

CHAPTER TEN

PRIVATE UTILITIES

10.0 INTRODUCTION	1
10.1 POLICY BACKGROUND	1
The Growth Management Act	2
VISION 2040	2
Countywide Planning Policies	2
10.2 REGULATORY AND LEGAL CONTEXT	3
10.3 PUGET SOUND ENERGY	3
General Location	3
Electric Plan	3
Gas Plan	5
10.4 TELECOMMUNICATIONS PLAN	5
Telephone System	6
Wireless Networks	6
Internet Service	7
Cable TV	7
Proposed Improvements	7
10.5 FIBER OPTIC NETWORK	7
10.6 SOLID WASTE MANAGEMENT	8
10.7 MODERATE RISK WASTE MANAGEMENT	9
10.8 GOALS AND POLICIES FOR CITY ACTION	9

Map

Map X-1, Existing & Proposed Improvements to the Sub-Transmission System

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10.0 INTRODUCTION

This chapter satisfies a Growth Management Act (GMA) requirement that cities prepare a Private Utilities chapter (RCW 36.70A.070). The GMA requires the *Federal Way Comprehensive Plan* (FWCP) to have internal consistency. This means that the Private Utilities chapter must be fully coordinated with other chapters of the FWCP. This is particularly important for Federal Way’s City Center and in the I-5/99 corridor where new development and other land use change is anticipated in the near future.



WAC 365-195-320(1) requires a Private Utilities chapter to include the general location, proposed location, and capacity for all existing and proposed utilities, including, but not limited to, electrical lines, telecommunication lines, and natural gas lines. Each utility plan describes and analyzes existing and proposed utility systems within Federal Way and improvements necessary to meet growing consumer demand. Information used to develop the plan was provided by private utilities. Private utility companies are continually upgrading and expanding their systems, therefore, maps quickly become obsolete. However, Puget Sound Energy (PSE) provided a map of their existing and proposed electrical facilities as of 2012 (*Map X-1*). Plans for water supply and sewer are found in the Capital Facilities chapter of the FWCP.

The City sees the GMA requirement to prepare a Private Utilities chapter as an opportunity to identify ways of improving the quality of services provided within the City. The City will use this Private Utilities chapter to identify goals and develop policies to ensure that: provision of utilities is properly coordinated with land use; utility provision minimizes impacts upon public facilities such as roads; sustainable sources of power generation are encouraged; and technological innovation is facilitated.

10.1 POLICY BACKGROUND

The GMA, VISION 2040, and the King County Countywide Planning Policies (CWPPs) call for a full range of urban services in the Urban Growth Area (UGA) to support the Regional Growth Strategy. They also state that facilities should be sited in ways to avoid adverse social, environmental, and economic impacts. This Private Utilities chapter is consistent with these goals and policies.

The Growth Management Act

Goal No. 12 of The GMA refers to public facilities and services as follows:

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.

VISION 2040

Key private utilities addressed in VISION 2040 include solid waste, energy, and telecommunications. As the region plans for growth, conservation and improved efficiencies in providing services are essential.

An overarching goal of VISION 2040 is to provide sufficient and efficient public services and facilities in a manner that is healthy, safe, and economically viable. Multicounty planning policies address conservation measures to increase recycling and reduce waste. They also encourage more efficient use of renewable and alternative energy.

VISION 2040 also encourages improving infrastructure to support development and maintain healthy and livable communities. Having reliable power and telecommunications, along with other services and infrastructure, contributes to quality of life and the region's economic well-being. The following are VISION 2040 policies most relevant to Federal Way:

MPP-PS-12: Promote the use of renewable energy resources to meet the region's energy needs.

MPP-PS-13: Reduce the rate of energy consumption through conservation and alternative energy forms to extend the life of existing facilities and infrastructure.

MPP-PS-14: Plan for the provision of telecommunication infrastructure to serve growth and development in a manner that is consistent with the regional vision and is friendly to the environment.

