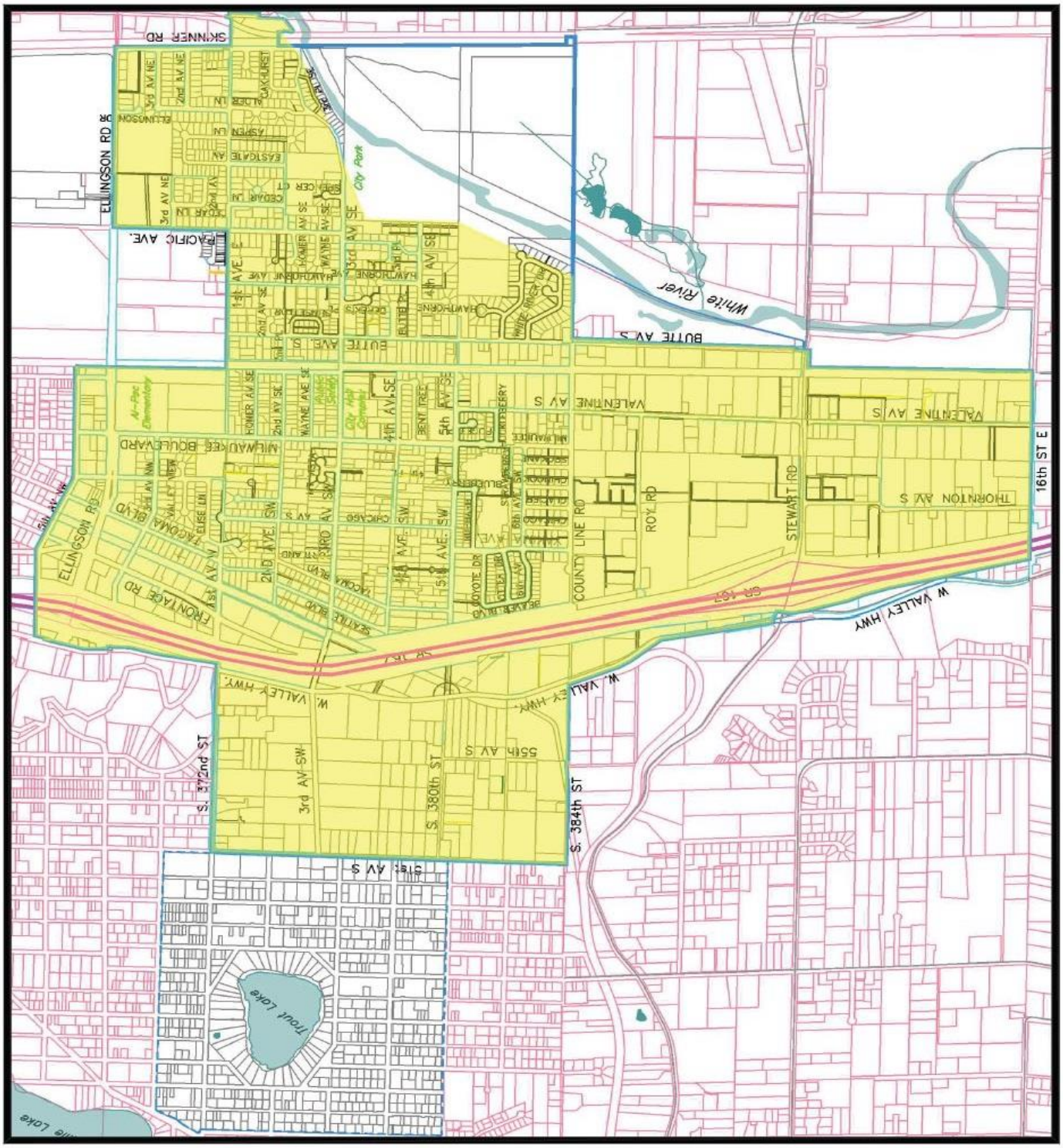
4.2.2 Sanitary Sewer

The Capital Facilities Element of this Comprehensive Plan discusses Pacific sanitary sewer system needs in greater detail. The City of Pacific Sanitary Sewer System Plan is summarized in the Appendices, and the entire current Plan is available for review at City Hall.

4.2.3 Stormwater Management

Future management of the stormwater utility is currently driven by the requirements of the City's NPDES II permit issued by Ecology in ~~2007~~ 2013.

The Capital Facilities Element of this Comprehensive Plan discusses Pacific stormwater management needs in greater detail. The City of Pacific Stormwater System Plan is summarized in the Appendices, and the entire current Plan is available for review at City Hall.

