# CITY OF LACEY
# UTILITIES ELEMENT
## OF THE LACEY COMPREHENSIVE PLAN
## 2016

# UTILITIES ELEMENT

***Community Vision – Ensure that Lacey and the Urban Growth Area are adequately supplied with utilities and services for planned growth while protecting and conserving surface and groundwater resources.***

## INTRODUCTION

The Utilities Element of the Comprehensive Plan is intended to primarily focus on providing information on non-municipal utilities that are supplied by the private sector including electrical, natural gas, cable, and telecommunication services. Utilities provided by the City include drinking water, wastewater, and stormwater. Many of the Lacey's utility programs have adopted their own master plans to guide the administration and design of services. This Element provides a basic summary of the utility programs which are fully contained in the City's Water System Comprehensive Plan, Wastewater Comprehensive Plan, and Stormwater Comprehensive Plan. The entirety of the Water System Comprehensive Plan, Wastewater Comprehensive Plan, and the Stormwater Comprehensive Plan are hereby added to this Element. Provisions for future capital improvements are also included in the Capital Facilities Element of the Plan.

The City's ability to provide long term economic and environmental sustainability depends, in large part, on ensuring adequate utility services and supply. Lacey residents value the protection of City water supplies, lakes, and the Puget Sound through techniques, such as encouraging existing septic systems to connect to City sewer services.

The Growth Management Act guides the content of the Utilities Element. When available, contents are to include descriptions of locations and capacities of existing and proposed facilities. The GMA also directs identifying lands useful for public purposes such as utility corridors. Due to security and proprietary reasons much of this information is not made available by private utility purveyors.

Utilities are regulated in the state by the Washington Utilities and Transportation Commission. The commission acts in the public interest to regulate all persons engaging in the business of supplying, for compensation, utility service such as natural gas, electric, or telecommunications. The Federal Energy Regulatory Commission (FERC) sets rates and charges for the transportation and sale of natural gas, transportation of oil by pipeline, sale and transmission of electricity, and the licensing of hydroelectric power projects.

# PUBLIC UTILITIES

Lacey currently operates and manages three utility systems; drinking water, wastewater, and stormwater. Each utility is guided by a separate adopted comprehensive plan that includes a summary of the current system; system analysis; operations and maintenance; a capital improvement plan; and policies and criteria. The City is planning a fourth utility system for reclaimed water. Lacey works to provide coordinated, cost-effective utility services that consider economic, social and environmental implications.

## Drinking Water

Lacey owns and operates a water source, transmission, distribution, and storage system for domestic water. This utility operates under a permit granted by the Washington State Department of Health's Office of Drinking Water. The City's long-term planning strategy for its water service area is outlined in the Water System Comprehensive Plan. The Retail Water Service Area (RWSA) encompasses the majority of the City boundary, and expands into the UGA in accordance with the *North Thurston County Coordinated Water System Plan* (CWSP). The adjacent map shows the current RWSA for the City. The Plan is updated every six years and evaluates the existing system and its ability to meet the anticipated requirements for water source, quality, transmission, storage, and distribution over a twenty-year planning period. As of the end of 2011, Lacey provided water to 22,849 retail water connections.

Regional coordination is an important part of water system planning. The City coordinates services and planning with the cities of Olympia and Tumwater and the Thurston County PUD. The City currently provides water to areas outside of the UGA to customers formally served by other water systems. The majority of other water systems within the UGA are small or private water systems. These group "A" and "B" water systems are mapped as independent water systems and are not shown as part of Lacey's RWSA. It is the intent of the City to serve the full RWSA and urban growth area. Thurston County PUD serves the largest number of customers in the north central region of Lacey's UGA. The Tanglewilde system is the largest of the PUD systems, serving over 1,600 residents with the Pattison Lake system being the second largest serving over 1,400 residents.

The City secured new water rights that will allow the development of additional sources of supply that will be needed to meet system demands as the number of customers grows within the service area. The new rights became available to use in 2014 as the first phases of required mitigation were completed, including the Woodland Creek Regional Reclaimed Water Infiltration Facility. The water obtained as part of the 2014 rights will serve the build-out of the city and urban growth area through this Plan's horizon of 2035 provided that the private utility purveyors and other public sources within the UGA have enough water to serve the needs of future growth.

The City plans to work towards securing additional long-term rights and developing sources of supply that will eventually allow extending the boundaries of the service area to coincide with the City's UGA. Lacey will continue to evaluate multiple avenues to secure new water supplies and to pursue approval of its other water rights applications, utilize reclaimed water as it becomes available, and begin purchasing other existing water systems with excess water rights.