Countywide Planning Policies

The 2012 King County Countywide Planning Policies (CWPPs) includes the following overarching goal for private utilities:

County residents in both Urban and Rural Areas have access to the public services needed in order to advance public health and safety, protect the environment, and carry out the out the Regional Growth Strategy.

The following CWPPs are most relevant to Federal Way:

PF-13: Reduce the solid waste stream and encourage reuse and recycling.

PF-14: Reduce the rate of energy consumption through efficiency and conservation as a means to lower energy costs and mitigate environmental impacts associated with traditional energy supplies.

PF-15: Promote the use of renewable and alternative energy resources to help meet the county’s long-term energy needs, reduce environmental impacts associated with traditional energy supplies, and increase community sustainability.

PF-16: Plan for the provision of telecommunication infrastructure to serve growth and development in a manner consistent with the regional and countywide vision.

10.2 REGULATORY AND LEGAL CONTEXT

Privately owned electrical, natural gas, and line telephone utilities are regulated by the Washington Utilities and Transportation Commission (WUTC). Cellular telephone communication companies are licensed by the Federal Communications Commission (FCC). Cable television companies are regulated by the FCC and the Communications Act of 1934, as amended. Private utilities must have a franchise agreement to place utilities in the public right-of-way. Franchise agreements give each utility the non-exclusive right to provide its category of service within the City.

10.3 PUGET SOUND ENERGY

General Location

PSE supplies electric and natural gas service within the entire limits of the City and Potential Annexation Area (PAA). Existing facilities are depicted on *Map X-1*

Electric Plan

Federal Way is served mostly by Puget Sound Energy (PSE), a private electric utility whose operation and rates are governed by the Washington Utilities and Transportation Commission, the National Electric Reliability Corporation (NERC) and the Federal Energy Regulatory Commission (FERC). PSE is part of a Western-states regional

coordination system and provides electric service to over 1.1 million customers in nine Washington State counties. Electricity is produced elsewhere and transported to switching stations in Kent and Renton through high-voltage transmission lines. As electricity nears its destination, the voltage is reduced and redistributed through lower-voltage transmission lines, distribution substations, and smaller transformers. PSE provides electrical service to approximately 39,700 electric customers in Federal Way. Also within the city are several 115 kV transmission lines and a number of neighborhood distribution substations. The 115 kV lines also deliver electrical energy to other neighborhood substations in communities adjacent to Federal Way.

PSE imports electrical energy from generation sources in Canada, the Columbia River basin and other regions outside of PSE's service territory. Additionally, PSE has its own hydro, thermal, wind and solar power-generating facilities. There are also about 1,500 small, customer-owned generation facilities that are interconnected with PSE's system and can export surplus energy into the grid. The vast majority of these are solar panel installations. Although this provides a very small portion of PSE's electrical supply portfolio, the number of customer-owned installations increases more every year.

PSE's Integrated Resource Plan (IRP) is updated and filed with the Washington Utilities and Transportation Commission every two years. The current plan, which was submitted in May of 2013, details the energy resources needed to reliably meet customers' wintertime, peak-hour electric demand over the next 20 years. The plan, which will be updated in the fall of 2015, forecasted that PSE would have to acquire approximately 4,900 megawatts of new power-supply capacity by 2033. This resource need is driven mainly by expiring purchased-power contracts and expected population and economic growth in the Puget Sound region. The IRP suggests that roughly half of the utility's long-term electric resource need can be met by energy efficiency and the renewal of transmission contracts. The IPR stated that the rest of PSE's gap in long-term power resources is likely to be met most economically with added natural gas-fired resources.

