Soos Creek Water & Sewer District

Sewer Comprehensive Plan



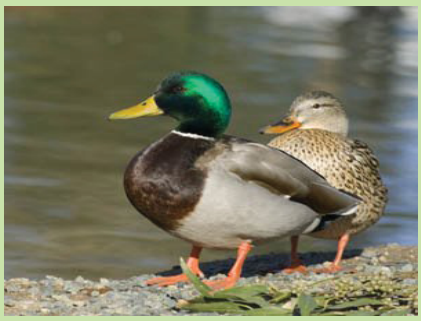












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SOOS CREEK WATER AND SEWER DISTRICT

SEWER COMPREHENSIVE PLAN

FINAL 2014

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Reviewed by Washington State Department of Ecology in accordance with the provisions of WAC 173-240-050 and RCWQ 90.48.110 and approved on March 18, 2014.

Approved by King County Council in accordance with KCC Chapter 13.24 on June 2, 2014 by Ordinance 17821

Approved by Soos Creek Water & Sewer District Board of Commissioners on July 23, 2014 by Resolution No. 3444-S.

SOOS CREEK WATER & SEWER DISTRICT

SEWER COMPREHENSIVE PLAN
FINAL 2014

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EXECUTIVE SUMMARY

Soos Creek Water & Sewer District has prepared its Sewer Comprehensive Plan to outline the District's planning strategy for the future. The plan is in accordance with the Revised Code of Washington (RCW) Title 57 and supersedes the 2005 Sewer Comprehensive Plan. The plan establishes the District's sewer system policies and criteria in accordance with the District's framework, analyzes the existing sewer system and its operations, and recommends improvements to correct deficiencies and meet future service needs. Additionally, the plan provides the District with a guide to evaluate the impacts of future proposed development and land use on the District's sewer system.

The District's goals as set forth in the Sewer Comprehensive Plan are to:

- Provide safe, reliable, and timely sewer service to District customers at a fair and reasonable price.
- Ensure that sewer service is available to support development that is consistent with the District's policies, criteria, and standards. In addition, it should also be consistent with current land use plans and development regulations of the state, county, and local planning agencies.
- Protect the natural environment by providing reliable levels of service and ensuring adequate capacity within the system by upgrading the system as deemed necessary.

The 2013 Sewer Comprehensive Plan carries forward the policies and intent of the 2005 Plan and provides updated documentation and direction for implementing the key functions of the District. The plan is designed to fulfill all local, state, and federal obligations and regulations and is a summary of the manner in which the District will continue to fulfill its mission as a sewer provider.

INTRODUCTION AND BACKGROUND

Soos Creek Water & Sewer District is a municipal corporation of King County, Washington, serving south King County. Formerly Water District 58 and Cascade Sewer District, the two merged in 1987. The sewer portion of the District was originally formed as Cascade Sewer District in 1959.

The Cascade Sewer District was originally comprised of approximately 600 acres, including a newly developed community. Since that time, the District's facilities have gradually extended to meet growth demands. In 1975, the District served approximately 15,000 residents in a 6,430 acre service area. Currently, the District serves approximately 92,500 people within 35 square miles.

The District's sewer service area is comprised of 22 drainage basins based on boundaries and criteria established by King County, existing agreements with neighboring municipalities and adjacent purveyors, topographical limitations, existing utility boundaries, and practical limitations of service.

Additionally, the sewer service area is limited by the King County Urban Growth Area boundary. The District does not intend to extend sanitary sewer service to King County rural zone property, unless an exception is provided for by King County.

The District maintains a number of service agreements with neighboring utility districts, cities and King County for the provision of sewer services. Agreements with the Cities of Auburn, Black Diamond, Kent, and Renton, and Cedar River Water & Sewer District establish specific sewer service boundaries between the District and each entity. Additionally, the District maintains agreements with the Cities of Auburn and Renton and the Cedar River Water & Sewer District to provide service to specific developments.

POLICIES, CRITERIA, AND STANDARDS

The District has reviewed and updated its sewer system policies and corresponding criteria and standards to meet or exceed the minimum standards for public sewers as set by the Department of Ecology. The policies as established provide a framework for the planning, design, operation, and management of the sewer system. These policies are provided to seek goals of uniform treatment to all District customers and to provide documentation of the District's commitment to current and potential future sewer customers.

The policies, criteria, and standards fall into one of the following categories:

- Service Area, Extension, and Service Ownership
- System Reliability and Emergency Response Plan
- Coordination and Cooperation with Other Agencies
- Sewer System Planning, Design, and Construction
- Environmental Stewardship
- Human Resources
- Financial

PLANNING CONSIDERATIONS

The District is committed to accommodating all current and projected land use, zoning, population, and sewer regulations in the maintenance, operation, and expansion of its sewer system within the Urban Growth Area.

The District's planning area is bounded by adjacent jurisdictions with which the District has existing service agreements, the Urban Growth boundary, and existing basin boundaries.

The existing land use and zoning within the planning area is designated by seven jurisdictions: King County, City of Auburn, City of Black Diamond, City of Covington, City of Kent, City of Maple Valley, and City of Renton. The District maintains inter-local agreements with many of the adjacent sewer providers.

Future sewer facility system requirements for the District are based on future growth projections as provided by the Puget Sound Regional Council. The projections include land use, zoning capacity, and historical sewer data for the established sewer service area.

Residential zoning represents the majority of the sewer planning area, with generally four to eight dwelling units per acre. Multifamily, office, commercial, business, industrial, and mining uses are also scattered throughout the District, along with numerous parks, lakes, and open spaces. Future land use and zoning patterns for the area are expected to correspond with existing uses.

The District has projected the increase over the next 30 years including ultimate build-out for population, household, and employment based on identified land use and zoning from agencies.

	2010	2020	2030	2040	Ultimate
Population	91,184	104,150	115,052	127,036	215,833
Household	33,499	39,677	45,517	52,175	92,955
Employment	11,477	13,238	15,092	17,327	28,461

The District determined that, based on this information, the system is not expected to reach ultimate build-out prior to 2040.

EXISTING SEWERAGE SYSTEM

The District's system consists of approximately 483 miles of gravity sewer, 32 miles of force mains, and 29 lift stations. The District's wastewater is treated by King County's Renton treatment facility. Currently, wastewater leaves the District at 19 locations with 11 discharge connections to the Cedar River Water & Sewer District, three to the City of Renton, one to the City of Kent, and four directly to King County trunk lines.

The District's collection system is made up of gravity mains and trunks, which drain to interceptors or lift stations. The lift stations discharge sewage through pressurized force mains to downstream gravity systems or other lift stations. The District has essentially two separate collection and conveyance systems—one in the north and one in the south.

The majority of pipes in the collection system that were installed prior to the mid-1970s are made of concrete and reinforced concrete. However, in recent years, the predominant pipe material used has been PVC.

Since the 2005 Sewer Comprehensive Plan, the District has significantly invested in maintaining and improving its sewer system. In addition to numerous pipe replacement projects, the District has updated and improved four lift stations and constructed one new lift station to support development and growth within the District. Furthermore, the District has placed an additional 4 new lift stations into service that were constructed through Developer Extensions. Lift station improvements include: new diesel powered generator, air pressure surge tank, odor control carbon air scrubber, additional pumps, and flow monitoring meter vaults.

SEWERAGE SYSTEM ANALYSIS

An essential part of the facility planning process is a thorough hydraulic analysis of the sewer system facilities to evaluate the ability of the existing system to effectively transport wastewater through the

District. The District used the hydraulic 'Model for Urban Sewers' (MOUSE) to evaluate the system. MOUSE is hydraulic modeling software that is also used by King County and other jurisdictions to evaluate their systems.

The hydraulic analysis of the existing system identified thirteen deficiencies.

The 10-year analysis used the forecasted population data to establish per capita flow rates to determine future sanitary flows. This analysis also took into account the projected increase of Inflow and Infiltration due to aging facilities. The following assumptions were made when performing the 10-year analysis.

- Increased Inflow and Infiltration by 7 percent.
- The District's service area expanded by a similar percentage of population increase.
- All recommended sewer facility improvements based on the results of the existing system scenario and other short-term facility upgrades planned by the District were applied to the model.

The 10-year analysis identified 15 deficiencies within the system.

The 20-year analysis was calculated in the same manner as the 10-year scenario. In the 20-year scenario, the following assumptions were made in addition to those made for the 10-year conditions:

- Increased Inflow and Infiltration by 14 percent.
- The District's service area expanded by a similar percentage of population increase.
- All recommended sewer facility improvements based on the results of the 10-year scenario and other short-term facility upgrades planned by the District were applied to the model.

The 20-year analysis identified 16 deficiencies within the system.

The ultimate build-out scenario was calculated in the same manner as the 10-year and 20-year scenarios. In the ultimate build-out scenario, the following assumptions were made in addition to those made for the 10-year and 20-year conditions:

- 28% increase from existing condition in rainfall dependent and base Inflow and Infiltration.
- The District's service area expanded by a similar percentage of population increase.
- All recommended sewer facility improvements based on the results of the 20-year scenario were applied to the model.

The ultimate build-out analysis identified 14 new deficiencies within the system, the majority of which are recommended for flow monitoring. Two of the deficiencies received recommendations for replacement or upgrade.

CAPITAL FACILITY PLAN

The projects included in the Capital Facility Plan focus on elevating the District's existing system to meet the District's policies and criteria, as well as to address and respond to projected growth. All of

the projects identified in the Capital Facility Plan fall within two categories: pipe replacements and upgrades or lift station replacement and upgrades. Additionally, all projects are broken down into two categories: short-term projects which should be implemented within the next ten years, and long-term projects which should be implemented thereafter.

The District has identified $86,217,000 in sewer capital projects for the near and distant future. Of this, approximately $59,545,000 is recommended to be implemented within the next 10 years, with the remaining projects to be implemented after that period. These costs are based on 2012 dollars and actual costs should be adjusted to account for inflation and changing market conditions at the time of construction.

In addition to major capital projects, the District has committed to investing in general improvements that include the introduction of chemical additives to sewage in order to control odors caused by long detention times within the District's sewerage system. The District is also researching alternatives to supply site-specific and system-wide odor control.

The District has in place an inflow and infiltration reduction program to reduce inflow and infiltration within the District's system. As part of this program, the District monitors pump run times throughout the year to establish baseline sewer flows and determine wet weather impacts to its systems. Additionally, District staff routinely evaluates and repairs sources of inflow and infiltration within the District's sewer conveyance system.

The District has also developed a flow monitoring program to ensure areas that experience low level surcharging in the sewerage system are monitored. Visual monitoring has been recommended for twenty sites throughout the District. Since many of the projects in the capital facilities plan are based on the results of hydraulic modeling, installation of flow monitors has been recommended for ten locations in order to verify the need, timing, and size of future improvements.

FINANCIAL PROGRAM

The District charges a fixed bi-monthly residential charge on single family residential units and a rate based on water consumption for most other types of connections. The existing monthly sewer rate is used to maintain and operate the District's system. The District's rate structure is comprised of two components: the District's sewer service charge and a pass through King County charge for wastewater treatment. There are variations of this rate for non-residential customers and properties served by other facilities, such as grinder pumps owned and maintained by the District.

The District's rate structure is defined to achieve two primary objectives: to support a level of equity by distinguishing between residential and non-residential customers, and to recover increased treatment costs from customers that demand higher levels of service due to larger volumes.

The District also charges a General Facilities Charge for new connections to the District's sewer system that represent a proportional share of the existing facilities and planned new facilities.

The District will fund the improvements recommended by the 2011 Sewer Comprehensive Plan through various means. Sources of funding for improvements are categorized into three areas: Rate Funded, General Facility Charge Funded, and Developer Extension Funded. Each capital project should be reviewed annually through the budget process to more accurately forecast project costs and

timing. In conjunction with this, future rate projections should be analyzed to reflect changes in system costs and other assumptions.

MAINTENANCE AND OPERATIONS PROGRAM

The District is committed to ensuring that its sewer utility is adequately staffed and maintained to continue to supply quality sewer services to its customers by performing regular maintenance of all facilities and equipment. The facilities and equipment are checked in accordance with manufacturers' specifications.

The District's management structure consists of a Board of Commissioners, General Manager, Finance Manager, Human Resources Manager, Field Superintendent, Office Personnel, Field Personnel, District Engineering Consultant, and District Attorney.

While Washington State does not require a certification for sewer system operators, currently four District employees have received a certification of a Waste Collection Specialist for the Washington Waste Water Collection Personnel Association.

In 2004, the District completed an update to their Emergency Response Plan in response to the 2002 Bioterrorism Act. The Emergency Response Plan addresses issues related to both the water and sewer system within the District. The Emergency Response Plan includes system specific information, explanations of roles and responsibilities, communications procedures, emergency contact lists, situation specific action plans, identification of alternate water sources, and information on personnel safety. Additionally, the District has also completed a Hazard Mitigation Plan and a Vulnerability Assessment.

STORM AND SURFACE WATER CONSIDERATIONS

This chapter establishes the District's regulatory authority for future storm and surface water considerations for a portion of or all of the District's jurisdiction area.

CHAPTER 1
INTRODUCTION

PURPOSE AND SCOPE

Soos Creek Water & Sewer District's Sewer Comprehensive Plan has been prepared according to the Revised Code of Washington (RCW), Title 57. These regulations require that all formed sewer Districts prepare a Comprehensive Sewer Plan outlining the District's present and reasonable foreseeable need in the future. The Plan is intended to supersede the 2005 Sewer Comprehensive Plan. This Plan was prepared in 2011 and 2012. The Plan date (2013) reflects the issuance year and is based on 2010 and prior years data.

This Plan establishes the sewer system policies and criteria in accordance with the District's framework, analyzes the existing sewer system and its operations, and recommends improvements to correct deficiencies and meet future service needs. This Plan provides the District with a guide to evaluate the impacts of future proposed development and land use on the sewer system. The scope of the Plan is as follows:

- Review and update the sewer system policies and criteria to ensure future improvements and expansions are consistent with adjacent jurisdictions comprehensive plans.
- Estimate the effect of future land uses on population and household trends within the Sewer Service Area.
- Document the existing sewer system.
- Update the model for the hydraulic analysis of the sewer system.
- Assess the capability of the existing sewer system to meet existing and future demands.
- Identify existing sewer system deficiencies and develop the Capital Facility Plan, including priorities for construction.
- Summarize financing methods for recommended facility improvements.
- Document the District's maintenance and operations program for the sewer facilities.
- Establish the District's regulatory authority for future storm and surface water considerations.

AUTHORIZATION

The Board of Commissioners, recognizing the obligation to provide for the needs of its present and future customers, has directed Roth Hill, LLC to analyze and prepare an updated Sewer Comprehensive Plan. This Plan has been prepared in compliance with state law and other applicable regulations and requirements.

PLAN ORGANIZATION

The subsequent sections of this Plan are organized as follows:

Chapter 2 reviews planning considerations that are pertinent to the District's sewer system. Included are descriptions of the District's Sewer Service Area, sewer system history, adjacent purveyors, related plans, and physical features.

Chapter 3 includes sewer system policies and criteria for design and planning parameters of the District's sewer system.

Chapter 4 summarizes the existing and future land use, zoning, employment and population data.

Chapter 5 summarizes existing sewer system facilities and major components, including the telemetry system, lift stations, and the conveyance system. Additionally, included are descriptions of alternative sewage disposal methods, Inflow and Infiltration (I&I) information, and odor control facilities.

Chapter 6 summarizes the hydraulic analysis of the sewer system facilities. Additionally, included is an analysis of the system operations and capacity for current and future flows, identification of any system deficiencies, and the improvements required to resolve those deficiencies.

Chapter 7 outlines the Capital Facility Plan necessary to meet the District's future sewer system needs.

Chapter 8 describes the general financial framework that addresses the District's overall financial status.

Chapter 9 summarizes the District's sewer operation program. Included therein is an overview of sewer system responsibility and authority, system operation and maintenance plan, equipment supplies and inventory and emergency response.

Chapter 10 establishes the District's regulatory authority for future storm and surface water considerations for a portion of or all of the District's jurisdiction area.

The Appendices include the State Environmental Policy Act Checklist, Sewer System Specifications and Details, Sewer System Capital Improvement Program, TAZ Planning Data Workbook, Inter-local Agreements, and Agency comments.

APPROVAL PROCESS

The Sewer Comprehensive Plan complies with the requirements of the Department of Ecology (DOE) as set forth in the Washington Administrative Code (WAC) 173.240.050, and the Revised Code of Washington (RCW) as set forth in RCW 57.16.010. This Plan is also consistent with King County Code (KCC) Title 13.24 with respect to sewer system planning.

The District submits this document to adjacent utilities and local governments having land use authority to assess consistency with ongoing and adopted planning efforts. Additionally, DOE must

review and approve the Plan. The King County approval is accomplished through the Utilities Technical Review Committee (UTRC) that reviews all proposed comprehensive plans prior to submitting a recommendation to the County Council.

The District Board of Commissioners will approve the final Sewer Comprehensive Plan following the approval by DOE.

ENVIRONMENTAL ASSESSMENT

The District has determined this Plan does not have a probable significant adverse impact on the environment and has issued a Determination of Non Significance under WAC 197-11-340(2). This decision was made after review of the completed State Environmental Policy Act checklist and other information on file with the lead agency. The environmental determination issued by the District for the Sewer Comprehensive Plan is provided in **Appendix A**.

It should be noted, however, that each capital facility project presented in this Plan will undergo subsequent project-specific environmental review as part of the preliminary and final design process, as required.

DEFINITIONS

The following terms are used in this Plan.

Collector Sewer - A sewer pipe that discharges into a main or trunk sewer and has no other tributary sewers.

Gravity Sewer Capacity - The maximum capacity for a gravity sewer is the volume of flow that can be carried in a sewer main at a depth to diameter ration of 0.80.

Hydraulic Analysis - A computer simulation of a sewer system to determine its conveyance capacity and the demands on the system.

Infiltration - Infiltration is the entrance of groundwater into the sanitary sewer system through cracks, pores, breaks and defective joints in the sewer-piping network.

Inflow - Inflow refers to direct flow of stormwater into sanitary sewer systems through hookups from stormwater collection facilities and illegal connections.

Interceptor Sewer - A sewer that receives flows from a number of main or trunk sewers and conveys such sewage/wastewater to a point for treatment or disposal.

Lift Station - A sewage pumping facility which consists of a wet well for collecting sewage/wastewater; mechanical equipment such as pumps, valves and piping; electrical and control equipment, and a force main which is synonymous with “Pump Station” in this Plan.

Lift Station Firm Capacity - The maximum capacity for a lift station is equal to the peak, wet weather flow that the largest pump within the lift station has been designed to convey.

Main or Trunk Sewer - The principle sewer to which collector sewers are tributary is called a main or trunk sewer. A main or trunk sewer receives many collectors branches and serves a subbasin.

Planning Area - A geographic area as specifically defined on a map in a comprehensive plan that is a logical area for expansion of the system. Conversion of a planning area to a service area requires King County approval of an amendment to a comprehensive plan.

Purveyor - A purveyor is an agency, subdivision of the state, municipal corporation, firm, company, mutual or cooperative association, institution, partnership, person or other entity owning or operating a public sewer system. Purveyor also means the authorized agents of such entities.

Sanitary Sewer - A sewer that carries liquid and waterborne wastes from residences, commercial building, industrial plants and institutions, together with minor quantities of ground, storm and surface waters.

Service Area - A geographic area within which service to customers is available, as specifically defined on a map in a comprehensive plan and approved by regulatory agencies, as required.

Abbreviations

Abbreviation	Meaning
AC	Asbestos-Cement (Pipe)
API	Annual Percentage Increase
APR	Annual Percentage Rate
APWA	American Public Works Association
ASTM	American Society for Testing and Materials
AWC	Association of Washington Cities
AWWA	American Water Works Association
BRB	Boundary Review Board
cf	Cubic Feet
CFP	Capital Facility Plan
CI	Cast Iron (pipe)
CIP	Capital Improvement Program
Conn.	Service Connection
CPA	Certified Public Accountant
CPP	Countywide Planning Policies
CWD	Covington Water District
CRWSD	Cedar River Water & Sewer District
d/D	Depth/Diameter
DI	Ductile Iron (pipe)

Abbreviation	Meaning
DNRP	(King County) Department of Natural Resources and Parks
DOE	(Washington State) Department of Ecology (a.k.a ECY)
DOH	(Washington State) Department of Health
DOT	(Washington State) Department of Transportation
Du/ac	Dwelling Units Per Acre
ECY	(Washington State) Department of Ecology (a.k.a. DOE)
EPA	US Environmental Protection Agency
EPP	Environmental Protection Agency
ERU	Equivalent Residential Unit
ESA	Endangered Species Act
FAZ	Forecast Analysis Zones
FIU	Field Interface Unit
FM	Force Main
FPS	Feet Per Second
FT	Feet
FT^2	Square Feet
FT^3	Cubic Feet
FTE	Full Time Equivalent
GFC	General Facilities Charge
GIS	Geographic Information System
GMA	Growth Management Act
GP	Grinder Pump
GPAD	Gallons Per Acre Per Day
gpcd	Gallons Per Capita Per Day
gpd	Gallons Per Day
gpm	Gallons Per Minute
HDPE	High-Density Polyethylene (pipe)
HP	Horsepower
I/I	Infiltration and Inflow
IE	Invert Elevation
IN	Inches
KC	King County
KCAS	King County Aerial Survey
KCCP	King County Comprehensive Plan

Abbreviation	Meaning
KCWD	King County Water District
KCWD111	King County Water District No. 111
KCWTD	King County Department of Natural Resources and Parks Wastewater Treatment Division
KW	Kilowatt
LID	Local Improvement District
LF	Linear Feet
LS	Lift Station
MF	Multifamily
M&O	Maintenance and Operations
Metro	Municipality of Metropolitan Seattle (now known as King County Department of Natural Resources and Parks Wastewater Treatment Division)
MG	Million Gallons
MGD	Million Gallons Per Day
NSF	Non-sufficient Funds
O&M	Operations and Maintenance (a.k.a. M&O)
OFM	Office of Financial Management (Washington)
PAA	Potential Annexation Area
PS	Pump Station
PSRC	Puget Sound Regional Council
PVC	Polyvinyl Chloride
PWTF	Public Works Trust Fund
R/W	Right-of-Way
RCP	Reinforced Concrete Pipe
RCW	Revised Code of Washington
RPM	Revolutions Per Minute
RTU	Remote Terminal Unit
RWSP	(King County) Regional Wastewater Services Plan
SDG	Small Diameter Gravity (pipe)
SDR	Standard Dimension Ratio
SEPA	State Environmental Policy Act
SF	Square Feet
SFR	Single-Family Residential
STEP	Septic Tank Effluent Pump

Abbreviation	Meaning
SR	State Route
SW	Southwest
TAZ	Transportation Analysis Zone
TBD	To Be Determined
TDH	Total Dynamic Head
TV	Television
UGA	Urban Growth Area
UGB	Urban Growth Boundary
UL	Underwriters Laboratory
ULID	Utility Local Improvement District
UTRC	(King County) Utilities Technical Review Committee
V	Voltage
WASWD	Washington Association of Sewer and Water Districts
WAC	Washington Administrative Code

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CHAPTER 2
BACKGROUND

INTRODUCTION

This chapter summarizes the District's history, service area topography, sewer service area (existing and projected), and service area agreements. It also includes a brief summary of the sewer system basins and facilities and the relationship with adjacent jurisdictions and other related plans.

DISTRICT HISTORY

In 1987, King County Water District No. 58 and Cascade Sewer District merged forming Soos Creek Water & Sewer District. Soos Creek Water & Sewer District, herein referred to as the "District", is a municipal corporation of King County, Washington, and provides both water and sewer services. The sewer portion of the District was originally formed as Cascade Sewer District in 1959.

Since the merger, five elected officials who constitute a Board of Commissioners have governed the District. Authority and procedures for water and sewer district functions are provided for in the Revised Code of Washington (RCW 57).

The original sewer district was comprised of approximately 600 acres and principally included the community of Cascade Vista. For several years, both prior to and after actual formation of the District, a private company constructed and operated the collection sewers and treatment plant for this community

In 1963, the District assumed operation of these facilities and shortly thereafter the treatment plant was abandoned and the District's sewer facilities were connected to the King County Metro sewer system for treatment and disposal. The former Metro agency is now known as the King County Department of Natural Resources and Parks, Wastewater Treatment Division (KCWTD).

The District's facilities have been gradually extended to meet growth demands. In 1975, the District served approximately 15,000 residents in a 6,430-acre service area. Presently, the District serves more than 91,800 persons within 35 square miles. In today's regulatory climate, future sewer service, with few exceptions, will only be allowed in King County's designated Urban Growth Areas (UGA).

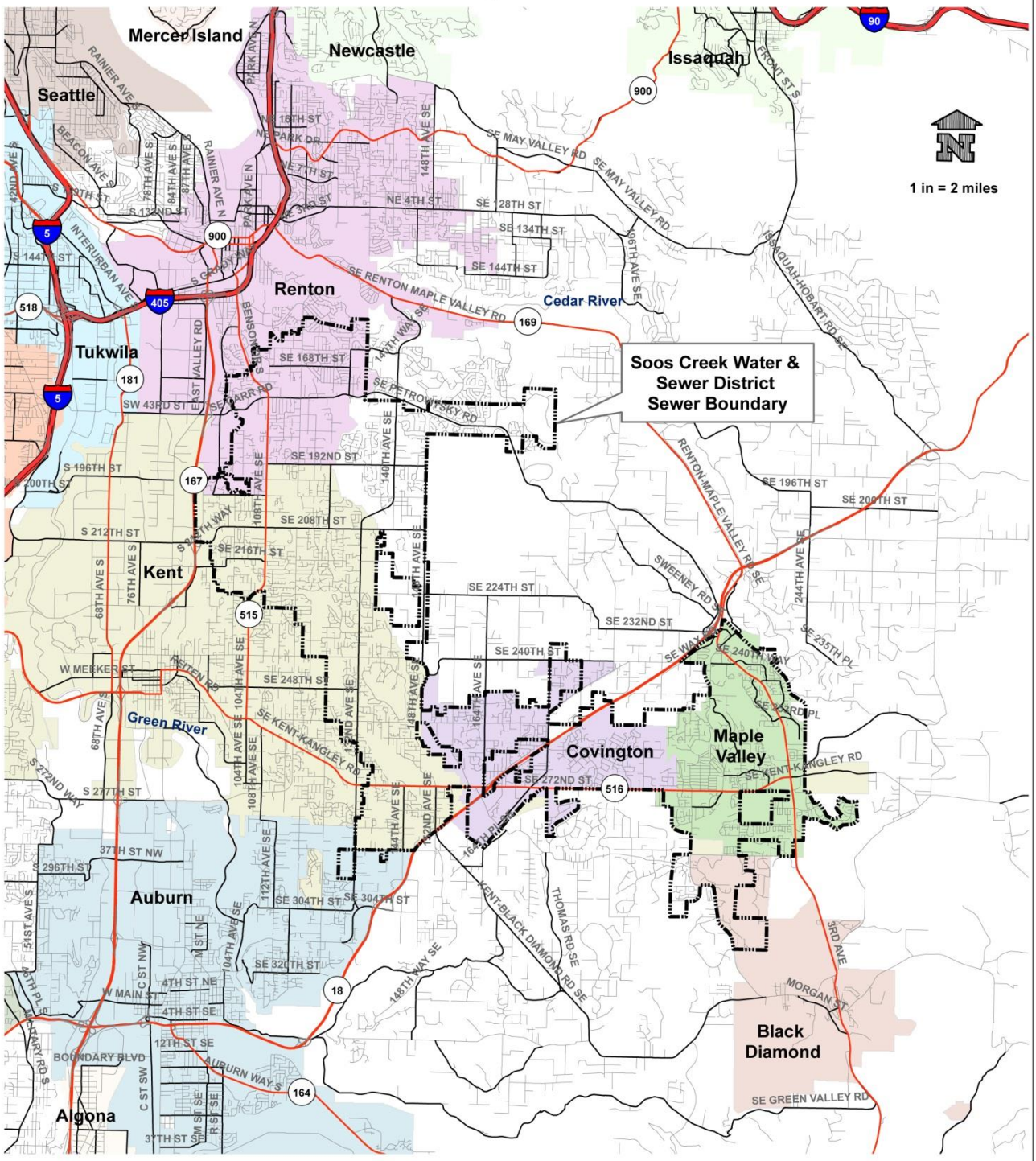
The office facility near the intersection of SE 192nd Street and 148th Avenue SE was completed in 1988. The building site provided more garage, work and office space and has better access within the District improving response time and overall safety.

