

Element 06 – Utilities

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1. Introduction

This element covers issues related to public and private utilities including existing conditions, production capacity and the ability to accommodate forecasted demand. The Washington Growth Management Act requires that each city develop a Utilities Element as part of their comprehensive planning process. Specifically RCW 36.70A.070(4) requires:

“A utilities element consisting of the general location, proposed location, and capacity of all existing and proposed utilities, including, but not limited to, electrical lines, telecommunication lines, and natural gas lines.”

The City of Milton has operated its own electrical utility since 1911, and maintains its own water system. The City also maintains a stormwater utility in order to control stormwater damages, improve water quality and maintain compliance with the Department of Ecology Phase II NPDES program. Sewer is provided by Pierce County Sewer Utility as well as Lakehaven Utility District in the northeastern part of the City. Numerous other private and public utilities also provide gas, water, sewer, telecommunications, electricity, and garbage services to the City.

Unlike the publicly-provided utilities described in the Capital Facilities Element, levels of service and concurrency requirements do not apply to private utilities. The Washington Utility and Transportation Commission (WUTC) requires that privately owned utilities demonstrate that existing ratepayers do not subsidize new customers. The WUTC regulates utility and transportation providers to ensure safe and reliable service to consumers at reasonable rates. Most of Washington State’s investor-owned gas, electric, and telecommunications are regulated by the WUTC.

The City of Milton is required to adopt a Utility Plan for each of the utilities that it owns and operates; namely Water, Electricity and Stormwater. These utility plans discuss the system’s overall characteristics, service area, capacity, future demand, and projected physical improvements needed to maintain service to its service area. The applicable utility plan is the most appropriate place to maintain this detailed information regarding the utility. This Utility Element, including its goals and policies, should be relied upon in the creation and update of the City’s individual utility plans.

The following Utility Plans are hereby adopted, as amended, and incorporated fully herein:

- City of Milton Wellhead Protection Plan (2001)
- City of Milton Water System Plan (July 2010)
- City of Milton Comprehensive Stormwater Management Plan (July 2005)
- City of Milton Electric System Plan (July 2014)

2. Major Issues, Concerns, and Citizen Input

In creating the future plans and policies identified in this element the following list of issues were identified through a visioning process, online surveys, public participation events, and public meetings:

- All of the stormwater in the City eventually ends up on the Hylebos Creek. What are the appropriate steps that need to be taken in order to protect the City's drainage basin from adverse effects of urbanization?
- The Hylebos Creek and Lower Puget Sound Basin Plan, adopted by King County in 1994, contains recommendations for improvements to the regional drainage system. How should drainage improvements that may prevent future flooding be financed?
- The State and Federal government restriction related to stormwater are continually requiring more stringent controls for stormwater. What should the City do and require in controlling the quantity and quality of stormwater?
- Public Utilities are comprised of numerous parts of an overall system. How can increased efficiency throughout the system be encouraged and obtained, in order to provide a greater benefit to the end user?
- What is the appropriate level of service at which public utilities should dependably be able to provide service?
- The City is a wholesale purchaser of power from the Bonneville Power Administration (BPA). How will the City's negotiations and contracts with BPA affect Milton's end customer rates?
- At current rates, there is a finite supply of fossil fuels and an inherently endless amount of renewable energy sources. How should the City focus on reducing the demand for fossil fuels and encourage the use of renewable and clean energy sources?
- The City depends on other public and private utilities to provide public services to the City. What is the appropriate level of service to expect from these utilities and how can the City work with these utilities and service providers to assure adequate level of service to Milton?

All of these issues are part of the challenge surrounding utilities in the City of Milton over the next twenty years. The continued growth of the Puget Sound region and the City of Milton will continue to increase the demand on private and public utilities. However, effective planning can assure that the City's utilities, and its private service providers, are capable of providing adequate supply.

3. Utilities Goals & Policies

GOAL UT 1 – LAND USE COORDINATION

To ensure that the electrical, water, and storm drainage facilities and services needed to support current and future development within the City and its urban growth area are available when they are needed.

Pol. UT 1.1 New development shall be allowed only when and where all public utilities are adequate, and only when and where such development can be adequately served by public utilities without reducing level of service elsewhere.