The capacity of individual electric lines depends on voltage, diameter of the wire, and the clearance to objects below the line. To meet this demand, some new transmission lines and substations will need to be constructed, as well as existing ones rebuilt and/or maintained. Utility work is sometimes needed to comply with federal system reliability regulations. Specific construction that is anticipated includes the following:



- Expand Marine View substation to accommodate a new 115kV line that will improve reliability through an automatic switching scheme.
- As electric loads increase a new 115kV transmission line will be necessary from the Christopher substation to the 115kV line that serves the Weyerhaeuser substation. This line would continue to the intersection of Enchanted Parkway South and Military Road South.

Increases in the electric demand on the Weyerhaeuser campus and surrounding area may require additional substations in any combination of the Five Mile Lake, Enchanted Parkway or Weyerhaeuser substation areas.

Gas Plan

Puget Sound Energy 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 18,880 gas customers within the City of Federal Way.

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 inches.



Distribution mains are fed from the district regulators. They range in size from 1¼ to 8 inches 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 ½ or 1-⅛ inches in diameter. Individual commercial and industrial service lines are typically 1¼, 2, or 4 inches in diameter.

PSE Gas System Integrity-Maintenance Planning has several DuPont manufactured main and service piping and STW 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.

PSE Gas System Integrity-System Planning does not have any major projects planned in 2015 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 increase 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.

10.4 TELECOMMUNICATIONS PLAN

Telecommunications is not only important for voice transmission but also provides the infrastructure for the transmission of images and electronic data. Telecommunications in Federal Way include both wired (land based) and wireless telephone services, internet service, and cable and satellite TV. CenturyLink and Comcast provide land-based telephone, cable TV service, and internet service. There are also several wireless telephone providers, and voice over internet providers (VoIP). Direct TV and Dish Network provide satellite television services.

Telephone System

Existing Facilities and Operations –CenturyLink and Comcast deliver land based telephone service throughout the City. Comcast also provides digital phone service (VoIP) while CenturyLink provides digital phone service only to its business customers. Their facilities are constructed overhead and in some cases underground.

Proposed Improvements – The telephone industry tends to be secretive about their facilities and plans. For this reason the City had difficulty obtaining information and mapped facility plans. CenturyLink is required by law to provide adequate telecommunications services on demand in compliance with RCW80.36.090 and WUTC regulations. Accordingly, CenturyLink will provide facilities, upon reasonable notice, to accommodate whatever growth pattern occurs within the City. Due to advances in technology, additional capacity is easily and quickly added to the system.

Wireless Networks

Existing Systems – The City is currently served with a number of wireless service providers including AT&T, T-Mobile, Sprint, and Verizon.

Wireless technologies use a line-of-sight radio signal transmitted and received by antennas. Therefore, it is not possible to underground the antennas or structures on which the antennas are mounted. Antennas and ancillary equipment are located on freestanding poles and towers and on existing structures and buildings. City code regulates their siting. The FCC regulates the cellular telephone industry to ensure that their operation does not interfere with AM/FM radio and cable television transmissions.

System Capacity – Capacity is a function of frequency of use, the number of sites in a geographic area, and the number of customers. Cellular facilities are located throughout the City. Frequent changes in their siting are not conducive to mapping.

Improvements to the Cellular System – Like the non-cellular telephone companies, wireless companies expand services in response to growth. For this reason, companies closely analyze market demand to determine expansions into new service areas. Cellular technology is constantly advancing so capacity is frequently expanded through technological advances at existing sites.



Internet Service

Various companies provide internet service by telephone, cable, wireless, and satellite. As the City constructs or reconstructs streets, it is providing conduits to assist in the installation of fiber optic communication systems.

Cable TV

Cable television service in the City is provided by Comcast, CenturyLink, Direct TV, and Dish Network. Comcast and CenturyLink utilize cable and fiber optic technologies and Direct TV and Dish Network utilize satellite technologies.

Proposed Improvements

Cable television installations are made to new subscribers (either to new dwelling units or, to a much smaller degree, to residences who have not opted for cable before) at published rates; provided they are less than 125 feet from a distribution or feeder line.