SEWER SERVICE AREA

The District lies generally in South King County directly east of and adjacent to the City of Kent, south of and adjacent to the City of Renton, and north of and adjacent to the City of Auburn. The District extends to the east serving areas including Covington, Maple Valley, Lake Wilderness, Four Corners, and areas near Lake Sawyer. The location of the District is shown on the Vicinity Map, **Figure 2.1**.

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Soos Creek Water & Sewer District
Sewer Comprehensive Plan



Vicinity Map
Figure 2.1

F:\0004\01228.000\GIS\Figure 2.1.mxd

The corporate boundary is the legal boundary of Soos Creek Water & Sewer District as a municipal corporation. Those areas outside the corporate boundary and inside the planning area and Urban Growth Area have the option to annex to the District and receive sewer service.

The District's sewer service area is based on boundaries and criteria established by King County, existing agreements with neighboring municipalities and adjacent purveyors, topographical limitations, existing utility boundaries, and practical limitations of service. The location of the sewer planning area (service area) is shown on **Figure 2.2**.

The sewer service area boundary is limited, in part, by the King County Urban Growth Area boundary (UGA). The UGA is the area that can be sewered consistent with King County land use and policies, with the exception for issues of public health and safety and public schools in rural areas. The UGA can only be amended once every ten years. The District does not intend to extend sanitary sewer service to King County rural zoned property, unless an exception has been determined to exist. The District has sewer service area agreements with the cities of Auburn, Black Diamond, Covington, Kent, Maple Valley and Renton as well as King County and Cedar River Water & Sewer District. The location of the District's corporate boundary and Urban Growth Boundary are also shown on **Figure 2.2**.

The future service area is confined to those areas adjacent to the District and within the UGA but not presently within the District's boundaries or within an adjacent city or district sewer service area.

The current King County franchise designates the areas in which the District will coordinate with the County to construct sewer lines in county rights-of-way and is also shown on **Figure 2.2**.

Lake Morton is outside of the existing UGA. No other sewer service provider is located within a close proximity to the area, so, if the area were to be included within the future UGA boundary, Soos Creek Water & Sewer District would be the logical service provider. Much of the area surrounding the lake includes sensitive areas such as streams and wetlands. Service by a combination of grinder pumps/low pressure systems, lift stations, and force mains are the most likely methods of service to the area. Actual methods or availability of service will be determined at the time service is requested. The timing of that service will be determined by King County and property owners in the area.

The property known as Summit Place, also known as the Donut Hole, located in the District's southeastern sewer service area is also outside the UGA. This area is completely surrounded by the City of Maple Valley and urban zoning. There have been discussions that this area would eventually become urban by including it within the UGA and the City of Maple Valley's city limits. Service to this area can be accomplished once it is annexed to the City of Maple Valley city limits or the rural designation has been removed.

The area north of the City of Covington, west of SR18 that has been designated as part of the City's potential annexation area, is also outside the UGA. This area, known as the Northern Gateway Annexation Area, is currently being studied by the City whether it to include it as part of the UGA. Once this area has been designated urban or annexed to the City of Covington service can be accomplished by the District.

GEOLOGY, SOILS, AND TOPOGRAPHY

The geology of the District is largely the result of prehistoric glacial activity and subsequent ice retreats. The United States Department of Agriculture mapped and analyzed the soils in the area in the Soil Survey of King County. The most common soil type in the area is known as the Alderwood series, which includes moderately well-drained gravelly sandy loams that are 24 to 40-inches deep over consolidated glacial till. The next most common type, but much less prevalent than the Alderwood series, is the Everett series. Everett soils are gravelly and are underlain by sand and gravel. In certain areas, principally basins and lowlands, organic materials such as peat and muck occur in depths up to 10 feet.

Soil properties and characteristics are important factors in determining the continued utilization of septic tanks in the Urban Growth Area. Some soil types are more suitable for septic tanks and filter fields than others. Soil suitability varies within the District. In recent years, concerns about soils which are too gravelly and percolate too rapidly have grown. The concern is the underlying groundwater aquifer may risk contamination, particularly with denser development and after years of septic tank use.

Soil properties may also impact the design and location of sewer facilities. Detailed soils testing are often performed early in the design of proposed facilities to identify design parameters and to minimize construction costs. Soil evaluations of this type are beyond the scope of this Plan. Prior to the implementation of any elements of the Comprehensive Sewer Plan, appropriate soils testing may be required on a project-by-project basis.

Topography of an area is one of the principal factors in the design of sewage facilities. Every effort should be made to utilize the natural drainage basins in the design to take maximum advantage of gravity flow and minimize the need for constructing additional lift stations. The Urban Growth Boundary does not conform to natural drainage basins thus it may be necessary for a facility to pass through the Rural Area without providing connections to Rural Area residents. The Drainage Basins Map, **Figure 2.3**, shows overall topography of the study area and the breakdown into drainage patterns.

DRAINAGE BASINS

The planning area consists of 22 drainage basins. The drainage basins of varying sizes span the entire District and are described in the following section. The Drainage Basins Map, **Figure 2.3**, illustrates the boundaries of the basins.

DRAINAGE BASIN DESCRIPTIONS

North Service Area

The north service area is comprised of Basins A, B, C, K, M, N, and P. Flows from this area discharge to the City of Renton on the north and west, the Cedar River Water & Sewer District on the north, and the City of Kent on the west.

Drainage Basin A - Cedar River

The Cedar River Basin is a fully developed residential area of approximately 650 acres at the extreme north end of the District's service area. The topography slopes to the north and the area is served by gravity to into the KCWTD South Renton Trunk.

Drainage Basin B - Upper Soos Creek

The Upper Soos Creek Basin is the major source of drainage in the north service area, which serves approximately 2,500 acres of primarily residential development. The drainage area is situated along the upper reaches of Soos Creek and is serviced by the old KCWTD Interceptor that generally follows the creek downstream from South 164th Street to Lift Station 5B located on South 198th Street. Basin B extends south to include other areas that can reach Lift Station 5B by gravity.

Lift Station 5 was intended to be temporary when it was constructed in the late 1960s because of KCWTD's plan to construct an interceptor along the length of Soos Creek to the City of Auburn. The concept for the interceptor was abandoned in the early 1980s, causing Lift Station 5 to be upgraded to permanent status. The revisions were included in the District's 1987 Comprehensive Plan and implemented in 1994 and involved the construction of Lift Station 5B at the same location, removing Lift Station 5 from service. Lift Station 12 is located in the southeast portion of the basin and pumps to Lift Station 5B. Additionally, Lift Station 5B handles flows for Lift Station 9 which is located in Basin K.

To lessen the impacts on downstream facilities, the discharge from Lift Station 5B is split into two parts with a portion going west through drainage Area K to the KCWTD line in the valley and the remainder going north to the City of Renton and the KCWTD trunk.

Drainage Basin C - Panther Creek

This basin is located near the northwest corner of the sewer service area and consists of approximately 1,700 acres of residential and commercial development. A gravity system collects wastewater from the area and follows the natural slope to the west to convey the wastewater into the KCWTD South Renton Trunk on Carr Road near 99th Avenue South.

Drainage Basin K - Springbrook Creek

Service is provided to the Springbrook Creek Basin by a gravity trunk which extends from the KCWTD Interceptor on 80th Avenue South at 188th Street and follows a general route upslope along SE 192nd Street to Panther Creek and eventually follows the creek upstream to the Panther Lake area. This trunk will ultimately be extended to intercept Lift Station 9, which currently pumps to Lift Station 5B in Drainage Basin B at the south end of Panther Lake on South 208th Street. This gravity trunk also receives the portion of discharge from Lift Station 5B that flows to the west. A second trunk branches off to the south along SR 167 at the toe of the east slope of the Kent Valley to intercept flow from residential developments on the hillside. It extends uphill parallel to South 208th Street to serve an area south of SE 208th Street and west of 116th Avenue SE.

Drainage Basin M - Upper Madsen Creek and Drainage Basin N - Upper Molasses Creek

The upper reaches of these two basins, along with the Lake Desire Basin, comprise the panhandle in the northeast corner of the service area. Both of these basins slope to the north and are served by gravity and drain into Cedar River Water & Sewer District's sewerage system.

Drainage Basin P - Lake Desire

Located at the eastern end of the panhandle, the Lake Desire Basin is included in an agreement between the District and Cedar River Water & Sewer District to provide cooperative service in the basins north and northeast of Lake Youngs. In accordance with the agreement, a gravity main was constructed in 1995 by developer extension to provide service to a new junior high school at the south end of the Lake Desire area and a private development further south in Cedar River Water & Sewer District. The main runs northwesterly through the Lake Desire area to discharge flow into the Cedar River Water & Sewer District system. Although some of the upland homes around Lake Desire can reach this new trunk by gravity, the majority of the homes are below the road on the lakeside. In order to serve this community, a low pressure system was installed allowing for sewer service around the Lake.

Southwest Service Area

The southwest service area includes Basins D, E, F, G, H, Q, R, and S. This area comprises the southwest one-third of the District's service area. Wastewater from all of these basins flows to Lift Station 10B located on SE 256th Street at about 146th Avenue SE. Lift station 10 was replaced by Lift Station 10B in 2005. Similar to Lift Station 5B in the north, Lift Station 10B, is deemed permanent due to the abandonment of the concept of a gravity KCWTD Trunk from Auburn along Soos Creek. Future expansion and upgrade improvements will be required at Lift Station 10B as development in the cities of Black Diamond, Covington and Maple Valley occur.

Drainage Basin D - Middle Big Soos Creek

Lying west and south of Lake Youngs, Basin D is comprised primarily of the eastern slopes of the Big Soos Creek Basin from SE 200th Street to SE 256th Street. This area is part of the Lift Station 10B drainage area. Most of the area lies outside of the Urban Growth Area and will not contribute significant wastewater flows to the system unless the Urban Growth Boundary is revised by King County.

Drainage Basin E - Clark Fork

Basin E is a relatively large drainage basin of 2,100 acres located on the westerly side of the District service area and overlaps into the City of Kent. The general slope is north to south along the Clark Fork of Big Soos Creek. The District's trunk sewer follows the creek south from approximately SE 216th Street until it discharges into the KCWTD trunk sewer. The KCWTD trunk sewer (Clark Fork Trunk) follows the creek south from approximately SE 240th Street and 132nd Avenue SE to discharge into Lift Station 10B at SE 256th Street. The wastewater is then pumped west to KCWTD via the SE 256th Street Conveyance System and the Kent Cascade Relief Interceptor.

Drainage Basin F - Lake Meridian

Drainage Basin F consists of approximately 880 acres and encompasses the slopes surrounding Lake Meridian. This area is served by a 12- to 24-inch trunk line running from SE 248th Street southerly along both sides of Lake Meridian to SE 272nd Street, then winding back northwesterly along the contour to Lift Station 10B at SE 256th Street.

Drainage Basin G - Middle Soos Creek Plateau

This basin of approximately 180 acres lies north of SE 256th Street and east of Lift Station 10B. The slope is generally north to south and wastewater generated in the area is intercepted by a gravity main on SE 256th Street and transported through an inverted siphon (a portion of the SE 256th Street Conveyance System) under Big Soos Creek to Lift Station 10B, located in Drainage Basin F.

Drainage Basin H - Upper Little Soos Creek

Drainage Basin H is a large basin north of SE 256th Street along the upper reaches of Little Soos Creek. Approximately three-fourths of the basin lies outside the Urban Growth Area, leaving only the southerly portion within the sewer service area. All of the wastewater from this basin flows to Lift Station 14 which then pumps the sewage into the 16-inch force main on SE 256th Street, joining with flow from Lift Station 11 and Lift Station 15B for transport to Lift Station 10B located in Drainage Basin F. Lift Station 11 will be removed from service once construction is complete on Lift Station 11B, expected in 2013.

Drainage Basin Q - West Branch of Soos Creek (Southwest Kent-Kangley)

This basin is approximately 1,100 acres in the southwest corner of the service area that slopes generally south along the west branch of Soos Creek. This area is served by three lift stations: Lift Station 39 in the most southerly portion and Lift Station 20 just south of SE 272nd Street. Lift Station 19 which was in the north was removed from service upon the construction of a gravity sewer interceptor that was completed in 2012. Ultimately, the District plans to serve the area south of SE 288th Street with gravity sewers that will flow to Lift Station 39. Limited use of grinder pumps has been deemed the most cost-effective and environmentally sound method to serve areas that are closer to the ravine of Soos Creek that will pump to the gravity sewers and flow to Lift Station 39. All flows from this drainage area are pumped to Drainage Basin F.

Drainage Basin R - Lower Little Soos Creek (South Kent-Kangley)

Drainage Basin R is a relatively long, narrow basin along the northwest side of State Route 18 serving the lower reaches of Little Soos Basin. The majority of this basin is currently unsewered. Flows from the most westerly portion of this basin drain to Lift Station 23D, which pumps the sewage to Basin F.

Subarea R-46

The easterly portion of this Basin R labeled as R-46 will ultimately be served by proposed Lift Station 46 which will be located at the west side of the City of Covington near SE 272nd Street.

Drainage Basin S - Lower Big Soos Creek

Drainage Basin S is comprised of approximately 550 acres lying south of SE 256th Street and north of SE 272nd Street between approximately 148th Avenue SE and 164th Avenue SE. Most of the sewers follow the general slope southerly to Lift Station 21 located in the lowland of Big Soos Creek near SE 268th Street and 156th Avenue NE. Wastewater from Lift Station 21 is pumped westerly to Drainage Area F and the Lake Meridian Trunk for delivery to Lift Station 10B.

Subarea S-46

The easterly portion of this Basin S labeled as S-46 will ultimately be served by proposed Lift Station 46 via the proposed gravity sewer interceptor located in 156th Place SE.

Southeast Service Area

Drainage Basins J, L, T, U, V, W, and X comprise the southeast service area. Most of the southeast service area is ultimately tributary to the Jenkins Creek drainage areas with sanitary sewer service provided through Lift Station 11 to Lift Station 10B and eventually to KCWTD facilities. Lift Station 11 will be removed from service once construction is complete on Lift Station 11B, expected in 2013.

Drainage Basin J - Upper Jenkins Creek

Drainage Basin J encompasses approximately 2,800 acres along the upper reaches of Jenkins Creek along the eastern part of the service area. The Wilderness Village Shopping Center and other developable property along the Maple Valley-Black Diamond Highway is served by gravity to Lift Station 15B located on SE 240th Street at approximately 215th Avenue SE. Lift Station 11 receives flows from the southwesterly portion of this area. Lift Stations 11 and 15B pump through the SE 256th Street conveyance system to Lift Station 10B and eventually to KCWTD facilities. Lift Station 11 will be removed from service once construction is complete on Lift Station 11B, expected in 2013.

Drainage Basin L - Lake Lucerne

Drainage Basin L is in the far eastern end of the District service area and is comprised of the Lake Lucerne, Pipe Lake, and Lake Wilderness Drainage areas. The Lake Lucerne/Pipe Lake area is served by a trunk line on Witte Road to Lift Station 38. The Lake Wilderness Interceptor extends along the westerly side of Lake Wilderness and receives pumped flow from Drainage Basin V for delivery to Lift Station 38. Lift Station 38 also receives flows from Lift Station 36, which is located in the southern-most part of this area as well as flows from the Pipe Lake and Lake Lucerne area via the Witte Road Interceptor. The North Lake Wilderness Trunk and Lake Wilderness Trail Interceptor serve the east part of this basin area. All flows from Lift Station 38 are then pumped by force main and gravity to Lift Station 15B in Basin J.

Drainage Basin T - Lower Jenkins Creek

Drainage Basin T is a large basin of approximately 1,800 acres and is located in the southeast part of the service area south of Kent-Kangley Highway and west of Wax Road. Much of this drainage area lies outside the Urban Growth Area. The portion of the basin within the Urban Area is provided service by Lift Station 28B on Wax Road. Lift Station 28B's current location is temporary with a force main to Lift Station 11 in Basin J. Ultimately, gravity sewer will serve the central downtown area of Covington that will flow to the proposed Lift Station 46 in Drainage Basin R removing the

need for Lift Station 28B. Flow that Lift Station 28B pumped back to Lift Station 11 will then be diverted via the proposed gravity sewer to proposed Lift Station 46. A development in the central part of the drainage area, The Lake at Winterwood, is served through Lift Station 24B on Kent-Kangley Road and is pumped to Drainage Basin J and Lift Station 11. Lift Station 24B will be removed by future sewer gravity construction when road improvements are made to the State Route 516 crossing of Jenkins Creek by the City of Covington which is expected in 2013/2014. Flows from Lift Station 34, just north of Kent-Kangley Road in the eastern portion of this area, also flow to Lift Station 11 in Basin J. Lift Station 11 will be removed from service once construction is complete on Lift Station 11B, expected in 2013.

Drainage Basin U - Lake Morton

Drainage Basin U is at the south end of the service area and comprises an area of about 1,150 acres surrounding Lake Morton. The area is outside of the Urban Growth Area, but may require sewer service in the future, particularly around Lake Morton. Should service become necessary, it would be provided by a low-pressure system using grinder pumps to convey the sewage north to The Lake of Winterwood system in Drainage Basin T.

Drainage Basin V - Lake Sawyer

This drainage basin is made up of several smaller areas that contribute flow to the Lake Wilderness Interceptor. The portion of the basin north of SE 288th Street is an irregularly shaped drainage of Jenkins Creek.

The Lake Sawyer Basin is in the southeast corner of the service area and consists of approximately 1,600 acres, with drainage generally toward the lake and much of the housing along the lakeshore. Proposed service is by alternative low-pressure system using grinder pumps. Approximately 150 acres on the west side of the basin will be served by gravity to Lift Station 35, which has a force main around the northwest end of the lake that connects with Lift Station 36. Lift Station 36 then pump the sewage to Drainage Basin L. The remainder of the area is primarily wetland and the City of Kent Watershed. The wastewater currently flows through Drainage Basin L via the Lake Wilderness Interceptor to Lift Station 15B with an overflow to Lift Station 38. Additionally, Lift Station 36 receives flow via gravity from the area previously served by Lift Station 29 in Drainage Basin L. Lift Station 44, which pumps to Lift Station 35 forcemain, serves a new development at Covington Sawyer Road and 216th Avenue SE. Additional service in this area is also possible by Lift Station 44.

Drainage Basin W - Shadow Lake

This basin, approximately 3,200 acres, is located north of State Route 18 between 108th Avenue SE and 212th Avenue SE. The major portion lying north of SE 240th Street is outside of the Urban Growth Area. Lift Station 43, which pumps to Drainage Basin H, serves a new development at SE 240th Street and 185 Place SE. This station has the potential of serving additional area east of its location; however, much of this area is outside the urban growth boundary.

Drainage Basin X - Rock Creek

This basin is located in the most easterly portion of the District. Lying approximately east of the Maple Valley-Black Diamond Road (State Route 169), this area is located completely outside the Urban Growth Area. Sewer service is provided via Lift Station 37 to a force main which runs through the rural area and connects with an existing gravity main near State Route 169. This area was

developed solely for the Tahoma School District, which is an allowed use outside the Urban Growth Area.

RELATIONSHIPS WITH OTHER PLANS

King County Comprehensive Plan – With Updates Through 2012

The King County Comprehensive Plan manages the projected growth within unincorporated King County by designating where growth will occur through policies, goals, plans and regulations. The plan includes a land use map of unincorporated King County and a zoning map of projected growth into urban areas.

Policy F-101, of the plan states: "King County, the cities, special purpose districts, and/or local service providers shall plan as partners. King County's planning will focus on the unclaimed urban unincorporated areas and cities potential annexation areas."

Policy F-201 of the plan states: "The capital facilities plans and capital improvement programs prepared by all other agencies that provide services to unincorporated areas of the county should be consistent with the King County Comprehensive Plan."

In addition, Policy F-255, in part states: "In the Urban Growth Area, all new development shall be served by public sewers unless:…"

In conjunction with F-201, Policy F-256 states: "In the Urban Growth Area, King County and sewer utilities should jointly prioritize the replacement of onsite systems that serve existing development with public sewers, based on the risk of potential failure. King County and sewer utilities should analyze public funding options for such conversion and should prepare conversion plans that will enable quick and cost-effective local response to health and pollution problems that may occur when many on-site system fail in an area." The District provides sewer service to some, but not all, of the residents within the urban and unincorporated portion of its sewer service area. Other properties remain on septic systems.

The District does not intend to extend sanitary sewer service to King County rural zoned property unless an exception is provided by King County. This Comprehensive Sewer Plan demonstrates the District's ability to adequately provide for its sanitary sewer service area.

Some areas outside of the Urban Growth Area where sewers are needed to address specific health and safety problems for existing permitted structures or the needs of public facilities such as schools are currently eligible for sewers. In addition, through the 4 to 1 program, a portion of certain eligible rural properties may be designated urban and require sewer service. Proposed sewers are not shown for these areas. Eligibility and method of service will be determined on a case-by-case basis as requested.

Tightlined trunk or interceptor sewers (pipes to which local residents are prohibited from connecting) or other major sewer facilities which are located in the Rural Areas but are for serving the Urban area are permitted under the KCCP. Sometimes this is the only cost effective or otherwise feasible solution to provide sewer service.

City of Maple Valley Comprehensive Plan

The City of Maple Valley incorporated in 1997 and adopted its first Comprehensive Plan in 1999. The most recent amendment to the Plan occurred in 2008. Maple Valley encompasses over 3,000 acres of land, excluding lakes, and is home to more than 16,000 people. The City is predominately comprised of residential neighborhoods with small pockets of commercial/industrial designated lands.

The City has limited potential for expansion due to its proximity to the City of Black Diamond to the south, the City of Covington to the west and the bordering areas currently designated rural. However, the area referred to as Summit Place, aka the Donut Hole, just south of SE 272nd Street has the potential to significantly impact the City's population. This area is currently outside the Urban Growth Boundary but completely surrounded by the City of Maple Valley's city limits King County proposed an amendment to the King County Comprehensive Plan that would allow the Summit Place property to be incorporated into the Urban Growth Boundary and become part of Maple Valley's Potential Annexation Area at some time in the near future. Sewer service to this area can be accomplished once this has occurred.

The City of Maple Valley is committed to coordinate phasing development of sewer services according to future land use needs and to meet Growth Management Act concurrency requirements, in coordination with the utility providers.

City of Covington Comprehensive Plan

The City of Covington also incorporated in 1997 and adopted its first Comprehensive Plan in 2001. The City includes approximately 6.3 square miles with a population of more than 17,500.

The Comprehensive Plan for the City designates a Potential Annexation Area (PAA). The City's PAA includes 275.5 acres of unincorporated Urban Growth Area. The City's PAA does not overlap with annexation areas of adjacent cities. There are three areas designated as the PAA: one in the northern most part of the City, north of SE 240th Street, the second is north of SE 256th Street on the eastern side of the City with the Urban Growth Area as its boundary, and the third (the largest area) which is considered the Northern Notch between SE Wax Road and Hwy 18 that is currently outside the UGB. Service to the Northern Notch can be accomplished once the rural designation has been removed or the City has annexed the area.

The City of Covington takes into account services provided by other jurisdictions. They are committed for planning future development in a manner that is consistent with utility providers so that services can be provided for its residents.

City of Kent Comprehensive Plan

The City of Kent updated its 1995 Comprehensive Plan in 2002/2004. This update was precipitated by several policy issues and development projects of local, regional, and statewide significance including, but not limited to, significant annexations, the Endangered Species Act (ESA), and amendments to the Growth Management Act (GMA). The City serves over 84,000 people covering 29.4 square miles. The City is preparing for its upcoming state-mandated Comprehensive Plan update. The City of Kent provides policy direction on coordinating with local utility providers to ensure consistency with its Comprehensive Plan.

City of Renton Comprehensive Plan

The City of Renton updated its Comprehensive Plan in 2009. The Plan is a broad statement of community goals, objectives, and policies that directs the orderly and coordinated physical development of the City. The City is expected to serve more than 61,000 people by the year 2012. The City of Renton provides policy direction on coordinating with local utility providers to ensure consistency with its Comprehensive Plan.

City of Black Diamond Comprehensive Plan

The City of Black Diamond amended its Comprehensive Plan in 2009. Its designated Potential Annexation Area (PAA) is likely to be built out by the year 2030. By the year 2025, the City is planning to accommodate a population of more than 16,900 people. There are three major sites in the City's PAA:, the South Annexation Area, the East Annexation Area, and the Lake 12 Annexation Area. One of the key concepts that the City is using to implement its vision for the future is by allowing Master Planned Developments (MPD). The City is currently working to approve development agreements for two MPDs, Lawson Hills and the Villages. These MPDs will significantly change the landscape of the City by creating a more village atmosphere. It is expected the agreements will be adopted Fall 2011, allowing the first phase of development which is expected to the Villages north loop.

OTHER SEWERAGE PLANS

King County Regional Wastewater Services Plan (RWSP)

In 1999, King County adopted the Regional Wastewater Services Plan (RWSP). This Plan provides direction for treatment improvements, conveyance system improvements, inflow and infiltration, combined sewer overflows, biosolids and water reuse. As a component sewer agency of King County, the District is participating in King County's inflow and infiltration (I/I) study. The District has allowed King County to install numerous flow meters within the District's service area in order to determine the baseline sewer flows, as well as the increased flows due to I/I. The study establishd benchmarks to demonstrate the effectiveness of I/I controls throughout the countywide sewer system. The RWSP outlines proposed conveyance improvements. King County had proposed to construct several lift stations, as well as a few miles of pressure sewers and gravity sewers in the District's sewer service area, however, these projects have been delayed or reduced due to the District's ability to provide service to meet the demands of the system.

The original contract was signed between King County and the various component agencies in 1969 for the purpose of King County to treat and dispose of sewage. The component agencies are in the process of negotiating a new contract with King County.

City of Renton Sewerage Plan

In 2010, the City of Renton finalized its Long-Range Wastewater Management Plan. The City of Renton owns, operates, and maintains approximately 191 miles of gravity sewer, 23 sewer lift stations, and force mains. The City's sewerage system discharges to King County facilities at 79 locations within its service area that then transport their sewage to King County's South Treatment Reclamation Plant. The City's service area, for the most part, corresponds with the current City limits, however some deviations do occur. The greatest potential for expansion of the City's sanitary sewer system is within the May Valley, Skyway and East Renton areas that currently either do not have existing or adequate sanitary sewer facilities.

2002 City of Kent Comprehensive Sewer Plan

In 2002, the City of Kent completed a final draft of its Comprehensive Sewer Plan. King County Department of Natural Resources and Parks Wastewater Treatment Division is responsible for the majority of interceptors, as well as sewage treatment and disposal facilities. Some of these improvements will help to reduce the infiltration and inflow to much of the downtown system. Other system improvements include upsizing of lines and lift station improvements.

The District has an interlocal agreement with the City of Kent to provide sewer service to a portion of Kent's sewer service area. Kent maintains planning for this area but will not provide sewer service. A copy of the agreement can be found in the **Appendix D** of this document.

2009 City of Auburn Comprehensive Sewer Plan

The City of Auburn 2009 Comprehensive Sewer Plan states that the City plans to provide public sewer service to all properties located within its current City limits and PAA. An agreement between Auburn and the District has been established and states the District will provide sewer service to the northeastern portion of Lea Hill since it can provide the most efficient method of sewer service for this area. The agreement also ensures that development is built to Auburn's development standards. A copy of the agreement can be found in **Appendix D** of this document.

The Capital Facility Program in the City of Auburn Comprehensive Sewer Plan identifies a program to facilitate the repair and/or replacement of the conveyance system and trunk sewer pipes that do not have the required capacity or function efficiently. Additionally, the CFP identifies a program for the extension of sewer service to developed single-family zoning areas that are served with on-site septic tanks and drain fields.

2006 Cedar River Water & Sewer District Sewer System Plan

The Cedar River Water & Sewer District is located generally southeast of the City of Renton, east of Lake Youngs, north of the City of Covington and portions of the City of Maple Valley and extends east towards Seattle's Cedar River Watershed. Cedar River Water & Sewer District serves approximately 5,625 residential equivalents within approximately four square miles. The Cedar River Water & Sewer District is predominantly designated rural. This designation precludes sewer service by the King County Comprehensive Plan. Soos Creek Water & Sewer District's system discharges to the Cedar River Water & Sewer District system in several locations northeast of the District. An interlocal agreement has been signed between the Districts for joint use of the trunk facilities.

