

## CHAPTER 2. ISSUE BRIEFS

Each of the issue papers presented in Chapter 2 summarizes key questions and conclusions for sewerage planning within Pierce County and for the Pierce County Wastewater Utility. The issues covered and conclusions reached have influenced the form of the Unified Sewer

Plan and its Recommended Alternative. As summaries, these issue briefs articulate questions or concerns, set out the law and arguments that bear on the questions posed, and describe the conclusion reached.

### 2.1 ENDANGERED SPECIES ACT – PUGET SOUND CHINOOK AND BULL TROUT

#### **2.1.1 Description of the Issue**

In 1999, the Puget Sound chinook salmon and bull trout were listed as “threatened species” under the Endangered Species Act (ESA). The designation of a threatened species places limitations on uses and activities which may result in a “take” (the harming, harassing or killing of the designated species). Treated wastewater discharged to surface water and the construction of sewerage facilities, which involves grading, land clearing and excavation, can be subject to a “takings” lawsuit under ESA and the imposition of damages and other legal sanctions.

#### **2.1.2 Background**

The operation and maintenance of wastewater treatment plants are subject to the limitations imposed by the Endangered Species Act. Failure to comply with ESA leaves the County open to civil lawsuits and creates an uncertain regulatory environment. On March 16, 1999, the National Marine Fisheries under the authority of the Endangered Species Act declared the Puget Sound chinook salmon a threatened species. In November 1999, the U.S. Department of Fish and Wildlife designated the bull trout as a threatened species. Both fish are found within the Unified Sewer Plan Study Area. Chinook salmon are found within the Puyallup, White and Carbon Rivers and their tributaries. The bull trout are found within all mainstream tributaries of the Puyallup. Both species are found within Puget Sound. While the habitat for both species is generally similar, bull trout have been found to be particularly sensitive to an increase in water temperatures and reduced water quality.

Under ESA, local governments are required to develop a recovery plan for each species covered within their jurisdictions. The recovery plan will include actions that can be taken by sewerage agencies to improve habitat for listed species. Draft recovery plans are being formulated on both statewide and at the local level. These efforts include the *Draft Statewide Strategy to Recover Salmon* (Governor’s Salmon Recovery Office, 1999); the Tri-County ESA Response drafted by King, Pierce and Snohomish Counties; and the Pierce County Draft ESA Response (March 1999).

National Marine Fisheries published draft regulations for the conservation of Puget Sound chinook on January 3, 2000. Bull trout received full protection under Section 9 of the Endangered Species Act on November 1, 1999.

#### **2.1.3 Criteria:**

50 CFR Part 17, *Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for Bull Trout in the Coterminous United States; Final Rule*

50 CFR Part 223, *Endangered and Threatened Species; Proposed Rule Governing Take of Seven Threatened Evolutionary Significant Units (ESUs); Proposed Rule*

16 USC Chapter 35, *Endangered Species Act*

*Draft Statewide Strategy to Recover Salmon* (Governor’s Salmon Recovery Office, 1999);

Tri-County ESA Response drafted by King,  
Pierce and Snohomish Counties

Pierce County Draft ESA Response (March  
1999).

#### **2.1.4 Conclusion**

At this time it is undetermined what processes will be required by ESA and its impacts to the Wastewater Utility. It is likely that construction projects will require consultation with National Marine Fisheries and with Department of Fish and Wildlife. Advance consultation will determine if any threatened or endangered species are known to inhabit areas that may be disturbed by the construction or operation of treatment facilities. Future infrastructure expansion activities and outfall conveyance construction will likely have to occur consistent with the adopted recovery plans. In most cases this would mean limiting construction to periods when salmon are not migrating and ensuring that water quality standards are maintained.

Typically issue papers such as these were used to supplement staff reports prepared for the Pierce County Planning Commission and Pierce County Council in past sewerage plans. However, staff reports are usually archived shortly after a plan is adopted and so are more difficult for the public to access as time passes. They are included here as a more accessible record of the assumptions and rationale for the plan's approach.

## 2.2 ON-SITE SEWER SYSTEM MAINTENANCE

### **2.2.1 Description of the Issue**

Based on recent changes in legislation, local governments can no longer rely on the Pierce County Wastewater Utility to maintain the failed community on-site systems that lie outside the established sewer service area. Wastewater utilities authorized under 36.94 RCW are no longer authorized to assume maintenance responsibility for failed community on-site systems. There are currently almost 200 community on-site systems within Pierce County serving commercial and residential properties. As these systems age, fall into disrepair, or if the system was incorrectly installed, the treatment system begins to breakdown and fail. If a repair is not possible or is cost prohibitive, and sanitary sewers are not available, residents seek help from the local government.

### **2.2.2 Background**

The 1967 County Services Act (Chapters 36-94 RCW) authorized counties to provide operation and maintenance of sewerage systems, including sanitary sewers and on-site systems. In the Chambers Creek - Clover Creek Basin, Pierce County provided community on-site maintenance and operation services for new construction projects which paid into ULID 73-1 until permanent sewers became available with the construction of the Chambers Creek Regional Wastewater Treatment Plant. Between 1969 and 1984 Pierce County maintained over 100 community systems. Connection of these systems to sanitary sewers began in 1984. Only five community systems still remain under Pierce County control. Three of these systems are scheduled to be connected to Pierce County sanitary sewers within the next two years. The remaining systems, Cypress Green in American Lake Gardens and Etloh Panoramic View on Fox Island are located within areas difficult to serve. Plans are to maintain the Etloh on-site system indefinitely, as Pierce County has no Urban Growth Area or sanitary

sewers in the Kitsap drainage basin. While Pierce County accepted community systems in the past, Pierce County has assumed no new community systems since 1983.

State legislation in 1998 amended the powers of a county in providing maintenance service for community on-site systems. 36.94.020 RCW, prohibits the County from providing

*“...on-site sewage inspection, pumping services or other maintenance or repair services ...using county employees unless the on-site system is connected by a publicly owned collection system to the county’s sewerage system..”*

On-site maintenance responsibilities were reassigned to local health agencies. In 1998, the Tacoma-Pierce County Health Department initiated an On-site Sewer System Maintenance Program

### **2.2.3 Criteria**

36.94 RCW Sewerage, Water and Drainage Systems

70.118 RCW *On-Site Sewage Disposal Systems*

### **2.2.4 Conclusion**

Pierce County can no longer accept maintenance obligations for failed community on-site systems. Legislation in 1998 established a Maintenance Program for all on-site systems. Community systems are the responsibility of the homeowners and the Tacoma-Pierce County Health Department. Community on-site systems are permitted and monitored by Tacoma-Pierce County Health Department, Washington Department of Health and Washington Department of Ecology. The maintenance program applies to both individual and community systems.