# City of Lacey Comprehensive Plan

## Retail Water Service Area Map

Water Service Area

City Limits

Urban Growth Area Boundary

0 0.25 0.5 1 Miles

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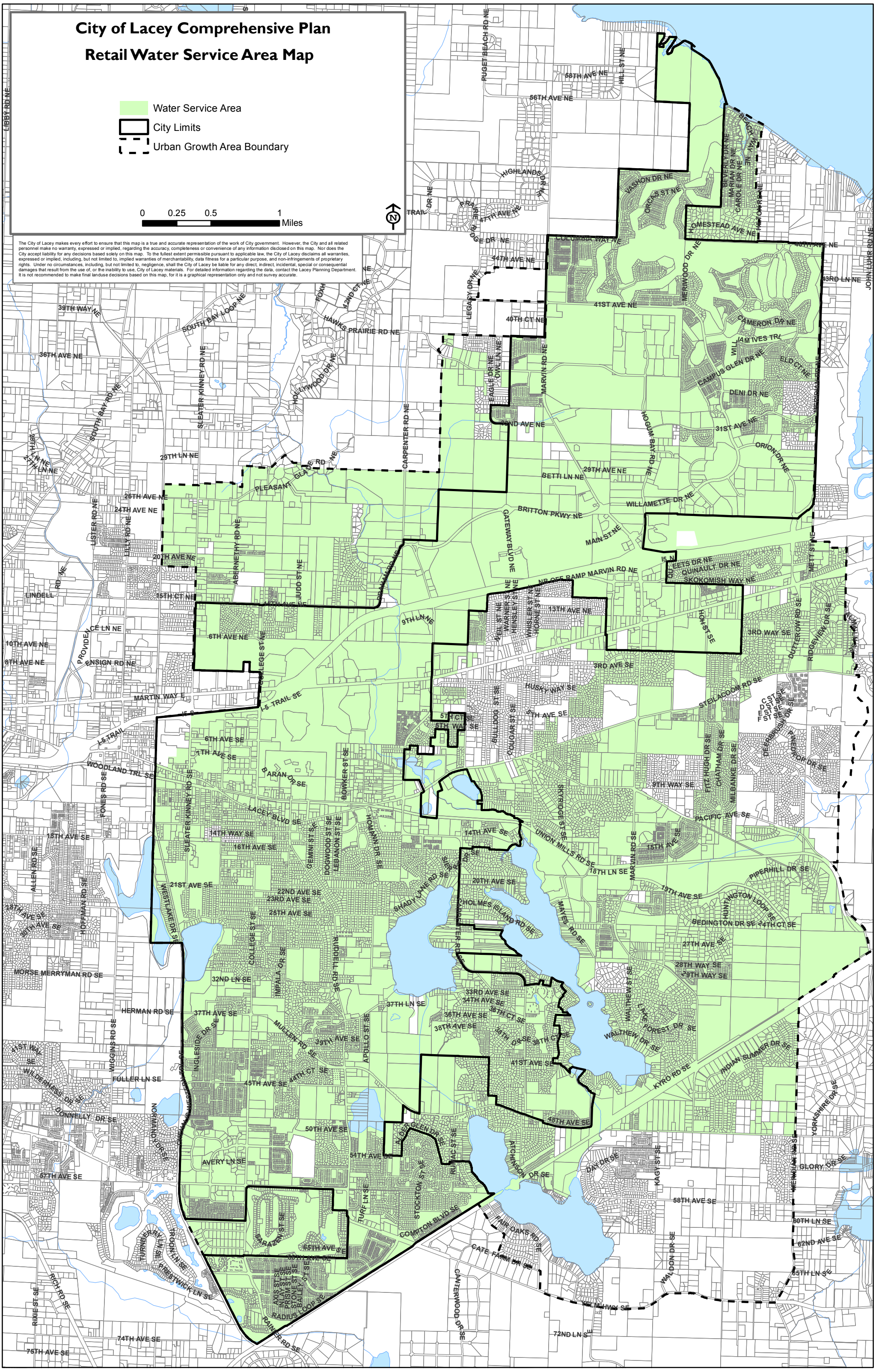

## Wastewater

Lacey owns, operates and maintains existing wastewater collection and conveyance facilities that provide sewer service to the City's current service area of approximately 13,800 acres. The collection system consists of gravity sewers, pump stations, force mains, septic tank effluent pump (STEP) systems, and grinder pump systems; all of these facilities collect and convey wastewater to the Budd Inlet Treatment Plant and the Martin Way Reclaimed Water Plant. The treatment plant and reclaimed water plant are owned and operated by the **L**acey-**O**lympia-**T**umwater-**T**hurston County Clean Water Alliance (LOTT). Reclaimed water produced by LOTT is available to the City and may be used for irrigation, dual plumbed buildings, environmental enhancement projects, and other non-potable uses. Lacey does not own any wastewater treatment facilities.