Pol. UT 1.2 The City shall coordinate land use planning with facility/utility planning activities. These coordination efforts should be designed to ensure that the providers of public services and private utilities use the Land Use Element of this Plan in planning future facilities. The City shall adopt procedures for the review of and comment on proposed actions and policies by these public and private providers of public services.

Pol. UT 1.3 Process permits and approvals for all utility facilities in a fair and timely manner, and in accordance with development regulations that ensure predictability and the utility's ability to provide service when required.

Pol. UT 1.4 The City utility plans and policies should be kept up to date and utilize the projected population and employment growth in the Land Use Element as a basis for future demand on each utility. Furthermore, the City's utility plans and policies shall be consistent with the Pierce and King County countywide planning policies as appropriate.

GOAL UT 2 – NATURAL GAS

To coordinate with natural gas providers to maintain and enhance the development and operation of a quality natural gas distribution system that will meet the needs of the City of Milton and its urban service area.

Pol. UT 2.1 Private companies currently provide natural gas services within the City of Milton. To facilitate the coordination of these services, the City should discuss and exchange current population and employment forecasts, current facilities information and development plans, and technical data with the agencies identified in this plan on a frequent basis.

Pol. UT 2.2 The City shall consult and coordinate land use and natural gas facility planning with Puget Sound Energy to allow for construction and replacement of natural gas distribution conduits along roadways that are undergoing reconstruction.

Pol. UT 2.3 Where practical and possible, locate natural gas supply lines within a common or adjacent utilities corridor using street or road right-of-way.

Pol. UT 2.4 The City shall promote energy conservation measures in building codes in accordance with Washington State guidelines. The City shall promote energy conserving practices to reduce natural gas demands.

Pol UT 2.5 The City should work with the natural gas purveyor to ensure the safety of residents of the City who live near the fuel transmission line that crosses the City.

GOAL UT 3 -- ELECTRICITY

To coordinate with public and private electrical service providers to maintain and enhance the development and operation of a quality electrical service distribution system that will meet the needs of the City of Milton and its urban growth area.

Pol. UT 3.1 The City currently maintains the distribution system for electricity within the City. The City shall coordinate land use and electrical facility planning to allow for siting and construction of transmission and distribution facilities that provide sufficient amounts of electrical power with minimal periods of service interruption.

Pol. UT 3.2 The City shall make decisions with respect to electric utility facilities so that safe, adequate, and efficient availability of electrical service in other jurisdictions is not negatively affected.

Pol. UT 3.3 Where practical and desired by local property owners or developers, locate existing or proposed power distribution lines underground to reduce possible storm damage and aesthetic clutter.

Pol. UT 3.4 The City shall promote energy conservation measures in building codes in accordance with Washington State guidelines. The City shall promote energy conserving practices to reduce electrical power demands.

Pol. UT 3.5 In order to receive additional electrical power through BPA, the City has agreed to promote energy conservation measures. The City shall continue a policy of encouraging energy conservation by its customers.

Pol. UT 3.6 The City should work cooperatively with BPA to maintain a competitive rate structure that does not create a burden on Milton's Electrical Utility and/or Milton's customers.

GOAL UT 4 --TELECOMMUNICATIONS

To coordinate with telecommunication providers to maintain and enhance the development and operation of a quality telecommunication system that will meet the needs of the City of Milton and its urban growth area.

Pol. UT 4.1 The City shall advocate for the development and maintenance of telecommunications facilities (including telephone, cellular telephone, cable television, wireless facilities, and new communication technologies) necessary to provide services as needed to accommodate population growth and advancements in technology. For

wireless data networks, the City will work with providers to maintain and enhance the range of the regional service area.

Pol. UT 4.2 The City shall coordinate with telecommunication companies to provide residents with high speed communication facilities, both hardwire and wireless, for the benefit of the City's residents.

Pol. UT 4.3 The City should be responsive to the rapid changes in the telecommunications industry and should work diligently to ensure that service to residents of the City and its urban growth area is improved.

Pol. UT 4.4 The City will look towards the future in promoting the significant fiber optic communication line that currently exists along State Route 161 (Meridian Avenue).

GOAL UT 5 – STORMWATER

To manage stormwater runoff in such a manner as to: 1) protect property from flooding and erosion; 2) protect streams and shorelines from erosion and sedimentation to avoid the degradation of environmental quality and natural system aesthetics; 3) protect the quality of groundwater and surface water; 4) provide recharge of groundwater where appropriate; and 5) ensure that new development does not have an adverse effect on downstream properties.