## 2.3 WATER REUSE AND RECLAMATION

### 2.3.1 Description of the Issue

Several planning projects are forthcoming which will provide the baseline information required to analyze wastewater reuse opportunities. How can a meaningful investigation of reuse opportunities occur in advance of these studies?

### 2.3.2 Background

Reclaimed water is wastewater that has gone through additional treatment and can be reused instead of being directly discharged into a receiving water body. In Washington State, reclaimed water is considered a water resource. In 1997, Water Pollution Control (Chapters 90.48 RCW) was amended to require consideration of reclaimed water uses in plans for wastewater treatment facilities and engineering reports. In August 1998 the State Departments of Ecology and Health issued *Guidance for the Consideration of Reclaimed Water within Wastewater Planning Documents under 90.48.112 RCW & WAC 173-240*. The guidance document states that Ecology will not approve general sewer plans (the term includes sewerage general plans) until the Department of Health has compared water plans with the proposed sewerage plan for reuse potential and water system capacity issues and the sewerage plan contains information and analysis as follows:

1. Identify existing and future candidates, and uses for reclaimed water
2. Discuss the general layout of a reclaimed water distribution system for the uses identified.
3. Meeting Class A, B, C, and D reclaimed water standards.
4. Identify the most likely candidates for actual construction and implementation.

In 1994, Tacoma Public Utilities conducted a *Water Reuse Feasibility Study*, an investigation of wastewater reuse opportunities at wastewater treatment plants within or adjacent to their water service area. The report

identified two potential reuse markets for reclaimed wastewater from the Chambers Creek Regional WWTP, industrial and irrigation. Potential application sites within two miles of the WWTP included 505 acres of parks, cemetery and golf courses. Two pipeline projects were described to transfer wastewater to the sites.

In 1997, Tacoma Public Utilities released the *Stone Consolidated Conservation and Water Reuse Assessment* (now called Abitibi Consolidated Paper Mill). The assessment concluded that while treated wastewater was a viable source of industrial water, the cost of providing the reclaimed water was not cost-effective for the mill. However, the report stated that the unit cost of reclamation facilities and operations would be less costly for Tacoma Water to pay for than the cost of the next new water supply.

Since these investigations were conducted, the *Chambers Creek Properties Master Site Plan, 1997* has been adopted. It identifies wastewater reclamation, water ponds and on-site irrigation as a key component of the Master Site Plan for 930 acres of the Chambers Creek Properties and a method under which mine reclamation could be augmented. The amount of treated wastewater used for irrigation and water features has not been determined because the site is still being mined for gravel and development of interior areas is not scheduled until after 2007. The Chambers Creek Regional WWTP currently uses approximately one million gallons per day (MGD) of treated wastewater for process uses, such as backwashing screens. Prior to identifying the amount of treated wastewater available for reuse, the water budget for implementation of the Master Site Plan must be developed.

In 1998, the Legislature passed ESHB 2514, establishing funds and criteria for watershed assessments and plans. The Tacoma-Pierce County Health Department applied for grant funds to conduct an assessment of the Chambers Creek - Clover Creek Basin (watershed). The assessment includes information crucial to identifying reuse opportunities within the basin. Minimum requirements of the assessment include: an estimate of the surface and ground water present in the watershed, estimate of the water represented by claims in the water rights claims registry, water use permits, certificated rights, existing minimum instream flow rules, federally reserved rights, and any other rights to water; an estimate of the surface and ground water actually being used in the management area; an estimate of the water needed in the future for use in the management area; identification of the location of areas where aquifers are known to recharge surface water bodies and areas known to provide for the recharge of aquifers from the surface, and an estimate of the surface and ground water available for further appropriation taking into account minimum instream flows necessary for fish.

The recommended alternative integrates reclamation and reuse into the recommended alternative in the following policies:

- Continue to work towards water reclamation and reuse opportunities in *the Chambers Creek Properties Master Site Plan*.

- Cooperate with water purveyors neighboring Pierce County-owned wastewater treatment plants.
- Investigate the economic feasibility of off-site reuse of treated wastewater from the Chambers Creek Regional WWTP after adoption of the Unified Sewer Plan and after the opportunities for use of reclaimed wastewater per the Master Site Plan are known.

### **2.3.3 Criteria**

90.48.112 RCW *Plan Evaluation – Consideration of Reclaimed Water*

90.46.010 RCW *Definitions*

*Chambers Creek Properties Master Site Plan, August 1997*

*Guidance for Consideration within Wastewater Planning Document under 90.48.112 RCW & WAC 173.240, Departments of Ecology and Health. August 1998*

### **2.3.4 Conclusion**

Much of the information needed to produce a reasonable analysis of opportunities for use of reclaimed water will not be available until the Chambers Creek - Clover Creek Watershed Technical Assessment has been completed. In the meantime, the reuse reports prepared by the Water Division of Tacoma Public Utilities contains analysis and information which answers several of the reclamation and reuse questions posed by the State's guidance paper. USP Appendix B contains these reports. Policies of the recommended alternative will supplement the reports.

## 2.4 USE OF THE PUYALLUP RIVER AS RECEIVING WATER FOR TREATED WASTEWATER

### 2.4.1 Description of the Issue

As the number of Pierce County customers increase in the Lake Tapps basin, an additional 1.42 MGD of treatment capacity at the Sumner Wastewater Treatment Capacity will be required to handle Pierce County flows. With the current limits on the Puyallup River for Total Maximum Daily Load (TMDL) and protection of fish habitat within the White and Lower Puyallup Rivers, finding additional affordable capacity at the Sumner WWTP for Pierce County flows will be difficult.

### 2.4.2 Background



Rivers and streams are much more limited than the Puget Sound in their ability to assimilate nutrients and dilute treated wastewater. The ability of wastewater treatment plants to discharge to these rivers and streams becomes more difficult as population growth increases the amount of wastewater discharged and the river's ability to accept discharge diminishes. The ability of a river to accept wastewater is determined by measuring the river's flow rates, velocity, water quality (including fecal coliform, dissolved oxygen, ammonia and trace metals), effluent mixing and siting of the facility. Each permit to discharge treated wastewater reflects the water quality surrounding the discharge point and the ability of the discharge to be dispersed or "mixed" and carried away.