The City manages its wastewater utility in accordance with established wastewater system policies. The policies provide a consistent framework for the design, operation, maintenance, and service of the wastewater system for implementing programs, designing new infrastructure, and serving additional customers. The policies contained in the Wastewater Comprehensive Plan update are also coordinated and consistent with the policies contained in the other elements of the Comprehensive Plan. The most recent update to the City's Wastewater Comprehensive Plan was in 2015 and is intended to prepare for the wastewater needs until 2032. Lacey's sewer service area is expected to grow to approximately 21,200 to serve the projected growth over the next twenty years. The wastewater service boundary is identified on the map on the following page. The Plan complies with the Washington State Department of Ecology regulations for general sewer plans.

## Stormwater

The first Comprehensive Stormwater Plan for the City was completed in 2013 and is intended to guide the City's stormwater utility programs and projects. The Plan describes the challenges in managing stormwater runoff and protecting receiving water bodies. A primary purpose of the Plan is to maintain consistency with local, state, and federal regulations, charge equitable stormwater utility rates, and support the goals and policies in the Land Use Element. The stormwater service area follows the existing city limits. Lacey works with neighboring jurisdictions on stormwater related issues that occur at adjoining service boundaries.

Beginning in the early 1980's, the City in cooperation with the cities of Tumwater, Olympia, and Thurston County funded the *North Thurston County/Lacey/Olympia/Tumwater Surface Water Management Utility Development Plan* (1986) to identify methods to improve surface water quantity and quality conditions. Based on the results of this Plan, the City added provisions in the municipal code making it unlawful to discharge pollutants into the storm drainage system and established storm and surface water utility charges. During the next several years, Lacey created a Water Resources Division to manage the City's surface water runoff, groundwater and drinking water. The City also worked with adjoining jurisdictions to develop a regional drainage manual.

Lacey became the first city in Washington to adopt a "zero effect drainage discharge" ordinance to allow for modified standards for projects with no increase in effective impervious surfaces. The ordinance provided for the use of innovative low-impact development (LID) methods. The City adopted a revised Stormwater Design Manual in 2010. The manual regulates stormwater

# City of Lacey Comprehensive Plan

# Wastewater Service Boundary Map

City Limits

Urban Growth Area Boundary

Colored areas indicate individual basins that are eligible to be served by City of Lacey for sewer.