Pol. UT 5.1 The City should maintain a comprehensive storm drainage plan which: 1) identifies existing and potential problems at the drainage basin level; 2) proposes solutions to those problems; 3) recognizes the importance of natural systems and receiving waters and their preservation and protection; 4) sets design and development guidelines; 5) provides a strategy for implementation and funding; and 6) encourages the use of Low Impact Development (LID) techniques where appropriate.

Pol. UT 5.2 Where appropriate for the drainage basin, the City should encourage regional approaches to managing stormwater to provide maintenance and cost efficiency. Where appropriate, regional facilities should be considered as a multi-functional community resource which provide other public benefits such as recreational, habitat, cultural, educational, open space and aesthetic opportunities.

Pol. UT 5.3 The City shall require new development to provide on-site storm drainage facilities and all off-site improvements necessary to avoid adverse downstream impacts.

Pol. UT 5.4 Where appropriate and feasible, infiltration of stormwater is preferred over surface discharge to downstream systems. The return of precipitation to the soil at natural rates near where it falls should be encouraged through the use of infiltration and bio-retention facilities, rain gardens, and other LID techniques.

Pol. UT 5.5 Development shall be designed and constructed to minimize disruption and/or degradation of natural vegetation and drainage systems, both during and

after construction. Development design, which minimizes impermeable surface coverage by limiting site coverage and maximizing the exposure of natural surfaces, should be encouraged.

Pol. UT 5.6 Industries and businesses should use best management practices to prevent erosion and sedimentation from occurring, and to prevent pollutants from entering ground or surface waters.

Pol. UT 5.7 Sites that have been cleared, graded or filled in violation of current or prior standards should be fully restored before construction permits are issued.

Pol. UT 5.8 The City should take steps to ensure that its storm drainage regulations protect threatened or endangered species, including, but not limited to, salmonid species.

Pol. UT 5.9 Both public and private storm drainage systems should be designed, constructed and maintained according to the most current storm water regulations adopted by the City.

Pol. UT 5.10 The City should consider adoption of LID techniques into the City's development regulations and zoning codes where it is determined to be appropriate.

Pol. UT 5.11 The City shall comply with the requirements of the Phase II Western Washington Municipal Stormwater Permit.

GOAL UT 6 – PUBLIC FACILITIES

To minimize impacts associated with the siting, development, and operation of utility services and facilities on adjacent properties and the natural environment.

Pol. UT 6.1 Electric power substations and recycling drop-off boxes should be sited, designed, and buffered (through extensive screening and/or landscaping) to fit in harmoniously with their surroundings. When sited within or adjacent to residential areas, special attention should be given to minimizing noise, light and glare impacts. Visual and land use impacts resulting from electrical system upgrades shall also be mitigated.

Pol. UT 6.2 The City shall encourage or require implementation of resource conservation practices and best management practices according to the U.S. Department of Agriculture's Natural Resources Conservation Service during the construction, operation, and maintenance of utility structures and improvements.

GOAL UT 7 – WATER

The City shall strive to provide the most cost-effective and efficient water service to residents within the City's urban growth area.

Pol. UT 7.1 The Water System Comprehensive Plan and future updates shall establish strategies for the protection of aquifers and the recharge of aquifers.

Pol. UT 7.2 The City shall provide an adequate water supply and distribution system for domestic use, fire flow, and fire protection at all times.

Pol. UT 7.3 The City shall promote voluntary conservation and encourage development of conservation devices and programs.

Pol. UT 7.4 The City shall pursue options for the development of additional water sources, including the potential for joint source development with adjacent water purveyors.

Pol. UT 7.5 The City shall implement a Wellhead Protection Program as required under the Clean Water Act for wells located within the City's corporate limits and UGA belonging to the City or adjacent water purveyors.

Pol. UT 7.6 The City shall designate wellhead protection areas as critical areas under Title 18 of the Milton Municipal Code.