The Sumner WWTP is owned and operated by the City of Sumner. The WWTP is a secondary activated sludge treatment plant with a permitted capacity of 2.62 MGD. The WWTP provides chlorine disinfection and aerobic sludge digestion. Treated effluent flows through a submerged outfall to the White River just above (0.4 miles) its confluence with the Puyallup River. The plant

is currently operating under an extended NPDES permit as Sumner evaluates expansion and upgrade options. Incremental improvements to the WWTP are being planned to improve wastewater quality discharged to the White River and to meet new TMDL standards. Effluent limitations have been established for the Sumner WWTP on Carbonaceous Biochemical Oxygen Demand (CBOD), Total Suspended Solids, Fecal Coliform, Chlorine, Ammonia and Copper.

A total maximum daily load (TMDL) for Biochemical Oxygen Demand (BOD) and ammonia has been established for the Puyallup and White Rivers. This means that a limit has been established for the amount of BOD and ammonia that can be discharged into the rivers without exceeding water quality standards. The Puyallup and White Rivers receive treated wastewater from nine municipal wastewater treatment plants, four industrial facilities and six fish hatcheries. The plants may continue to discharge treated wastewater under the conditions established in their existing NPDES permit. Modifications to existing NPDES permits to accommodate higher discharge rates from existing plants would be discussed in detail as part of project-specific environmental review when existing conditions and treatment process and discharge alternatives are known.

The 1998 Washington State 303(d) inventory of water quality-limited water bodies list several additional stream segments within the Puyallup River System. No TMDL studies have been initiated for the remaining 303(d) listings within the Puyallup River, although dissolved metals are currently being monitored and appear in some permits. It is probable that future NPDES permits on the White River above RM 3.6 will include phosphorus or total nitrogen limitations.

Two species, the Puget Sound chinook and the bull trout have been listed as a threatened species under the Endangered Species Act. Prime habitat for these fish are found within the Lower Puyallup River and its tributaries. As part of describing critical habitat, threshold levels for water quality may be established which treated wastewater must meet. The Department of Ecology, the Environmental Protection Agency and National Marine Fisheries are working together to determine if additional water quality standards need to be established.

### **2.4.3 Criteria**

Federal Clean Water Act

90.48 RCW – *Water Pollution Control Act*

WAC 173-201A – *State Surface Water Quality Standards*

WAC 173-220 – *National Pollution Discharge Elimination System*

Unified Sewer Plan Alternatives Final EIS, 1999

*Criteria for Sewage Works Design*, Department of Ecology, 1998.

### **2.4.4 Conclusion**

Pierce County anticipates needing an additional 1.42 MGD of capacity from the Sumner WWTP to service developing unincorporated urban areas within the Lake Tapps basin. The additional capacity in the Sumner WWTP will require an expansion of the existing plant and advanced treatment to meet increasing mixing zone and TMDL standards. In addition, it is anticipated that the TMDL for the Puyallup and White Rivers will be expanded beyond its current limitations, requiring an increasing level of wastewater treatment with a corresponding rise in the cost of treatment. Subsequent sewerage general plan updates may look at alternatives to Puyallup River discharge of Pierce County flows if costs become prohibitive.

## 2.5 DEMAND MANAGEMENT

### 2.5.1 Description of the Issue

Demand Management is often cited as a way to promote objectives such as general water quality improvement, water reclamation and reuse and groundwater recharge.

### 2.5.2 Background

Demand Management is a program of activities and policies which result in a reduction in the amount and/or strength of wastewater generated and thereby delay the need for additional wastewater treatment and transmission capacity.

The current Demand Management activities of the Pierce County Wastewater Utility include:

- Water conservation through advocacy for the Plumbing Code requirements of low flow fixtures

- Participation in water conservation education

- Aggressive program for the elimination of Inflow and Infiltration

- Enforcement of the Industrial Pretreatment Program

The cost of constructing new treatment plant capacity versus the cost of deferring treatment capacity increases through expenditures on

activities that either reduce the volume of wastewater or substances to be treated can be analyzed on a case by case basis. Other Demand Management methods such as the use of on-site sewer systems to reduce the quantity of flows; the use of gray water systems to reduce loading; and, mandatory replacement of toilets and faucets were analyzed and found to either be in conflict with state and local regulations or to be cost prohibitive. See report in USP Appendix C.

### 2.5.3 Conclusion

Demand management is a financial consideration. General policies can be established in a sewage general plan on which to base a demand management strategy. The Unified Sewer Plan includes a demand management analysis at a broad planning level. Implementation of the current demand management techniques is assumed to bring a 10% reduction in the amount of wastewater flows.

Additional reduction in the amount of flow discharged may be achieved with water reuse. The Pierce County Wastewater Utility will assess the feasibility of off-site reuse of treated wastewater from the Chambers Creek Regional WWTP after adoption of the Unified Sewer Plan and after the opportunities for use of reclaimed wastewater identified within the *Chambers Creek Properties Master Site Plan* (on-site) are known.

## 2.6 PUGET SOUND AS RECEIVING WATER AND WATER QUALITY GOALS

### **2.6.1 Description of the Issue**

Each river, stream, and storm and sanitary sewer outfall which empties to the Sound brings with it nutrients and pollutants which become mixed with the waters of the Sound before being moved out to the ocean. As the population around the Puget Sound Basin continues to grow, there will be a corresponding increase in the amount of freshwater discharged (from all sources) to the Sound. There is rising concern that increased discharges from the Chambers Creek Regional WWTP will have a cumulative impact on the health of the Sound. Future wastewater discharges will have to meet stricter water quality standards.

### **2.6.2 Background**

The Puget Sound is a complex estuary system. Daily movement of the water within the Sound is driven primarily by the tides, with net outward movement being driven by freshwater which enters the system. The estuary is made up of deep basins, interconnected by shallow and often narrow sills and channels. Each of the basins is typically made up of two layers. Little vertical mixing of water between the bottom and surface water occurs within these basins. However, substantial mixing does occur within the channels and shallow sill zones separating the basins. Research has indicated that the flushing action of the Puget Sound can take as quickly as one month within the Main Basin (North Central Basin – Seattle area) to as long as a year in the far South Sound Basin (Budd Inlet in Olympia).