0 0.25 0.5 1 Miles

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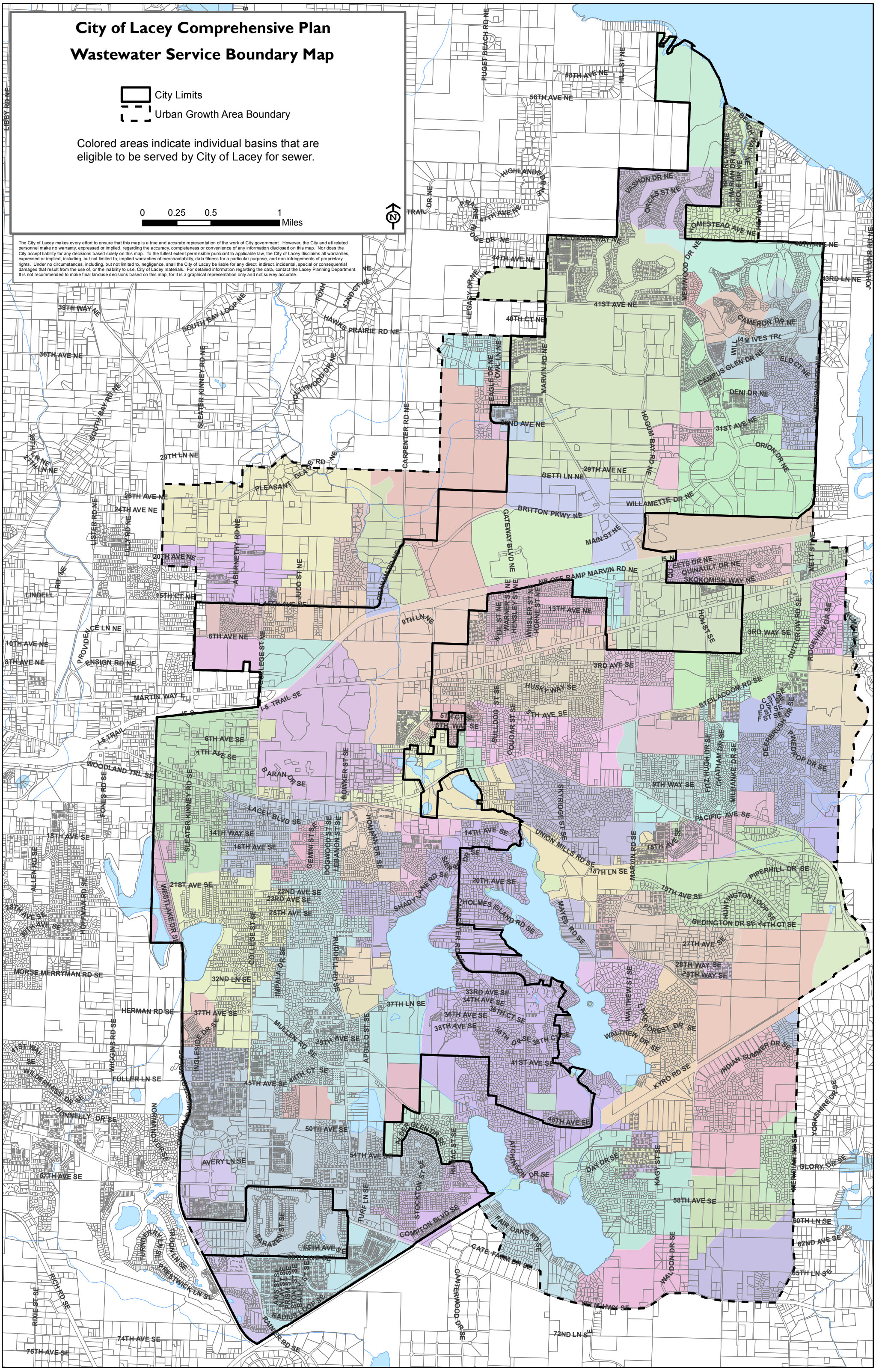


discharges to the municipal stormwater system and waters of the state. The manual also establishes minimum core requirements for development, redevelopment and road projects, and outlines Best Management Practices (BMP's) to be used to meet water quality and flow control requirements.

Stormwater management in the context of Low Impact Development (LID) strives to mimic natural hydrologic processes to manage stormwater onsite. The Stormwater Management Manual, in combination with the National Pollutant Discharge Elimination System (NPDES)Phase II permit, make LID BMP's mandatory where feasible for onsite stormwater management beginning in 2017. The City is currently working to incorporate these requirements by reviewing and revising its development-related codes, rules, and standards.

### Reclaimed Water

Lacey is in the process of establishing a reclaimed water utility that will include a defined service area. The utility will be managed in conformance with a comprehensive reclaimed water plan that will be prepared. The utility will construct a reclaimed water distribution system, including a booster pump station and reservoir, which is tentatively planned to begin construction in 2021. This system will provide access to reclaimed water along Britton Parkway and future main street corridors. Reclaimed water will be utilized for non-potable uses and will be prioritized for use for water rights mitigation, irrigation demands, and for other non-potable uses approved by the City and LOTT's National Pollutant Discharge Elimination System (NPDES) permit.

## INVESTOR-OWNED UTILITIES

### Natural Gas Service

Puget Sound Energy (PSE) builds, operates, and maintains natural gas facilities serving the city of Lacey. PSE is an investor-owned utility serving more than 770,000 natural gas customers in six western Washington counties including Thurston County. There are approximately 13,000 customers (residences or buildings) in the city of Lacey.

Natural gas is considered a utility of convenience, and is therefore not a mandatory provision of service by PSE. PSE activities associated with the provision of natural gas service are regulated through federal and state legislation. In addition, PSE is subject to the general regulations and oversight by the agencies, such as WUTC and FERC. There are other legislative implications for the natural gas industry, such as pipeline safety.