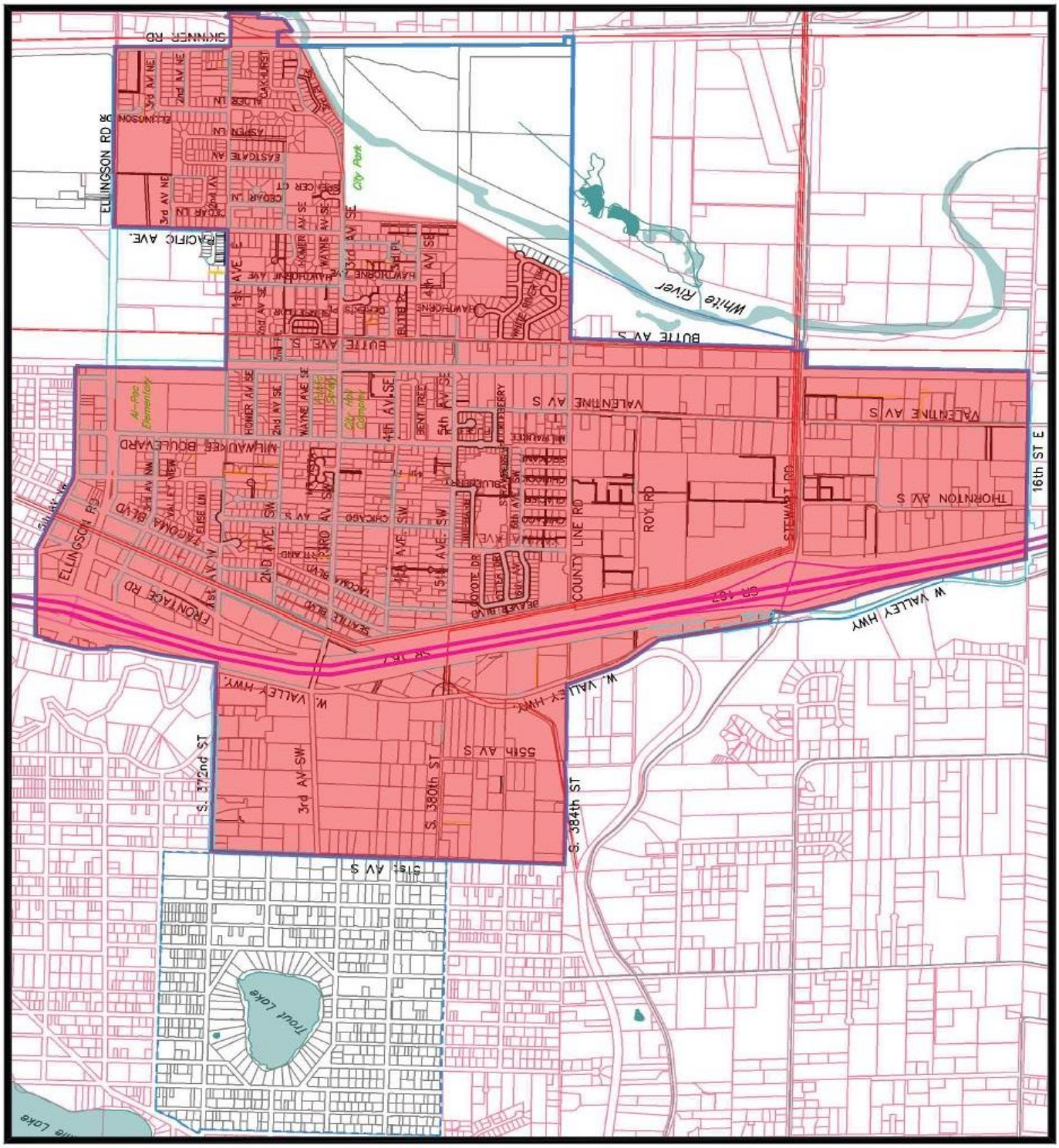


LEGEND
- City Limits
- Urban Growth Area (UGA)
- Existing Natural Gas Service Area
- Future Natural Gas Service Area

0 800 1,600
Scale in Feet

Map 9.1: City of Pacific PSE Natural Gas Service Area

1/19/2016 7:49:55 AM, Revision Date



LEGEND
- City Limits
- Urban Growth Area (UGA)
- Existing Electrical Service Area
- PSE Transmission Mains

0 800 1,600
Scale in Feet

Map 9.2: City of Pacific PSE Power Service Area

1/11/2016 8:41:08 AM, Revision Date