Pol. UT 7.7 The City adopts the following Levels of Service (LOS) Standards for the City's Water System:

- A) The total source capacity in MGD should equal or exceed the design maximum demand rate plus the rate necessary to replace within 48 hours the amount of stored water for fire protection.
- B) The water system quality shall be in compliance with Washington Administrative Code requirements for water quality and requirements from other applicable agencies such as the Department of Health and Environmental Protection Agency (EPA).

Pol. UT 7.8 Future impacts associated with new development shall be paid by the Developer of properties in the City of Milton.

GOAL 8 – SEWERS

Pol. UT 8.1 Expansion of sewer service shall be coordinated among the City of Milton, the Lakehaven Utility District and Pierce County, and shall give priority to infill within the City limits and existing urbanized unincorporated areas within the urban growth area.

Pol. UT 8.2 The phasing of sewer expansion shall be coordinated with the City's land use plan to ensure efficient and cost-effective additions to the system, unless sewer service will remedy groundwater contamination and other health problems.

Pol. UT 8.3 New industrial development shall not be allowed on community or on-site sewage systems.

Pol. UT 8.4 The City shall require sewer connections for all new development, including single-family plats, unless otherwise approved by the City and consistent with the King and Pierce County-wide planning policies.

Pol. UT 8.5 In situations where septic systems are allowed for new development, the City shall require the installation of dry-line sewers, together with a requirement that the property owners covenant to participate in the cost of future sewer extensions necessary to achieve connection.

GOAL 9 – SOLID WASTE

To provide regular, cost-efficient solid waste services, including recycling and yard waste pickup, on a regular basis to City of Milton residents in order to make efficient use of natural resources and protect public health.

Pol. UT 9.1 The City shall continue to work with the provider of solid waste services to ensure regular service that is consistent with federal and state laws and regulations.

Pol. UT 9.2 The City shall work with the service provider, Pierce and King Counties to encourage household recycling of various materials in order to make more efficient use of resources and reduce the waste stream to landfills.

Pol. UT 9.3 The City shall work with Pierce and King Counties to provide educational materials to residents of Milton regarding the proper disposal of household hazardous wastes.

4. Analysis

Water

The City of Milton operates a water utility that provides water to all properties located within the City's water service area. Water utilities are required to adopt a comprehensive utility plan, which the City of Milton did in 2010 by adopting the City of Milton Water System Plan (WSP). The WSP has been prepared consistent with Department of Health requirements as specified in the Washington Administrative Code (WAC) Chapter 246-290. The WSP represents a commitment by the City to pursue and implement the plan's recommendations and capital improvements, in order to provide adequate potable and emergency water supply to the service area.

The WSP identifies the City's water service area boundary which was last updated in 1988 by an Interlocal Agreement with Pierce County and King County. The retail service area encompasses approximately 2,400 acres of land and is shown in Map UT-1. Approximately 90 percent of the retail service area is located within Pierce County, with the remaining 10 percent located in King County. The City accounts for over 60 percent of the retail service area with the remaining 40 percent comprised of unincorporated and incorporated areas of King and Pierce Counties.

Existing System

The City utilizes groundwater wells for its supply of water and also maintains an intertie with both Lakehaven Utility District and Mountain View-Edgewood Water Company for emergency and low flow conditions. The City's well sources include six wells (Well Nos. 3, 5, 10, 12 and Corridor Wells 1 and 2), which provide the City with all of its regular water usage needs. The City has a seventh well, Well No. 7, which is categorized as an emergency source. Table 1 shows the characteristics of the City's current wells.

	Well No. 3	Well No. 5	Well No. 7	Well No. 10	Well No. 12	Corridor Well No. 1	Corridor Well No. 2
Location	Fife Way	19th Ave & Emerald St	Porter & Kent Way	Porter & Kent Way	Porter & Kent Way	5 th Ave & 1 st St E	5 th Ave & 1 st St E
Pressure Zone	330	434	330	330	330	330	330
Date of Construction	1948	1961	1977	1986	2002	1984	2005
Elevation (ft above MSL)	20	300	30	30	30	40	57
Depth of Well Screen (ft below ground)	71	246	95	154	155	108	95
Wellfield Capacity	Unkn.	150-12hr 100-24hr	300 ⁽¹⁾	1,000 ⁽¹⁾	970 ⁽¹⁾	450 ⁽²⁾	300 ⁽²⁾
Current Output (gpm)	225	120	0	500	475	500	200
Static Water Level (ft below ground)	15	113	50-60	50-60	50-60	46	28

(1) Wellfield rating does not incorporate interference from the wells operating. Total wellfield capacity is approximately 1,000 gpm.