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. Natural gas is supplied to the city of Lacey through these gate stations. At the gate station, the natural gas is metered and becomes the responsibility of PSE. Supply mains then transport the gas from the gate stations to district regulators. Distribution mains are fed from the district regulators. Individual residential, commercial, and industrial service lines are fed by the distribution mains. PSE works with the other utilities to coordinate joint trenching efforts in new construction, road widening projects, and Local Improvement Districts. The City should encourage the continued

practice of this cooperative effort by providing the utilities with timely information regarding both private and public projects.

Utility corridors may provide enough space for more than one utility, and when this is the case, multiple use is encouraged. However, there are times when multiple use is not practical due to the size of the corridor, the topography, or some other reason such as construction standards. Existing corridors should be protected, and their further use for new facilities encouraged. There has been general agreement between jurisdictions and utility providers for the joint use of utility corridors.

Future expansion of PSE facilities has been planned by using the forecast analysis zones (FAZ's), in which a general area is identified and analyzed more closely as to what the future population and employment figures would be. The PSE planning department uses a saturation model which assumes all new households will use natural gas.

## Future Facility Construction

Based on the growth and demand upon the natural gas system, PSE has a major project planned in Lacey. It will involve the installation of a 12" high pressure main in two phases, placement in 14th Avenue SE, starting west of Josephine Court SE and traveling easterly to Ruddell Road SE. The line will then traverse northerly to Lacey Boulevard SE, travel east to Franz Street SE, move northerly to Pacific Avenue SE, and then easterly to Lake Lois Road SE. The schedule for construction has yet to be determined.

Other future projects are developed based on the following reasons:

1) New or replacement of existing facilities to increase capacity requirements due to new building construction or 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 currently meets the demand for gas service in the city of Lacey. In accordance with tariffs, PSE does not install gas lines prior to demand, however it does anticipate being able to meet existing and future needs within the City in the next twenty years. As outlined in PSE's Integrated Resource Plan, PSE implements conservation plans which focus on providing the most efficient energy to customers at the least cost.

## Electrical Service

The electrical service provider in Lacey and its growth area is Puget Sound Energy (PSE). PSE serves over 1,000,000 customers with electrical service in eight Washington counties.

PSE obtains and generates its electricity from several sources: renewables such as hydro, wind, solar, and co-generation; and electricity generated from coal, gas, and oil fired plants. Existing facilities located in the City, and the remainder of the unincorporated UGA, are shown on the adjacent private utilities map. PSE is also a national leader in wind power and is recognized as the second largest utility owner of wind energy facilities in the United States.

Electric service is considered a critical service, thus PSE is required to provide service to customers

# City of Lacey Comprehensive Plan
# Private Utilities Map

## ELECTRICITY - EXISTING

- PSE Transmission
- PSE Transmission Substations
- PSE Distribution Substations
- BPA Main Grid Transmission
- BPA Main Grid Transmission Substations