Connections requiring longer runs are charged on a time and material basis. Most public work considerations, such as tree trimming, work in the right-of-way, restoration of property, and so on, are covered in the City of Federal Way Master Cable Television Ordinance and Franchise Agreements with Cable Television providers.

10.5 FIBER OPTIC NETWORK

The City has entered into franchise agreements with Comcast and Williams Communications which have fiber optic networks in the City's rights-of-way. Williams Communication has upgraded the City's conduits along Military road.

In 2013, the City of Federal Way granted the Zayo Group, LLC a franchise for installation of fiber optic within certain empty and occupied conduit owned by the City. The main section of conduit runs along Pacific Highway South from approximately South 272nd Street to 16th Avenue South and South 340th Street. Additional conduits are located along South 320th Street, South 336th Street, South 348th Street, and Enchanted Parkway.

In exchange for leasing the conduit, Zayo Group, LLC is providing an extensive list of in-kind services to the City. Zayo is in the process of providing fiber optics at several intersections. This will enable the City to connect additional traffic signals via fiber optic for enhanced signal synchronizations. Zayo will connect the east and west portions of South 320th street over I-5 with fiber optics , which will greatly enhance the signal coordination along South 320th Street, Federal Way's busiest arterial.

Other in-kind services provided by Zayo include improving certain conduits to increase capacity, allowing City Hall to connect to the Federal Way School District Educational Service Center; the South Correctional Entity (SCORE) for enhanced video arraignments;

the Sabey Datacenter in Tukwila for future use for disaster recovery services; as well as a connection to the regional Community Connectivity Consortium.

The City is responsible for its portion of maintenance and repair fees, should a fiber break occur. The in-kind services provided by Zayo are a huge benefit to the City both in the present and long term.

AT&T and CenturyLink have fiber optic networks within the City but they have not entered into franchises with the City. The City of Federal Way, City of Tacoma, King County, the Washington State Department of Transportation (WSDOT), and the School District also have fiber optic networks. Public agencies do not require franchises to operate in the City.

10.6 SOLID WASTE MANAGEMENT

The City's Solid Waste Management roles include solid waste planning, public education and outreach, plus support and promotion of convenient and sustainable disposal and recycling options. The City administers contracts with service providers and monitors their performance in collecting solid waste, recyclables, compostable materials, yard waste, and public area litter. In this regard, the City is an advocate for ratepayers in obtaining the highest service levels at the lowest cost. In addition, the City is active in managing litter and materials illegally dumped in public areas.

A variety of other service providers manage specific waste types generated in the City, including service providers for demolition and land clearing debris, commercial bi-product management, bio-medical wastes, and charitable reuse.



Regionally, Federal Way and King County have a long-term (through 2040) Solid Waste Interlocal Agreement (SWIA) that is part of our solid waste planning foundation. The SWIA references the *King County Comprehensive Solid Waste Management Plan* (KC-CSWMP), a state-required plan that focuses on broader waste collection, processing, transfer, recycling, and disposal elements. The KC-CSWMP also incorporates some elements outside City purview (such as landfill operations and collection standards in adjacent unincorporated areas) that are relevant to our City's Waste Management system. Cities participate in periodic plan updates, plan ratification, then carry out the plan's objectives at the local level. The FWCP incorporates the policies and initiatives that originate in the KC-CSWMP by reference. However, the City will also tailor KC-CSWMP elements to best meet Federal Way's solid waste planning and service administration objectives.

To maximize efficiency and effectiveness, solid waste and recycling shall also be considered along with the many other elements that go into building design and site planning. If site access, tenant access, or space for adequate containers is overlooked, it may mean long-term inefficiency and higher overall ratepayer costs. The City will incorporate procedures into the plan review process and City code that promote adequate infrastructure to achieve these solid waste policies.