(2) Wellfield rating incorporates the interference from each of the wells operating. Total wellfield capacity is approximately 700 gpm.

The City currently has water right permits and certificates allowing for the withdrawal of water from the various wells throughout the service area. The total instantaneous withdrawal amount allowed is 5,420 gpm, which translates into a maximum daily withdrawal rate of 7.8 mgd. The City has an allowable annual withdrawal rate of 2,811 acre-feet or an average of 2.51 mgd. The combined current output of the seven active wells is approximately 2,020 gpm, which is significantly less than the quantity which the City has the water rights to utilize.

Table 2 – Summary of Milton’s water rights

Source Number	Certificate	Priority Date	Primary or Supplemental Right	Max. Instantaneous Withdrawal Rights		Maximum Annual Withdrawal Rights		Running Total of Primary Rights
				(gpm)	(MGD)	(ac-ft)	(MGD)	(ac-ft)
Well No. 4T ⁽¹⁾	500-D	Year 1900	Primary	300	0.43	480	0.43	480
Wells No. 1, 2, 3 ⁽²⁾	613-A	1/13/1948	Primary	500	0.72	600	0.54	1,080
Well No. 3	614-A	1/13/1948	Primary	1,500	2.16	1,160	1.04	2,240
Well No. 4 ⁽³⁾	3367-A	5/19/1958	Supplemental	500	0.72	803	0.72	2,240 ⁽⁴⁾
Well No. 5	4398-A	6/30/1961	Supplemental	170	0.24	272	0.24	2,240 ⁽⁵⁾
Wells No. 7, 10, 12 ⁽⁶⁾	4957-A	10/2/1963	Supplemental	150	0.22	240	0.21	2,240
Well No. 7, 10, 12 ⁽⁷⁾	G2-24540	5/9/1977	Supplemental	300	0.43	550	0.49	2,240 ⁽⁸⁾
Well No. 7, 10, 12	G2-27012	11/21/1986	Both	1,000	1.44	481p/31	0.71	2,811 ⁽⁹⁾
Corridor Wells 1 and	G1-24927P	11/17/1986	Both	1,000	1.44	482p/31	0.71	2,811 ⁽⁹⁾
TOTAL				5,420	7.80	3,203	2.86	2,811

The City of Milton has three reservoirs totaling 3.35 MG of storage. Two reservoirs with 1-MG and 2-MG capacities are located in the 434 Zone. The third reservoir at 15th Avenue is located in the 330 Zone.

Table 3 – Summary of Milton’s water storage capacity

Name	Volume	Overflow	Height	Diameter	Construction
15 th Avenue	0.35 MG	330 ft	40 feet	39 feet	Welded Steel
1.0 MG	1.0 MG	428 ft	76 feet	47 feet	Welded Steel
2.0 MG	2.0 MG	434 ft	72 feet	70 feet	Welded Steel

The City of Milton currently has interties with the Lakehaven Utility District and the Mt. View-Edgewood Water Company. The Lakehaven Utility District intertie can provide fire flow through a pressure reducing valve station which operates on pressure settings. The City also recently entered into a Wholesale Water Agreement with Mt. View-Edgewood, which provides for an additional 500 gpm to the City, as a seasonal connection.

The transmission and distribution system was developed over the years using materials current with water industry technology at the time of construction. The City now uses ductile iron (DI) pipe for

repairs and improvements. As the City continues to grow, the distribution system has spread to the boundaries of the water service area.

Future Needs

The Future Land Use Map (MAP LU-1), development regulations, and development and populations trends were utilized in creating the City’s 2010 Water System Plan. The operation of a municipal water utility involves the integration of numerous different components and systems. Computer hydraulic models are routinely used to accurately and realistically simulate the response of a water system under a variety of conditions and scenarios, such as future demand from new development and system improvements.

The production demands for the year 2029 are based on 2008 production demands and the anticipated population growth projections. In order to determine a projected “build-out” population, the City’s system was analyzed using MWHSOft’s H2ONet hydraulic modeling software, which operates in an AutoCAD computer-aided design and drafting environment. “Build-out” for a water system is defined as the point in time where the maximum peak day demand exceeds the cumulative well capacity and rights.