## NATURAL GAS - EXISTING

- PSE High Pressure Lines
- PSE Gate Stations

## ELECTRICITY - PROPOSED

- PSE Transmission
- PSE Transmission Substations
- PSE Distribution Substations

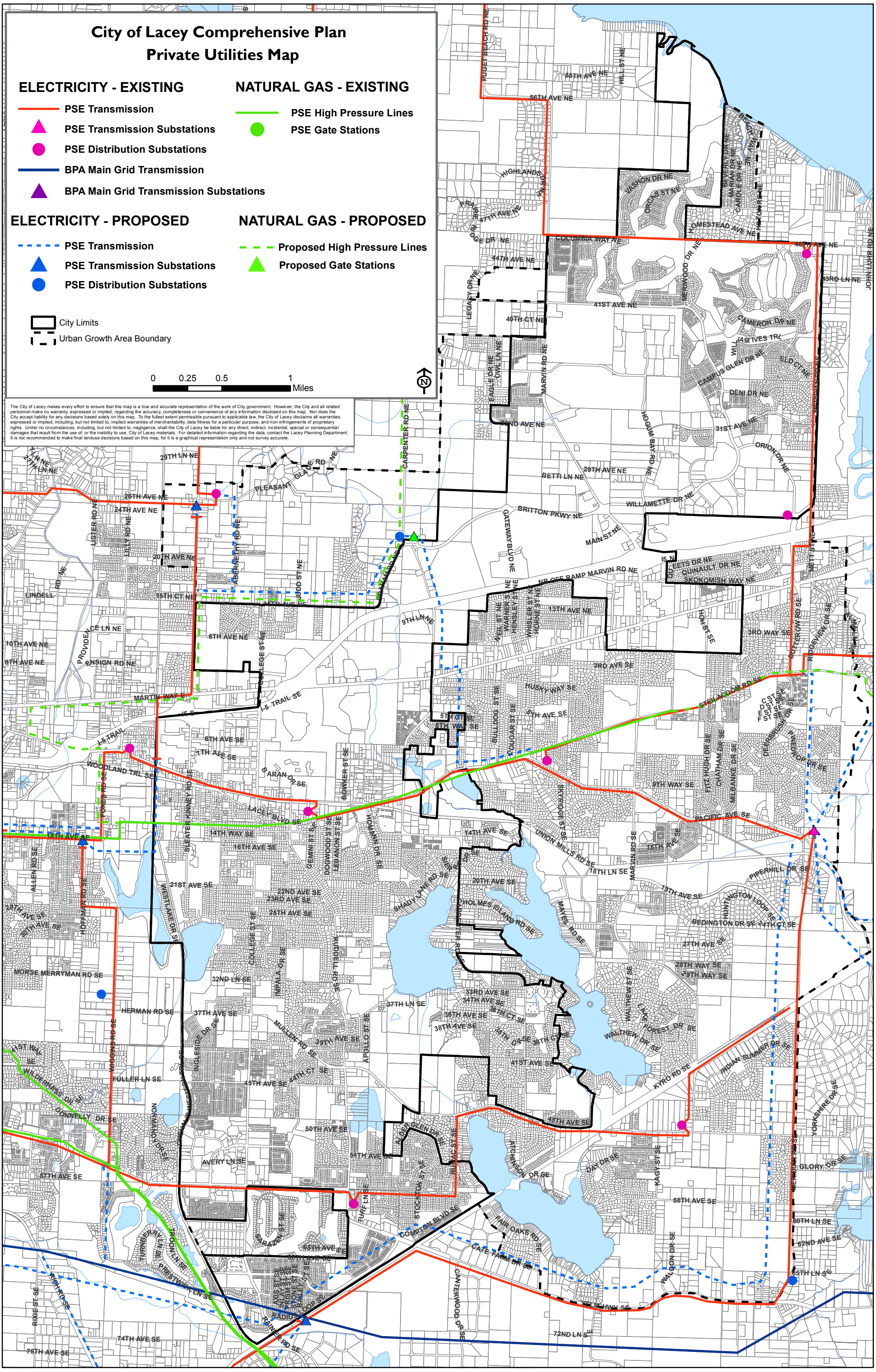
## NATURAL GAS - PROPOSED

- Proposed High Pressure Lines
- Proposed Gate Stations

- City Limits
- Urban Growth Area Boundary

0 0.25 0.5 1 Miles





who apply and can be suitably furnished with available electricity. The Washington Utilities Transportation Commission (WUTC) regulates PSE, including the determination whether the utility is meeting its public service obligations. The Commission is also required to review and approve PSE's *Integrated Resource Plan* (IRP). The IRP addresses PSE's long term plan for providing electric service in the future, including implementation of conservation measures. The U.S. Department of Energy regulates national and international energy transactions. An agency within this department is the Bonneville Power Administration (BPA). BPA does not directly regulate electric service providers, but it is a vendor of electricity and thus works with utilities to operate the northwest regional power grid.

The Lacey area map used in this Utility Element incorporates corridors and infrastructure designed to implement PSE's infrastructure planning. The attached private utilities map submitted by PSE and utilized in this Utility Element to show proposed facilities is not intended to indicate exactly where future facilities will be located. Density and load growth drive the need for new electrical facilities. Generally, utility corridors follow public rights-of-way, and this will continue to be encouraged by the City. Inclusion of this map does not indicate approval of future facility sites, but is instead acknowledgement of capital planning being done by PSE to provide service for anticipated future growth in the City.

Electric facilities such as substations are allowed under the Special Uses and Conditional Use Chapters of the Zoning Ordinance. These chapters outline what a special use consists of and provide the regulations for permitting them, including a public hearing. The public hearing process allows for public participation in decision making; therefore, no change in zoning requirements is recommended for siting electrical facilities.

Chapters 14.32 LMC, Tree and Vegetation Protection and Preservation and Chapter 12.20 LMC, Street Trees regulate tree and vegetation removal within the City. The purpose of these regulations is to preserve and enhance the City's physical and aesthetic character by preventing indiscriminate removal or destruction of trees and ground cover. The ordinance reflects the desire of the City to preserve trees, while allowing for their removal under certain circumstances such as interference with utility services and compliance with federal clearance zones. Tree removal in the public right-of-way or on private property requires a permit from the City. The only exception to obtaining a permit is in an emergency situation. City staff reviews projects to try and eliminate possible conflicts between vegetation and overhead utility facilities.