2012 City of Black Diamond General Sewer Plan

The City is currently updating its General Sewer Plan which is expected to be adopted in late 2012. The City's last adopted Comprehensive Sewer System Plan was approved in 2003. The City transports its wastewater to King County Department of Natural Resources Wastewater Treatment Division via the Soos Creek Water & Sewer District's system for treatment and disposal. The City had an agreement with Soos Creek Water & Sewer District that entitled the City to a capacity in the District's system to serve 3,600 people or 990,000 gallons per day. In 2006, King County assumed responsibility and entered into an agreement with Soos Creek Water & Sewer District for the conveyance of sewage from the City. The terms of the agreement state that the City's sewage will be conveyed through Soos Creek Water & Sewer District's facilities and that King County will pay for the wheeling of those flows beginning in 2010. Soos Creek Water & Sewer District will have capacity to provide for the City's sewage needs and its planned growth. The agreement with King County will be reviewed and modified as needed to accommodate for the terms of future capacity needs for the City.

OTHER RELEVANT PLANNING DOCUMENTS

King County Cedar River Basin and Nonpoint Action Plan

In 1995, King County adopted the Cedar River Basin and Nonpoint Action Plan. This document outlines an overall, long-term strategy of watershed management. The document proposed priorities for implementing its recommendations. The recommendations focus on the reduction of flood damage, the protection and restoration of aquatic habitat, the maintenance of water quality, and the establishment of a watershed management program.

King County Soos Creek Basin Plan

The 1990 Soos Creek Basin Plan recommended watershed management measures to protect resources and respond to increasing hazards and property damage resulting from increased urbanization in the Soos Creek Basin. The land use recommendations included low densities in the rural areas, low densities adjacent to streams, maintenance of low densities, purchase of open space lands in areas with regionally significant aquatic resources, and maintenance of forested cover in the Lake Youngs Watershed. Recommended regulatory changes included area-specific retention/detention standards, clearing limits, water quality, maintenance requirements for drainage facilities and many others. The majority of the District is within the Soos Creek Basin and serves nearly all urban areas in that basin.

King County Lake Desire Management Plan

In 1995, King County published a study with a management plan for Lake Desire. The study was conducted between April 1993 and April 1994. The study showed the lake as being a typical eutrophic lake with low oxygen in the bottom waters and high surface water temperatures; however the lake's fish habitat was generally healthy. The long-term goal of the plan is to maintain the lake's productivity. The intent of the plan is to improve water quality in Lake Desire by addressing issues affecting the watershed and in-lake sources of nutrients which contribute to the existing water quality problems. The installation of sewers by Soos Creek Water & Sewer District in 2009 around Lake Desire should help improve the water quality of the lake.

South King County Ground Water Management Plan

The 2003 South King County Ground Water Management Plan documents the work of local governments and citizens to understand and protect the ground water underlying south King County. The South King County Ground Water Advisory Committee developed the South King County Ground Water Management Plan to meet this area's groundwater protection needs. The goal of the Plan is to promote an appreciation for the complexity of the ground water system, to describe potential threats to the system, and to identify strategies which can contribute to the long-term management and beneficial use of the ground water resources. The Plan encompasses approximately 260 square miles in southwest King County. It is bounded by the Duwamish and Cedar Rivers, on the east by the Black Diamond area, on the south by the Green River and Pierce County, and on the west by Puget Sound.

Wellhead Protection Plans

Three jurisdictions within the District's service area have wellhead protection plans for their drinking water wells. These jurisdictions include King County Water District No. 111, Covington Water District, and the City of Kent. The District will cooperate with the implementation of these jurisdiction's plans as much as is practicable.

Water System Plans by Adjacent Purveyors

The surrounding purveyors include the City of Renton to the north and northwest, Cedar River Water & Sewer District to the north and east, Covington Water District and King County Water District No. 111 to the southeast, and the City of Kent to the west and southwest. Lake Youngs, a City of Seattle watershed, directly provides water to the District. Each of these municipalities are required to update their plans every six years. Copies of these plans can be obtained by contacting the individual purveyor. The following plans have been reviewed:

- City of Seattle 2007 Water System Plan
- City of Renton 2005 Water System Plan
- Cedar River Water & Sewer District 2006 Water System Plan
- Covington Water District 2007 Water System Plan and 2008 Amendment No. 1
- King County Water District No. 111 2009 Water Comprehensive Plan
- City of Kent 2008 Water System Plan
- City of Black Diamond 2008 Water System Comprehensive Plan

EXISTING SERVICE AGREEMENTS

The District has established a number of agreements with neighboring utility districts, cities, and KCWTD for the provision of sewer services. Agreements with the Cities of Auburn, Black Diamond, Kent, and Renton, and Cedar River Water & Sewer District establish specific sewer service boundaries between the District and each of these entities. The sewer service agreements are summarized in **Table 2.1**, and further described below. Agreements executed after the 1996 Sewer Comprehensive Plan are included in **Appendix D**.

King County Department of Natural Resources and Parks Wastewater Treatment Division

King County Department of Natural Resources and Parks Wastewater Treatment Division provides treatment and disposal of the District's wastewater through an agreement dated August 22, 1969.

The District discharges sewage through other connection points to the north to the Cedar River Water & Sewer District and the City of Renton. The sewage is only conveyed through these other systems and all treatment is performed by KCWTD.

Subsequent to the construction of the Kent Cascade Relief Interceptor, the District entered into an agreement with King County whereby ownership, maintenance and operation of the Kent Cascade Relief Interceptor would be conveyed to King County in exchange for the District completing some further upgrades of the system. These upgrades were completed in 2000 and the Kent Cascade Relief Interceptor and associated upgrades and easements were turned over to the County. Flow from Lift Stations 10 and 11 are now conveyed through the SE 256th Street Conveyance System to the point where the Kent Cascade Relief Interceptor begins east of the intersection of 116th Avenue SE and SE 255th Street. From that point to the Renton Treatment Plant, the District's sewage is transported by King County facilities.

In 2002, the District reached an agreement with King County for coordinated facility development of sewer conveyance facilities in the Soos Creek Planning Zone of the County's Conveyance System Improvement Project (CSIP). It was anticipated that King County would be responsible for designing, constructing, owning and operating an interceptor sewer from a point of connection with the existing Black Diamond Trunk Sewer near State Route 516 to the proposed County Pump Station D, along with three new pumping stations (Pump Stations B, D and H) and approximately 10 miles of pipeline. These facilities would have transported sewage from an upstream terminus at the proposed Pump Station H in Black Diamond to a downstream connection at King County's 277th Street Interceptor. However, following the review of the draft Predesign report, comments by Soos Creek Water & Sewer District and a value engineering effort by King County, the County and the District identified other alternatives that could either delay or significantly reduce the need to construct conveyance facilities identified in the Predesign Report, while still maintaining adequate capacity to convey sewage for the Soos Creek Planning Zone. This is documented in the Agreement with King County, which can be found in **Appendix D** and discussed in the following paragraph.

In 2006, King County assumed responsibility and entered into an agreement with Soos Creek Water & Sewer District for the conveyance of sewage from the City of Black Diamond. The terms of the agreement state that the City of Black Diamond's sewage will be conveyed through Soos Creek Water & Sewer District's facilities and that King County will pay for the wheeling of those flows beginning in 2010. In anticipation of continuing to providing capacity for the City of Black

Diamond, the District constructed both Lift Station 10B and Lift Station 11B. These Lift Stations, along with Lift Station 15B and any additional future upgrades identified by this Comprehensive Plan will have capacity to serve the City of Black Diamond and other District customers' sewage needs well into the future.

Further discussion of the Soos Creek Water & Sewer District existing facilities and future needs are discussed in **Chapters 5 through 7.**

City of Auburn

An agreement between the City of Auburn and the District was established in 2001 to enable the District to provide sewer service to portions of Lea Hill, which is within the City of Auburn's Potential Annexation Area (PAA). The agreement enables the District to provide the most efficient method of sewer service for this area and ensures that development is built to Auburn's development standards.

City of Black Diamond

On September 5, 1990 the District accepted and executed an interlocal agreement with the City of Black Diamond (Black Diamond) to provide for conveyance of the City's wastewater flows through the District to the Kent and Mill Creek facilities, which would then convey the flow to KCWTD.

Under the terms of the 1990 agreement, the City would deliver all of its sewage and industrial wastes to the District's facilities. The District agreed to accept and provide for pumped conveyance of the City's wastewater flows through the District's facilities until KCWTD completes its proposed extension of facilities to serve the Black Diamond area. However, construction of these facilities have either been delayed or reduced. In 2006, King County assumed responsibility and entered into an agreement with Soos Creek Water & Sewer District for the conveyance of sewage from the City of Black Diamond. The terms of the agreement state that the City of Black Diamond's sewage will be conveyed through Soos Creek Water & Sewer District's facilities and that King County will pay for the wheeling of those flows beginning in 2010. The District is currently completing the construction of the Lift Station 11B which will have adequate capacity to handle sewage flows from Black Diamond well into the future.

The District continues to work with King County to provide services to the City of Black Diamond in the most cost-effective manner. This may include wheeling the City of Black Diamond's sewage through Soos Creek's facilities permanently. King County would then pay the District for the capital facilities needed to serve the City of Black Diamond as well as pay the monthly wheeling cost.

City of Kent

In 1995, a sewer main known as the Kent Cascade Relief Interceptor was constructed by the District to address capacity issues in the original Kent Cascade Interceptor. The Kent Cascade Relief Interceptor allowed the District's sewage to bypass the City of Kent and be conveyed directly to King County facilities, which then transported the flow to the Renton Treatment Plant. The relief interceptor conveys all the flow from the District's southeast and southwest service area which flows to Lift Station 15B

Other Agreements

The District currently has other agreements with the City of Auburn, City of Renton, and Cedar River Water & Sewer District to provide service to specific developments. New agreements will be made, as necessary, to provide sewer service to areas.

Table 2.1 Sewer Service Agreements

☑= In Appendix D ☒ = Not in Appendix D

Other Agency	Date of Agreement	Resolution No.	Resolution Date	Purpose
Metro ☒	August 1, 1963	CSD 26	July 18, 1963	Authorization of a contract for sewage disposal.
City of Renton ☒	March 27, 1964	--	--	Agreement of joint use of interceptor through Tiffany Park area.
Metro ☒	April 6, 1967	CSD 66	March 16, 1967	Approval, ratification and confirmation of Soos Creek Drainage Basin Agreement.
Water District No. 58 ☒	1968	--	--	Sewage disposal to Water District No. 108 facilities from Fairwood 9.
Metro ☒	February 20, 1969	--	--	First supplement to Soos Creek Drainage Basin Agreement.
City of Kent, Metro ☒	July 8, 1969	--	--	Allocation of costs for the Mill Creek Interceptor. The District is allowed to pump up to 5.75 mgd to the interceptor.
City of Kent, Metro ☒	August 22, 1969	--	--	Joint use and oversizing of Metro's Mill Creek Interceptor.
Metro ☒	--	CSD 202	October 7, 1971	Authorization for joint use of South Renton Trunk.
City of Renton ☒	November 19, 1974	CSD 448	October 17, 1974	Sewage disposal from Scott's Terrace (ULID no. 11) to Renton.

Table 2.1 Sewer Service Agreements

☑= In Appendix D ☒ = Not in Appendix D

Other Agency	Date of Agreement	Resolution No.	Resolution Date	Purpose
Water District No. 58 ☒	--	CSD 530	December 18, 1975	Authorization for joint use of facilities.
City of Kent ☒	--	CSD 891	September 7, 1978	Road use agreement for Springbrook Interceptor.
Water District No. 108, Water District No. 58 ☒	January 1, 1980	CSD 1183	January 3, 1980	Reciprocal agreement with Water District No. 108 for services to the Molasses Creek, Madsen Creek, Lake Desire, Spring Lake and Shady Lake drainage areas.
Cedar River Water & Sewer District☒	December 1987	SC 0114-C	December 17, 1987	Sarbell Development (Albertson's)
City of Black Diamond ☑	September 5, 1990	SC 0567-S	August 23, 1990	Interlocal Agreement for conveyance of Black Diamond's wastewater through District's system.
City of Renton ☑	August 6, 1991	SC 0666-S	April 18, 1991	Agreement for the transfer of facilities and for the establishment of service boundaries.
City of Renton ☑	--	SC 0840-C	September 24, 1992	Finalizing agreement with City of Renton service limits of District and City collection systems.
City of Renton ☑	--	SC 1109-S	April 20, 1994	Amendment to 1992 Agreement.
City of Kent ☑	March 2, 1995	SC 1232-S	November 2, 1994	Interlocal Agreement for establishment of sewer service area boundaries.
City of Renton ☑	--	SC 1480-C	August 21, 1996	Approving Interlocal Agreement for establishment of Service Area Boundaries.
City of Renton ☑	October 10, 1997	SC 1611-C	May 21, 1997	Amending service area.

Table 2.1 Sewer Service Agreements

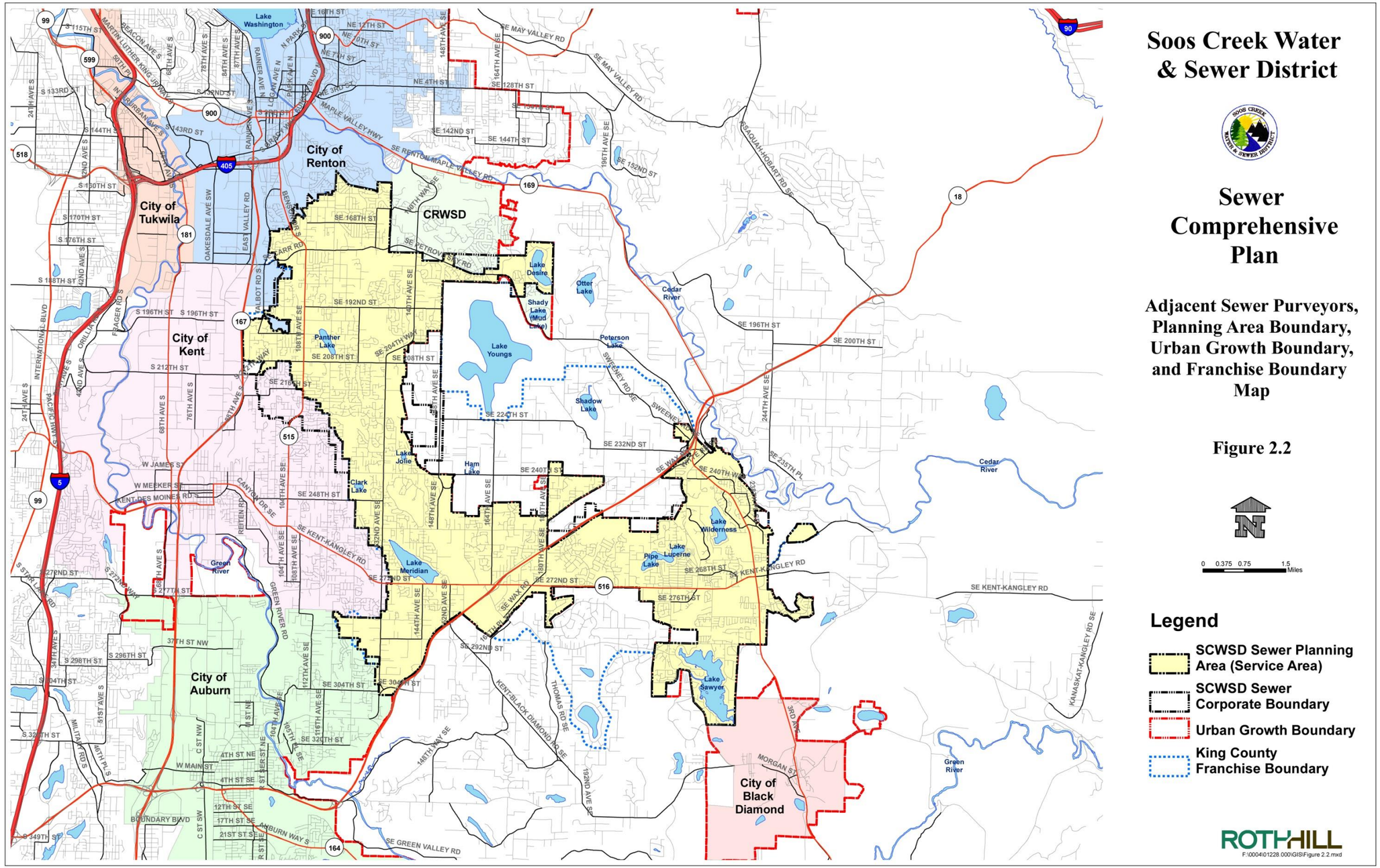
☑= In Appendix D ☒ = Not in Appendix D

Other Agency	Date of Agreement	Resolution No.	Resolution Date	Purpose
City of Black Diamond ☑	April 21, 1999	--	--	Amendment to Interlocal Agreement for conveyance of Black Diamond wastewater flows
King County ☑	July 19, 1999	1920-S	August 14, 1999	Accepting King County sewer franchise (Franchise 13583)
Cedar River Water & Sewer District☑	January 17, 2001	2124-C	January 17, 2001	Service Agreement Amendment
City of Auburn ☑	March 21, 2001	SC 2141-S	March 21, 2001	Interlocal Agreement for establishment of sewer service area boundaries
King County ☒	May 20, 2002	SC 2323-S	May 22, 2002	Agreement for Coordinated Facility Development
City of Black Diamond ☒	--	--	--	Interlocal Agreement for establishment of sewer system boundaries and conditions of service within the City of Black Diamond
City of Renton ☑	January 26, 2004	2545-C	January 21, 2004	Amending provision to previous
King County ☑	May 24, 2004	--	--	Sewer Franchise 14916
City of Maple Valley ☑	May 22, 2006	2832-S	June 6, 2006	Interlocal Agreement for provisions of sanitary sewer service within Maple Valley
King County ☑	January 17, 2006	By Motion	June 7, 2006	Agreement for the conveyance of sewage from the City of Black Diamond
City of Covington ☑	September 6, 2007	3004-S	September 26, 2007	Interlocal Agreement for provisions of sewer service
City of Renton ☑	July 18, 2008	By Motion	May 5, 2008	Agreement for the transfer of facilities and for the establishment of service boundaries

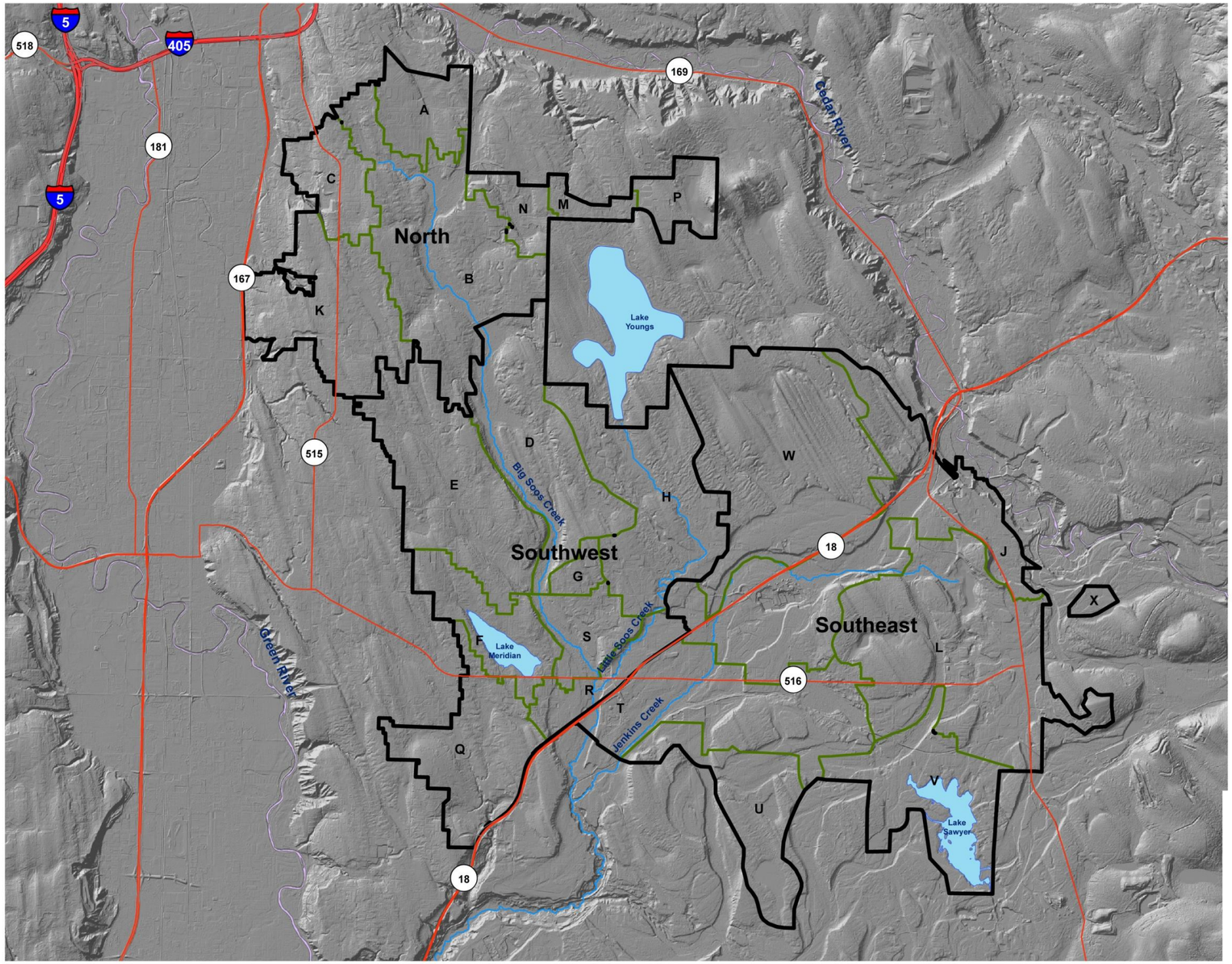
Table 2.1 Sewer Service Agreements

☑= In Appendix D ☒ = Not in Appendix D

Other Agency	Date of Agreement	Resolution No.	Resolution Date	Purpose
City of Renton ☑		3271-S	January 5, 2011	Approving addendum to Cascade Interceptor Agreement


Soos Creek Water & Sewer District
Sewer Comprehensive Plan
Adjacent Sewer Purveyors, Planning Area Boundary, Urban Growth Boundary, and Franchise Boundary Map
Figure 2.2
0 0.375 0.75 1.5 Miles
Legend
SCWSD Sewer Planning Area (Service Area)
SCWSD Sewer Corporate Boundary
Urban Growth Boundary
King County Franchise Boundary
City of Renton
CRWSD
City of Tukwila
City of Kent
City of Auburn
City of Black Diamond
Lake Washington
Lake Desire
Otter Lake
Cedar River
Panther Lake
Lake Youngs
Peterson Lake
Shadow Lake
Lake Jolie
Ham Lake
Clark Lake
Lake Meridian
Green River
Lake Wilderness
Pipe Lake
Lake Lucerne
Lake Sawyer
Shady Lake (Mud Lake)
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Soos Creek Water & Sewer District

Sewer Comprehensive Plan

Drainage Basins

Figure 2.3

N

0 3,000 6,000 Feet

Legend

- Sewer Service Areas
- Sewer Basins

ROTHHILL

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CHAPTER 3
POLICIES, CRITERIA AND STANDARDS

INTRODUCTION

Soos Creek Water & Sewer District manages and operates their sewer system in accordance with State, and Federal regulations. These policies guide the development and financing of the infrastructure required to provide sewer service. While the District has discretion in setting performance and design criteria and standards for its sewer system, the criteria set must meet or exceed the minimum standards for public sewers as set forth by the Washington State Department of Ecology (DOE) through Chapters 90.48, 90.52, and 90.54 RCW. Used together, policies and criteria describe the desired level of service to sewer utility customers.

The policies described in this chapter are established by the District to provide a framework for the planning, design, operation, and management of the system. In addition, the District has a compilation of rules of general applicability and statements of general policy or interpretations adopted by the District's board. These policies are provided to seek goals of uniform treatment to all District customers and to provide documentation of the District's commitments to current sewer system customers, as well as those considering service from the District. These policies are limited to those things related to the sewer system and its design and operation. Each policy described in this document is identified by number, with a policy statement, and followed by a discussion.

The District's criteria, which are also described in this chapter, provide the details needed to implement the policies established for its sewer system. The criteria focus on planning, design parameters, and other details that have been developed to establish consistency and to ensure that adequate levels of service are provided throughout the system. Other publications such as the District's Developer Extension Agreement and the Design Standards and Procedures Manual, document the design standards and procedures for development of the sewer system. The Developer Extension Agreement is included in **Appendix E**. The Design Standards and Procedures Manual is included in **Appendix F**. The criteria also provides the planning process with measuring tools to identify any areas of the existing system that need to be improved to achieve the desired level of customer service. A number corresponding to the supporting policy identifies each criterion.

Soos Creek Water & Sewer District supports the land use policies and goals of the jurisdictions overlapping the District's service area. The District routinely coordinates with the land use jurisdictions inside their service area on pending land use changes, proposed utility projects, proposed transportation projects, and proposed revisions to comprehensive plans. The District remains committed to providing the sewer infrastructure necessary to meet the land use needs of their service area.

The Soos Creek Water & Sewer District Sewer Comprehensive Plan establishes the following goals for sewer service.

Goal 1: Provide safe, reliable and timely sewer service to its consumers at a fair and reasonable price

Goal 2: Ensure that sewer services are available to support development that is consistent with the District's policies, criteria, and standards. In addition, it should also be

consistent with current land use plans and development regulations of the State of Washington, King County, and appropriate local planning agencies.

Goal 3: Protect the natural environment by providing reliable levels of service and ensuring adequate capacity within the system by upgrading the system as deemed necessary.

In order to achieve these goals, the District has developed the policies and criteria presented herein.

1. **Service Areas, Extensions, and Service Ownership.** Service area and extension policies define the sewer service area and conditions for service extension within those boundaries. The customer service policies define the level of service provided to sewer utility customers, as well as public and private ownership and responsibility for sewer system components.

2. **System Reliability and Emergency Response Plan.** System reliability policies and criteria define the District's standards to construct and maintain reliable sewer system infrastructure and equipment. The emergency action policies state the District's responsibility to maintain an updated Emergency Response Plan and to take reasonable action in case of emergencies.

3. **Coordination and Cooperation with Other Agencies.** These policies summarize the District's willingness to coordinate and cooperate with other agencies, as well as to enter into interlocal agreements with neighboring jurisdictions for the provision of sewer service.

4. **Sewer System Planning, Design, and Construction.** Planning policies define the methods and procedures the District uses to determine the facilities that are needed to meet anticipated growth within the District's service area as well as the Urban Growth Area. The sewer system design policies and criteria detail the District's design standards for sewer mains, force mains, lift stations, and other necessary facilities required to provide safe, continuous sewer service.

5. **Environmental Stewardship.** These policies outline the District's dedication to develop and implement facilities and programs that will protect the environment.

6. **Human Resources.** These polices summarize the District's commitment to providing a safe work environment, training, and certification opportunities for its employees.

7. **Financial.** This category summarizes the District's general financial policies and criteria and includes sewer rate structures, development charges, capital improvement financing, and reserves.

1. SERVICE AREAS, EXTENSIONS, AND SERVICE OWNERSHIP

Policy 1.1 Service Area

The District should plan for and provide sewer service to all customers within the District's sewer service area as defined by the District.

Provision of sewer service should be consistent with the goals, objectives and policies of the District and the land use regulatory authorities. Prior to receiving sewer service, provision of sewer service both inside and outside the District's boundary shall be conditioned on the developer/development providing sewer system infrastructure improvements that meet the

District's criteria and standards. The improvements include capital improvements as defined and/or identified in the District's Comprehensive Sewer Plan.

Policy 1.2 Service Area Agreements

The District should establish agreements with neighboring utility districts, cities, and King County for the provision of sewer services. These agreements establish a permanent sewer service area for the District.

Establishing agreements between the State of Washington, King County, appropriate local planning agencies, and adjacent jurisdictions allow the District to define its sewer service area and plan for anticipated growth. The agreements should also aid the District in defining the regulatory environment in which it operates. The District has established agreements with King County for the treatment and disposal of its sewage. In addition, the District has agreements with the cities of Auburn, Covington, Kent, Renton, as well as Cedar River Water & Sewer District and King County that establish specific sewer service boundaries between the District and each of these entities as well as the working relationship between the parties.

Policy 1.3 Service Extensions

Sewer system service extensions should be allowed to provide sewer service within the District's sewer service area if the development is consistent with adopted development polices and all sewer utility policies and criteria. The proponent's development may require an improvement as described in the comprehensive plan that shall be made at the cost of the proponent. If the District makes a determination that the proponent's development requires system upgrades beyond any upgrade planned by the District and/or before a scheduled capital project, the upgrades shall be made at the cost of the proponent. Said extensions should be installed pursuant to Methods 1 or 2 as described below. The District shall allow Methods 4, 5, or 6 when the property meets all of the conditions outlined by resolution. Service by adjacent jurisdictions within the District's service area shall only be allowed on a case-by-case basis as described herein.