Year	Projected Service Area Population	Projected Average Day Production/ Demand (gpd)	Projected Peak Day Production/ Demand (gpd)	Projected Peak Hour Production/ Demand (gpm)	Projected ERUs⁽¹⁾
2009	7,947	926,917	2,041,431	2,341	3,776
2015	9,305	1,085,400	2,390,473	2,741	4,421
Build-out/2029 ⁽²⁾	12,371	1,442,967	3,177,973	3,644	5,878

Table 4 above shows the City’s ability to provide the necessary amount of water to its current customers and future projected population within the 20 year planning period. However, the City is not able to fully utilize the totality of these rights due to aquifer constraints. Maximum day demands are projected to exceed well and aquifer capacity at a service area population of 12,370; this is known as “built-out”. The population projection applies to the water service area and is not solely the population of the City of Milton. The population projection for “build-out” to occur was created in the 2010 Water System Plan by reviewing existing usage, development trends, development regulations and projected population. The City will need to develop additional source capacity before the service area reaches a “build-out” scenario.

Electricity

The transmission of electricity to Milton is regulated by The Washington Utility and Transportation Commission (WUTC). Milton established a municipally owned light company around the year 1911 (Milton Electric Department). Since the 1970’s the City has been purchasing its power from the Bonneville Power Administration (BPA), in Portland, Oregon. Continued cooperation with BPA is needed to maintain a consistent supply and cost of electricity to Milton. The City currently gets 100% of its power from BPA, while maintaining an informal emergency intertie with the City of Tacoma.

Future demand from projected growth and development has the potential to greatly impact the City's current contract with BPA bumping the City up into a "tier 2" pricing rate, resulting in a significant rate increase. The City has been actively promoting cost saving measures by providing incentives for energy efficiency and retrofitting City facilities and equipment where appropriate.

The City of Milton is a full-service customer of BPA, meaning that the City does not have an alternative or supplemental source of power other than BPA. On November 17, 2008, the City Council approved a new Power Sales Agreement with BPA that is the basis for the rates that the City currently pays BPA for transmission power. This contract will remain in effect for the next 17 years.

Since the City owns and maintains the distribution system, it is effectively reselling the power to the Milton users. Portions of Milton and its UGA are served by Puget Sound Energy (PSE) and Tacoma Power. As Milton annexes land within its UGA, Milton is permitted to purchase the rights to serve the PSE customers after a period of five years from the time of annexation.

Existing System

The City's electrical system serves the area lying mostly within the Milton city limits, consisting of residential, commercial, municipal and industrial customers (As shown on Map UT-2). The electric distribution system includes: a 115-12.47/7.2-kV BPA owned substation (Surprise Lake Substation), three feeder circuits, 12.5-kV primary distribution lines consisting of approximately 19 miles of overhead lines and 8 miles of underground lines, distribution transformers, street lights, and secondary services within meters.

The City last adopted the Electric System Plan in 2005 and is in the process of updating this plan. The current electrical system is in relatively good condition due to routine maintenance, and can accommodate the future demand anticipated in the planning period.

Future Needs

The City's current Electrical System Plan was created in 2005 and needs to be updated. The vast majority of capital improvements identified in this plan have been completed. Part of updating the Electrical System Plan will need to include a capital improvements program to integrate long term forecast and budgeting.

The City is currently classified as a "tier 1" customer by BPA. This effectively locks us into a fixed pricing rate. However, the increase in power demand from the City will eventually bump the City up into "tier 2" pricing. The City will need to create a strategy for dealing with the extra expense and allocating it to its customers.

The City has relied on Tacoma Power's goodwill to supply us with power in cases where our substation is out of commission. This is not a long term sustainable solution, and the City needs to establish a plan for an alternative electric source similar to the interties that the water utility has with other water purveyors.

Currently the City receives all of its power through the BPA owned, Surprise Lake Substation. BPA is no longer in the business of owning, operating and maintaining substations. As such, the City will need to consider a long term strategy for the substation.