The State of Washington has adopted an Energy Code that establishes construction standards in new buildings in order to increase energy efficiency. This code is enforced by local jurisdictions throughout the State. In Lacey, the State Energy Code is enforced by the building inspectors. The City also has its own electrical inspector. In addition, since 2007, all of Lacey's municipal buildings, utility systems, park and recreation facilities, and more than 4,300 street lights are powered by "100 percent green" electrical energy. In addition to implementing energy efficient and conservation programs, PSE is required to comply with Washington's Energy Independence Act, also known as Initiative 937.

As outlined in the IRP, PSE currently meets the need for electric service in the city of Lacey and

is planning now to meet anticipated needs in the future. Those plans are based on information provided by Thurston Regional Planning Council for predicted population and employment growth. Based on current City land use projections, PSE has calculated what future demand for electricity will be in the Lacey area by the year 2025. These calculations are based on population and employment predictions by Thurston Regional Planning Council and contained in the *Profile* for Thurston County. The IRP also addresses conservation and demand side management effects upon the system.

## Standard Telephone Service

The main provider of standard telephone service in Lacey and its Urban Growth Area is CenturyLink Communications International, Inc. CenturyLink is an investor-owned corporation that also provides broadband data and voice communication services outside the local service area. In addition to CenturyLink, there are multiple companies that offer some form of local service. Generally, these other carriers have purchase agreements through CenturyLink.

Standard telephone service is considered a necessity; therefore, providers must provide phone facilities on demand. The federal government, through the Lifeline program, provides monthly assistance to qualifying low-income persons for wireline or wireless services. This assistance only covers a fraction of the cost associated with these services. The intent of providing this assistance is to help ensure connection to communication networks; assist with finding employment opportunities; access to health care services; and to call for help in an emergency.

## Telecommunications and Cellular Telephone Service

Due to the competitive nature of the telecommunications industry, maps of existing and proposed facilities or specific information on the systems are not available. Providers offering telecommunication services are continuously changing and entering the market. Cellular phones are regulated as a utility of convenience and therefore, are not required to provide service on demand.

The use of cellular telephones has changed significantly since the 'second generation' hand-held mobile phone systems emerged in the early 1990's. The need for locating cellular towers to provide service to the Lacey area resulted in specific zoning code amendments in the late 1990's to deal with wireless communication land use issues. Consumer needs have changed from mobile phones being used primarily in automobiles to use in a multitude of mobile locations, homes, and businesses.

Zoning provisions currently require co-location of facilities and demonstrating need for locating new towers. In addition, stealth technology, screening and buffering techniques are required to minimize land use conflicts with adjacent uses. In the nearly twenty years since the adoption of the City's present wireless communication standards, many changes in providing wireless services have occurred. Specific limitations regarding local governments' permitting and siting requirements of wireless facilities has been enacted by the federal government. Public perception has also changed regarding the siting of cell towers and other cellular facilities and the need to locate facilities closer to residential uses. These changes have necessitated the need to re-examine existing zoning and siting regulations for these facilities.

Some providers have programs to assist low-income individuals with internet use assistance and installation costs. Due to the declining use of wireline services, costs associated with cellular telephone services will continue to be difficult to manage for low-income individuals and families.

### Cable Service

Comcast of Washington IV, Inc. holds a non-exclusive franchise agreement for serving Lacey residents. The City entered into this agreement on February 26, 2009. This franchise agreement expires after a ten year period. Upon expiration, a new franchise agreement would need to be approved by the City Council. Cable companies are not regulated by the state as a private utility, but are instead regulated by the City and by the U.S. Federal Communications Commission (FCC). Properties that lie within the UGA are covered under Thurston County's franchise agreement.

A primary component of a cable system is a head end site, which is an electronic control center where the information signal is processed for distribution through the system. This signal can be received from a hard cable line, satellite dish, microwave antennae, or a TV antenna. The company has 47 aerial plant miles and 157 underground plant miles in Lacey and its UGA (includes both fiber and coaxial cable). Comcast participates in joint trenching with the other utilities.

Cable is also the primary means of high speed internet service in Lacey. The use of fiber optic technology and cable offers much higher data rates over relatively longer distance.