The federal Clean Water Act, the Washington Water Pollution Control Act and the State Surface Water Quality Standards and the Shoreline Management Act protect Puget Sound water quality. The Surface Water Quality Standards were developed as a way to protect the beneficial uses of surface water. The standards include water body classifications, narrative criteria for the protection of beneficial uses, numerical quality criteria, mixing zone criteria for wastewater

outfalls and other designations. The National Pollutant Discharge Elimination System (NPDES) permit program regulates discharges by wastewater treatment plants. The permit program was developed to operate under State law as part of the federal Clean Water Act's NPDES program and are issued by the Department of Ecology. Each NPDES permit issued reflects the water quality surrounding the discharge point and the ability of the discharge to be dispersed or "mixed" and carried away by the currents.

Section 303(d) of the federal Clean Water Act requires that states identify surface waters which do not meet or are not expected to meet water quality standards even after technology-based or other required controls are in place. These water bodies are then priority ranked and a total maximum daily load (TMDL) for each pollutant and water body segment on the list. The TMDL is the total mass loading of a given pollutant, including a margin of safety that will ensure that the water body will meet water quality standards. TMDLs are widely used on freshwater bodies, but at this time have not been identified for the Puget Sound. Currently the Department of Ecology is conducting a study to determine the South Sound Basin's ability to assimilate nutrients and ultimately set pollutant loading limits. Results of the South Puget Sound Model Nutrient Study, are not anticipated until June 2002.

### **2.6.3 Criteria:**

Federal Clean Water Act

90.48 RCW, - *Water Pollution Control Act*

WAC 173-201A - *State Surface Water Quality Standards*

WAC 173-220 - *National Pollution Discharge Elimination System*

**2.6.4 Conclusion**

It is expected that there will continue to be a gradual increase in water quality standards over time. Population growth within Pierce County and the greater Puget Sound area will increase the demand for wastewater treatment and result in the increased volume of effluent being discharged to Puget Sound. The location of the Chambers Creek Regional WWTP is such that adequate mixing will continue to occur under future projections. Not enough data exists at this time to determine the effect of cumulative impact of increased nutrients and pollutants on the South Sound.

## 2.7 GROUND WATER QUALITY AND SEWERAGE FACILITIES

### **2.7.1 Description of the Issue**

Groundwater serves as the primary source of drinking water for Pierce County. Protection of this resource is vital. Impacts to groundwater recharge, groundwater migration and groundwater contamination all require careful consideration in the design and installation of sewerage facilities.

### **2.7.2 Background**

Each drainage basin within the County is comprised of a complex groundwater system made up of layers of permeable and impermeable soils and rock. Groundwater which is trapped between these layers is commonly referred to as an aquifer. Recharge of these aquifers generally occurs through infiltration of precipitation, stormwater through dry wells, wastewater from septic tanks and through surface water bodies, such as lakes and rivers. Regional recharge for most of Pierce County occurs in the Cascade Mountains and the Cascade foothills.

Contamination of the aquifers (groundwater) can occur through a number of sources, including failing septic systems. Documented water quality problems starting in 1939 in the Chambers Creek – Clover Creek Basin were attributed to high number of failing septic systems. From the early 1970's to 1990's Pierce County was under a Compliance Order to build a treatment plant and operate a sewer system to address the groundwater problem. In 1997, the Department of Ecology issued a Notice of Compliance which stated that Pierce County had satisfied the conditions of the standing Compliance Order (See DOE Compliance Order for additional information). The connection of septic systems to sanitary sewers is estimated to remove 220 gallons per residence per day from groundwater, which may otherwise

have contributed to groundwater recharge. Little mixing of the groundwater and the aquifers supplying potable water occurs.

There is some thought that the installations of underground facilities, such as sewer pipelines, act as a conduit in diverting groundwater away from its natural flow. This perceived diversion would lower the water table in the vicinity of the pipe sufficient to affect water levels in lakes and streams. Little evidence of this type of migration is available. However, current construction practices call for backfill of trenches with native soils. In areas of porous soils or a high water table, trench dams are constructed at intervals around the pipeline.

Migration of groundwater also occurs when ground water levels are above the elevation of the sewer line. Over time, especially in older systems, ground water infiltrates into the sewer lines through cracks in joints or at manholes. Infiltration is low during the summer and higher during the rainy months. Pierce County maintains an Infiltration and Inflow (I&I) Program which works to eliminate these sources.

The opposite of infiltration, or exfiltration occurs when untreated wastewater leaves sewer pipelines through same joints or cracks which allow groundwater to enter. Within the Pierce County system this scenario rarely occurs due to the relative young age of the pipes, high rainfall and low groundwater levels most of the year. There have been no studies to indicate what impact, if any, exfiltration has on groundwater in Pierce County.

*See also the Unified Sewer Plan Alternatives, FEIS 1999 for more details.*

### **2.7.3 Criteria**

Coordinated Water System Plan, 1996

Chambers Creek Water Quality Management Plan, 1974

#### **2.7.4 Conclusion**

Extensive sewerage of developed urban areas is likely to reduce the amount of groundwater recharge by existing on-site septic systems. However, sanitary sewers within the urban areas continue to be the most effective way to control groundwater pollution due to overly dense septic systems. Not enough data is available at this time to determine if exfiltration from sewer lines is contributing to groundwater pollution. The variability in the geology/soils makes it difficult to determine on a large scale, if groundwater migration is an impact of the installation of underground facilities. The impact is a matter of research and project-specific environmental analysis.

## 2.8 DOE COMPLIANCE ORDER

### 2.8.1 Description of the Issue

For 25 years Pierce County has been subject to a Department of Ecology Compliance Order for the Chambers Creek - Clover Creek Drainage Basin. While at this time the Compliance Order is considered “satisfied”, the Compliance Order continues in effect. The order requires continued connection of urban density development in the drainage basin to sanitary sewers. Will continuing to show all of the Chambers Creek - Clover Creek basin as future service area conflict with the Pierce County Comprehensive Plan’s designation of “rural” areas within the basin?