Stormwater

The City of Milton is an operator of a small municipal separated storm sewer system (MS4s) which is regulated by the Federal Clean Water Act. MS4s are required to comply with the Phase II National Pollutant Discharge Elimination System (NPDES) Stormwater Program which is administrated by the State Department of Ecology. The NPDES Municipal Permit program was created to authorize the discharge of stormwater and non-stormwater flows to surface waters and ground waters of the state from MS4s owned or operated by the City. The Permit requires the City to implement programs and practices to minimize polluted stormwater runoff.

The City adopted the 2005 Stormwater Comprehensive Plan and development regulations as a tool to maintain compliance with the Clean Water Act and the Phase II NPDES Program

The City currently requires improvements effecting impervious surface on private property to comply with the 2005 *Stormwater Management Manual for Western Washington* published by the Department of Ecology (DOE). As part of the NPDES program the City will be required to adopt the 2012 Department of Ecology *Stormwater Management Manual for Western Washington* Manual (or an equivalent approved manual) and incorporate it into its development regulations by 2016. Adopting the 2012 Manual will help the City in enforcing the goal of providing water quantity and quality control by implementing Low Impact Development techniques (LID).

Most of the stormwater management problems within the basin are related to encroachment within the floodplains, the loss of existing flood storage areas, and increased flows and polluted runoff due to urbanization. In the lower reaches of Hylebos Creek, particularly within and downstream of Milton, there are several areas where construction and/or filling of the floodplain has occurred. Furthermore, increases in impervious surfaces have reduced the ability for water to naturally infiltrate into the ground. This in turn speeds up flow rates in the storm system, which in turn increases the amount of sediment in the stormwater entering the watershed.

Stormwater Drainage Basin

The Milton planning area is located within the Hylebos Creek drainage basin, which is part of the Puyallup/White River Watershed. A drainage "basin" is a term used to describe the natural drainage system. A basin consists of the land that drains into a particular river or stream. A basin is an interrelated system in that what happens in one part of the basin has the potential to affect the entire basin. The Hylebos Creek Basin is only one basin, of many, located within the Puyallup/White River Watershed (WRIA 10).

As identified in the currently adopted City of Milton Stormwater Comprehensive Plan, the City is split up into 5 sub-basins, which are shown on Map UT-3 and described below.

Sub-basin #1 includes an approximately 250 acre region in the south east portion of the City, which drains to Surprise Lake. Land use within the basin consists of single-family and multi-family development with large commercial areas along SR 161.

Sub-basin #2 is an approximately 340 acre basin, which drains the south-central portion of the City to the Surprise Lake outlet channel also known as the Surprise Lake ditch. Land uses within this basin are primarily single-family residential.

Sub-basin #3 is located in the central portion of the City and includes an area of approximately 330 acres, which drains into the Lower Hylebos Creek. Land uses within the basin are primarily single family residential with open space, a few commercial areas located along Milton Way, and public facilities including City Hall.

Sub-basin #4 is located at the north end of the City and includes an area of approximately 515 acres with drains into the East Branch of the Hylebos Creek. Land uses within the basin include single-family residences, as well as light industrial and commercial uses and a surface gravel mine.

Sub-basin #5 includes approximately 270 acres, split by I-5, in the western portion of the City which drains to the West Branch of the Hylebos Creek. Land use in the basin is primarily commercial along SR 99 with some single family residences located on the east side of I-5

All 5 sub-basins eventually end up draining into the Hylebos Creek. The entire Hylebos Creek system is composed of over 25 miles of stream, five named lakes, and approximately 30 wetlands identified by the National Wetlands Inventory, totaling over 250 acres. The basin also contains a number of other small unnamed ponds and un-inventoried wetland areas. The headwaters of West Branch Hylebos Creek are located in Federal Way and North Lake, which flank both sides of I-5. The East and West Branch Hylebos Creek converge within the broad floodplain of Lower Hylebos Creek near the King-Pierce County line, and form the main stem near Porter Way in Milton. The main stem of Hylebos Creek then roughly parallels I-5 down to the 70th Avenue overpass, southwest of Milton, where the Surprise Lake ditch joins it. Hylebos Creek then turns northwest prior to entering the Hylebos Waterway and Commencement Bay, almost 9 miles from its headwaters in King County.

The City-owned storm drainage system includes ponds, pipes, culverts, open ditches, and other stormwater facilities. There are also many private storm systems located in the City of Milton. The City maintains the City owned facilities, and is required to inspect the privately owned facilities for compliance with the stormwater regulations. Private property owners are responsible for maintaining stormwater facilities on their property.