Property owners shall be responsible for extending the sewer system through the full extent of their property. The District may extend the sewer system to ensure orderly system development, in which case, the property owner shall be responsible for an equitable share of the extension costs at the time of connection to the District's system. Sewer system extensions shall be constructed to current District criteria and standards and shall be sized to serve projected growth.

Criteria

1.3.1 – Utility Local Improvement Districts – Method 1

A property owner may petition for the formation of a Utility Local Improvement District (ULID) to install an extension to the District's sewer system. The property owner may request the Board of Commissioners to authorize District staff to prepare a petition for formation of the ULID or the property owner may request formation of a ULID by Resolution of the Board. Property owners within the proposed ULID shall make formation by Resolution only after review by the Board and only upon presentation of convincing evidence of strong support for the ULID. Upon successful completion of the required steps to form the ULID as prescribed by statute (including notification of each property owner within the ULID and at least two public hearings), the District should proceed with the construction of the facilities. All costs of design, construction, and associated ULID requirements, except those described herein, shall be borne by assessments to the benefited properties

within the ULID. The District would consider paying for extra costs associated with mains that are oversized or installed at deeper depths than otherwise required in order that general facility needs may be met. The ULID would be responsible for the 8-inch equivalent cost of these type facilities. In addition, the District would consider paying for the costs of any bored crossings of major streets or sensitive areas and, as long as the proposed facilities are included in the District's Sewer Comprehensive Plan, participating in any costs associated with facilities located adjacent to documented wetlands.

1.3.2 – Developer Main Extensions – Method 2

A property owner may elect to enter into a private contract to install an extension to the District's sewer system. The private contract consists of a developer extension agreement with the District. The property owner shall prepare the design documents by retaining its own engineer and prepare all applicable permit documents and applications necessary to acquire approvals from the required jurisdictions/agencies for the extension. The property owner is responsible for control survey and all construction survey and staking. The District, will at its own expense, provide the first plan review cycle for compliance with District standards and optional redline plan review meeting. Any plan reviews cycles after the first shall be at the property owner's expense. The property owner shall be responsible for obtaining a contractor to install the sewer main and associated improvements and shall be responsible for paying all costs associated with the design and construction of the extension. The District would consider paying for extra costs associated with mains that are oversized or installed at deeper depths than otherwise required so that general facility needs may be met. The property owner would be responsible for the equivalent cost of the size needed to serve the development. In addition, the District would consider paying for the costs of any bored crossings of major streets or sensitive areas and, as long as the proposed facilities are included in the District's Sewer Comprehensive Plan, participating in any costs associated with facilities located adjacent to documented wetlands.

Upon completion of construction, ownership of the sewer facilities shall be transferred to the District by a bill of sale. As determined necessary by the District, the property owner shall be responsible for acquiring and conveying to the District all easements necessary for the main extension and future implementation requirements of the District's Sewer Comprehensive Plan.

1.3.3 – Extended Side Sewer – Method 3

The District has established standards for the maximum length of side sewers (150-feet from the property line abutting the sewer main). Where buildings or structures are more than the established distance, a sewer extension will generally be required. In the event a property owner has a building or structure to which sewer service cannot feasibly be provided by method 1, 2, or 4 (Interim Service Method) alone, however, the property owner may apply for permission to install an extended private service line from the nearest connection point. If permission is granted, the owner must pay its interim rate, which is the pro rata share based upon the front footage, for the installation of a future eight (8) inch equivalent mainline. The owner may be required to provide easements as a condition of service. A per front foot amount shall be established by the Board of Commissioners periodically by resolution, and based upon historic construction cost data, to ensure that all property owners pay a fair share. Extended sewer service may only be used in conjunction with method 1, 2 or 4.

Permission to install an extended service line will be granted at the sole discretion of the District, which will approve applications only upon its determination that such approval is in the best interest of the District. Although the specific physical facilities providing service to property may change in time, Extended Sewer Service is permanent service.

1.3.3.1 – Extended Side Sewer Requirements

An application for an extended side sewer will be subject to an agreement between the owner and the District containing terms acceptable to the District that defines the special circumstances justifying the extended side sewer. The owner must agree that upon installation of any future main, and upon 30 days notice by the District, the stub service for the owner's property may be relocated to the new main by the District as necessary to bring the service to the owner's property into compliance with the District's standards and specifications existing as of such time. At the appropriate time, the transfer will then be performed by the District at no further cost to the owner. The Agreement for Interim/Extended Service shall contain permission from the owner to the District to enter onto the property to accomplish the transfer.

The owner must designate the District as its agent by limited power of attorney in a covenant running with the land for the execution of any ULID petitions including the owner's property, and waiving objection or protest to formation or inclusion within any ULID; provided, however, that any future ULID assessment will be deemed satisfied by the charges collected in accordance herewith. A copy of the agreement for Interim/Extended Service or a memorandum thereof, including the covenant, will be recorded with the King County Recorder to provide constructive notice thereof to all future owners.

1.3.4 – Interim Service – Method 4

In the event a property owner has a single-family home or parcel of land for residential use to which sewer service cannot feasibly be provided by a ULID or a main extension, an owner may apply for special permission to install an interim private service line from the nearest connection point. Permission to install an interim service line shall be granted at the sole discretion of the Board of Commissioners. The Board shall approve applications on an individual basis, subject to the determination that such approval is in the best interest of the District. If permission is granted, the owner must pay its interim rate, which is the pro rata share based upon the front footage, for the installation of a future eight (8) inch equivalent mainline. The owner may be required to provide easements as a condition of service. A per front foot amount shall be established by the Board of Commissioners periodically by resolution, and based upon historic construction cost data, to ensure that all property owners pay a fair share.

Permission to install an interim service line will be granted at the sole discretion of the District, which will approve applications only upon its determination that such approval is in the best interest of the District. Although the specific physical facilities providing service to property may change in time, Interim Sewer Service is permanent service.

1.3.4.1 – Interim Service Requirements

Interim sewer service will be subject to an agreement between the owner and the District, containing terms acceptable to the District under the special circumstances. The owner must agree that upon installation of any future main, and upon 30 days notice by the District, the stub service for the owner's property may be relocated to the new main by the District as necessary to bring the service to the owner's property into compliance with the District's standards and specifications existing as of such time. At the appropriate time, the transfer will then be performed by the District at no further cost to the owner. The Agreement for Interim Service shall contain permission from the owner to the District to enter onto the property to accomplish the transfer.

The owner must designate the District as its agent by limited power of attorney in a covenant running with the land for the execution of any ULID petitions including the owner's property, and waiving objection or protest to formation or inclusion within any ULID; provided, however, that any future ULID assessment will be deemed satisfied by the charges collected in accordance herewith. A copy of the agreement for Interim Service or a memorandum thereof, including the covenant, will be recorded with the King County Recorder to provide constructive notice thereof to all future owners.

1.3.5 – Alternative Sewer Service (Grinder Pumps) – Method 5

Transporting sewage by gravity is the preferred method of service. However, alternative pressure systems may be permitted in those circumstances when a gravity system would be impractical, unreasonably expensive, result in unreasonable impacts to the environment or would be otherwise infeasible. The District has selected the low-pressure grinder pump system as the alternative pressure system most suitable to its needs and has standardized on the "Environment One" grinder pump, for which the District maintains an inventory of materials including repair and replacement parts.

On a case-by-case basis, the Board of Commissioners may consider service by a District owned or privately owned grinder pump when service by a gravity system is unavailable or unfeasible at the time service is required. Each request for grinder pump consideration will be reviewed by Staff and a recommendation will be made to the Board of Commissioners for approval or denial. If the grinder pump is approved by the Board, the owner shall enter into an agreement on a form provided by the District and shall install it in accordance with all alternative method specifications and procedures established by the District

1.3.5.1 –District Owned Grinder Pumps – Method 5a

District owned and maintained grinder pump may be permitted on a temporary basis for Method 4 and removed when standard gravity service becomes available. Where specific constraints prevent or restrict normal connection to or construction of gravity sewers or standard lift stations, the use of individual District owned and maintained grinder pumps may also be permitted by the District on a permanent basis for Methods 1, 2, or 3 where such grinder pump service is identified in the District's Sewer Comprehensive Plan. All terms and conditions for this Method 5a shall comply with the District's current adopted Resolution for Methods of Service.

1.3.5.1.1 – Method 5a Service Fees

The property owner shall agree that its bi-monthly sewer bills may include a maintenance charge for the grinder pump unit in such amount as is set from time to time in accordance with the rate setting law applicable to sewer districts.

1.3.5.2 – Privately Owned Grinder Pumps – Method 5b

A privately owned and maintained grinder pump may be considered when service by a gravity system is unavailable or unfeasible at the time service is required and a District owned grinder pump has been determined to be inappropriate. In such instance, the private grinder pump and force line will be owned, serviced and maintained by the owner, and the District shall not have responsibility for such service and maintenance. If the owner fails to address any needed repairs, the District will perform the necessary repairs to avoid or minimize any environmental contamination, and will invoice the property owner for the time and materials for the repair. If the District does not receive payment within 30 days, the District will place a lien against the property for the costs associated with the

repairs. Such service will comply with the District adopted Resolution for the requirements of such service.

1.3.5.2.1 – Method 5b Service Fees

There will be no maintenance charge for privately owned alternative sewer service.

1.3.6 – Temporary Outside Service – Method 6

On a case-by-case basis, the Board may consider service on a temporary basis to properties within the District sewer local service area, but which have not yet been annexed to the District. Service under this Method will be conditioned upon the owner designating the District as its agent by limited power of attorney in a covenant running with the land for the execution of any annexation or ULID petitions including the owner's property and waiving objection or protest to formation or inclusions within any annexation or ULID; provided, however, that the owner will not be required to waive objections to the amount of any ULID assessments. The covenant will be recorded with the King County Recorder to provide constructive notice thereof to all future owners. Provision of sewer service to schools located within the Urban Growth Boundary, but in areas that have not yet been annexed to the District, shall also be treated on a case-by-case basis as special conditions.

1.3.6.1 – Temporary Outside Service Requirements

Service under this method shall be conditioned upon the property owner designating the District as its agent by limited power of attorney in a covenant running with the land for the execution of any annexation or ULID petitions including the owner's property and waiving objection or protest to formation or inclusion within any annexation or ULID. Provided, however, that the owner will not be required to waive objection to the amount of any ULID assessment. The covenant will be recorded with the King County Recorder to provide constructive notice thereof to all future owners.

1.3.6.2 – Temporary Outside Service Fees

Properties receiving temporary outside service shall pay a surcharge to the District's standard monthly service rates until such time they become annexed to the District and service becomes permanent. This fee will be waived if the District is given the power of attorney for signing a petition to annexation into the District and for approving a ULID.

1.3.7 – Medical Hardships – Method 7

On a case-by-case basis, the District may consider service by any of the foregoing methods on a modified basis to meet the needs of persons with a bona fide medical and income hardship. Modifications to the specific method of service may include delays or other rescheduling of otherwise required payments and adjustment of service specifications as reasonably necessary to meet the specific requirements of the qualifying applicant.

1.3.7.1 – Medical Hardship Requirements

Service under this method will be allowed on a non-discriminatory basis upon the Board of Commissioner's determination that a bona fide medical hardship exists, giving special consideration to the determinations of other health and welfare agencies that the applicant qualifies by virtue of the applicant's income and health circumstances.

1.3.7.2 – Medical Hardship Fees

The District may require the execution of a promissory note and appropriate security document, such as a mortgage, to ensure ultimate payment of the District's costs and charges for the method of service provided.

1.3.8 – Financed Connection Charges – Method 8

The District may allow the connection charges, or some portion, required by any of the foregoing Methods of Service to be financed in accordance with the District's then-current resolution establishing policies for setting connection charges, and other fees and charges.

1.3.7 – Sewer Service by Other Jurisdictions

The District intends to provide service to all its customers within the sewer service area. Situations may arise, however, where portions of its service area may be better served temporarily or permanently by adjacent jurisdictions. Therefore, on a case-by-case basis, subject to the written agreement of all interested parties, sewer service may be provided by other jurisdictions within the District's sewer service area. Future systems that are operated by other jurisdictions within the District's sewer service area shall meet the District's sewer system standards. Any change in who provides service must be approved in writing by the District.

Policy 1.4 Sewer Service – To and Through

Consistent with the statutes that govern sewer districts, the District treats sewer mains adjacent to a property as being of special benefit to the property abutted. Except in the case of properties with unique service needs or issues, the District treats the benefit of an adjacent sewer main as being equivalent to an 8-inch main installed at the appropriate depth to serve the property. In those cases where other service issues unrelated to the requirements of a specific parcel require a larger pipe (oversizing) or a deeper pipe (overdepth), the District treats such oversizing and overdepth as a general facility of the District, and pays either directly or by reimbursement for the differential cost thereof.

> *In accordance with this policy, development of property requires a parcel seeking sewer service to extend the existing facilities through its property to the next parcel upstream, along such route as is determined in accordance with the service needs of the property, this Comprehensive Plan and approval by the District.*

Policy 1.5 Certificates of Sewer Availability

The District shall issue Certificates of Sewer Availability (CSA) on available sewer capacity to serve customers within its sewer service area according to date and order in which the applications are received. New customers will pay a local facility fee and general facility fee as well as other applicable fees.

> *The certificates may be issued with conditional provisions for service. Residential Certificates of Sewer Availability shall be valid for one year, unless the applicant shows proof of application for a building permit in which case the Certificate of Sewer Availability shall be extended for a six-month period. Non-residential Certificates of Sewer Availability, except Planned Urban Developments, shall be valid for six months with the option to renew at the District's discretion. Planned Urban Developments shall be valid for a term agreed to by both the District and the*

developers on a case-by-case basis. The District's Board may change or amend projects and the final schedule is confirmed by Board approval.

Policy 1.6 Service Ownership

The side sewer stub from the main to the edge of right-of-way or sewer easement shall be owned and maintained by the District. The property owner shall own and maintain the side sewer service line and any associated appurtenances beyond the edge of right-of-way or sewer easement.

Side sewers stubs shall normally be installed between the main and the edge of right-of-way or sewer easement in conjunction with construction of the sewer main. The property owner shall be responsible for connecting all private onsite side sewer lines to the side sewer stub. Said connection shall not be allowed until the sewer main is ready for service and the property owner has paid all applicable fees.

2. SYSTEM RELIABILITY AND EMERGENCY RESPONSE PLAN

Policy 2.1 Security

The District shall make reasonable attempts to protect the security of its sewer system. The District shall determine what information about the system should remain unavailable to the general public.

Protection of the sewer system may be accomplished by numerous security measures. Any information deemed critical for the security of its system shall be made available only to regulatory agencies or other agencies on a case-by-case basis.

Policy 2.2 System Reliability

The District shall invest the resources necessary to construct, maintain and rehabilitate its sewer system infrastructure and equipment to ensure that its customers are provided consistent, reliable service.

Whenever possible, the District shall anticipate system interruptions and design and operate the system to minimize the impact of such interruptions on its customers and the environment. The sewer system infrastructure, including sewer mains, force mains, lift stations and related facilities, shall be designed to meet all applicable codes, criteria, and standards in force at the time of permit issuance.

The District shall plan to provide operational response to a variety of potential threats to the system. The greatest elements of maintaining system reliability are maintenance and planned replacement of facilities prior to exhaustion of expected service life.

Criteria

2.2.1 – General System Reliability

In order to reduce the risk of overflows to the environment during power outages or when performing routine maintenance, the District shall install emergency back-up power generators, receptacles for portable generators and/or bypass pump connections at all of its lift stations. In addition, the telemetry system shall have back-up battery power that allows the telemetry system to continue to operate during a power outage. Wherever feasible, emphasis shall be placed on the construction of

gravity sewers rather than pressure systems in order to minimize the mechanical and electrical dependency of the sewer system.

2.2.1.1 – Emergency Back-up Power Requirements

Permanent on-site generators shall be sized to provide continuous power for a minimum of 24 hours before servicing is required. Telemetry systems within those lift stations without permanent onsite generators shall have battery systems for back-up power. The back-up batteries shall allow the telemetry system to continue to operate so the District can monitor the sewage levels in those stations during power outages. During power outages, the District shall connect portable generators or bypass pumps to lift stations without permanent back-up power to convey sewage to downstream facilities. These connections shall be made on a rotating schedule or on an as-needed basis.

2.2.1.2 – Bypass Pumping Requirements

The District's lift stations shall be designed with bypass pump connections that will allow the District to pump directly from the wet well into the lift station's force main with a portable pump, thus bypassing the pumps in the dry well. This feature should allow the District to manage wet well levels during power outages and routine maintenance.

2.2.2 – Routine Operation and Preventative Maintenance

Unless specifically directed otherwise by the District, all facilities and equipment shall be maintained in accordance with manufacturer's specifications. The District has developed and shall adhere to maintenance and replacement schedules for all facilities and equipment.

2.2.2.1 – Equipment Inventory

The District shall maintain a complete inventory of all its trucks and equipment, with planned replacement dates as applicable. Additional equipment may be replaced or purchased as required. The District shall also maintain a complete inventory of all supplies and parts in stock for the sewer system. This inventory shall be used to maintain or repair facilities within the District.

2.2.2.2 – Operation and Preventative Maintenance Practices

The District shall perform all maintenance and non-emergency repair activities in accordance with its adopted Best Management Practices (BMP). Where feasible, emergency repair activities shall also comply with adopted BMP.

Policy 2.3 Emergency Response Plan

On a regular basis, the District shall update an Emergency Response Plan that focuses on problems created by major disasters (such as earthquakes, floods or windstorms) as part of the District's operations program. The plan should ensure that adequate emergency provisions and procedures are in place to operate the sewer system. The Emergency Response Plan will not be made available to the public.

> *The Emergency Response Plan contains contact information, as well as procedures, to evaluate the extent of an emergency and steps to minimize potential impacts to people or the environment from District facilities that have been damaged by the emergency. This document should be reviewed and updated periodically. The document shall address purpose, organization and*

concept of operations, administration and logistics, and direction and control of emergency operations.

Criteria

2.3.1 – Vulnerability Assessment and Hazard Mitigation Plan

The District shall update, on a regular basis, a Vulnerability Assessment and a Hazard Mitigation Plan. The plans shall include natural and man-made hazards and identify how people and property may be damaged when a hazardous situation occurs. The Vulnerability Assessment will not be made available to the public.

2.3.1.1 – Joint Use of District Facilities

The District shall not allow joint use of its facilities with other jurisdictions or agencies or agencies unless otherwise negotiated. However, under emergency conditions the District will consider use by other jurisdictions or agencies on a case-by-case basis or by a signed mutual aide agreement.

2.3.1.2 – Facility Security

Security measures shall protect all District facilities, including the headquarters and remote sites such as lift stations. Doors and entrances to all facilities shall remain locked when not in use. All access hatches shall be fitted with locked panels and all manholes with bolt-down lids. Chain link fences shall surround lift stations in order to discourage access by unauthorized personnel. Lift stations and buildings shall also be monitored for intrusion. Any incidence of an alarm should result in notification and response by the on-call person.

2.3.2 – Emergency Management and Disaster Procedures

The District has prepared a document titled "Emergency Response Plan" that defines the appropriate actions to be taken by the District during an emergency. The document contains contact information, as well as procedures to evaluate the extent of an emergency and steps necessary to minimize potential impacts to people or the environment from District facilities that have been damaged by an emergency. This document should be reviewed and updated periodically and shall address its purpose, organization, concept of operations, administration and logistics, and direction and control. This document will not be made available to the public.

3. COORDINATION AND COOPERATION WITH OTHER AGENCIES

Policy 3.1 Regional Participation

The District should support and participate in applicable regional plans to provide and maintain a safe, reliable and adequate sewer system for its customers.

Regional planning efforts promote a framework for coordinated sewer system improvements. The District should therefore coordinate and cooperate with adjacent jurisdictions and wastewater service providers to plan, respond and provide adequate sewer service for anticipated growth, demand and capacity requirements as well as security and emergency response for sewer facilities.

Policy 3.2 Coordination With Adjacent Jurisdictions

The District should coordinate closely with adjacent jurisdictions to determine applicable regulatory requirements, growth projections and opportunities for joint projects. Interlocal agreements should be prepared between the pertinent parties on all joint projects.

By working closely with adjacent jurisdictions, the District may identify opportunities for joint projects and thus minimize potential impacts to neighborhoods and the environment. These coordination efforts may also aid in diminishing regulatory hurdles that could increase project costs through restrictive permit conditions.

Policy 3.3 Mutual Aid Agreement

The District should participate in mutual aid agreements with adjacent jurisdictions, King County, and the State of Washington.

A Mutual Aid Agreement allows agencies to contract with each other to provide services. Since 1992, the District has had a Mutual Aid Agreement with other participating water and sewer districts to provide personnel and equipment to other districts that request assistance during a disaster or emergency.

Policy 3.4 Warning, Alert and Response Participation

The District will participate in warning, alert and response organizations that collaborate with local and regional governments to share information that protects critical infrastructure.

The District participates in the Northwest Warning, Alert & Response Network (WARN) which is a collaborative effort between government and private sector critical infrastructure partners with a goal of near real-time information sharing to help protect regional/national infrastructures, communities and the public.

The InfraGard is a Federal Bureau of Investigation program which is responsible for Critical Infrastructure Protection matters. The goal of InfraGuard is to promote ongoing dialogue and timely communication between members and the FBI. The District has been participating in InfraGurd for many years.

4. SEWER SYSTEM PLANNING, DESIGN, AND CONSTRUCTION

Policy 4.1 Sewer System Planning Objectives

The District's objective is to plan and design sewer system facilities that can collect and convey sanitary sewage from its customers in a safe and environmentally friendly manner, consistent with all applicable federal, state, and local regulations.

The development of any facility of the sewer system, whether by the District or others, shall be planned and designed to meet the District's policies and criteria for the sewer system.

Policy 4.2 Sewer System Planning

Future capacity requirements should be estimated by using existing customer connections, a geographic information system (GIS) parcel based analysis and projected future household, population and employment data as provided by the Puget Sound Regional Council.

These figures should also allow the District to plan the construction of its infrastructure to accommodate the growth while maintaining stable rates and charges.

Policy 4.3 Sewer System Design

In accordance with all applicable federal, state, and local regulations, the District should design its sewer system facilities with sufficient capacity to handle the anticipated peak daily flow under normal conditions without any overflows to the environment. If the sewer system facilities must be installed or upgraded as a result of a developer's impacts, the new facilities or upgrades shall conform to the District's policies, criteria and standards and shall be accomplished at the developer's expense. The District, however, shall be responsible for any portion of the costs that are attributable to general facilities such as oversizing or overdepth requirements.

Designing the sewer system to meet projected demands allows the District to avoid potential impacts to the environment that could result from overflows of the sewer system.

Criteria

4.3.1 – Sewer Design Flows

Unless indicated otherwise herein, the District shall use the DOE criteria for determining design flows. The predicted design flow may be calculated by hand or with the aid of a computer hydraulic model. Collection facilities shall be designed to handle predicted flows for a minimum 50-year design life. Conveyance systems shall be designed to handle predicted flows for a minimum period of 20 years, subject to changes in land use and growth projections. Affects of future waste reduction and wastewater reuse should be considered when projecting future capacity requirements.

4.3.1.1 – System Monitoring

The District shall monitor flows to aid in determining when future capacity upgrades will be required. Current zoning projections should be used to determine ultimate build-out flow conditions.

4.3.1.2 – Design Flow Parameters

The sanitary sewer flow design parameters for the District are slightly modified from the standard Department of Ecology guidelines. These modifications were derived from flow monitoring performed by the District and King County. The flow monitoring data was used to establish hydrographs that represent the base sanitary sewer flows and infiltration and inflow (I&I), as well as peaking factors throughout the day. Chapter 6 provides further information on the methods used to determine design flows.

4.3.2 – Gravity Systems

Gravity sewer systems shall be used wherever feasible to provide sewer service since they are less susceptible to interruption of service and require the least amount of maintenance. Gravity sewers shall be designed in accordance with the DOE's "Criteria for Sewage Works Design" and the District's current Sewer Design and Construction Standards.

4.3.2.1 – Main Line Pipe Requirements

Pipe material shall be PVC or DI, with PVC pipe being the preferred material. PVC pipe shall be J.M. ring-tite PVC conforming to ASTM D3034-SDR35, or approved equal, with bedding from 4 inches below the pipe to 6 inches above the crown of the pipe. Ductile iron pipe shall be lined with polyurethane or Sewpercoat, mechanical or push-on joint, with a minimum pressure rating of Class 52. Ductile iron pipe or PVC pipe, conforming to ASTM C900 or C905, shall be used on all slopes greater than twenty percent and for sewers 18 feet and deeper.

The minimum diameter for gravity collector pipes shall be 8 inches. Pipe sizes larger than 8 inches may be required for major conveyance or interceptor lines and trunks. The pipe size selection shall consider the design flow, design slope, pipe material and roughness, cleaning equipment available to the District and normal maintenance scheduling.

The minimum slope on all 8-inch diameter gravity sewers shall be four-tenths of a percent, except for all dead end pipes which shall have a minimum slope of one percent. All other minimum slopes shall be as specified in the DOE's publication, "Criteria for Sewage Works Design". In order to prevent the deposition of solids, gravity sewers shall be designed to produce a mean velocity of not less than 2 feet per second when flowing full. The maximum design capacity for all sanitary sewer lines shall not exceed a depth to diameter ratio of 0.8.

The minimum cover on all sewer main lines shall be 7 feet in street right-of-ways and paved drives and 5 feet on all easements (non-paved areas). All main line sewers shall terminate with a manhole.

4.3.2.2 – Sewer Stub Service Requirements

The minimum diameter for sewers stub services shall be 6 inches and shall terminate at the property and/or easement line with a 6-inch test tee with plug, or 10 feet past at the option of the developer. The minimum slope on stub services shall be 2 percent with a minimum cover at the property line of 5 feet. Side sewers shall have a maximum length of 200 feet with a surface cleanout at 100-foot intervals, at the end of the service and at any changes in horizontal or vertical alignment.

Each lot/unit shall have a single-side sewer stub unless the District issues a special permit for a double side sewer. For one or two units, the side sewer stub may connect directly to the sewer main with a tee or directly to a manhole. Unless approved otherwise by the District, the side sewer stub shall connect directly to a manhole for commercial buildings, schools and apartments.

4.3.2.3 – Manhole Requirements

The minimum depth of manholes shall be 8 feet in public right-of-ways and other paved traffic areas. This minimum depth may be reduced to 5 feet in non-traffic easements. The maximum distance between manholes shall be 400 feet.

Manholes shall be precast concrete, unless required otherwise by the District, conforming to WSDOT/APWA Standard Plan B-23A except with eccentric reducing cones and 24-inch bolted down covers. Poured in place bases shall not be allowed. Ladder rungs shall be polypropylene manhole steps meeting the requirements of ASTM C478, AASHTO M-199, and all WISHA and OSHA specifications. The polypropylene steps, conforming to ASTM D 4101, shall be injection molded around a ½-inch ASTM A 615 Grade 60 steel reinforcing bar. The maximum allowable dimension from the break of the cone to the top of casting shall be 20 inches. A minimum of one adjustment ring shall be installed between the break of the cone and the manhole cover. Internal concrete

channels, benches and fillets shall be formed using Class 4000D LS (Low Shrinkage) five sack concrete mix with pea gravel to 5/8-inch (maximum size) aggregate. A water-reducing admixture shall be included in the mix.

An 8-inch thick by 6-foot wide compacted asphalt or brushed concrete collar shall be installed around the rims of all manholes located in unimproved areas, landscaped areas, easements and all other unpaved areas. Manhole sections shall have rubber gasket joints conforming to ASTM C443. All pick holes and manhole joints shall be sealed from the inside and outside with sand and Portland cement concrete mix to form a watertight seal. All manholes shall be watertight.

4.3.2.4 – Testing and Video Inspection of Sewer System

New gravity sewer construction shall be inspected with video equipment to assure compliance with the design standards and contract documents. Final acceptance of gravity sewers will be subject to the District's Resolution No. 1904-S or any related updates/replacements of this resolution. Gravity sewers and side sewer stubs between the main line and the edge of the right-of-way or easement shall be pressure tested after backfilling by the low-pressure air method except where the ground water table is such that the District may require the infiltration test. Side sewer services from the edge of the right-of-way or easement to the building shall be tested after backfilling by either the exfiltration or low-pressure air method.