10.7 MODERATE RISK WASTE MANAGEMENT

The Hazardous Waste Management Program in King County was established in 1990 in response to RCW 70.105.220 which requires jurisdictions to develop a plan for managing hazardous wastes generated by residents, businesses, and institutions. Jurisdictions within King County collaborated to develop the Local Hazardous Waste Management Program Plan (LHWMP) which was last updated in 2010.

The FWCP incorporates the more detailed policies and initiatives that originate in the LHWMP by reference. However, the City will also tailor LHWMP elements to best meet Federal Way’s solid waste planning and service administration objectives. Hazardous wastes should be properly managed and disposed of according to procedures and standards set by federal, state, or regional agencies, such as those set forth in the LHWMP. The City intends to coordinate with South King Fire & Rescue, King County Board of Health regulations, and Public Health – Seattle & King County in the ongoing implementation of LHWMP objectives.

10.8 GOALS AND POLICIES FOR CITY ACTION

The Private Utilities chapter provides an opportunity for the City to assist utility companies in delivering efficient service to customers and to seek to reduce potential negative impacts on the natural and built environments. This section builds upon system descriptions to identify issues and sets forth policies to coordinate the provision of utilities with City planning.

The GMA requires that the utilities element include the general location, proposed location, and capacity of all existing and proposed utilities. This has resulted in cities and counties becoming more actively involved in the way in which utilities are sited and provided. In order to protect both citizens and utility customers, the City will work in accordance with the following goals and policies:

Goals

- PUG1** *Work with private utility companies to allow them to provide full and timely service that meets the needs of the City’s residents and businesses, both present and future.*
- PUG2** *Work with private utility companies to allow them to provide service in a way that balances cost-effectiveness with environmental protection, aesthetic impact, public safety, and public health.*

- PUG3** *Increase opportunities to create and utilize sustainable energy sources such as solar and wind power.*
- PUG4** *The City actively ensures appropriate recycling and disposal options are in place to protect the health and welfare of both residents and our environment.*
- PUG5** *The City's goal is to ensure that ratepayers receive high-quality and reliable services at reasonable cost when contracting with collection service providers.*
- PUG6** *The City actively engages and participates in KC-CSWMP updates and implementation, working toward aligning the plan with Federal Way's needs and the needs of ratepayers.*