Future Needs

The City adopted the 2005 Stormwater Management Plan in order to maintain compliance with the Clean Water Act and the Phase II NPDES permit. This plan contains a list of problem areas as well as potential solutions to improve flooding problems in these areas. A number of these improvements have already been completed including the Kent Street Detention Pond. There are also a number of outstanding projects including the Surprise Lake outfall. The plan also includes suggestions for improving surface water quality in the City.

The City currently experiences flooding during high flow events. Most notably are the areas immediately adjacent to the Hylebos Creek in and around 5th Ave and Porter Way. This area is within the 100 year floodplain and routinely floods. The City has purchased flood prone properties in this area and has converted one of these into the West Milton Nature Preserve, and is actively working on remedying the other purchased property.

As required by the City's Phase II NPDES Permit, the City will continue to maintain a stormwater management plan and implement its regulations, maintain existing City owned facilities, inspect privately owned facilities, and require new development to design controls for the stormwater consistent with the applicable Department of Ecology Stormwater Manual.

Sewer

Sewer in the City of Milton is provided by Pierce County Sewer Utility and Lakehaven Utility District. Lakehaven covers a small portion, primarily in the northeast corner of Milton, while Pierce County Sewer covers the remainder of Milton, with a few septic systems still in existence throughout the City.

The Pierce County Sewer Utility's major service area includes the cities of University Place, Lakewood, DuPont, Milton, and unincorporated areas within the County's urban growth area including Parkland, Spanaway, Frederickson, South Hill, Brown's Point, portions of Midland, and the lower Hylebos area of northern Pierce County and the Tehaleh Development. Sewer discharge from the City of Milton flows to the City of Tacoma's Central Wastewater Treatment Plant. The Central Wastewater Treatment Plant features one of the most technologically advanced treatment processes in the country. Every bit of the biosolids material processed at the plant is recycled and turned into TAGRO gardening products - Mix and Potting Soil.

The Lakehaven Utility District's Service area covers most of Federal Way, and portions of Auburn, Pacific, Tacoma, Des Moines, and Milton. The northern boundary is one mile south of Kent; the southern boundary slightly overlaps the Pierce County line; the western boundary follows the Puget Sound shoreline; and the eastern boundary slightly overlaps the western city limits of Auburn. In addition, the District serves an unincorporated area of approximately 18 square miles in King County, north of Federal Way and west of Auburn. The sewer system includes 350 miles of mainline, 27 pump stations and two secondary wastewater treatment plants. The Redondo Plant is designed for an average flow of 4.32 MGD and the Lakota Plant is designed for an average flow of 10 MGD.

Natural Gas

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 1400 customers within the City of Milton.

Existing 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 needs

The DuPont Pipe Replacement project planned to replace various sections of pipe that has been determined to require replacement. Exploratory potholing (up to 8) is needed in the city limits to identify the manufacturer of older PE pipe to determine whether it is DuPont pipe.

New projects can be developed in the future at any time due to:

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

Telecommunications

Telecommunications includes such services as telephone, broadband Internet, cable television, wireless phone coverage and high speed wireless network coverage. The City is currently served by landline telephone and cable access, through franchise agreement with numerous service providers. The City also has a number of wireless communication facilities located in the City and its immediate vicinity, some of which are installed on City infrastructure such as water towers. Access to these services is provided by a number of carriers including Sprint, T-Mobile, Verizon, AT&T, Comcast, Click, Qwest, and others.

High-speed internet access is commonplace throughout the region, and is absolutely necessary in order for the City to remain competitive in attracting new business and development. Service to residential portions of Milton is also necessary for education and home based businesses.

High speed internet access, as well as cellular phone access, is provided by numerous Wireless Communication Facilities within the City and its immediate vicinity. Some federal laws limit the authority of local jurisdictions, but cities still have local land use powers to ensure wireless communication facilities are an asset, rather than blight on the community. The City also recognizes that it must remain flexible, as these technologies are changing rapidly and the types of land use issues today (e.g. location, aesthetics, sight lines) may not be an issue in three to five years. Milton will continue to have opportunities to upgrade the local system through franchise agreements and other land use approvals.