4.3.3 – Pumped Systems

Pumped systems may be used only when construction of a gravity system is not feasible. A pumped system normally includes a lift station and a pressurized force main from the lift station's discharge point to an outfall connection into a gravity conveyance or interceptor system. Force mains are defined as pressurized sewer mains that transport sewage from the pump's discharge at a lift station to a point of gravity flow. Pumped systems shall be design in accordance with DOE's "Criteria for Sewage Works Design" and the District's current Sewer Design and Construction Standards. For interim service, the District may allow grinder pump lift stations on a case-by-case basis. Approval of a grinder pump lift station shall be constrained to the same requirements as an Alternative Sewer Service (Method 5).

Criteria

4.3.3.1 – Force Main Requirements

Pipe material shall be PVC pipe or DI, with PVC pipe being the preferred material. As determined by the District and its engineer, HDPE pipe may be allowed on a case-by-case basis. PVC pipe shall meet ASTM C900 or C905 standards with bedding from 4 inches below the pipe to 6 inches above the crown of the pipe. Ductile iron pipe shall be cement mortar lined, mechanical or push-on joint and with a minimum Class 52 pressure rating. Utility marking tape shall be installed in conjunction with all force mains. In addition, copper tracing wire shall be installed with PVC and HDPE force mains.

The minimum diameter for sewer force mains shall be 4 inches to allow transport of a 3-inch minimum diameter solid. In order to avoid high friction losses and consequential wasting of energy, pipe size shall be selected to provide a minimum cleansing velocity in the force main of 2 feet per second and a maximum velocity of 8 feet per second. In general, whenever the velocity exceeds 8 feet per second a larger pipe diameter should be used.

Air relief valves should be placed at high points in the force main to relieve air locking. A blow-off should be installed at any low points of force mains where gritty material can accumulate and restrict flow.

The minimum cover on all sewer force main lines shall be 5 feet in street right-of-ways, paved drives and all easements (non-paved areas). All force mains shall terminate at a manhole in such a manner as to minimize turbulence.

4.3.3.2 – Lift Station Requirements

Lift stations shall be sited to maximize the area of gravity sewers that may be tributary to the lift station. Provisions shall be included in the design of any lift station to allow the station to remain fully operational during a 100-year flood. In addition, lift stations shall allow for adequate access for maintenance personnel and equipment and shall include exterior lighting, security fencing and intrusion alarm telemetry.

Potable water cross connection protection shall be provided in accordance with DOH regulations. The design shall include flexible connections on any pipe penetrations through the dry well or wet well structures. In addition, the lift station should have a pig launch facility to aid in periodic cleaning and maintenance of the force main.

The station shall be designed to pump at least the peak hourly design flow based on the tributary area, anticipated growth and improvements in the upstream collection system and any phased improvements planned for the pump station and/or force main. The peak design flow shall be based on a 20-year or greater forecast. Consideration shall be given to how the station will operate under low flow conditions.

Pumps and all piping shall be capable of passing solids at least 3 inches in diameter. Pump suction and discharge piping shall be at least 4 inches in diameter. The number of pumps shall be selected to allow the station to handle the peak design flow with the largest pump out of order. Also, the number of pumps shall correlate to the wet well size and prevent excessively short periods between pump starts.

Wet wells shall be designed to provide acceptable pump intake conditions, adequate volume to prevent excessive pump cycling and sufficient depth for pump control while minimizing deposition of solids. The wet well and the dry well shall be provided with an adequate ventilation system to meet current codes and shall have an alarm and telemetry system that allows remote monitoring of the lift station's status and alarm conditions by the District's SCADA system.

Every station shall be designed to accommodate an emergency back-up power system. This may be accomplished by providing permanent on-site generation with automatic transfer switches or pigtail plug-ins for portable generators. Fuel storage for permanent and portable generators should be sized to allow operation of the lift station for at least 24 continuous hours without servicing.

The District has adopted Smith & Loveless and USEMCO stations as their standard for new lift stations. This allows for more spare part standardization and the District prefers these stations to others evaluated in the past. However, "or equal" stations may be considered.

4.3.4 – Alternative Low Pressure Sewer Systems

Transporting sewage by gravity is the best method of providing sewer service. However, alternative pressure systems may be permitted in those circumstances where a gravity system would be impractical, unreasonably expensive, result in unreasonable impacts to the environment or would be otherwise infeasible. A single residential lot may be served by a grinder pump provided gravity sewer service is not feasible and said service is approved by the Board of Commissioners. Private ownership of the grinder pump system may only be allowed on a case-by-case basis and shall only be applicable for an individual single-family residence. The District may design alternative low-pressure sewer service in order to provide sewer service around lakes or other sensitive areas where the construction of gravity sewers would result in unacceptable damage. The low-pressure grinder pump system shall be the District's preferred alternative pressure system with the "Environment One" grinder pump as the grinder pump of choice. The District shall maintain an inventory of materials for this system, including repair and replacement parts.

4.3.4.1 – Grinder Pump System Requirements

Grinder pumps reduce the size of solids, thus allowing pressure pipes to be smaller than 4 inches. Minimum velocities shall still be 2 feet per second as required for force mains. The nature of low-pressure pipe combined with the District's strict connection inspection program results in low-pressure sewer systems having negligible inflow and infiltration. Therefore, no allowance for infiltration and inflow shall be required in design for these systems. The average sanitary sewer design rate shall be 70 gallons per capita per day. Peaking factors shall be based on the Environment One Company's design guidelines.

All pipe and fittings shall be high-density polyethylene (HDPE) with a pressure rating of at least twice the operating pressure. Pipe locations shall be identified by installation of sixteen-gauge solid tracer wire attached to the top of the pipe and by sewer warning tape installed approximately 18 inches above the crown of the pipe. Grinder pump sewer stubs shall comply with the same standards as gravity sewer stubs, except the minimum cover shall be 4 feet.

4.3.4.2 – Grinder Pump System Back-up Power Requirements

The District shall provide reasonable assistance to grinder pump system customers during power outages. This assistance shall be consistent with the District's need to respond to emergencies that often occur as a result of general power outages. Grinder pump system customers shall be encouraged to responsibly use the grinder station's storage capacity during power outages and shall provide assistance to District personnel, as necessary, to maintain sewage system.

Policy 4.4 Construction Contract Standards

The District shall establish the construction contract standards by which its facilities shall be built.

> *Construction contract standards define the relationship between the District, its engineer and the contractor on a construction project. These standards shall be used as the basis for allocating and defining each party's responsibilities under the contract.*

Criteria

4.4.1 – General Contract Conditions

The District shall construct its facilities in compliance with the "Standard General Conditions of the Construction Contract" as prepared by the Engineers' Joint Contract Documents Committee and issued jointly by the National Society of Professional Engineers, Consulting Engineers Council, American Society of Civil Engineers and the Construction Specifications Institute, Inc. Supplemental conditions to these general conditions shall be used to refine the general conditions to meet the District's specific needs.

4.4.2 – Technical Specifications

The District should use the Standard Specifications for Road, Bridge and Municipal Construction as published by the American Public Works Association (APWA) and the Washington State Department of Transportation (WSDOT) to define the technical portions of its construction contract documents. Additionally, the District will comply with the most recent version of the King County Road Standards when performing work in the King County right-of-way. These technical or standard specifications shall be modified as necessary within the contract documents to meet the District's requirements.

4.4.3 – Construction Observation

Construction observers representing the District shall observe the construction in progress and monitor the contractor's compliance with the approved design.

5. ENVIRONMENTAL STEWARDSHIP

Policy 5.1 Environmental Protection

The District shall adhere to the Habitat Conservation Commitments and Policies described in the District's adopted Environmental Protection Plan (EPP). To improve and protect water quality, habitat, aquifers and other environmental values in areas where the District must construct, operate, maintain or replace a sewer system infrastructure, it should develop, implement, monitor and adapt programs, procedures and practices that are environmentally friendly.

> *The District prepared and adopted the EPP in response to the listing of the Chinook Salmon and the Bull Trout under the Endangered Species Act. This document describes the District's policies, criteria and standards for maintaining and operating its facilities, as well as for constructing new facilities in an environmentally friendly manner.*

Policy 5.2 Wastewater Reuse and Rainwater Reclamation

The District is committed to wastewater reuse and rainwater reclamation. They can serve as cost-effective and environmentally beneficial sources of water for industrial processes, sanitation and irrigation and thereby increase the security and reliability of the region's drinking water supply.

> *The District may develop projects or consider participation as appropriate in the water reuse projects and programs developed by Seattle Public Utilities and others, including demonstration or pilot projects that may be developed in accordance with applicable federal, state, and local laws and regulations.*

District staff may investigate and recommend proposed changes to the District's development and service policies and regulations that may be desirable in order to encourage the promotion of these programs and technologies.

While there are currently no viable candidates for reclaimed water within the District's water service area, opportunities within the District's sewer service area may exist. The District may investigate potential reuse opportunities as presented by neighboring purveyors.

In accordance with the District's commitment, the District may continue to work with King County to identify opportunities and explore ownership and management options to produce and deliver reclaimed water.

Policy 5.3 Water Resource Protection

The District shall protect groundwater within the District from degradation related to District actions, facilities, or programs.

Groundwater is important to wildlife habitat and recharges many local aquifers from which people derive their drinking water. The District recognizes that its actions and facilities have the potential to negatively impact these aquifers. Therefore, it has adopted policies and procedures aimed at reducing or avoiding potential impacts to the groundwater by its actions or facilities.

Policy 5.4 Facility Abandonment

Facility abandonment will be done in a safe and environmentally sound manner, consistent with all applicable federal, state, and local regulations at the time of abandonment.

The District may occasionally abandon some of the sewer system infrastructure. The abandoned pipe should remain in place and be filled with grout, control density fill or cut and capped. In the event the District abandons a lift station, decision about disposal of property and infrastructure will be made on a case-by-case basis.

Policy 5.5 Greenhouse Gas Emission Reduction

The District will support efforts to reduce greenhouse gas emission for its construction, maintenance and operation of facilities and procedures.

The District recognizes that its actions and facilities may have potential to negatively impact the air quality of the environment around it. The District will continue to explore and invest in opportunities to reduce greenhouse gases where cost-effective and efficient. This can be accomplished through a variety of ways, such as new building and construction technologies, conservation in both energy and water consumption, employee oriented policies by encouraging ride-share or van-pooling, fleet and equipment maintenance and operations, public education and outreach and waste reduction and use strategies.

6. HUMAN RESOURCES

Policy 6.1 Employee Drug Testing

The District is committed to providing a safe work environment for its employees, its customers and the public at large that is free from the harmful effects of substance abuse.

Policy 6.2 Employee Safety Management

The District is committed to provide safe and healthful working conditions at all facilities and to comply with all rules, laws, and regulations pertaining to the safety and health of the employees. The District's Safety Manual will be replaced and revised as required by federal and state laws.

The District Manager and Safety Committee are responsible for compliance with all state and federal regulations and are integral parts of the Safety Program for the District.

Policy 6.3 Employee Training

The District encourages employee participation in workshops, seminars, and other education programs to improve job skills.

Policy 6.4 Employee Certification

The District may pay fees and employee's time for the required certification testing, as well as required annual renewal fees.

7. FINANCIAL

Policy 7.1 Fiscal Stewardship and Self-Sufficient Funding

The District shall manage its income and expenses in a self-supporting manner in compliance with applicable laws, regulations, and its own financial policies.

Managing the District's income and expense in a fiscally responsible manner allows the District to maintain stable rates and charges, as well as to improve/maintain its bond rating which allows the District to obtain loans at lower interest rates. Obtaining loans at lower interest rates allows the District to stretch its income over more programs and projects.

Criteria

7.1.1 – Accounting System

The District shall utilize an accounting system that allows it to track its income and expenses.

7.1.2 – Accounting Funds

The District shall establish and maintain separate funds and accounts to pay for its maintenance, operations, and capital improvement activities.

7.1.2.1 – Capital Improvement Fund

This fund shall be used for the installation of new general facilities that benefit customers other than the developer. The funds shall also be used to upgrade or replace facilities with capacity issues and to modify District infrastructure to accommodate improvements by other jurisdictions. The District's general facilities charge is used to fund this account.

7.1.2.2 – Maintenance Fund

This fund shall be used to pay for all day-to-day costs incurred by the District while operating and maintaining its sewer facilities, rehabilitating existing lines or repairing facilities damaged by natural events such as earthquakes or floods. Typical costs include cleaning and maintaining wet wells, dry wells, manholes and gravity sewers. This fund shall also cover any costs associated with the video inspection of older gravity sewers to determine the condition of the pipes and manholes, as well as any costs associated with repairing or replacing facilities that have deteriorated. In addition, the investigative portion of the District's infiltration and inflow reduction program shall be funded by this account.

7.1.2.3 – Bond Fund

Periodically, the District constructs infrastructure that is a benefit to a substantial part of its customer base. These improvements may be funded by revenue bonds. Bonds represent a lien against the earnings of the District and may be issued for varying periods of time and at varying interest rates, depending on the bond market. The maximum repayment period for bonds is 30 years. Revenue bonds may be retired by a combination of operating revenues (after operation and maintenance expenses have been deducted), general facilities charges, connection and latecomer charges and ULID assessments. In order to track these bonds, separate funds should be setup for any bonds that are issued for District projects.

Although there are no statutory limitations on the amount of indebtedness that can be incurred, there is an economic limit to the amount the public is willing and able to pay for service. The revenue bond fund was established to insure that the net revenues after operation and maintenance expenses are sufficient to cover the annual bonded debt service by at least 115 percent.

7.1.2.4 – Bond Reserve Fund

This fund shall be established to hold cash in reserve as a guarantee for the revenue bond fund. Establishment of this fund is required as a condition of obtaining the revenue bond funds and the fund must contain sufficient money for one year of debt service on the outstanding revenue bonds.

7.1.2.5 – Lift Station 11B Construction Fund

This fund is used for tracking funding and expenditures used to construct and equip Lift Station 11B.

7.1.2.6 – Public Works Trust Fund Loans

The District may periodically fund its capital improvement projects with low interest Public Works Trust Fund loans. Public Works Trust Fund loans are made available to public entities by the State of Washington to finance capital improvements that will improve public health and safety, enhance the performance of the existing system, benefit the environment or enhance or stimulate growth within the jurisdiction.

7.1.3 – Periodic Audits

The District shall perform annual internal reviews on all financial procedures and financial conditions of the District. In addition, the District shall cooperate with the Washington State Auditor's Office for an annual audit of the District's operations by that agency.

Policy 7.2 Rate Structures

The District shall establish rates, charges, and fees to maintain sufficient funds to operate, maintain, and upgrade its sewer system as necessary to provide safe reliable sewer service to its customers. These rates should be evaluated as part of the annual budget process. This will ensure that forecasted expenses and impacts of regulations are reflected in the rate structure.

By setting rates and reviewing them annually, the District can ensure it has sufficient funds to maintain and operate its sewer system. Reviewing the rates annually also provides an opportunity to adjust the rates for actual growth that has occurred.

Criteria

7.2.1 – General Facility Charges

General facilities are those facilities that are necessary to accomplish the purposes of the District and are of general benefit to properties within the District. General facility charges shall be levied on all new connections to the District's sewer system. The charges shall be based on the needs of the District and the welfare of its customers and should accomplish allocation of the general facility costs of the District. The general facility charges shall be based upon the anticipated costs included in the Capital Facility Plan, as well as the costs of existing general facilities identified in previous General Facility Charge Review documents that are still applicable. Residential properties shall pay one sewer service charge per unit. Commercial properties shall pay according to the established number of equivalent residential units (ERU) or the total area of the development, whichever is greater. Schools and public parks shall pay for new connections based on the established ERU for the new school or park. These charges shall act as a means of allowing new customers to pay for their fair share of the costs associated with construction of general facilities. The District shall review these charges and their supporting documentation and assumptions periodically to ensure that future general facilities may be funded at the appropriate time. Payment shall be made at the current rate at the time of application for a side sewer permit.

7.2.1.1 – Residential GFC

The residential connection charge shall be applied to each residential unit, residential equivalent unit and accessory dwelling unit, when designated as such by the applicable zoning authority or temporary lodging unit to be connected to the District's sewer system. In the event that subsequent units are placed upon a parcel of property against which a prior connection charge has been paid, the new per unit charge shall be paid for each such additional unit at the then-current rate, as a condition to connecting to the District's sewer system.

7.2.1.2 – Commercial GFC

For commercial developments, private schools and any other non-residential uses requiring sewer service, a residential equivalent unit amount will be determined based on the water meter size. Such uses shall be charged the greater of the residential per unit charge as applied to the unit amount so determined, or a per square foot charge to be established in accordance with this policy. The per square foot charge shall apply to the entire area of any property used for the project, including the entire area of any property which has been segregated for connection charge purposes.

7.2.1.3 – Public School GFC

Public schools shall be evaluated in accordance with the Department of Ecology and residential equivalency standards regarding their overall impact and utilization of the system, considering the number of students and faculty, the nature of the facilities and other relevant factors. Based thereon, a residential equivalent unit amount will be established.

7.2.1.4 – Public Park GFC

Public parks shall be evaluated in accordance with the Department of Ecology and residential equivalency standards regarding their overall impact and utilization of the system, considering the number of parking stalls provided, the nature of the park facilities and anticipated uses, and other relevant factors. Based thereon, a residential equivalent unit amount will be established.

7.2.2 – Sewer Utility Rates

The District shall establish uniform sewer rates for residential customers and variable sewer rates based on consumption for its commercial customers. These rates shall begin on the date of connection to the District's system or when the new sewer system becomes operational, whichever is later. For new construction, a credit for sewer service charges for up to 60 days after the date of connection may be granted provided proof of the connection date for water servicing the property is provided. A credit must be requested within 90 days of the date of the sewer connection and on forms available from the District. Money collected by these rates shall be used to finance the maintenance fund, service the revenue bond fund, and establish reserves for emergencies.

7.2.3 – Rate Surcharges

The District may impose surcharges on some sewer rates depending on the type of service provided or the location of the service. For instance, the District includes an additional rate surcharge for grinder pump systems because these systems require more maintenance than traditional gravity sewer systems. A surcharge shall also apply to properties that are served by the District but are not located within the District's service area (see Method 6 – Temporary Outside Service). Surcharges shall be determined on a case-by-case basis.

7.2.4 – King County Rates and Charges

The District shall monitor and collect any applicable rates or charges imposed by King County for the regional transport and treatment of sewage from the District's customers. Said fees and charges, as set by King County, shall be in addition to the District's rates and charges.

7.2.5 – Rate Payment Program

The District has established several methods for its customers to pay their utility bills in addition to normal payment by check or money order. The customer may designate a financial institution from which the District would then withdraw amounts billed on the customer's bi-monthly statement for sewer service. The District will also accept in-person Visa and MasterCard credit and debit card payments at the District's office for residential-only sewer service charge billings. Credit or debit cards will not be accepted for payment of other types of District fees or charges. The customer may also electronically transfer funds for payments through the District's web page in accordance with certain limitations and procedures associated with this program.

7.2.6 – Rate Assistance Program

The District shall establish a Senior/Disabled Low Income Utility Rate Reductions Program for eligible customers. The rate reduction shall apply to the non-King County portion of the sewer service rates. The rate reduction shall not apply to consumption (over base) charges, street lighting charges, surcharges, miscellaneous fees or late charges.

Policy 7.3 Development Fees and Charge

The District should establish fees and charges to recover its costs related to construction of the sewer infrastructure by developers.

> *Developers shall pay all District costs associated with the design and construction of sewer facilities necessary for service meeting the District's to-and-through policy for Developer Extension to the proposed development. The fees and charges should represent a fair and equitable manner of sharing the cost of improvements and replacements of general facilities required for service to any development. These fees and charges should be reviewed periodically to assure that the cost methodology remains fair and equitable.*

Criteria

7.3.1 – Charges for Certificates of Sewer Availability

The provision of a Certificate of Sewer Availability is a special benefit to a particular individual and/or property owner. The District shall periodically establish a schedule for certificate of availability and related services. The appropriate charge must be paid prior to the completion and delivery of a certificate by the District.

7.3.2 – Developer Extension Fees

Administering a Developer Extension Agreement is of special benefit to a particular individual and/or property. Developer projects shall pay their fair share of the actual costs to the District attributable thereto. Fees and charges shall be established by analysis of the District's actual cost experience regarding Developer Extension design and implementation. Schedules shall be established and adopted by the Board of Commissioner for development classifications and fees, deposits and charges related to the developer extension projects including but not limited to; residential main extensions, commercial main extensions, fees for any special facilities required by the project, developer guaranty deposit, etc. The terms of every Developer Extension Agreement shall include a process for invoicing and recording the notices of intent to file liens as necessary to enforce the collection of Developer Extension Fees, including collection of such fees remaining unpaid after the abandonment of a Developer Extension project. The District shall adopt administrative Developer Extension invoicing and lien filing procedures and forms to ensure that all such costs are identified and collected.

7.3.3 – Side Sewer Permit Fees

The District shall establish side sewer permit fees to cover the cost of inspection. This fee shall be paid at the time of a request for connection of an individual house to the sewer system. If the construction is more difficult and requires more stringent inspection, agreements, etc. (as in the case of grinder pumps), additional costs may be charged to the property owner to cover the additional District costs.

7.3.4 – Latecomer Connection Charges

The latecomers runs as long as the person to receive the latecomer complies with the notice requirements to the District, but not to exceed fifteen (15) years. The person receiving the latecomers must update their information in writing to the District every two years to keep their rights to a latecomers. After a latecomers is established, and it is then waived, the 20 percent is to be paid by the person connecting to the system. The developer is required to pay the 20 percent at the time the latecomer payment is received. If District funds are used to fund the facilities then interest in charged.

Latecomer charges shall be determined and recorded on property that is not part of the development, but is benefited by construction of a sewer system by a developer. Said charge shall be established per the Revised Code of Washington (RCW 57.22) and shall be a equal to the pro rata share of reasonable construction and contract administration costs of the mainline extension project including but not limited to design, engineering, installation, restoration, permit fees and charges specifically applicable to the extension. The latecomer reimbursement is calculated on a front foot basis. Buildings within 150-feet of a property line adjacent to a mainline extension, or are permitted to connect to a mainline extension by the Extended Service Method are subject to payment of latecomer reimbursement. The reimbursement is calculated on a first-in-time, first-in-line policy. In any case where a prior Developer has installed a main line with either a stub available to a new connecting property, or a main line to which a stub could reasonably be installed, the District will generally either require connection ot the stub, or installation of a new stub to that main line. In the event that there are special circumstances in which the District allows an alternative physical connection point, the Latecomer attributable to the existing connection point may still be collected as a condition of permitting the alternative connection point. Avoidance of Latecomer charge may occur only when connection to alternative connection point is permitted because the new development cannot connect to the existing main line or stub that is subject to the Latecomer. The developer shall be entitled to recoup these charges from the benefited properties when said properties connect to the sewer system, except the latecomer charges shall be applicable for only fifteen (15) years after acceptance of the facilities by the District. Upon collection of a latecomer charge, the District shall retain 20 percent of the original latecomer as the District's reasonable costs of establishing and administering the agreement. Provided however, that in the event an owner waives entitlement to a previously established latecomer, the administrative cost shall be 20 percent of the base amount, which shall remain as a Special Connection Charge against the reimbursement area to be paid by the connecting property owner. After the latecomer's charge has expired, the fee shall be converted to a special connection charge payable to the District. Interest and/or the District's Operation, Maintenance and Depreciation (OMD) Charge shall accrue for a maximum of 10 years, at which time they shall become fixed for the remaining useful life of the mainline extension. The Operation, Maintenance and Depreciation Charge shall be calculated at the current rate in effect at the date of connection.

7.3.5 – Special Connection Charges

All persons connecting to the District's system shall pay a Special Connection Charge for a portion of the costs of a sewer mainline extension constructed by the District which makes service available to the connecting property. Special Connection Charges shall be calculated as follows:

A reimbursement area that shall be formulated by the Board of Commissioners within a reasonable time after construction of the mainline extension for which reimbursement is applicable to include those properties which would require similar improvements to procure service. Said charge shall be due when connection is made to the system.

For mainline extension not subject to a current or expired Latecomer agreement, the Special Connection Charge shall be the following;

- In the first year following a mainline extension being placed in service, the District's actual project costs for the mainline extension to which connection is being sought.

- After the first year following the mainline extension being placed in service, the District's actual projects for any mainline extension to which connection is sought, plus interest thereon from the date of acceptance of the facilities set, in accordance with the District's rate-setting policy; plus the District's Operation, Maintenance and Depreciation Charge for each year, or portion thereof, after the first year.

For mainline extension subject to a Latecomer, or subject to a Special Connection Charge established upon expiration of a Latecomer, the Special Connection Charges shall be the following:

- In the first year following a mainline extension being in placed in service, the Latecomer as established in accordance with the District's Latecomer policies.

- After the first year following a mainline extension being placed in service, the Latecomer (or Special Connection Charge upon a Latecomer expiration) for any mainline extension to which connection is sought, plus the District's Operation, Maintenance and Depreciation Charge for each year, or portion thereof, after the first year.

Interest and/or the District's Operation, Maintenance and Depreciation Charge shall accrue for a maximum of 10 years, at which time they shall become fixed for the remaining useful life of the mainline extension. The Operation, Maintenance and Depreciation Charge shall be calculated at the current rate in effect at the date of connection.

7.3.6 – ULID Assessments

Occasionally, portions of the District's sewer system are extended by a ULID. Under these circumstances, the benefited properties are assessed a fee for their share of the cost of the improvements. The fee is recorded against the property and is based on the actual costs incurred by the District for constructing the improvements. The assessment may be based on a per-lot, per front-foot, or per square-foot basis, as determined by the District's Board of Commissioners. The property owner will then be required to pay the annual fee until the assessment is paid in full over a maximum of ten to 15 years, as determined by the property owner's within the ULID during the formation hearing.

7.3.7 – Other Fees and Charges

Additional fees and charges may be established to cover requests for service as needed. These costs may be matter of policy or representative of actual costs incurred. These fees and charges should be periodically reviewed and updated as necessary.

7.3.8 – Installment Payment

In circumstances in which a property owner is unexpectedly compelled to connect to the sewer system (e.g., failed septic system), the District will allow payment of connection charges by execution of an installment contract. Installment contracts will be for not more than 90% of the amount of the connection charge. Only one installment connection charge will be permitted for any property owner.

The installment contract will either provide for annual installment payments or bi-monthly installment payments, at the District's discretion. The interest rate shall be a per annum amount from the date payment would have otherwise been due; provided that the interest, although accruing, shall only be collected after the end of the first year from the date of the establishment of the connection charge. The per annum interest rate shall be established periodically by the Board of Commissioners. Installment contracts providing for annual payments will be for ten years. Installment contract providing for monthly payments will be based on bi-monthly payments of one sixth of the amount that would be paid annually by an annual payment contracts.

Policy 7.4 - Capital Facility Plan

The District shall establish a Capital Facility Plan that describes the anticipated improvements or modifications to the sewer system for the next 10-year period. The plan should address required repairs to the sewer system, planned replacement of aging facilities, upgrades to existing facilities to provide additional capacity for projected growth, and construction of general facilities to aid growth.

> *Establishing a Capital Facility Plan allows the District to determine the projected costs of improving and maintaining its sewer system. This plan should be used as an aid for setting sewer rates and connection charges so that the improvements may be constructed in a fiscally sound manner.*

Criteria

7.4.1 – Funding the Capital Facility Plan

The Capital Facility Plan shall be funded at levels sufficient to maintain the integrity of the sewer system. Projects should be planned and scheduled to establish uniform level funding requirements. Significant fluctuations in the level of spending associated with capital improvements should be avoided in order to minimize impacts to operating budgets and related rate increases. The Capital Facility Plan should be funded through District revenues, the sale of sewer revenue bonds, loans or grants. In general, revenue bonds or a low interest long term Public Works Trust Fund Loan should finance facilities with a useful service life extending beyond 20 years. When portions of these facilities serve a new area, the proportional costs of those facilities that provide service to the new area should be assessed to the owners in the new area through general facility charges or special connection charges.

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CHAPTER 4
PLANNING CONSIDERATIONS

INTRODUCTION

This chapter summarizes the zoning, land use, population, household, and employment data that is utilized to predict future growth needs for the sewer system.

Future sewer system requirements for the District will be based upon future growth projections from the Puget Sound Regional Council (PSRC) such as land use, zoning capacity and historic sewer data for the established sewer service area. The future sewer demands are used to establish criteria for the hydraulic analysis of the sewer system and for development of the Capital Facility Plan.