## GOALS AND POLICIES

**Goal 1: Ensure that existing residents and future residents are adequately served by water, sewer, and stormwater utility services through planning that considers growth demand, the environment, and asset management.**

*Policy A: All proposed development should be analyzed for anticipated impact on utilities and services.*

*Policy B: Complete interlocal agreements for the successful completion of water right transfers.*

*Policy C: Encourage the use and distribution of Class A reclaimed water throughout the City and Urban Growth Area as an alternative use of potable water to recharge aquifers and enhance stream flows.*

*Policy D: Reduce and maintain water system distribution leakage.*

*Policy E: Ensure services are provided to all existing populations, regardless of demographics.*

**Goal 2: Protect ground and surface water resources to maintain adequate supplies of clean drinking water.**

*Policy A: Protect the City's wellhead protection areas from contamination so that additional treatment is not required.*

*Policy B: Protect City water supplies, lakes, and the Puget Sound, and encourage existing septic systems to connect to sewer, should the service be available.*

*Policy C: Develop and implement strategies for the extension of the wastewater collection system into areas not currently served in the City and UGA.*

*Policy D: Protect groundwater and ensure that projects meet or exceed the most current stormwater requirements.*

*Policy E: Control runoff from new development, redevelopment, and construction sites by improved plan review and enforcement coordination, documentation, and tracking.*

**Goal 3: Coordinate utility and land use plans so that utility services can be provided and maintained for anticipated future land uses.**

*Policy A: Consider resources necessary to serve urban development needs at the earliest possible stages of planning for development.*

*Policy B: Cooperate in the planning of multi-jurisdictional agreements and improvements.*

*Policy C: Continue to encourage coordination and cooperation between the City and the various private utilities.*

*Policy D: The City and the utilities should share information regarding development plans, population growth projections, and other information relative to growth and the accompanying demand for services for the development and implementation of capital improvement programs and area plans.*

*Policy E: The City should consistently work to process permits in a timely manner.*

*Policy F: The City should incorporate input from utilities in developing ordinances or resolutions that may impact utility services.*

**Goal 4: Designate utility corridors**

*Policy A: The City and the utilities shall work together to designate utility corridors.*

*Policy B: Whenever feasible, utility corridors shall be included in public rights-of-way.*

**Goal 5: Mandate joint trenching of utility corridors and facilities consistent with prudent utility practice.**

*Policy A: The City shall provide the utilities with timely and pertinent information necessary to plan for joint trenching, including plats, LID's, and road construction projects.*

*Policy B: Utility purveyors shall coordinate joint trenching.*

**Goal 6: Require compatibility of utility development with existing and planned land uses.**

*Policy A: Require screening with indigenous and/or drought-tolerant vegetation and/or architecturally compatible integration of all new above-ground utility facilities.*

*Policy B: Review and update siting and design standards for wireless communication facilities that aim to integrate such facilities into the surrounding environment and limit negative aesthetic impacts.*

**Goal 7: Encourage public participation during planning for siting of utilities.**

*Policy A: Provide for community input on the siting of proposed utility facilities.*

**Goal 8: Regulate vegetation management by utilities.**

*Policy A: Except in an emergency situation, approval shall be obtained from the City prior to spraying, trimming, or removing vegetation within the public right-of-way. Also, approval shall be obtained from the City prior to vegetation removal on private property. After approval and prior to the work being done, affected property owners shall be notified.*

*Policy B: Trimming and removing vegetation shall be performed in an environmentally sensitive and aesthetically acceptable manner and according to professional arboricultural specifications and standards.*

*Policy C: Trees planted under power lines shall be species that will not grow to interfere with the lines, or become potential hazard trees to the lines because of size.*

**Goal 9: Encourage conservation of energy resources.**

*Policy A: Encourage development of cost-effective and environmentally sensitive alternative technologies and energy sources, including solar and wind energy.*

*Policy B: Encourage conservation of energy in City facilities.*

**Goal 10: Encourage provisions for land resources for utilities.**

*Policy A: Where possible accommodate land resources for utility substations and improvements within the developments that necessitate the utility improvements.*

*Policy B: Utility substations and utility improvements necessary to serve urban growth should be located within the urban growth management boundaries.*

## IMPLEMENTATION STRATEGIES

1) Advance the preparation and implementation of the Comprehensive Reclaimed Water Plan to secure additional water rights for the City.

2) Review and update design standards for wireless communication facilities.

3) Maintain and update the six-year Capital Facilities Plan on an annual basis to coordinate and schedule utility capital improvements.

4) Establish an ongoing retrofit program for aging City stormwater facilities.