### 2.8.2 Background

Throughout the 1970’s, 1980’s and 1990’s, Pierce County worked to address a Department of Ecology (DOE) Compliance Order, which required the County to build a treatment plant and operate a sewer system to address historical ground water problems. The ground water problems were attributed to a high number of failing on-site sewer systems within the urban areas of the Chambers Creek Basin. The water quality problems within the Basin had been documented beginning in 1939. In 1970, State and local health department officials banned septic installation within the basin. In an effort to lift the ban, voters approved the formation of a sewer district in 1970. Due to numerous appeals, which were eventually settled by the State and U.S. Supreme Courts, design and construction of Chambers Creek Regional Wastewater Treatment Plant (WWTP) did not begin until 1977. The Pierce County sewer system became fully operational with the opening of the Chambers Creek Regional Wastewater Treatment Plant in November of 1984.

The Pierce County Comprehensive Plan has designated large parts of the basin as “rural”.

Within “rural” areas sanitary sewers are not permitted except to service a binding sewer agreement or to remedy ground water contamination by replacing septic systems and community on-site sewer systems.

Sanitary sewer service can only be provided if a property lies within the DOE approved service area of a sewer utility. The State of Washington requires that future service areas be identified in a sewerage general plan. This includes areas where the sewer utility could be called upon to connect a failed on-site sewer system.

In June 1997, the Department of Ecology issued a Notice of Compliance, which stated that Pierce County had satisfied the conditions of the standing Compliance Order and subsequent amendments to the order, based on:

- Construction of the Chambers Creek Regional WWTP;
- Continued implementation of the sewerage general plan for the Chambers Creek - Clover Creek Basin, including preserving the current sewer service area;
- The connection of homes and businesses to sanitary sewers within the defined ULID 73-1; and,
- The establishment of density requirements for properties within the Rural Reserve as defined in the *Comprehensive Plan for Pierce County, 1994* which are consistent with Department of Ecology and Tacoma-Pierce County Health Department criteria for developments served by septic systems.

The letter which accompanied the Notice of Compliance informed Pierce County that water quality monitoring conducted by TPCHD indicated there were no water quality problems within the Chambers Creek - Clover Creek Basin that “...would lead to public health concerns, and as long a density levels do not

increase, an imminent public health threat is unlikely”.

### **2.8.3 Criteria**

Department of Ecology Administrative Order  
No. DE 74-57 and Amendments

*Comprehensive Plan for Pierce County  
Washington, 1994*

36.94.020 RCW

### **2.8.4 Conclusion**

Pierce County will continue to satisfy the DOE Compliance Order as long as the Wastewater Utility continues to permit connection of property with failing on-site sewer systems to sanitary sewers in the Chambers Creek - Clover Creek basin. Because the *Pierce County Comprehensive Plan* allows for sanitary sewers in “rural” areas where there are explicitly defined circumstances, showing a “rural” area as future service area subject to the limits imposed by the Comprehensive Plan is consistent with the Comprehensive Plan.

## 2.9 BIOSOLIDS MANAGEMENT

### 2.9.1 Description of the Issue

The existing Pierce County *Sludge Management Program, 1987* and its amendment in the *1991 General Sewerage Plan Update for the Chambers Creek – Clover Creek Basin* has become outdated with the passage of new federal regulations (40 CFR Part 503), State standards (WAC 173-308), and new treatment and disposal opportunities. As the Chambers Creek Regional Wastewater Treatment Plant (WWTP) continues to expand and to improve treatment processes, more solids will be removed. A versatile and reliable program of beneficial use for biosolids is crucial to keeping rates low and ensuring the ability of the treatment plant to expand in support of planned growth.

### 2.9.2 Background

Solids are a byproduct of the treatment process that when treated according to State standards become biosolids that can be beneficially used as a soil conditioner. Biosolids (Sludge) Management Programs are operational plans associated with wastewater treatment facility plans and corresponding NPDES permits. They implement adopted sewerage general plans.

Pierce County's *Sludge Management Program* is based upon land application of biosolids for beneficial use. Developed in 1987, the Sludge Management Program was a response to federal, state and local regulations which required that sludge be handled in such a way as to prevent contamination of natural resources and at the same time encouraged utilization of sludge as a resource. The Program and its companion Final EIS and Addendum examined three main alternatives: land application of facultative lagoon digested sludge; land application of a sludge compost product; and incineration with ash disposal at a dedicated landfill. The County Council adopted the recommendation for land application of facultative lagoon digested sludge on a Pierce County owned site. The Final EIS and its Addendum identified the

property commonly known as the Orting Block as a suitable location. The plan was met with such strong local objection that the purchase was not pursued.

In 1991, as part of the *General Sewerage Plan Update for the Chambers Creek – Clover Creek Basin*, the Sludge Management Program was amended to eliminate land application on the Orting block. The County chose to consider the original three alternatives and have the option to pursue any individual alternative or a combination of the alternatives to achieve the highest quality sludge product.

In 1992, Pierce County purchased the former Lone Star Northwest Gravel Mine adjacent to the Chambers Creek Regional WWTP and County-owned road shop and gravel mine. This purchase was for the future expansion of the WWTP and other compatible public uses. In addition to providing areas for expansion, the purchase also provided a County-owned site for biosolids application. The *Chambers Creek Properties Master Site Plan, 1997* and companion EIS identified application of biosolids as a key component of reclaiming both of the gravel mines.

The *Comprehensive Plan for Pierce County, Washington, 1994* identified the need for the Pierce County Wastewater Utility to:

“...Plan and construct facilities needed to create a Class A biosolids product suitable for all land applications...”<sup>\*</sup>, and

“...Review ... correct deficiencies and inconsistencies ... and amend portions ... which are inconsistent with the Comprehensive Plan...”

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\* Comprehensive Plan for Pierce County, Washington 1994 UT-S Objective 15, 15.4

and listed the *Pierce County Sludge Management Program, 1987*.

The Wastewater Utility continues to work towards operational improvements and new facilities to achieve Class A biosolids.

In 1998, State regulations for the management of biosolids were updated. WAC 173-308 created new standards for treatment and a new permitting system.

### **2.9.3 Criteria**

33 USC, Chapter 26 *Water Pollution Prevention and Control (Clean Water Act)*

40 CFR503: *Standards for the Use of Disposal of Sewage Sludge*

40 CFR Part 501 *State Sludge Management Program Regulations*

90.95J RCW *Municipal Sewage Sludge - Biosolids*

WAC 173-308: *Biosolids Management*

Pierce County Utilities Department *Sludge Management Program, 1987*

*Pierce County Utilities Department Sludge Management Program Final EIS and Addendum, 1987*

*1991 General Sewerage Plan Update to the Chambers Creek – Clover Creek Basin.*

*Chambers Creek Properties Master Site Plan, Final EIS, 1996*

*Chambers Creek Properties Master Site Plan , 1997*

### **2.9.4 Conclusion**

The Unified Sewer Plan estimates future wastewater projections and service areas. While this information can be used to project future volumes of biosolids, it is not an operational

program adequate for an update of the existing *Sludge Management Program*. An update of the Program is planned to respond to changing regulations and needs and will occur in conjunction with the renewal of the NPDES permit for the Chambers Creek Regional WWTP. The updated Biosolids Management Program will examine current treatment technology and reuse opportunities for biosolids and evaluate these options against the newly updated regulations.