PLANNING AREA

Specific criteria determine the District's sewer planning area. The westerly and northwesterly planning area boundaries are determined by service area agreements between the District and the Cities of Kent and Renton. The Urban Growth Boundary designated by the King County Comprehensive Plan determines much of the easterly and southeasterly planning boundary areas. The southwesterly planning area was determined by existing basin boundaries, as well as a service area agreement with the City of Auburn. The provision of sewer service is restricted to the urban area, with few exceptions. The sewer planning area (future service area) is shown on **Figures 4.1, 4.2,** and **4.3**.

LAND USE AND ZONING

Land use and zoning designations and regulations are an important factor in determining future sewer requirements. Land use and zoning determines the area available for various types of development including both single-family and multifamily residential development, as well as commercial and other types of land use that provide the economic base necessary to support residential development.

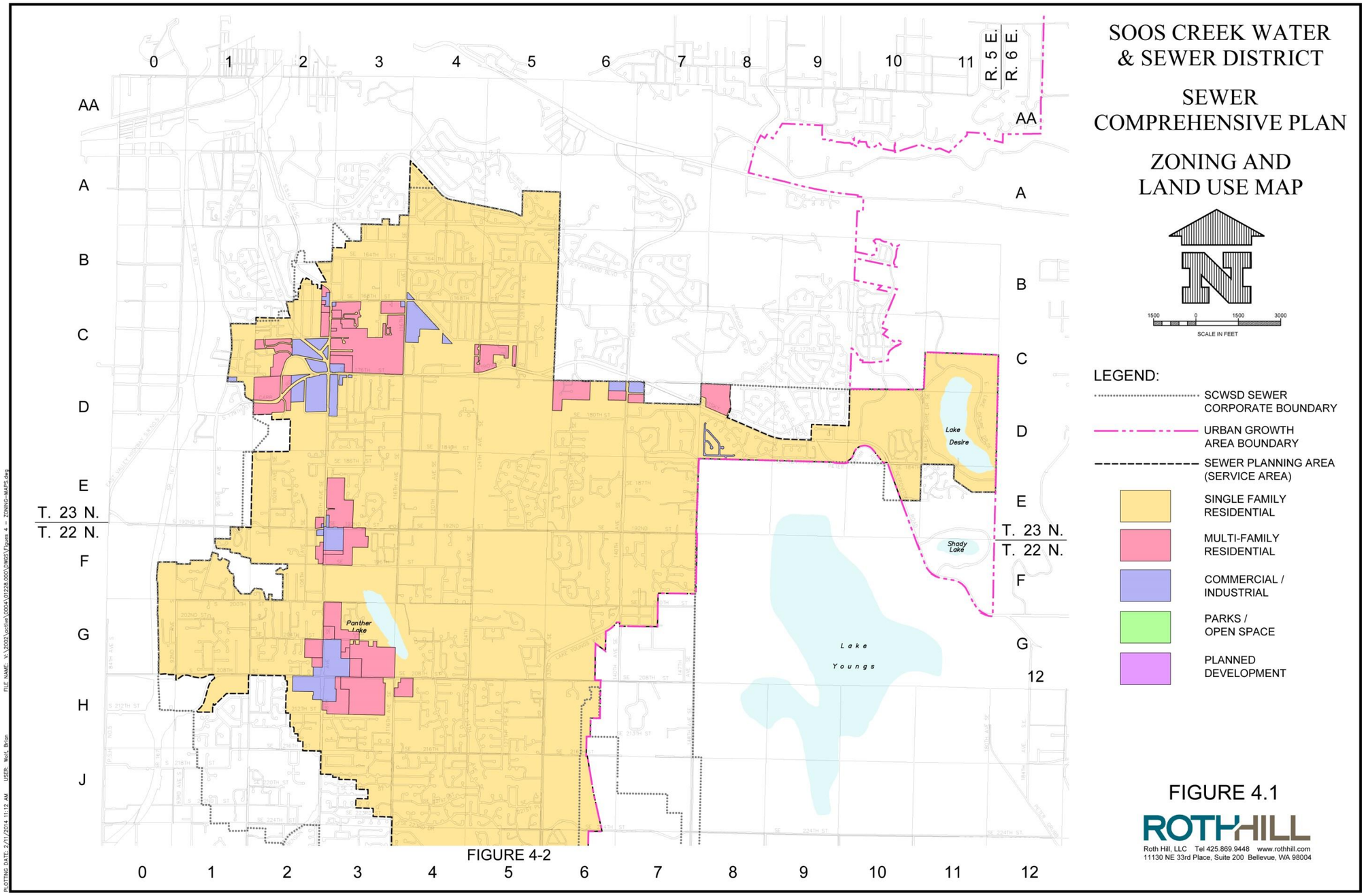
Existing Land Use and Zoning

The existing land use and zoning within the planning area is designated by seven jurisdictions: King County and the Cities of Auburn, Black Diamond, Covington, Kent, Maple Valley, and Renton. The District has interlocal agreements for service provisions with adjacent sewer service providers. Land use and zoning authority are the appropriate jurisdiction's responsibility for any portion of the District that falls within its current boundary. The land use designations are predominately single-family residential (generally four to eight dwelling units per acre). Other land use designations include multifamily residential, office, commercial, business, and some industrial and mining. There are many parks, lakes and open spaces in and around the District. Rural areas are adjacent to much of the eastern portions of the District.

Future Land Use and Zoning

Future land use and zoning patterns for the planning area are expected to correspond to existing uses. They were developed based on the projected needs of the area for the next twenty years. The Comprehensive Plans for the cities of Renton, Kent, Auburn, Covington, Maple Valley, and Black Diamond, as well as King County, used similar approaches for the portions of the service areas within their boundaries. This consistency of approach is encouraged by the Washington State Growth Management Act and should result in predictable and stable land uses over longer planning periods.

Future land use for the planning period should conform to the Zoning and Land Use Map, **Figures 4.1, 4.2,** and **4.3**.


SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
ZONING AND LAND USE MAP
R. 5 E.
R. 6 E.
T. 23 N.
T. 22 N.
SCALE IN FEET
LEGEND:
SCWSD SEWER CORPORATE BOUNDARY
URBAN GROWTH AREA BOUNDARY
SEWER PLANNING AREA (SERVICE AREA)
SINGLE FAMILY RESIDENTIAL
MULTI-FAMILY RESIDENTIAL
COMMERCIAL / INDUSTRIAL
PARKS / OPEN SPACE
PLANNED DEVELOPMENT
Lake Desire
Shady Lake
Panther Lake
Lake Youngs
FIGURE 4-2
FIGURE 4.1
ROTHHILL
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11130 NE 33rd Place, Suite 200 Bellevue, WA 98004

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FIGURE 4-1

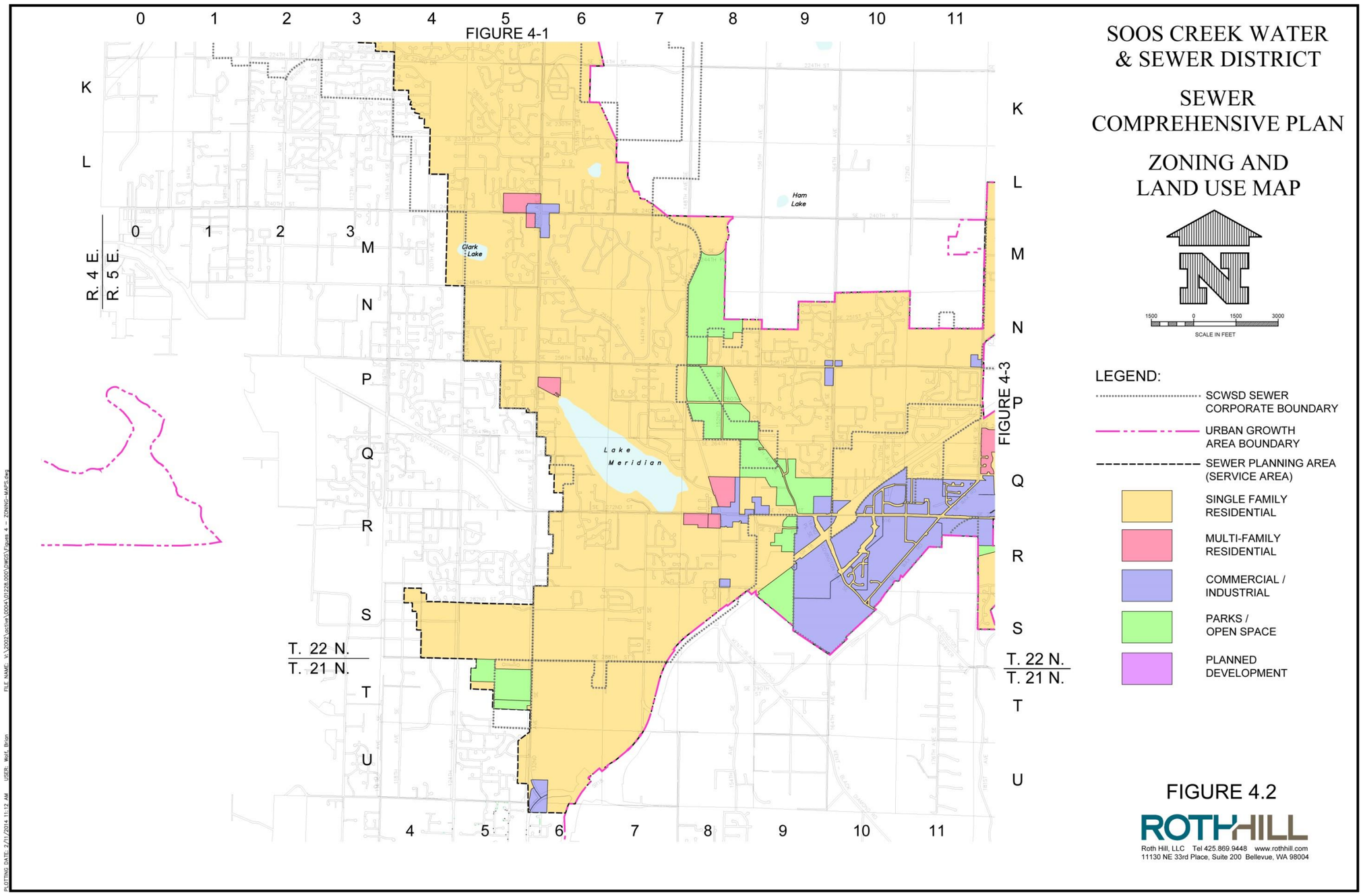


FIGURE 4.2

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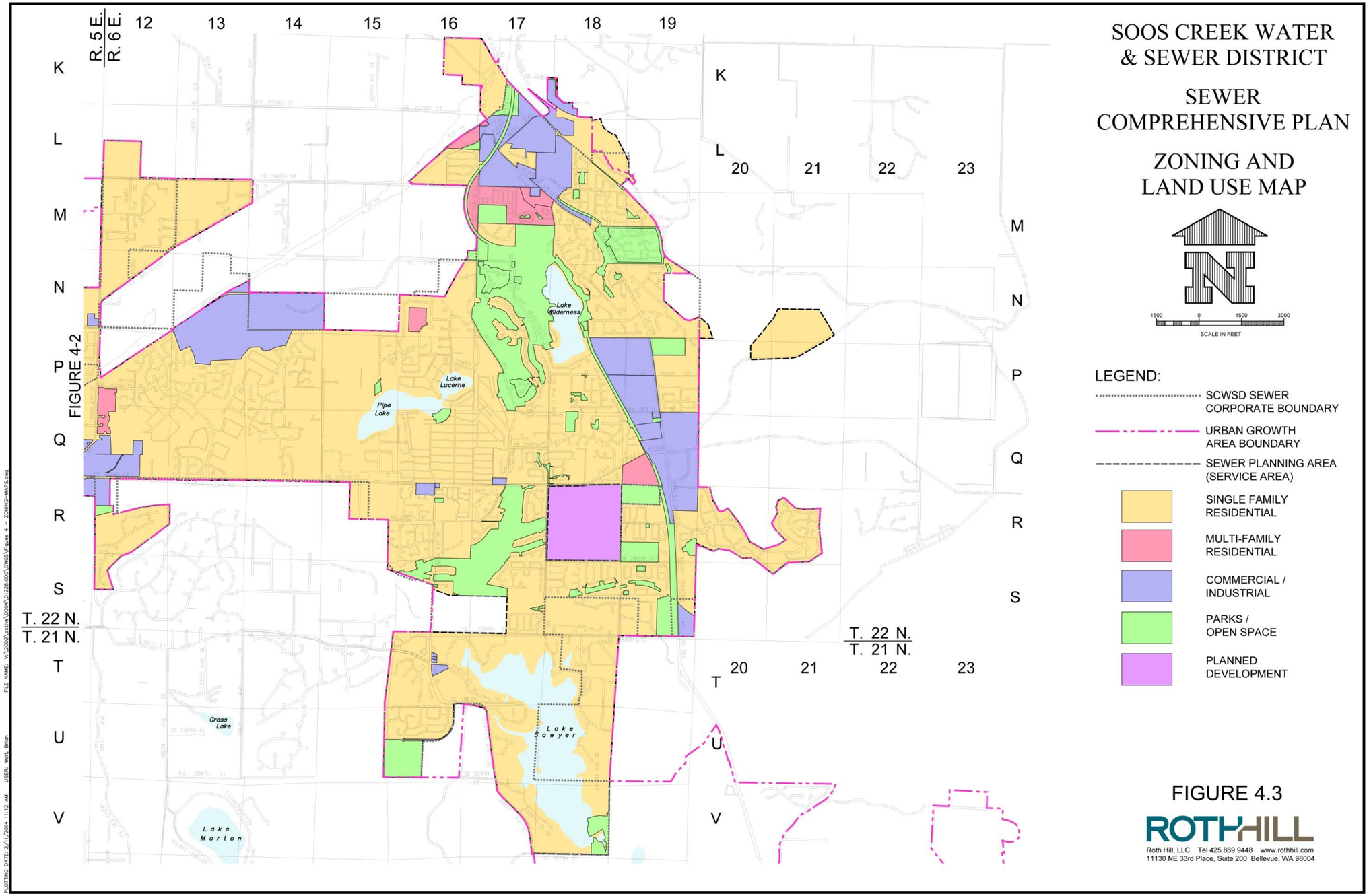


FIGURE 4.3

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CITY POTENTIAL ANNEXATION AREAS

During the preparation of its individual citywide comprehensive plan, each city in King County has the opportunity to designate Potential Annexation Areas (PAAs). The PAAs are urban unincorporated areas adjacent to a city boundary. Cities are expected to annex the designated PAAs within 20 years.

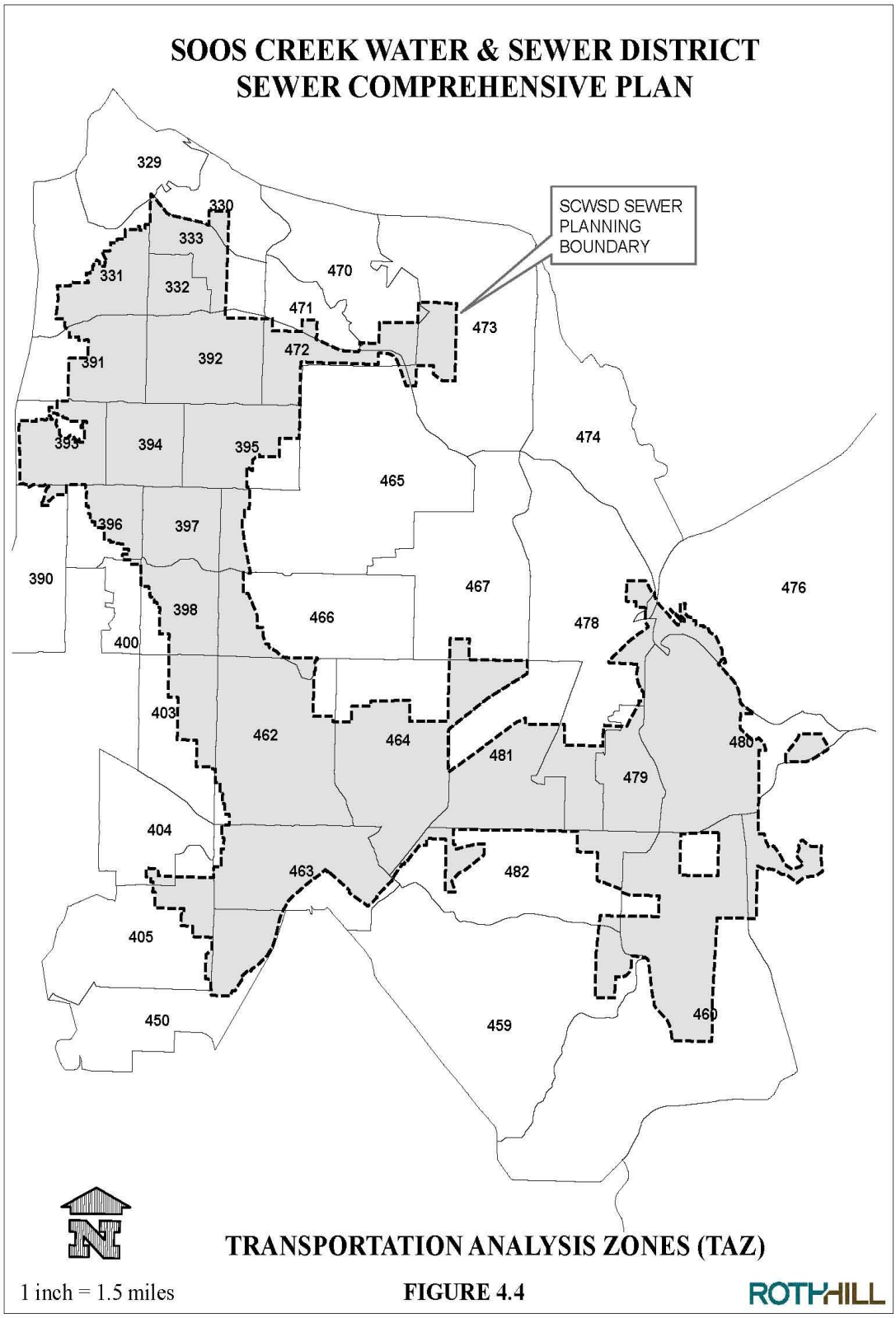
The District also serves urban unincorporated portions of South King County. There are six cities adjacent to or near the District's sewer service boundary. The City of Renton is adjacent to the north, the City of Kent to the west and the City of Auburn to the southwest. The City of Covington is encompassed in the southerly portion of the District and the City of Maple Valley in the easterly portion. The northern portion of the City of Black Diamond is encompassed in the southeasterly portion of the District.

The District has interlocal service area agreements with each of the cities that have designated a PAA within the designated service area of the District. It is not expected the delivery of service will change upon the annexation of land to any of these cities.

POPULATION, HOUSEHOLD, AND EMPLOYMENT PROJECTIONS

Data was obtained from the Puget Sound Regional Council (PSRC) for the years 2010, 2020, 2030, and 2040. The data used was delineated in the 2000 Transportation Analysis Zone (TAZ) data for population, households and employment which was updated in 2006. This data was used to ensure necessary coordination was provided to meet the requirement of the Growth Management Act. **Figure 4.4** illustrates the TAZ's and SCWSD Planning Boundary.

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
SCWSD SEWER PLANNING BOUNDARY
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330
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TRANSPORTATION ANALYSIS ZONES (TAZ)
1 inch = 1.5 miles
FIGURE 4.4
ROTHHILL

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A comparison between the growth rates of PSRC projections and King County growth targets was conducted. King County issues growth targets for all the cities in the County which are tracked through the Annual Growth Report. For the comparison, the King County housing and employment growth targets were allocated to the District based on its area within the District. King County growth targets are forecasted until 2030 while PSRC targets extend further. The following summary is provided:

> Overall, PSRC data had a higher growth rates in both housing and employment. From 2010 to 2020, King County targets estimate housing to increase by 11% while PSRC estimated a 18% increase. From 2020 to 2030, King County targets estimate housing to increase by 10% while PSRC estimates 15%.
>
> From 2010 to 2020, King County targets estimate employment to increase by 14% while PSRC estimated a 16% increase. From 2020 to 2030, King County targets estimate employment to increase by 12% while PSRC estimates a 15% increase.
>
> While using the PSRC growth projections provides results slightly different than the Growth Management Planning Council (GMPC) data, as noted above, this approach is a conservative planning tool because the planning numbers provide a more conservative approach (constructing facilities sooner to serve the needs of the service area) overall in estimating and addressing the District's demand projections.

Many factors, including the state of the economy, interest rates, demands for annexation by neighboring cities and up-zoning influence new development and population growth. The growth management policies, along with coordination between local governments and the PSRC should make development more predictable and growth projections more accurate than they have been historically. However, significant changes to the regional economy will continue to affect growth timing and patterns. Additionally, land use and development policies of other adjoining jurisdiction may also affect growth patterns, especially in light of threatened species listings and increased efforts to retain rural open space.

The property known as Summit Place, also known as the Donut Hole, located in the District's southeastern sewer service area is outside the UGA and has been excluded in the projections in this Chapter. However, there have been discussions that this area will eventually become urban by including it within the UGA and the City of Maple Valley city limits. The area is completely surrounded by the City of Maple Valley and urban land designations. Projections were produced for the area and are included in **Appendix G**. Sewer service to this area can be accomplished by the District once it has been annexed to the City of Maple Valley or the rural designation has been removed.

The area known as the Northern Notch, also known as the Northern Gateway Annexation Area, located north of the City of Covington between SR 18 and SE Wax Road, is outside of the UGA. This area has not been included in the projections, however sewer service can be accomplished should it be annexed to the City of Covington or the rural designation is removed. The City of Covington is currently studying this area to determine if it suitable for urban development. This area is one of the City of Covington's PAAs.

In 2006, King County assumed responsibility of the sewage from the City of Black Diamond and entered into an agreement with the District for the conveyance of sewage for the City. The terms of

the agreement state that the City of Black Diamond's sewage will be conveyed through the District's facilities and that King County will pay for the wheeling of those flows beginning in 2010. Due to this agreement, forecasts of the City and their master planned developments are included in the planning data and added to the District's Drainage Basin V forecasts as noted in **Tables 4.1, 4.2**, and **4.3**.

As discussed earlier, data used to evaluate existing and future populations within the planning area were provided by the PSRC (2000 TAZ Planning Data). The PSRC data was provided in geographic subdivisions designated as TAZs. Each TAZ included projected growth of households, population and employment. The TAZ projections were allocated to the sewer service area using an area-allocation procedure and then further divided by sewer drainage basins. There are 22 sewer drainage basins in the District. The drainage basins vary in size and span the entire District. This procedure used zoning information provided by each of the corresponding jurisdictions to allocate household and employment growth projections based on the percentage of each TAZ within the sewer service planning area. The resulting population, employment and household growth projections can be seen in **Tables 4.1, 4.2**, and **4.3. Table 4.1** summarizes the District's residential population forecast. A more detailed table of the projections is located in **Appendix G**.

Table 4.1 Population Forecasts

Sewer Basin	2010	2020	2030	2040
A	5,947	6,286	6,749	7,311
B	14,232	15,759	17,227	19,004
C	4,093	4,551	4,991	5,546
D	698	839	950	1,043
E	11,739	12,767	13,851	14,910
F	4,244	5,255	6,054	6,838
G	460	561	638	702
H	1,530	1,867	2,123	2,334
J	7,530	9,133	10,247	11,578
K	10,321	11,231	12,154	13,244
L	10,924	12,699	13,815	15,299
M	1,119	1,181	1,268	1,371
N	2,101	2,265	2,453	2,678
P	958	1,047	1,145	1,236
Q	4,437	5,558	6,446	7,319
R	1,978	2,416	2,747	3,021
S	2,409	2,942	3,346	3,679
T	3,516	4,284	4,843	5,396
V[1]	5,539	6,480	7,431	8,513
W	876	1,069	1,216	1,338
X	273	331	372	421
Total	94,924	108,522	120,067	132,781

[1]Black Diamond (City of Black Diamond and Master Planned Developments) forecasts are included in this basin for forecasts 2020, 2030, and 2040.

Households

PSRC reports historical and projected counts for both single-family and multifamily housing for the planning period. This data, when used in conjunction with the population data presented earlier, documents significant household size variances in different basins of the District. More importantly, because the available historic sewer use data is collected and analyzed based on use by both the single-family and multifamily customer classes, housing counts provide a better prediction of future residential sewer use. As a result, household data (numbers of single-family and multifamily households) were used to project all future residential sewer use in this plan.

It must be noted, that not all single-family residences within the sewer service area are connected to the District's sewer system. A number of them still maintain septic systems. However, other land

uses, such as multifamily and commercial, do not have septic systems. It was assumed, therefore, that all non-residential customers would be served throughout the planning period. It is anticipated that all septic systems will be converted to the District's system by ultimate conditions. The household analysis resulted in projected household counts for the District's sewer service area as shown in **Table 4.2**. This results in an estimate of 2.83 persons per household based on 2010 forecasts.

Table 4.2 Household Forecasts

Sewer Basin	2010	2020	2030	2040
A	2,259	2,484	2,769	3,104
B	5,096	5,836	6,599	7,543
C	1,684	1,948	2,221	2,550
D	255	319	376	429
E	3,957	4,475	5,037	5,617
F	1,522	1,960	2,344	2,743
G	168	214	253	289
H	496	624	734	834
J	2,483	3,120	3,629	4,252
K	3,741	4,236	4,762	5,381
L	3,793	4,563	5,158	5,948
M	416	454	504	564
N	746	828	926	1,049
P	336	378	427	479
Q	1,541	2,007	2,418	2,844
R	675	855	1,010	1,150
S	858	1,088	1,285	1,466
T	1,169	1,476	1,732	1,999
V[1]	1,924	2,333	2,771	3,288
W	283	357	420	477
X	97	123	144	170
Total	33,499	39,677	45,517	52,175

[1]Black Diamond (City of Black Diamond and Master Planned Developments) forecasts are included in this basin for forecasts 2020, 2030, and 2040.

Employment Forecasts

Similar to population and household data, the employment data is also available by TAZ. The same procedure used to allocate population and households to the geographic working areas was used with the detailed employment data. Allocation of the data to geographic areas is shown in **Appendix G**, TAZ Planning Data Workbook. The employment forecasts, which consider population growth and regional economic trends, provide a useful estimation of future trends. A summary of employment forecasts is shown in **Table 4.3**.

Table 4.3 Employment Forecasts

Sewer Basin	2010	2020	2030	2040
A	785	930	1,068	1,225
B	1,538	1,788	2,043	2,340
C	2,069	2,332	2,597	2,917
D	41	52	64	80
E	681	783	905	1,058
F	391	456	533	626
G	38	47	56	67
H	335	393	455	528
J	925	1,077	1,238	1,438
K	1,472	1,567	1,662	1,795
L	1,048	1,237	1,440	1,689
M	170	200	230	264
N	243	283	325	373
P	43	49	56	66
Q	303	370	445	538
R	304	367	436	513
S	278	336	397	466
T	451	535	626	731
V[1]	269	347	499	537
W	192	226	262	304
X	56	65	75	87
Total	11,633	13,439	15,411	17,643

[1]Black Diamond (City of Black Diamond and Master Planned Developments) forecasts are included in this basin for forecasts 2020, 2030, and 2040.

Future Growth Rates

As previously discussed, future population, household, and employment projections are based on data provided by the PSRC. It is not uncommon for actual growth rates to vary from those predicted. In addition, based on the availability of land use services, growth rates will vary between different parts of the District. Although these factors were considered in developing the information included within this plan, it should be noted that the rates of future growth would likely vary from the plan and between the adjoining jurisdictions. The average yearly projected increase over each 10-year period is shown in the future growth rates **Table 4.4**.

Table 4.4 Future Growth Rates

Sewer Basin	2010	2020	2030	2040
Population	Base	14.2%	10.5%	10.4%
Household	Base	18.3%	14.5%	14.4%
Employment	Base	15.3%	14.0%	14.8%

Ultimate Capacity

Ultimate capacity was estimated by calculating the total area of each zoning category within the District and applying the maximum number of dwelling units per acre allowed by the existing zoning, minus a discount factor for right-of-ways, public purpose lands, and market factors. A discount factor of 35 percent was applied in residential zones and 25 percent in non-residential zones. These discount factors were determined by averaging City data obtained in the most recent King County Buildable Lands Report. Ultimate capacity assists the District in determining how to approach design capacity within the sewer system. A target date for ultimate growth populations has not been determined since growth rates are very difficult to predict beyond 2040. However, with the current rate of growth, the system is not expected to reach ultimate build-out before 2040. The ultimate capacity for population, household, and employment is shown in **Table 4.5**.