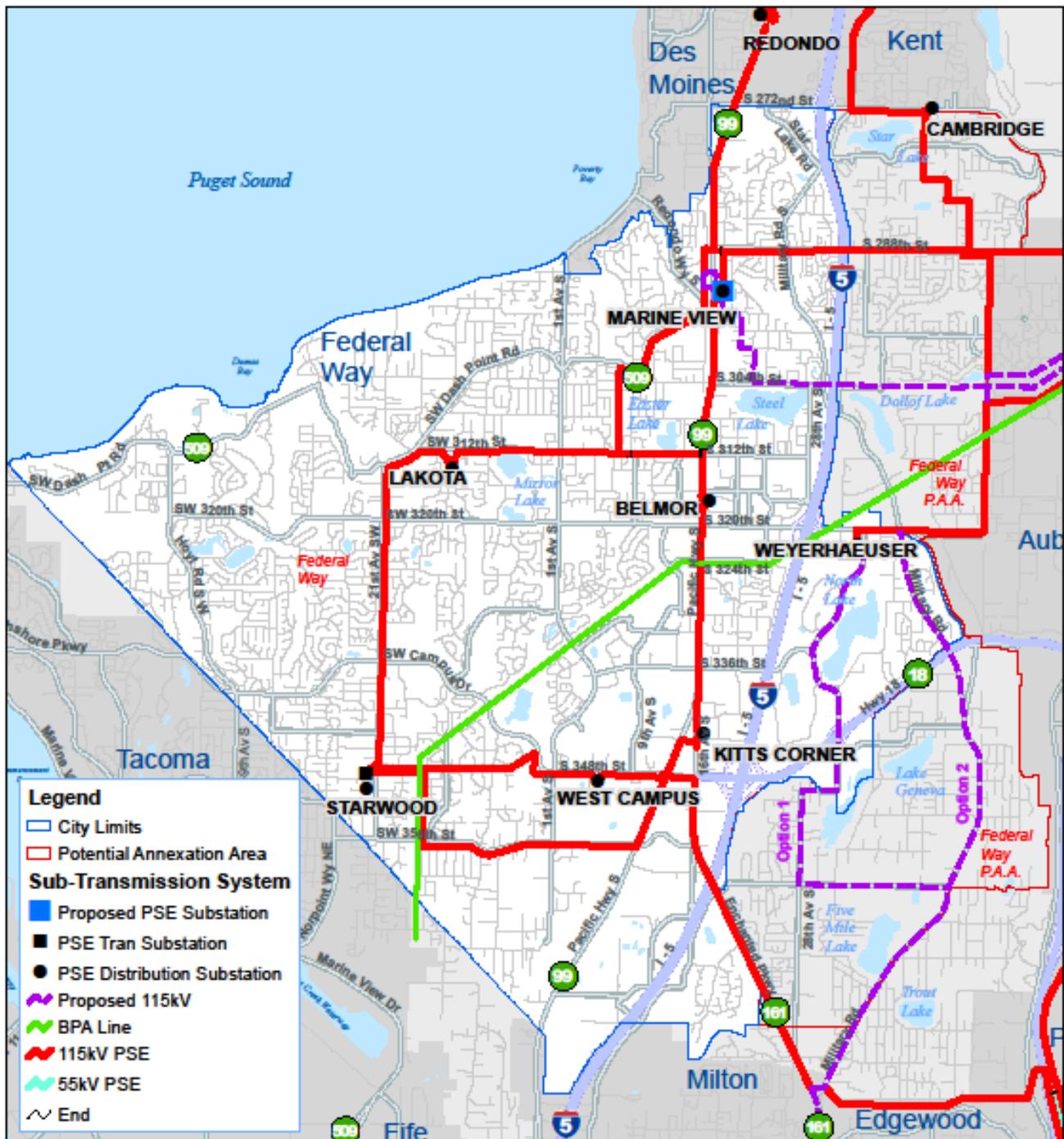
Policies

- PUP1** The City will, if possible, coordinate with other jurisdictions on proposed utility improvements that impact a multi-jurisdictional area.
- PUP2** The City should work to encourage, to the extent possible, the supply of all utilities to existing and new homes, offices, industrial, and commercial buildings.
- PUP3** The City encourages the joint use of trenches, conduits, or poles, so that utilities may coordinate expansion, maintenance, and upgrading facilities with the least amount of right-of-way disruption.
- PUP4** The City encourages utilities to inform one another of plans to expand or improve utility services.
- PUP5** The City will endeavor to inform utilities of upcoming improvements or expansions that may provide opportunities for joint use.
- PUP6** The City will endeavor to notify utilities of proposed plans to make highway or right-of-way improvements.
- PUP7** To facilitate energy conservation the City shall, at minimum, ensure that its buildings comply with state and federal standards for energy conservation.
- PUP8** The City will endeavor to work with utility companies to promote and educate the public about strategies for conserving energy.
- PUP9** The City should facilitate the use of solar power in residential, governmental and commercial applications by implementing straight-forward review and approval processes.
- PUP10** The City should evaluate and if necessary revise zoning regulations to address the siting of small-scale wind power generation facilities (for the use of individual properties).