## 2.10 CENTRALIZATION VERSUS DECENTRALIZATION OF WASTEWATER TREATMENT PLANTS, REGIONAL VERSUS LOCAL FACILITIES

### 2.10.1 Description of the Issue

As development within urban growth areas occurs farther away from existing wastewater treatment facilities and new areas need wastewater treatment and collection services, the Pierce County Wastewater Utility must choose whether to send wastewater from new service areas to existing treatment facilities, construct new facilities or decline to accept the new service area. Decision factors include cost-effectiveness, environmental impacts, ability to meet water quality requirements over the long term, affect on the County's ability to achieve other objectives, and consistency with adopted comprehensive plans and *the Pierce County County-Wide Planning Policies*.

### 2.10.2 Background

Key factors driving the selection of wastewater treatment alternatives are cost and overall ability to implement the alternative. Federal funding is no longer available for the construction of wastewater treatment plants as it once was in the late 1970's. Large economies of scale can be realized with centralized treatment facilities, especially at higher levels of treatment, that can help keep sanitary sewer service affordable.

In response, the Wastewater Utility has used existing wastewater treatment facilities to serve new urban areas in the County. Chambers Creek Regional WWTP has been used for the Chambers Creek - Clover Creek drainage basin. Sumner WWTP has been used for the Lake Tapps and Bonney Lake areas. Tacoma Central WWTP has been used for Browns Point, Dash Point, Fife, Fife Heights, Milton and Edgewood. Policy

19A.90.050,A,7 in the *Comprehensive Plan for Pierce County* states:

"Pierce County should continue to plan for capacity and facilities needed to serve the projected population within an Urban Growth Area, continuing to build upon the long-term centralized regional approach.

- a. Work with other sewer service providers to identify the service areas to encompass an Urban Growth Area.
- b. Amend the Pierce County General Sewerage Plan to serve as a county-wide sewerage plan for all basins."

"Continuing to build upon the long-term centralized regional approach" means making use of existing facilities before building new ones. The question of whether to centralize wastewater treatment operations at the Chambers Creek Regional WWTP for the Chambers Creek - Clover Creek drainage basin was evaluated in the *Chambers Creek - Clover Creek Sewerage General Plan, 1969* and in the 1986 and 1991 Updates. An existing skeleton of pump stations, sewer interceptors and mains exists. Engineering and environmental studies continue to indicate that centralization within the basin was the most cost-effective and environmentally sound option.

With all economies of scale, there is a point at which the cost of conveying wastewater long distances exceeds the savings of centralized treatment. Long runs of pipes with low flows lead to odor control issues and the creation of hydrogen sulfide. Hydrogen sulfide, with an odor like rotten eggs, is extremely corrosive, potentially explosive and results in high maintenance costs to control odor and preserve the condition of the pipelines. Presently, none of these conditions exist within the Chambers Creek Regional WWTP sewerage basin.

Protection of fish habitat, maintenance of instream flows, wastewater reclamation and reuse, and similar objectives can argue for decentralizing treatment facilities for new service areas, particularly if a monetary value is assigned to resources and opportunities and is factored into cost analyses. The listing of the Puget Sound chinook and bull trout as threatened species under the federal Endangered Species Act creates an uncertain regulatory environment for permitting new wastewater treatment facilities at this time.

**2.10.3 Criteria:**

Unified Sewer Plan Alternatives Final EIS, 1999

General Sewerage Plan Update to the Chambers Creek – Clover Creek Basin, 1991

Pierce County Sewer General Plan Update; Chambers Creek – Clover Creek Basin Sewerage System, 1986

**2.10.4 Conclusion**

High conveyance costs and environmental impacts of conveyance still does not outweigh the continued use of existing wastewater treatment plants to service the Comprehensive Urban Growth Areas (CUGAs) identified in the Unified Sewer Plan. Technical assessments being performed in Years 2000-2001 will provide baseline information from which to evaluate future service area and treatment location alternatives. Future transfer of satellite urban areas into an existing County Wastewater Utility service area will have to consider the external costs associated with centralized treatment and mitigate significant adverse environmental impacts.

## 2.11 COMPATIBILITY OF SEWERAGE FACILITIES WITH NEIGHBORING USES

### 2.11.1 Description of the Issue

Everyone wants sewer service, no one wants to see the facilities and equipment necessary to provide it. Compatibility of sewerage facilities with surrounding areas, whether a wastewater treatment plant or a pump station, increasingly has become an issue as urban areas become more densely developed. People object to odors, noise, industrial appearance and how a facility physically reinforces the land use objectives for the areas in which they are located. These concerns can mean the difference between costly contested permits and timely permits for structures and good public relations.

### 2.11.2 Background

The visual character of wastewater treatment plants and pump stations can vary widely. The Chambers Creek Regional Wastewater Treatment Plant is largely screened from public view by vegetated hillsides and berms. Tacoma Central WWTP is located in an industrial area. The Sumner WWTP is separated from residential and agricultural areas by the Puyallup River, the White River and by SR-410. Other treatment plants are not. Some above ground pump station structures have been designed with similar height and bulk as the surrounding zones. An example is the Town of Steilacoom's Pump Station, which reflects the Town's historic character.

Compatibility with surrounding zones also involves the control of sound and odor sources. By necessity, pump stations occur in residential, commercial and industrial areas along major pipeline routes. Each station is different, but generally employ submersible pumps and control panels, below ground with generators and telemetry poles above ground. This limits the size of stations and the sounds emitting from them, by placing much of the equipment underground. In addition, odor

control devices are placed throughout the system where odors were previously detected.