Table 4.5 Ultimate Capacity

Sewer Basin	2010	2020	2030	2040	Ultimate
Population	91,184	104,150	115,052	127,036	215,833
Household	33,499	39,677	45,517	52,175	92,955
Employment	11,477	13,238	15,092	17,327	28,461

Comparison Between the 2005 and 2013 Sewer Comprehensive Plans

In the 2005 Sewer Comprehensive Plan, the 2010 through 2040 forecasts were calculated in a similar way as the 2013 Sewer Comprehensive Plan. The ultimate calculations were performed the same way with exception of the ultimate employment capacity. The 2013 employment calculations included a floor area ratio (FAR) which resulted in the 2013 employment ultimate forecast of

approximately 45 percent of the 2005 employment ultimate forecast. This discrepancy should not cause any significant impacts since employment data is not used in the calculations.

The 2013 household and population forecasts have increased and employment forecasts have decreased. Since the forecasts were derived from the TAZ data, it is difficult to determine why this has occurred. The likely factors influencing this difference are zoning changes, annexations, and demographic changes.

As described earlier, the 2013 Plan used data obtained from the Puget Sound Regional Council (PSRC) which were created in 2000 and updated in 2006 for the forecasts. This was the most current data from PSRC at the time this Plan was prepared. The 2005 Plan used TAZ data created in 1998, but the zones were slightly different than the 2013 Plan with several of the 1990 TAZ divided. The difference of zones could have affected the allocation of the data in 2005 as the smaller sized TAZ's may be more accurate than the larger TAZ areas used during this planning process.

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CHAPTER 5

EXISTING SEWERAGE SYSTEM

This chapter is designed to describe the District's telemetry system, existing facilities, collection and conveyance system, alternate sewerage disposal systems, infiltration/inflow programs, and odor control facilities.

DESCRIPTION OF FACILITIES

General

Soos Creek Water & Sewer District is an L-shaped district located in southeastern King County, roughly between State Route 167 on the west, 244th Avenue SE on the east, SE 160th Street on the north and SE 282nd Street on the south. The area of the District is approximately 35 square miles.

The District's wastewater is treated by King County Department of Natural Resources and Parks, Wastewater Treatment Division's (KCWTD) treatment plant in Renton, with deep-water disposal in Puget Sound. Some of this flow is delivered through the intermediary flow facilities of other utilities. Presently, wastewater leaves the District at 19 locations. There are eleven discharge connections to the Cedar River Water & Sewer District, three to the City of Renton, one to the City of Kent, and four directly to County trunk sewers.

At the writing of the Plan, the District serves approximately 29,461 single-family residential sewer connections and an additional 5,833 commercial customer equivalents for a total of approximately 35,294 equivalent residential units.

The District currently maintains approximately 483 miles of gravity sewer, 32 miles of force mains and 29 functioning lift stations. **Table 5.1**, Lift Station Information, includes data on the number and size of pumps, pump rate, design head, motor electrical information, type of emergency power present, type of station, discharge main size and relevant invert elevations. There are approximately four miles of County gravity trunk sewers within the District.

Telemetry System

The District utilizes a digital radio transceiver system for its telemetry functions. This system replaced the older trunked radio-based system in 1999. The old Remote Telemetry Units (RTU's) were upgraded from Intrac to MOSCAD technology. This upgrade increased the system's reliability and allowed for better operational control from remote locations.

The MOSCAD system can support up to 60 sites. This system allows monitoring of the lift stations with burglar, high/low water, pump overheating, pump failure and room temperature alarms, as well

as monitoring discharge flow. The system can also be configured to provide daily printouts of pump run-times and start statistics.

The MOSCAD system is easily monitored using the provided software. The *System Overview* page monitors all of the lift stations in the system. Developing and instant malfunctions can be easily spotted by assigning a green, yellow, or red indicator light to each station. Each station also has a Personal page that shows the basic configuration of the station, including the number of pumps and current discharge flow. The *Personal* page also shows the date and time of any alarm that has been tripped.

The District is currently testing a new cellular system on one of its water facilities. This evaluation will determine if other sites will be upgraded with the new technology.

LIFT STATIONS

Lift Stations are used to convey wastewater from a lower elevation to a higher elevation through the use of pumps and pressurized force mains on the discharge side. Permanent lift stations are constructed when it is either physically or financially infeasible to construct gravity sewers to serve the area. All stations have automatic controls and are furnished with a minimum of two pumps. The 29 existing lift stations vary considerably in size and capacity. All of the stations are monitored at the central office by the telemetry system as described in the previous section. The lift station locations are shown in **Figures 7.1** through **7.24** - Existing and Proposed Sewerage Facilities, located in **Chapter 7**. The existing and proposed stations are shown in different colors.

The District's lift stations are numbered in the order of their construction. Missing numbers indicate lift stations that have been constructed for temporary use and subsequently removed from service. A letter following the number, i.e., Lift Station 5B, indicates that the lift station has been moved or reconstructed. The higher the letter, the more times it has been moved. Some of the presently operating lift stations listed in **Table 5.1** are similarly designated for temporary service and will eventually be abandoned or upgraded to permanent facilities.

Table 5.1 - Lift Station Information

LS No.	Name and/or Location	No. of Pumps	Pump Size (inch)	Pump Rate (gpm)	Design Head (feet)	Power (h.p.)	Speed (rpm)	Power (volts) (phase)	Emergency Power	Type of Station	Pump Manu-facturer (Model No.)	F.M. Size (inch)	Lowest i.e. Gravity	Dis-charge Elevation	Remarks
5B	North Soos 1,250' Northeasterly of SE 200th Street & 124th Avenue SE	3	8	2,500	157	150	1,770	440 (3)	G	Dry/Wet	Cornell 8NHTA	16-12-10-8	352.4	364.2	Station upgraded in 1994. Third pump installed in 2007. Surge Tank installed in 2011.
9	Panther Lake 11848 SE 208th Street	2	4	225	25	10	1,800	200 (3)	G	Suction	Smith & Loveless	6	429.3	439	Rebuilt w/SE 208th Street widening project.
10B	Clark Fork 14531 SE 256th Street – East Dry Well	3	8	3,800	179	250	1,790	460 (3)	Two G (One for each dry well	Dry/Wet	Cornell	24 (on-site)	325	337	Replacement Station, with dual dry wells put in service in 2005 as replacement for original LS 10.
	Clark Fork 14531 SE 256th Street – West Dry Well	3	8	3,800	179	250	1,790	460 (3)	Two G (One for each dry well	Dry/Wet	Cornell	24 (on-site)	325	337	
11	Covington 18401 SE 262nd Place	3	8 10 (2)	1,700 3,200	149 204	100 250	1,760 1,170	230/460 (3)	G	Dry/Wet	Smith & Loveless	14	340.5	346.25	Pumps #1 and 3 replaced in 1985 and 1992. #2 replaced in 1996.

Table 5.1 - Lift Station Information

LS No.	Name and/or Location	No. of Pumps	Pump Size (inch)	Pump Rate (gpm)	Design Head (feet)	Power (h.p.)	Speed (rpm)	Power (volts) (phase)	Emergency Power	Type of Station	Pump Manu-facturer (Model No.)	F.M. Size (inch)	Lowest i.e. Gravity	Dis-charge Elevation	Remarks
12	200th Street Trunk 600' Northeasterly of SE 204th Place & 132nd Avenue SE	2	4	800	125	40	1,780	230/460 (3)	G	Dry/Wet	Cornell	8	346.5	354	Upgraded 1999.
14	Crystal View SE 26th Street & 171st Avenue SE	2	4	500	89	20	1,770	230 (3)	G	Dry/Wet	Smith & Loveless 4B2A	6	402.1	403.25	
15 B	Maple Valley 24006 215th Avenue SE	3	8 8 8	2,500 2,000 2,000	150 125 125	150 150 150	1,800 1,800 1,800	480 (3)	G	Dry/Wet	Smith & Loveless 8D4B	16	381.9	432.2	
17	Meadow Green SE 224th Street & 122nd Avenue SE	2	6	575	13	3	875	208 (3)	No	Dry/Wet	Smith & Loveless	6	401.6	407	Overflows to Downstream Sewer.
19	Kimmel's 13400 SE 268th Street	2	4	200	29.5	3	1,200	230 (3)	R & B	Dry /Wet	Smith & Loveless	6	405	409	Designed to be relocated as necessary.
20	Meridian Glen 137th Avenue SE & SE 276th Street	2	4	660	66	20	1,800	208 (3)	R & B	Suct. Lift	S & L	10			This station is designed to be relocated as necessary.
21	ULID 58 15600 SE 272nd Street Highway 516	2	4	590	62	20	1,760	230/460 (3)	G	Dry/Wet	Cornell 4NNT	8	305	323.25	
23 D	Taylor's Glen 27711 – 152nd Avenue	2	4	539	165	50	1,770	460 (3)	G	Dry/Wet	Cornell 4x4x14T	6	323.6	395.41	

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Table 5.1 - Lift Station Information

LS No.	Name and/or Location	No. of Pumps	Pump Size (inch)	Pump Rate (gpm)	Design Head (feet)	Power (h.p.)	Speed (rpm)	Power (volts) (phase)	Emergency Power	Type of Station	Pump Manu-facturer (Model No.)	F.M. Size (inch)	Lowest i.e. Gravity	Dis-charge Elevation	Remarks
24 B	Covington Phase I SE 272nd Street & 180th Avenue SE	2	4	300	56	15	1,800	120/208 (3)	R & B	Wet Well Mounted	Cornell 4NNT	6	343.7	348.5	Temporary Lift Station
27	Hillshire Terrace 132nd Avenue SE & SE 215th	2	4	125	129	25	1,760	120/208 (3)	R & B	Wet Well Mounted	Smith & Loveless 4C3B	4	383	384.4	Temporary Lift Station
28 B	Covington Elementary School SE Wax Road & SE 276th Street	2	4	500	57	15	1,765	208 (3)	R & B	Wet Well Mounted	Smith & Loveless 4B2	8	339.4	352.01	Temporary Lift Station
31	Pioneer Ridge 164th Avenue SE & SE 268th Street	2	4	150	74	15	1,760	208 (3)	R	Wet Well Mounted	Smith & Loveless 4B2D	4	386	388	Temporary Lift Station
32	Eastwood Forest SE 280th Street & 214th Avenue SE	2	4	275	123	30	1,750	208 (3)	B & G	Dry/Wet	Cornell 4x4x14T	6	502.9	510	
34	Kent Jr. High Site 6 SE 272nd Street (Kent-Kangley)	2	4	250	33	7.5	1,170	208 (3)	R & B	Wet Well Mounted	Smith & Loveless 4B2B	6	407	419	Temporary Lift Station
35	Kent Sr. High Site 4	2	4	200	160	50	1,760	460 (3)	G	Dry/Wet	Smith & Loveless	6	493.6	493	
36	Pebble Creek SE 288th Street & 228th Avenue SE	2	6	800	107	60	1,770	230/460 (3)	G	Dry/Wet	Cornell 6NHTA	8	519.8	600	Future expansion to 1100 GPM.

Table 5.1 - Lift Station Information

LS No.	Name and/or Location	No. of Pumps	Pump Size (inch)	Pump Rate (gpm)	Design Head (feet)	Power (h.p.)	Speed (rpm)	Power (volts) (phase)	Emergency Power	Type of Station	Pump Manu-facturer (Model No.)	F.M. Size (inch)	Lowest i.e. Gravity	Dis-charge Elevation	Remarks
37	SE Summit Landsburg Road ¼ mile NE of intersection SR 169 & SE Kent-Kangley Road	2	4	330 190	15 31	5	1,800	460 (3)	G	Submer-sible	Flygt CP3102X	4	577.8	584.7	
38	21827 SE 251st Place Maple Valley	3	8 8 8	2,000 2,000 2,800	65 65 95	60 100 100	1,200 1,800 1,800	460 (3)	G	Dry/Wet	Smith & Loveless 8D4B	12	448.8	445.7	Pumps 1 & 2 together: 3024 GPM.
39	NW Corner of 139th Place SE & SE 288th Street	2	6	1,200	130	75	1,800	460 (3)	G	Dry/Wet	Smith & Loveless 694C	10	320.7	327.1	This station uses variable speed drives to change pump rate as needed.
40	Madison Drive Approx. SE 284th Street & 217th Avenue SE	2	4	120	40	5	1,800	460 (3)	G	Submer-sible	Pumpex K-80	4	485	512.48	
41	Shires Hill Subdivision Approx. SE 257th Street & 201st Avenue SE	2	1.25	14	40	1	1,800	120/240 (1)	No	Submer-sible	Duplex E-1 AMGP	1.5	413.8	439.1	Overflows to the old Lift Station 15 force main, which can be flushed to gravity.
42	Maple Ridge Highlands 27404 254th Ct. SE	2	4	140	57	7.5	1,740	480 (3)	G	Submer-sible	Flygt	4	756	759	

Table 5.1 - Lift Station Information

LS No.	Name and/or Location	No. of Pumps	Pump Size (inch)	Pump Rate (gpm)	Design Head (feet)	Power (h.p.)	Speed (rpm)	Power (volts) (phase)	Emergency Power	Type of Station	Pump Manu-facturer (Model No.)	F.M. Size (inch)	Lowest i.e. Gravity	Dis-charge Elevation	Remarks
43	Rainier Vista 18721 SE 244th Lane	2	4	270	62.5	20	1,750	460 (3)	G	Submer-sible	Flygt	6	429	429	Temporary Lift Station
44	Adlers Cove 28830 213th CT SE	2	4	231	196	47	1,755	460 (3)	G	Submer-sible	Flygt	4	470.5	475.3	Temporary Lift Station
45	Wingfield; SE 263rd St and 169th Ave SE	2	4	577	60	15	1,745	460 (3)	G	Submer-sible	Flygt	6	376.1	375.8	Temporary Lift Station

The District uses temporary hauling of sewage as an interim method of disposing of sewage in an emergency via its vactor truck into a downstream manhole. The District hires licensed and bonded hauling companies and pays for proper disposal of sewage that cannot be pumped or otherwise contained. This method is also used during construction projects to dispose of sewage if it is not routed around the project. Sometimes sewage bypassing is not the best option for a project, so other means of disposal are necessary.

Lift stations are designed with at least two pump units. In stations with just two pumps, each should be capable of handling the expected maximum flow for its design life. In stations with three or more pumps, the pumps should be sized to handle the expected maximum flow with the largest pump out of service. The pumps must be capable of passing spheres of at least 3 inches in diameter. Lift stations are designed with consideration given to maintaining operation during a power outage. Methods presently used in the District include: on-site standby power, portable standby power, portable bypass diesel pump and bypass to alternate gravity sewers.

Because flow is pumped through buried force mains of varying lengths, as well as being lifted to a higher elevation, in this plan the term "lift station" is used even though most of the District's stations are truly pumping stations. Some of the District's lift stations have submersible pumps installed in the wet well. However, most of the lift stations are wet well/dry well lift stations in which the mechanical and electrical equipment are located underground in a sealed enclosure (dry well) adjacent to the wet well from which the sewage is pumped. The stations deemed to be temporary are mostly the wet well mounted type and the mechanical and electrical equipment is located above ground over a large wet well out of which the sewage is pumped.

The lift station improvements that have been completed since the 2005 Comprehensive Sewer Plan are described below.

Modifications to Existing Facilities

Lift Station 5B Third Pump

A third pump was installed under Contract 9-06S in 2007. The third pump was installed in the #2 position which had been reserved for future pump installation at the time of the original LS 5B construction. The third pump provides additional reliability and operational flexibility at this station.

Lift Station 5B Force Main Replacement

A portion of the existing force main was replaced under Contract 6-08S in 2009. The new force main consists of 1,931 linear feet of 18-inch diameter and 2,024 linear feet of PVC force main. The existing force main, primarily constructed of 12-inch diameter DI pipe, was abandoned in place. The new force main upgrades hydraulic capacity and will be more corrosion-resistant. The new force main extends westerly from the LS 5B site through easements to and thence along SE 198th Place,

thence northerly along 124th Ave. SE. and thence westerly along SE 196th Street to the discharge manhole located westerly of 119th Ave. SE.

Lift Station 5B Surge Tank

An air pressure surge tank was installed in 2010. The function of the surge tank is to reduce hydraulic transients occurring in the station's west force main during pump shutoff. The surge tank has a volume of 2,000 gallons and is 6 feet in diameter. The tank and appurtenances (including an air compressor, starter panel, level controller, and safety valve) were pre-purchased by the District. The equipment was installed by a general contractor under Contract 4-10S. The work included a shelter for the tank, connections to existing piping, and installation of the compressor in the existing control building.

Lift Station 10B

This lift station, constructed under Contract 10-05S in 2005 to replace Lift Station 10, was installed at a new location at 14531 SE 256th Street along with associated influent and effluent piping modifications required to accommodate the relocated site. The new lift station is comprised of two dry wells, each installed with three identical 250 horsepower (HP) pumps. The dry wells are designated and differentiated as East and West in Table 5.1. Construction of the new station included air phase odor control, liquid phase odor control, and surge control facilities. The primary purpose of Lift Station 10B was to replace Lift Station 10 with a higher capacity facility. The original Lift Station 10 site lacked the required land area needed to practically increase the pumping capacity to meet the required needs.

Under Contract 12-05S, completed in 2008, a "TurboFree" elbow was installed at one of the existing pumps (on the suction line) in order to evaluate its effectiveness in mitigating "ragging" (clogging) problems which occasionally plagued the station during the initial years of its operation. Since that time "ragging" has become less of a problem as flows into the station have increased. It is unknown whether or not the new elbow significantly improved the "ragging" issue, and there are currently no plans to replace additional elbows.

Lift Station 11B

In May 2012, the District opened bids for the construction of LS 11B under Contract 4-07S. The project will replace the existing LS 11 in its entirety. LS 11B will be constructed approximately one block north of the existing LS 11 site, which is at the southeast corner of the intersection of SE 262nd Street and 184th Avenue SE. As part of the project, the existing LS 11 will be deactivated.

LS 11B will consist of a new submersible lift station housing six (6) 175 horsepower raw sewage pumps. The pumps will be organized with two (2) separate piping, power, and control systems, but will share a common wet well. Two pumps will be located in each of three (3) bays, with each bay isolated from a common forebay structure by a slide gate.

A new building will house an electrical/control room, a restroom, a storage room, a mechanical room, a room for housing odor control chemicals and a surge control tank, a room for storing a rail-mounted gantry crane.

Construction is scheduled to be completed in the latter part of 2013.

Lift Station 11/15B Meter Vault

Under Contract 11-05S, a meter vault was installed on the dual force mains on SE 256th Street in 2006 at a location south of LS 14, and upstream of the point where the force main from LS 14 is connected to the dual force mains. One force main is from LS 11 and the other is from LS 15B. The facility permits monitoring of flow (gpm) from each of these lift stations.

Lift Station 12 Generator

A permanent diesel-powered generator, completed in 2006, was installed under Contract 2-06S. The generator provides on-site standby power for this facility.

Lift Station 15B Odor Control

An activated carbon air scrubber was installed in 2006 under Contract 9-05S for air-phase odor control at the LS 15B site. The unit is similar to the one installed at LS 10B.

New Lift Stations

Lift Station 42

In 2005, Lift Station 42 was installed as part of a Developer Extension. The station is a duplex submersible-type with each pump rated 140 gpm at 57 feet TDH. Each pump is installed with a 7.5 HP motor. The lift station is located at 27404 254th Ct. SE in Maple Ridge Highlands. The station serves the southwest portion of Basin L. An on-site, diesel-powered generator was installed with the lift station to provide stand-by power in case of emergency. A 4-inch PVC force main, approximately 1,270 linear feet in length, discharges the pumped flow into a manhole located on 254th Way SE south of the station site.

Lift Station 43

Temporary Lift Station 43 was put in service in 2006 as part of the Developer Extension to serve the new Rainer Vista development. The station is a duplex submersible-type with each pump rated 270 gpm at 62.5 feet TDH. Each pump is installed with a 20 HP motor. The station is located at 18721 SE 244th Lane. The station serves a portion of Basin W. An on-site diesel-powered generator was installed with the lift station to provide stand-by power in case of emergency. The force main from the lift station discharges into a manhole located on 184th Pl. SE southwest of the station site. The force main is constructed of PVC and is approximately 1,202 linear feet long.

Lift Station 44

Temporary Lift Station 44 is a duplex submersible-type installed in 2007 as part of a Developer Extension. It is located at 28830 213th Ct. SE in Alders Cove. Each pump is rated 231 gpm at 196 feet TDH and is equipped with a 47 HP motor. The station serves a portion of Basin V. An on-site diesel-powered generator was installed to provide stand-by power in case of emergency. A 2,646 linear foot 4-inch PVC force main discharges the pumped flow in a southeasterly direction into the LS 35 force main (6-inch diameter) at the intersection of SE 292nd St. with 218th Ave. SE.

Lift Station 45

Temporary Lift Station 45 is a duplex submersible-type installed in 2008 as part of a Developer Extension. It is located at the intersection of SE 263rd St. and 169th Ave. SE. in Wingfield. Each pump is rated 577 gpm at 60 feet of TDH and is equipped with a 15 HP motor. The station serves a portion of Basin R. An on-site diesel-powered generator was installed to provide stand-by power in case of emergency. The force main is comprised of 872 linear feet of 6-inch diameter PVC and discharges to a manhole in SE 262nd Pl. to the west of the station site.

COLLECTION AND CONVEYANCE SYSTEM

General

The collection system is made up of gravity mains and trunks which drain to interceptors or lift stations. The lift stations discharge sewage through pressurized force mains to a downstream gravity system or another lift station. The County's wastewater plan has changed from the original plan which proposed one or more interceptors to intercept the sewage in the south portion of the District. As a result, the District has had to install many lift stations to pump against the natural drainage flow of portions of the area. The areas, commonly referred to as drainage areas, are no longer true drainage basins. They are areas which have changed over time and now may best reflect service areas to a particular major sewer system feature, such as a lift station.

Force mains are defined as pressure sewers joining the pump discharge at a lift station with a point of gravity flow. Force mains are designed to provide a minimum velocity of at least 2.0 feet per second

in order to be self-cleaning. Also, in order to avoid high friction losses and consequent waste of energy, velocity should not exceed 8 feet per second. Minimum pipe size should not be less than 4 inches in diameter in order to allow passage of a 3-inch diameter solid. An exception to this minimum main size is the low-pressure mains which receive discharge from individual grinder pump systems. Since the grinder pump grinds the sewage into fine particles, no minimum size (except for the 1-1/4-inch individual discharge lines) is specified.

The District's collection and conveyance systems are separated between the north and south (southwest and southeast) service areas of the District. Drainage Area E and areas south of approximately SE 208th Street and east of 116th Avenue SE drain to the south system. Areas generally north of SE 208th Street drain to the north. There are only three lift stations in the North system: Lift Stations 5B, 9, and 12. Sewage from Lift Stations 9 and 12 flow to Lift Station 5B where it is re-pumped north and west through a split force main. Some portions of the north system are discharged directly to Cedar River Water & Sewer District and the City of Renton.

The south end collection and conveyance system is more complex and incurs the majority of new development. The entire south end system (southeast and southwest service areas) currently discharge into the Kent Cascade Relief Interceptor near the intersection of 116th Avenue SE and SE 256th Street. This point is currently the only discharge point for the south system. King County will need to increase the size of its conveyance system from 116th Avenue SE to 124th Avenue SE to the treatment plant in Renton at some point in the future. Sewage from the southeast service area may be pumped directly to the Kent Cascade Relief Interceptor or to Lift Station 10B, which would then re-pump the sewage to the Kent Cascade Relief Interceptor. The normal operating scheme is for Lift Station 10B to re-pump the sewage. The City of Covington Area will ultimately be directed to the proposed Lift Station 46. Flows from Lift Station 46 will be directed to the Lift Station 10B location along with flows from Lift Station 11B. The proposed Lift Station 46 replaces the need for King County to construct its concept of Pump Station D. The District is planning and will construct facilities to serve its customers well into the future. Flow from the southwest service area is currently all routed to Lift Station 10B. The ultimate sewer service for the southwest service area flows will be directed to Lift Station 39. The District's planned future construction of facilities in this area replaces the need for King County's concept to build Pump Station B. New District facilities will be in accordance with applicable regulations and interlocal agreements. The District continues to plan for service for all of its customers well into the future. New sewer construction is inspected with video equipment to assure compliance with the design criteria and contract documents. District Resolution No. 1904-S describes the standards of acceptability required for new sewers constructed in the District.

The existing sewer system, as of the end of the year 2011, is summarized in **Table 5.2**. This table gives lengths of each size of pipe for gravity and force main lines. The majority of pipe in the District is 8-inch pipe. There is approximately 2.56 million feet (485 miles) of gravity pipe and approximately 168,000 feet (32 miles) of force main in the District's system, along with more than 9,800 manholes.

Table 5.2 Existing Sewer System

Pipe Size	SCWSD Gravity System (feet)	SCWSD Force Main (feet)	KING COUNTY Gravity System (feet)
1.25		236.0	
1.5		961.0	
2		3,553.7	
3		4,741.0	
4		9,868.8	
6	759,248.5	30,947.3	
8	1,509,433.7	20,861.7	
10	116,493.6	14,935.0	
12	73,894.0	9,086.5	
14	3,280.0	5,436.5	1,021.0
15	37,150.9		1,001.0
16	4,501.8	3,229.5	
18	28,978.5	53,054.2	4,374.0
20	4,937.2	10,333.0	
21	7,761.5		11,504.0
22			
24	15,990.8	250.0	3,152.0
26			
27	1,623.5		
30	140.0	300.0	
36	25.0		
Totals	2,563,459.0	167,794.2	21,052.0

The major portion of the collection system pipes installed prior to the mid–1970s consists of concrete and reinforced concrete pipe. In recent years, the predominant pipe material has been polyvinyl chloride (PVC). Other sewer pipe materials include ductile iron, cast iron, asbestos cement, fiberglass, and high-density polyethylene (HDPE). Rubber gasket materials are used in pipe joints. All manholes contain built-in access ladders and bolt down covers. Pipe which was installed prior to the mid-1970s, represented in the first four columns of **Table 5.3**, is material that is expected to have a shorter life cycle than the most recently developed products, PVC and HDPE. (Note: pipe length entries have been rounded to the nearest foot in **Table 5.3**). The majority of this pipe was constructed of concrete and may require replacement in the future, not only because of its age but also because the pipe material is vulnerable to settlement and seismic activity, which can cause cracks to form, joints to fail, and thus increase the potential for infiltration and inflow. Concrete pipe located near the discharge locations of force main will likely need the earliest replacement since turbulence at the discharge point results in the release of hydrogen sulfide that corrodes the concrete.

Table 5.3 Summary of Sewer Pipe Ages

Pipe Diameter (inch)	1955-1964 Pipe Length (feet)	1955-1964 Pipe Length (%)	1965-1974 Pipe Length (feet)	1965-1974 Pipe Length (%)	1975-1996 Pipe Length (feet)	1975-1996 Pipe Length (%)	1997-2002 Pipe Length (feet)	1997-2002 Pipe Length (%)	2003-2007 Pipe Length (feet)	2003-2007 Pipe Length (%)	2008-2011 Pipe Length (feet)	2008-2011 Pipe Length (%)	Total Pipe Length in SCWSD (feet)
6	23,401	3.1	105,410	13.9	404,445	53.3	98,673	13.0	109,477	14.4	17,842	2.4	759,249
8	58,204	3.9	230,951	15.3	782,194	51.8	187,356	12.4	211,084	14.0	39,644	2.6	1,509,434
10	4,567	3.9	31,437	27.0	46,772	40.2	17,266	14.8	13,591	11.7	2,861	2.5	116,494
12	4,141	5.6	5,360	7.3	52,345	70.8	9,610	13.0	2,437	3.3			73,894
14	0	0	0	0	3,280	100.0	0	0	0	0			3,280
15	1,895	5.1	9,844	26.5	16,538	44.5	3,391	9.1	4,596	12.4	887	2.4	37,151
16	160	3.6	0	0	4,249	94.4	77	1.7	16	0.4			4,502
18	0	0	5,900	20.4	20,488	70.7	1,666	5.8	925	3.2			28,979
20	0	0	617	12.5	4,320	87.5	0	0	0	0			4,937
21	0	0	5,187	66.8	790	10.2	1,785	23.0	0	0			7,762
24	0	0	9,473	59.2	3,992	25.0	2,526	15.8	0	0			15,991
27	0	0	1,455	89.6	0	0	169	10.4	0	0			1,624
30									140	100			140
36									25	100			25
TOTAL	92,368	3.6	405,634	15.8	1,339,413	52.3	322,519	12.6	342,293	13.4	61,234	2.4	2,563,462

Table 5.4 lists all of the ULIDs since the District's inception through ULID 107. The District has successfully used this method of financing to expand its system and serve its customers. Many other projects, such as Developer Extensions, have been constructed in general conformance with the Plan, but are not inventoried herein because of space considerations. Information on these projects is available upon request at the District office.