- PUP11** The City will encourage and work with telecommunication and cable companies to develop fiber optic cable networks and other technologies and to increase interconnectivity between different networks.
- PUP12** The City will utilize existing and emerging communications technologies to communicate with citizens and businesses.
- PUP13** To the maximum extent possible and based upon applicable regulations, the City should require the undergrounding of utility distribution lines in new subdivisions, new construction, and significantly reconstructed facilities, consistent with all applicable laws.
- PUP14** To the maximum extent possible and based upon applicable regulations, the City should work with the utilities in preparing a plan for undergrounding utilities in areas where their visual impact is critical to improving the appearance of the City, such as the City Center and along Highway 99.
- PUP15** The City should, to the extent practical, work with utility providers in preparing a right-of-way vegetation plan that ensures that the needs of landscaping and screening are balanced with the need to prevent power outages.
- PUP16** The City should require that site-specific utility facilities such as antennas and substations be reasonably and appropriately sited and screened to mitigate adverse aesthetic impacts.
- PUP17** Through its development regulations, the City shall continue to address the siting, screening, and design standards for wireless/cellular facilities, substations, and antenna facilities in such a manner as to allow for reasonable and predictable review while minimizing potential land use and visual impacts on adjacent property.
- PUP18** The City should provide utility companies with plans, forecasts, and supporting data to assist in the proper planning for utilities.
- PUP19** The City should encourage utility providers to base extension and sizing of systems on the Land Use Plan in order to adequately serve anticipated growth.
- PUP20** Encourage utilities to provide the City with their utility service plans to allow better integration with other utilities and City plans.
- PUG21** The City recognizes the KC-CSWMP and its policies which will be referenced by the City as appropriate.
- PUG22** Promote the recycling of solid waste materials by providing opportunities for convenient recycling and by developing educational materials on recycling, composting, and other waste reduction methods. Waste reduction and source separation are the City’s preferred strategies for managing solid waste. Materials remaining after effective waste reduction and source separation should be managed in accordance with the KC-CSWMP.

- PUG23** Encourage and actively seek an effective regional approach to solid waste management, to leverage economies of scale and move toward similarities in services and parallel educational messaging.
- PUG24** Maintain a cost-effective and responsive solid waste collection system, with the overarching objective of ratepayers receiving high-quality services at a reasonable cost. In selecting elements of our solid waste collection system, consider all costs (internal to the City’s ratepayers – both residents and businesses, and external at the system level) as well as long-term factors such as cost-effective and environmentally benign disposal option(s).
- PUG25** Administer solid waste collection services in ways that minimize adverse impacts such as noise, litter, environmental pollution, and disruption to businesses and neighborhoods.
- PUG26** Provide uniform collection service to areas annexed to the City as soon as practicable, referencing RCW policies but also seeking uniformity via contract or franchise elements.
- PUG27** Develop and implement Preferred Building Code Elements, including space allocation for several waste streams (garbage, compostables, recyclables, hazardous materials, and other process wastes). Incorporate design elements that enable access to services, both for tenants and collection service vehicle. Consider development of a preference for covered solid waste enclosures or facilities that are tied to sanitary sewer to help reduce potential surface water management issues, and perform a comprehensive analysis to determine which elements should be grandfathered versus required improvements.
- PUG28** Cooperate with other private and public agencies in the region to manage and control hazardous waste and moderate risk waste, including household hazardous substances and moderate risk wastes generated by area businesses and institutions.
- PUG29** Educate the public in the proper handling and disposal of hazardous household waste and on the use of alternative products or practices which result in reducing the use and storage of hazardous materials in homes and businesses.
- PUG30** Provide for the safe and convenient disposal of hazardous household waste through permanent and conveniently located collection facilities for residents and small businesses to access.

Map X - 1 Existing & Proposed Improvements to the Sub-Transmission System



Legend

- City Limits
- Potential Annexation Area
- Sub-Transmission System**
- Proposed PSE Substation
- PSE Tran Substation
- PSE Distribution Substation
- Proposed 115kV
- BPA Line
- 115kV PSE
- 55kV PSE
- End

Information Date: 2015. Source: PSE



Utility Plan Element -
Puget Sound Energy - Electricity

This map is intended for use
as a graphical representation.
The City of Federal Way makes
no warranty as to its accuracy.