As existing facilities expand and new facilities are constructed, the need to mitigate adverse effects of their presence increases. Enlarged vegetated buffers and berms are planned for the Chambers Creek Regional WWTP, as described in the *Chambers Creek Properties Master Site Plan*. Other mitigation measures include:

- Following completion of a pipeline, disturbed areas will be restored (repaved or planted as appropriate)
- Wherever possible, pipelines and pump stations would be installed in the existing rights-of-way, where vegetation does not need to be removed.
- Pump stations would be designed to have no greater height and bulk as other primary structures in the zone they are located
- Landscaping of pump stations, when needed, would be outside of security fencing and designed to screen the station from surrounding land uses.

### 2.11.3 Criteria:

Unified Sewer Plan Alternatives Final EIS, 1999

Comprehensive Plan for cities and towns within Pierce County

*Chambers Creek Properties Master Site Plan, 1997*

### 2.11.4 Conclusion

With mitigation measures identified at the time of site-specific environmental review, much of the impact of sewerage facilities can be avoided. Additional measures, such as the creation of design standards for facilities, can be explored by the Wastewater Utility in the future.

## 2.12 EXISTING SANITARY SEWER SERVICE AREAS DESIGNATED RURAL

### 2.12.1 Description of the Issue

As part of a strategy to channel urban intensity development into designated urban growth areas, the Pierce County Comprehensive Plan directs that sanitary sewers be provided almost exclusively to urban areas. Generally, sewerage facilities are not permitted outside of designated urban growth areas except to serve rural properties with binding sewer agreements or failed on-site sewer systems that in the judgment of the local health department threaten groundwater quality. Portions of the Pierce County Wastewater Utility service area, designated pursuant to Chapter 36.94 RCW, were classified “rural” pursuant to Chapter 36.70A RCW when the Comprehensive Plan was adopted. As sewerage general plans must be consistent with land use plans adopted pursuant to the Growth Management Act, this raises a question whether a sewerage general plan that retains pre-existing sewer service areas that were subsequently also given a “rural” land use designation, can be consistent with the County Comprehensive Plan and State Growth Management Act.

### 2.12.2 Background

According to RCW 36.94, the County Wastewater Utility cannot legally connect existing buildings to sanitary sewers to replace a failed on-site sewer system if the property is not within the service area shown in the sewerage general plan.

The existing Pierce County Wastewater Utility sewer service area, which pre-dates the Comprehensive Plan, contains several areas that were subsequently designated “rural” by the County Comprehensive Plan:

**North Clover Creek - Collins Area (Rural Separator designation).** The area falls within the Chambers Creek-Clover Creek Drainage Basin covered by a Department of Ecology (DOE) compliance order. That order required the construction of the Chambers Creek Regional WWTP and

connection of urban density development to the sanitary sewer system. The area contains a total of 2,131 parcels designated rural, of which 349 parcels are connected to sanitary sewers. Binding sewer agreements cover 234 parcels, 202 parcels (95%) are already connected to the County sewer system. Thirty-six percent (36%) of the parcels in the North Clover Creek – Collins service area are ½ acre in size or less. They are generally located near 112<sup>th</sup> Street East, Golden Given and Canyon Road.

**South Spanaway/Elk Plain Area (Rural Reserve designation).** This area also falls within the area of the DOE compliance order. As Rural Reserve, it is an area to be added to the Comprehensive Urban Growth Area (CUGA) when more land needs to be designated urban. The area contains 3,452 parcels, of which 737 parcels are connected to sanitary sewers. Binding sewer agreements cover 298 parcels, 293 parcels (98%) are already connected to the County sewer system. Sixty-two percent (62%) of the parcels in the South Spanaway/Elk Plain area are ½ acre in size or less.

**Summit-Waller Area (Rural Separator designation).** The service area in Summit-Waller consists of parcels associated with existing connections only. The entire Summit-Waller area is not part of the sewer service area.

**West Lake Tapps Area (Rural Reserve).** In 1983, the County was ordered by the U.S. Environmental Protection Agency (EPA) to help construct an expansion of the Sumner WWTP sufficient to provide treatment capacity for the West Lake Tapps area and continue plans to provide sanitary sewer service to this area. In the mid-1970's the EPA water quality planning documents identified West Lake Tapps as part of the Lake Tapps service area needing sanitary sewers. This was due to the large number of urban density lots next to the west shore of Lake Tapps and the prevalence of surfacing sewage from failed on-site sewer systems in the area. The rural service area contains 2,279 parcels; only two parcels have been connected to sewers. There are no binding sewer agreements. In this area, 71% (1,610 parcels) of the 2,279 parcels

designated rural are less than ½ acre in size and are located closest to the lake. If the County withdraws its West Lake Tapps sewer service area, the County could face legal challenges based on contractual obligations to the EPA.

**Pierce County Comprehensive Plan.** The Comprehensive Plan for Pierce County limits when sewer connections in rural areas can occur to the following instances:

- Where sanitary sewer service will remedy ground water contamination and other health problems by replacing on-site sewer (septic) systems,
- Where a formal binding agreement to service an approved planned development was made prior to the establishment of an Urban Growth Area (e.g., Where there is a binding sewer agreement.), and
- Where current connections exist. [Current connections paid for treatment and conveyance system capacity that obligates the sewer utility to continue to provide service as long as the property owner or resident abides by the sewer regulations.]

Interceptors constructed within and through areas designated “Rural” cannot be made available for individual connections except as provided for in the County Comprehensive Plan.

Existing service areas that have been subsequently designated rural have been maintained in a manner consistent with the comprehensive plan since the plan was adopted in 1994. Wastewater Utility policies and operating procedures reinforce the policies in the comprehensive plan. No connections have been permitted in the rural service area unless the connecting property was covered by a binding sewer agreement or the Tacoma-Pierce County

Health Department requested the connection. In only one case has the Health Department requested connection of a home with a failed on-site sewer system. These connections could not have occurred if the areas were not in the adopted service area of the Utility.

The Wastewater Utility can legally continue sewer service to existing connections in areas designated rural only if the areas are retained in the Utility’s adopted service area.

### **2.12.3 Criteria**

RCW 36.70A Growth Management Act

RCW 36.94 Sewerage Water and Drainage Systems

WAC 395-195-050

*Comprehensive Plan for Pierce County Washington, 1994 , LU-UGA Objective 2, 2.b*

*Pierce County County-Wide Planning Policies, 3.4.2a*

*Pierce County Coordinated Water System Plan, 1996*

Pierce County Sewerage General Plan

### **2.12.4 Conclusion**

Consistent with the Growth Management Act, the County Comprehensive Plan permits certain properties to be connected to sanitary sewers in rural areas in limited instances. However, in order to comply with State sewerage laws, these connections can only occur if the applicable rural land is contained within the adopted sewer service area. Therefore, maintaining the designation of existing sewer service areas in rural areas is consistent with the comprehensive plan. Preserving existing sewer service areas subsequently designated rural on the land use map is a prerequisite to maintaining the County’s ability to connect failed on-site sewer systems in these areas and continuing service to existing connections.

## 2.13 LOCAL COLLECTION FACILITIES PLANNING

### 2.13.1 Description of the Issue

Several communities have suggested that the sewerage general plan for the County Wastewater Utility include future local collection facilities.<sup>1</sup> They state that if local collection facilities are not included, there will be no way for local governments in the service area to identify the sewerage facilities needed to provide sanitary sewers where currently there are none or to develop the means of financing local collection facilities. They cite a desire to make local sewerage facilities available in time for (concurrent with) development so the densities sought within the Urban Growth Area can be realized and the number of on-site sewer systems in the Chambers-Clover Creek Basin can be minimized. Alternatively, some communities want to connect developed areas with existing on-site sewer systems to sanitary sewers before groundwater contamination occurs, without forcing an increase in land use intensity or forcing redevelopment to pay for the improvements.

As with prior sewerage general plans, the scope of work for the Unified Sewer Plan focused on the interceptor network of gravity pipelines 15 inches or greater in diameter, force mains over six inches in diameter and associated pump stations. This is the infrastructure that had to be identified in order to evaluate the service area and treatment plant alternatives in the Unified Sewer Plan. Formal approval of service areas and the major wastewater conveyance facilities to serve them was considered a crucial

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<sup>1</sup> Local collection facilities are the system of sanitary sewers consisting of 8-inch to 14-inch diameter gravity pipelines, associated pressure mains and pump stations, manholes, clean-outs, and appurtenances, whose primary function is to collect wastewater from local areas and transport the wastewater to trunk or interceptor sewers.

prerequisite to the detail and cost of local collection system planning.

### **2.13.2 Background**

Sewerage general plans are required by the Revised Code of Washington (RCW) 36.94.010 to include the general location and description of trunk and interceptor sewers, pump stations, monitoring and control facilities, local service areas and a general description of the collection system to serve those areas, a description of on-site sanitary sewerage system inspection services and maintenance services, and other facilities and services necessary to provide a functional and implementable plan. RCW 36.94.010(3)(c) allows, but does not require, sewerage general plans to specify local facilities and services.

With the concurrence of Department of Ecology staff who review and approve sewerage general plans, it was agreed that the scope of work for the Unified Sewer Plan focused on the big picture and descriptions of the major collection facilities associated with service area and treatment plant options. These collection facilities: the interceptors, trunks and major force mains are the backbone of the conveyance system that transports wastewater from local service areas to the wastewater treatment plants.

Future conveyance system sizing and location corridors in the Unified Sewer Plan alternatives are the products of a hydraulic computer program that took consultants and staff more than a year and a half to set up, calibrate and run for the major facilities identified for each of the alternatives. Subbasins were delineated and existing facilities were either digitized or adjusted for the County's geographic information system. The Environmental Impact Statement was based on conveyance system sizing.

The interceptor (conveyance) system has to be in place, in order to plan for local collection facilities. Interceptor alignments identified in

the Unified Sewer Plan are only alignment corridors. They are meant to provide a general idea of where facilities will be located. During actual facility design, an interceptor may be moved several blocks in one direction or another to reflect actual site conditions, environmental constraints, traffic, change in technology, and cost-effectiveness factors. Such adjustments can significantly affect the design and location of local collection facilities.

The Unified Sewer Plan sets out the conveyance system improvements that can be incorporated in the Capital Facilities Element of the County Comprehensive Plan. The timing of sanitary sewer capital improvements occurs in the context of annual amendments to the Capital Facilities Element of the County Comprehensive Plan. The Capital Facilities Element includes conveyance facilities set out in the sewerage general plan and ULID projects. Typically, local collection system improvements are not part of the Capital Facilities Element, except for ULID projects. Local collection system improvements occur as developer constructed extensions or ULID projects.

Information on where the closest local collection facilities are located, size, depth, required improvements and design guidelines for undeveloped or redeveloping properties are provided by Development Engineering staff. If sewers are desired or required, developers will hire a design engineer to work on the planned extension of the collection facilities necessary.

Within Urban Growth Areas, residential construction with on-site sewer systems is permitted when sanitary sewer facilities are not proximal to a building site. The Pierce County County-Wide Planning Policies, local comprehensive plans, development regulations and Tacoma-Pierce County Board of Health regulations contain provisions for on-site sewer system use.

The plans and regulations advocate the ultimate connection to sanitary sewers of all urban development in the Urban Growth Area while providing for new development on on-site sewer systems. The Comprehensive Plan for Pierce County Washington contains policies in

the Land Use Element that permit interim on-site septic systems for new development where sanitary sewers are not available, as long as dry sewer facilities are included to make future connection to sanitary sewers less costly, and when subdivisions are designed to permit future infill at urban densities.<sup>2</sup>

Sewerage general plans implement broader policies, such as those in State law and regulations, County-Wide Planning Policies, the County Comprehensive Plan, city comprehensive plans and Health Department regulations. If a change in the broad public policy regarding on-site sewer systems in urban areas is desired, the Pierce County County-Wide Planning Policies and individual comprehensive plans and implementing development regulations will have to be amended. It is not within the purview of a sewerage general plan to resolve such policy questions.

### **2.13.3 Criteria**

RCW 36.94, Sewerage, Water and Drainage Systems

RCW 70.118, On-Site Sewage Disposal Systems

*Pierce County County-Wide Planning Policies, Urban Growth Areas, 2.4.3,b*

Pierce County Code, Title 19A.  
*Comprehensive Plan for Pierce County Washington, Land Use Element, Urban Growth Areas, Objective 4.*

### **2.13.4 Conclusion**

Local collection system planning will continue to be accomplished. However, it should not be added to the County Wastewater Utility's sewerage general plan. Focus on the conveyance system was worked out with DOE and complies with state law. The purpose of the Unified Sewer Plan is to provide a long-term vision of major collection and treatment facilities.

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<sup>2</sup> Dry sewer facilities are permanent public and/or private sewerage facilities designed and constructed in accordance with the County Wastewater Utility standards and specifications for future connection into the Wastewater Utility sewer system.