Table 5.4 Utility Local Improvement Districts (ULID)

ULID No.	Description and Location	Manhole Totals	Pipe Lengths (feet)				Construc-tion Record (CRD) Page No.	Resolution No.	Date of Acceptance
			6-inch Pipe	8-inch Pipe	Oversize Pipe	Force Main			
1	Meridian Valley Country Club	109	17,590	28,187	10"-980		E 38 - 50		
3	Contract 1 - Lake Meridian Interceptor	80	2,733	2,077	10"-3,313 21"-4,971 18"-1,974 15"-3,238 24"-1,675 20"-617		F 1 - 11	457	Dec-74
3	Contract 2 – East of Lake Meridian	51	2,559	11,204			F 12 -16	457	Dec-74
3	Contract 3 - West of Lake Meridian	49	2,753	11,186	12"-620		F 20 - 26	457	Dec-74
5	Spring Glen	50		5,421	10"-12,251 12"-1,223		C 14 - 21	268	Oct-72
6	Talbot Hill Area	14		1,252	10"-2,611		C 23 - 24	315	Jul-73
8	Meridian Villa Estates	27	2,794	7,294			E 65 - 69	370	Dec-73
9	Benson Hills	52	5,823	11,863			K 9 - 15	442	Oct-74
10	Fowler Addition	17	2,636	4,461			B 61- 63	443	Oct-74
11	Scott's Terrace,	8	354	827			C 30	471	Apr-75

Table 5.4 Utility Local Improvement Districts (ULID)

ULID No.	Description and Location	Manhole Totals	Pipe Lengths (feet)				Construc-tion Record (CRD) Page No.	Resolution No.	Date of Acceptance
			6-inch Pipe	8-inch Pipe	Oversize Pipe	Force Main			
	Portion of								
12	Cedar Downs & Vicinity, F.M. & Lift Station #15	3			12"-61	8"-4,326 10"-1,651 12"-800	J 34 - 36	647	Dec-76
13	Clifford's 1st Addition & Vicinity	11	525	1,858			C 31 - 32	544	Feb-76
14	Cedar Downs & Vicinity	35	1,770	6,249	12"-1,118	6"-208	L 1 - 5	647	Dec-76
14	Cedar Downs & Vicinity (Cont.)					10"-317	L 1 - 5	647	Dec-76
15	Hormonell Area	4	612	1,042			K 106	634	Nov-76
16	Casavilla, Arcon & Vicinity	9	1,022	1,871		4"-24	K 18	694	May-77
20	Cedar Downs 3 & 5	20	2,124	5,083			L 27 - 29	1830	Mar-83
21	Contract 1, Pipe Lake, Lake Lucerne & Vicinity	133	7,497	17,118	10"-6,381 15"-1,422 16"-2,232		L 7-17 & L 23-26	1831	Mar-83
		42	2,642	9,380	15"-1,730		L 6 &18 - 22	1832	Mar-83
23	SE 218th Street - East of 11th Avenue SE	1	87	421			K 19	856	Jul-78
24	105th Place SE - South of Carr Road	3	130	872			C 37	857	Jul-78

Table 5.4 Utility Local Improvement Districts (ULID)

ULID No.	Description and Location	Manhole Totals	Pipe Lengths (feet)				Construc-tion Record (CRD) Page No.	Resolution No.	Date of Acceptance
			6-inch Pipe	8-inch Pipe	Oversize Pipe	Force Main			
33	Benson Highway North of SE 173rd Street& South of SE 168th Street	12	140	2,718	10"-398		C 48 - 49	1833	Mar-83
34	Springbrook Acre Tracts & Vicinity	56	3,316	10,299	12"-3,031		K 35 - 43	1114	Sep-79
35	South 200th Street - South 207th Street & 92nd Street South to Benson & Vicinity	100	12,312	26,024			K 44 - 61	1834	Mar-83
36	136th Place SE - South of SE 192nd Street	7	529	1,557			B 98 - 99	1427	Nov-80
		29	1,126	3,061	10"-976 12"-1,125 15"-1,577				
40	Cherokee Bay Park & Vicinity	99	10,635	24,397			L 32 - 43	1306	Jun-80
46	Aqua Vista & Vicinity	11	1,401	2,971			L 48 - 49	1499	Apr-81
48	SE 190th Street to SE 196th Street & 102nd to 108th Avenue SE	62	4,122	9,463	12"-844 15"-2,468		K 71 - 78	1501	Apr-81
49	Molasses	32	52	1,084	12"-5,091		N 3 - 6	1638	Dec-81

Table 5.4 Utility Local Improvement Districts (ULID)

ULID No.	Description and Location	Manhole Totals	Pipe Lengths (feet)				Construc-tion Record (CRD) Page No.	Resolution No.	Date of Acceptance
			6-inch Pipe	8-inch Pipe	Oversize Pipe	Force Main			
	Creek & Vicinity								
50	113th Avenue SE - SE 169th Street to SE 172nd Street	3	540	828			B 97	1358	Aug-80
51	121st Place SE - North of SE 192nd Street	4	166	656			B 100	1480	Feb-81
53	SE 200th Street -West of 132nd Avenue SE	3	76	573			F 55		
55	Walhaven and Vicinity	11	1,815	2,657			C 56- 57	1564	Jul-81
57	Panther Lake Garden Tracts & Vicinity	33	1,088	4,373	15"-3,113		K 88 - 91	1771	Nov-82
58	Cascade Mobile Villa & Vicinity	15	176	2,324	12"-18	8"-1,078	S 1 - 3	1911	Jul-83
61	SE 256th Street –132nd Avenue SE	2	10	361			F 59	1715	Jun-82
62	Acres Farms 6 & Vicinity - Contract 1	15	1,912	2,978	10"-1,561		A 61 - 62	2130	Nov-84
	Acres Farms 6 & Vicinity - Contract 2	21	1,400	3,959			B 110 - 112	2094	Aug-84
	Acres Farms 6 & Vicinity - Contract 3	29	2,158	3,079	10"-3,313		B 113 - 116	2130	Nov-84

Table 5.4 Utility Local Improvement Districts (ULID)

ULID No.	Description and Location	Manhole Totals	Pipe Lengths (feet)				Construc-tion Record (CRD) Page No.	Resolution No.	Date of Acceptance
			6-inch Pipe	8-inch Pipe	Oversize Pipe	Force Main			
	Acres Farms 6 & Vicinity - Contract 4	19	2,136	3,617	10"-1,082		B 116 - 119	2130	Nov-84
64	Wilderness Village & Vicinity	34	964	6,406	15"-768 12"-1,232 10" - 112		J 58 - 62		Nov-86
64	Wilderness Village & Vicinity - F.M. & Offsite	4		489	10"-344	6"-3,433	L 58 - 59		Nov-86
67	Contract 2-86 "A"- Petrovitsky @ 128th & 129th	7	1,004	2,176			B 148 - 149		
68	North from SE 252nd Place - East of 124th Avenue SE	1	37	148			F 83	2467	Apr-87
69	130th Avenue SE & SE 185th Place (Fox Estates)	5	403	1,351			B 157	0227-S	Aug-88
72	Contract 8-89S	26	1,056	2,589	10"-2,256 15"-477			0575-S	Sep-90
72	Contract 9-89S - Offsite	3	100		14"-1,128			0576-S	Sep-90
73	Contract 8-92S	2				1.5"-138 2”-554 3”-571	L 137	1106-S	Apr-94
74	Contract 3-89S	2	194	284			C 80	0353-S	May-89
75/77	Contract 1-89S	32	94	1,449	10"-6,073		L 108 -113	0776-S	Mar-92

Table 5.4 Utility Local Improvement Districts (ULID)

ULID No.	Description and Location	Manhole Totals	Pipe Lengths (feet)				Construc-tion Record (CRD) Page No.	Resolution No.	Date of Acceptance
			6-inch Pipe	8-inch Pipe	Oversize Pipe	Force Main			
76	Contract 10-89S	2	85	330				0524-S	May-90
78	Contract 5-90S	1	344	331				0661-S	May-91
82	Contract 4-92s	4	306	922			B - 182	1974-S	Jun-93
84	Aqua Vista - Pipe Lake, Contract 3-93S	1				1.5"-101 2"-605	L - 142	1190-S	Sep-94
86	SE Lake Wilderness Drive	1				1.25"-40 1.5"-110 2"-510 3"-1,410	L - 187	2061-S	Sep-00
88	Lake Desire Area, Contract 19-96S	1				3"-760	M - 26	1609-S	May-97
89	Talbot Road S (96th Avenue South) Contract 1-96S	6	20	1,980		3"-770	C - 101	1649-S	Aug-97
90	South. Lake Wilderness Drive SE Contract 3-2000S	5	285		10"-800 12"-90	2"-375 3"-860	L - 186	2245-S	Nov-01
91	South. of intersection of SE 182nd Street & 114th Avenue SE Contract 2-99S	1		185			C - 103	1970-S	Jan-00

Table 5.4 Utility Local Improvement Districts (ULID)

ULID No.	Description and Location	Manhole Totals	Pipe Lengths (feet)				Construc-tion Record (CRD) Page No.	Resolution No.	Date of Acceptance
			6-inch Pipe	8-inch Pipe	Oversize Pipe	Force Main			
93	175 feet North of SE 237th Place & 140th Avenue SE Contract 7-98S	3		613			E - 202	1896-S	May-99
97	147th SE Contract 12-99S	7	680	1,345			N - 27	2019-S	May-00
105	210 feet North of intersection of 147th Avenue SE & SE 181st Street Contract 12-99S	0		200			N - 27	1963-S	Jan-00
107	SE 190th Place (private) off of 120th Ave SE Contract 4-04S	5	283	988			B - 250	2844-S	Jun-06

IMPROVEMENTS COMPLETED SINCE 2005 PLAN

The following list describes the District's completed Public Works Contracts and Utility Local Improvement Districts (ULID) since the 2005 Comprehensive Plan. The improvements are grouped into the North and South Service Areas, respectively.

NORTH SERVICE AREA

140th Ave SE Relocations (Contract 2-2000S)

This Contract installed two (2) dry sewer crossings across 140th Ave. SE in conjunction with King County's street improvements. The crossings were constructed in order to accommodate future development in this area without the need for future trench excavation across the new road

improvements. One crossing is at SE 192nd Street and the other is approximately 900 feet north of SE 192nd Street. A total of 312 linear feet of 8-inch gravity main and 4 manholes were installed.

Lake Desire Sewer (Contract 14-2006S)

This Contract installed a low pressure sewer system around Lake Desire in 2009. The project was comprised of 2,790 linear feet of 6-inch diameter, 1,270 linear feet of 4-inch diameter, 1,525 linear feet of 3-inch diameter, ,1635 linear feet of 2-inch diameter, and 605 linear feet of 1.5-inch diameter HDPE pressure pipe. 73 single service connections and 37 double service connections were also installed.

ULID 107S (Contract 4-2004S)

This project was completed in 2006 and installed 988 linear feet of 8-inch, 283 linear feet of 6-inch gravity main, and five new manholes.

SOUTH SERVICE AREA

Four Corners Crossing (Contract 13-2005S)

This Contract installed 99 linear feet of 8-inch gravity main and one (1) manhole for an east to west crossing of SR 169. The crossing is located approximately 200 feet north of the intersection of SR 169 with the Kent Kangley Road.

Upper Meridian Creek Culvert (Contract 15-2006S)

Approximately 107 linear feet of 8-inch gravity main was installed under a new box culvert crossing SE 234th Street were installed by the City of Kent. Also, included in the project were two (2) manholes. The portion of gravity main under the box culvert is installed in a steel casing. The location of the culvert is at the approximate equivalent of 128th Ave. SE.

180th Avenue Main Extension (Contract 6-2007S)

Under this Contract, 502 linear feet of 8-inch and 313 linear feet of 6-inch PVC gravity sewer as well as two (2) manholes were installed. The extension was located on 180th Ave. SE northerly from SE 256th Pl.

ALTERNATE SEWAGE DISPOSAL SYSTEMS

Whenever possible, the District requires gravity sewers in order to minimize the reliance upon mechanical and electrical operation. However, for residences that are built in areas where gravity sewer service is not readily available (including certain locations within the District's current and future sewer service areas), sewage disposal is predominantly accomplished through septic tank / drain field systems. This method of sewage disposal includes a subsurface system of porous

drainpipes laid into the soil in such a way that effluent from the septic tank is distributed uniformly into the soil. Therefore, the ability of the soil to absorb and filter wastewater is critical to the proper functioning of the system.

The U.S. Department of Agriculture Soil Conservation Service has analyzed and rated the general characteristics of each soil type in terms of their suitability for conventional septic tank and drain field systems. Most of the soils in the sewer planning area are rated as having severe limitations for septic tank and drain field systems, which is common for King County. Because of the coarse soils, the septic effluent is a threat to lakes and public agency well fields. Septic tank failures can, and do, cause health problems in King County. A reason for this is that many existing on-site systems were developed under regulations which assumed sewers would eventually replace them. Current septic system regulations are much stricter than in the past.

As the District's gravity sewer system expands, most of the homes within the District's service area that are currently served by septic tank / drain field systems will be switched to the District's gravity sewer system. However, some locations exist where gravity service may not be the most feasible option. For example, many homes near bodies of water cannot be served by a gravity sewer system because environmental regulations prohibit gravity sewer lines in sensitive areas. The District is increasing its use of low-pressure sewer systems to serve these areas.

Low-Pressure Sewer Systems

A low-pressure sewer system utilizes on-site pressurization facilities to convey sewage wastes from the residences through force mains to an existing gravity sewer. The force mains are typically of small diameter, i.e., 1-1/4 inches to 2 inches, and are installed at shallow depths. Small pumps may be installed at each individual residence or, in some cases, a single pump may serve a cluster of homes.

The only low-pressure system approved for use in the District is the grinder pump (GP) system. This system involves a package containing a grinder pump, holding tank, electrical controls and appurtenances. In the GP system the solid material is ground and then pumped, thus eliminating the need for a septic tank.

Resolution No. 1847-C, dated February 17, 1999, permits the use of grinder pumps on a temporary basis. These pumps are then removed when standard gravity service becomes available. If specific constraints prevent or restrict normal connection to or construction of gravity sewers or standard lift stations, the District may also permit the use of individual grinder pumps on a permanent basis. As population growth penetrates remote areas, the potential application of low-pressure sewers is expected to increase. Compared to conventional sewers, a low-pressure system may realize initial savings in capital costs but will likely represent higher annual operation and maintenance costs and thus be more costly in the long run. The useful, economic life of some of the components of a low-pressure sewer system is also likely to be substantially less than many of the components of a conventional system.

The Department of Ecology's design manual states that low-pressure systems should be considered for situations where gravity sewers are extremely costly or impractical. Areas of high groundwater table, shallow bedrock or severe topographic restrictions are the most likely candidates for low-pressure sewers. The DOE manual also establishes design requirements for low-pressure sewage systems however the District's policy is to use grinder pumps.

Recently, the District established a standard for grinder pump systems using Environment One Grinder Pumps on individual lot services that pump to small diameter low-pressure force mains. Provisions have been established for review of the system by the District's engineer, payment of appropriate fees, signing of releases for possible damages to the private system, and from objecting to future ULIDs which may provide gravity service to the property. Concerns about mechanical and electrical vulnerability, operation and maintenance costs, effects of implementing the Comprehensive Plan, and the location of facilities on private property discourage the wholesale use of private pumping systems in the District.

The District is responsible for the maintenance and repair of the individual grinder pump systems that are installed within the District. The property owners with grinder pumps pay an additional fee on their sewer bills which covers this service.

INFILTRATION AND INFLOW

A portion of the flow in any sanitary sewer system may consist of infiltration and inflow (I/I). Infiltration is attributed to groundwater entering into the sewer system and inflow is storm water flowing directly into the system as the result of a "storm incident" or illegal connections such as a direct connection of storm sewers, downspouts or foundation drains. Infiltration can enter the system through leaking pipe joints, structural cracks or other physical defects. Many areas of the District system are in soils which are permeable and have seasonal high groundwater, which is possibly the source of the majority of the system I/I.

Elimination of storm inflow from the system is difficult due to conflicting concerns. Sealing manhole lids and maintaining the water tightness of the lids decreases inflow, but gas, particularly hydrogen sulfide and methane, can collect in the sealed manholes. The District attempts to minimize vent holes for the system, but inflow cannot be prevented completely. The hydraulic computer model of the District's conveyance system was previously calibrated to dry weather and weather flow data collected through King County's I/I program during the wet seasons of 2001-2002. The model calibration has been updated, based upon joint flow-monitoring data at critical locations obtained by King County and the District. The rate of I/I subsequently varies by basin, due in part to the ages of the pipes and the groundwater table in each part of the system. At this time, the exact rate of I/I in each of the District's mini-basins is unknown and likely fluctuates, but can be reasonably estimated due to the comprehensive approach in which flow data was collected throughout the District and used to calibrate the model. The District has no plans to conduct a Sanitary Sewer Evaluation Study on its system at this time. The weighted average of the system for a 20-year recurrence storm event from

the previous District Comprehensive Plan Update was approximately 1,685 gallons per acre of service area per day (gpad) for the North Basins and 665 gpad for the South Basins.

The District developed its model using some of the same methodology and assumptions as the King County hydraulic model in order to provide a level of uniformity between the models. For instance, the District's model assumed an increase in I/I of seven percent per decade, with a maximum increase of 28 percent for the ultimate model even though it believes its system will not deteriorate that rapidly due to an aggressive I/I control program.

Since the previous update, the District's hydraulic model has been updated in some basins where the model under-simulated I/I during flow-metered rainfall events. In other cases, where the model over-simulated I/I, the more conservative parameters were maintained. This "truthing" and updating the model has resulted in a more accurate modeling tool that was used to evaluate the capacity of the system for this plan.

The District has been actively monitoring and modeling its wastewater system for more than two decades, and refining the tool along the way, which has given the District confidence with the accuracy of the results.

The King County Regional I/I Control Program predicts higher peak I/I estimates based on 60-year modeling simulations and statistical analysis. Adopting this standard for increased I/I likely increases the improvements required in the Capital Facility Plan at ultimate conditions for the District, but the order of magnitude of those increases is unknown. Additionally, the District believes that making overly conservative assumptions relating to I/I, as described above, counteracts the ability to model the representative effects of increased water conservation, and the subsequent reduction to sanitary sewer flows. The District's Water Comprehensive Plan identifies a policy and strategy to promote water conservation for its system, which has been proven successful by the reduced per capita consumption by its customers. In order to use the sewer hydraulic model to verify the effects of water conservation, population increases and I/I increases would need to be removed. This would be time consuming and expensive and the District has no plans to undergo that effort at this time.

The District strives to eliminate as many inflow sources as can be found while maintaining the integrity of the sewer environment, mainly by minimizing vent holes and sealing manhole lids. During the design and construction of new main extensions, the District utilizes manhole liners and wraps as well as sealed manhole covers in wet areas. The District also performs video inspections during the wet season on all new gravity sewers to check for leaks.

The District is committed to an aggressive I/I policy to address further degradation of its system and to thereby reduce overall I/I effects over time. The District will also continue its commitment to work closely with King County regarding I/I assumptions and related subjects as more data bcomes available. Through an agreement with the County, flow monitoring with mutually agreed-upon "trigger points" is being undertaken at critical locations within the District's service area to estimate

the sizing and timing of future facilities. The County and the District are collaborating to obtain and evaluate this information for coordinated facilities.

King County conducted a 6-year comprehensive study to address the I/I issue. The Regional Wastewater Services Plan (RWSP) identified four steps to achieve its goal:

- Meter and identify I/I in the overall system
- Conduct pilot I/I control projects in order to identify cost-effective I/I removal techniques in this region
- Evaluate financial options and solutions
- Ultimately design a long-term control program for the local agencies and King County

King County is using several methods to identify and meter I/I in the system. Smoke testing utilizes a smoke bomb that is dropped in a sanitary sewer pipe. The area can then be monitored for any smoke that appears. Broken pipes, leaky manhole covers, connected catch basins or connection of roof and foundation drains can then be detected. Dye testing uses a flourizine dye to look for inappropriate connections. The dye can be introduced to a catch basin to see if it appears in a sanitary sewer downstream. TV inspection uses a small camera that can be used to find root intrusion breaks or water infiltration. Observation detects I/I by noting where backups occur in the system at manholes, homes, businesses or treatment facilities.

The following work was completed as part of the comprehensive study:

- Current levels of I/I were defined for each local agency tributary to the regional system through extensive flow monitoring and modeling program (2001-2002). The flow monitoring system used over 800 flow meters to measure flows throughout the County. Rainfall in the region was also monitored by King County. The system (CALAMAR) used a combination of 73 rain gauges throughout the region, as well as the National Weather Service radar, to generate rainfall quantities.
- Ten pilot projects were selected and constructed in 12 local agency jurisdictions to demonstrate the effectiveness of collection system rehabilitation projects and to test various technologies and gain cost information (2003-2004).
- Final draft model standards, procedures, policies, and guidelines were developed (October 2004) for use by local agencies to reduce I/I in their systems. These will remain draft pending completion of the recommended initial projects in 2013.
- A thorough benefit-cost analysis was completed to determine the cost-effectiveness of I/I reduction (November 2005).
- A long-term regional I/I control plan was developed, and approved by the King County Council (May 2006).
- King County worked with the local sewer agencies to conduct an I/I reduction feasibility analysis and selected three initial I/I reduction project areas (2007-2009).

- In 2009, the Decennial Flow Monitoring (DFM) Project began. A total of 235 flow monitoring units including 223 portable area-velocity flow meters and 12 pump station meters were installed in the separated portion of WTD's service area. Flow data was collected over a two wet-season period from September 2009 through early-to-mid 2011. Data from the Decennial Flow Monitoring project will provide the information necessary to check and revise several planning assumptions for conveyance system projects slated for construction over the next 40 years. The final data will also be used for project design and be available to component agencies for their use in planning and design
- The current King County I/I program activities include analysis of results from Skyway I/I control project. Analysis of the effectiveness of the Skyway I/I reduction project will be complete in late 2013. The analysis will test the cost-effectiveness of I/I reduction and the potential to offset the need for a larger conveyance or storage facility. The results of this analysis will be used to develop recommendations to the King County Council regarding long-term I/I reduction controls, including applicable changes to policy or code.

The District will review the conclusions and recommendations from King County's I/I program, amd determine how the results may be applicable to the District's system.

ODOR CONTROL

As areas within the District become more populated, lift stations are increasingly being built in residential areas. In addition, neighborhoods are encroaching on old lift station sites. Lift stations are known as a source of unpleasant odors, and the task for agencies is to eliminate odors in present and future lift stations. In planning for odor control, three basic strategies exist:

- Minimize the production of odorous compounds
- Treat odorous compounds within the liquid phase
- Contain and treat foul air

These strategies are all aimed at reducing the amount of hydrogen sulfide in the sewage. Hydrogen sulfide is the main odorous compound, as well as a major source of corrosion. When sewage sits for long periods of time, hydrogen sulfide concentrations tend to increase. The odors are generally more prevalent during the summer months when flows are at their lowest. A by-product of hydrogen sulfide gas is sulfuric acid. By reducing the amount of sulfuric acid in the system, corrosion of materials within the conveyance system can be reduced. This reduction can extend the useful life of the system.

Other compounds that need to be addressed are other sulfides such as disulfide, amines, aldehydes, ketones and various organic acids. The unpleasantness of a particular odor is directly related to its concentration in the air and our sensitivity to it. Some compounds are irritating at concentrations of a few parts per billion, while others may not be irritating until concentrations reach hundreds of parts per million.

Minimizing the Production of Odorous Compounds

Minimizing the turbulence of wastewater reduces the off-gassing of odorous compounds. Turbulence can be reduced by using variable-speed pumping, which keeps the water level in the wet well close to that of the invert elevation of the inlet pipe. Another method to reduce turbulence is to lower the invert elevation of the pipe to the low water level of the well, even though the crown may be submerged part of the time.

Wet wells should be sized to minimize stagnation and the settling of solids. Wet wells should also be cleaned a minimum of four times a year to prevent the buildup of solids and grease. Keeping the wells clean prevents slime layers from building and producing hydrogen sulfide. Also, as the amount of solids in the wet well build, the water becomes more anoxic and allows more sulfide-producing bacteria to grow.

Manholes at the outlets of force mains should have smooth channels that minimize turbulence.

Treating Odorous Compounds in the Liquid Phase

In the liquid phase, several methods can be used to treat the wastewater. The first is the addition of chemicals to the water. Sodium hydroxide, commonly called caustic soda, can be added to the water to raise the pH level. The higher pH level of the water inhibits the formation of hydrogen sulfide gas by allowing the water to keep more hydrogen sulfide in the solution. Precipitants, such as ferrous or ferric chloride, can also be added to precipitate sulfide out of the water. Chlorine gas, liquid or tablets, may be added to the wastewater to kill bacteria, thereby reducing the amount of hydrogen sulfide produced. The major drawback of these forms of treatment is the need for careful monitoring and storage of the chemicals used in the process.

Air and oxygen injection is another form of liquid phase treatment. This involves pumping air or high purity oxygen through a diffuser and into the water. This aerobic conditioning boosts the oxygen concentration in the water, allowing for the breakdown of organic materials and the inhibition of hydrogen sulfide. The drawback for this form of treatment is that the diffuser tends to easily clog with debris. High purity oxygen diffusers are typically used at treatment plants where the wastewater has been screened to remove materials that could easily clog the diffuser.

Finally, bacterial additives can be used. Specialized bacteria that do not produce any irritating by-products can be added in either liquid or powder form to out-compete the hydrogen sulfide producing bacteria in the well. Bioxide® is a liquid bacterial treatment that oxidizes hydrogen sulfide and other reduced sulfur compounds as part of their metabolism. The District began installing Bioxide® facilities at lift stations throughout the area in 1997. This form of treatment requires adequate detention time and must be applied on a daily basis. The District also periodically shock treats portions of its conveyance system with caustic soda.

Containing and Treating Foul Air

The most common type of air treatment is bulk media biofiltration. This method works by absorbing odorants onto the surface of organic material and biologically oxidizing the odorous compounds over time via micro-organisms that live on the media surfaces. Biofilters can be built in boxes or built in-ground with vertical air discharges at the bed surface and typically consist of a layer of gravel and then a layer of sand to help the air diffuse throughout the bed. PVC pipe is typically ensconced in the sand to form the filter media. On top of this base, either an organic or inorganic media is applied that contains bacteria to metabolize the sulfide in the air as the air filters through the media. Beds utilizing organic media such as wood chips and loamy soil usually need to be replaced every three to four years as the media consolidates and the surface area inside is reduced. Non-organic media, which does not appreciably consolidate, can last 20 years or more before replacement is necessary.

In places where odor concentrations are low, activated carbon or potassium permanganate may be used to treat the air. If odors are high, the adsorptive material tends to become exhausted quickly. Removal of the spent material tends to be problematic.

The District uses activated carbon air scrubbing systems as well as liquid phase odor control measures at several of its lift stations.

INDUSTRIAL WASTEWATER DISCHARGERS

Table 5.5 lists all of the establishments producing industrial wastewater discharging into the District's sewer system.

Table 5.5 Establishments Producing Industrial Wastewater

Company Name	Location	Permitted Volume in GPD	Comments
Covington Water District	26420 Witte Road SE	600	Potable Water Treatment Plan
ExxonMobil Oil	3100 Benson Road South	700	Groundwater Remediation – Petroleum
Lake Meridian Estates	Lake Meridian Estates	No Volume	General (Type of Operation)
Covington Multicare Clinic	17700 SE 272nd	No Volume	Hospital
Friendly Wash LLC	19044 – 108th Avenue SE	No Volume	Vehicle Washing

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CHAPTER 6
SEWERAGE SYSTEM ANALYSIS

INTRODUCTION

An integral part of the comprehensive planning process is a thorough hydraulic analysis of the sewage system facilities. This chapter provides an understanding of how the District's system was analyzed. The chapter concludes with a listing of system deficiencies found for existing and future conditions.

The purpose of the hydraulic analysis is to evaluate the ability of the existing system to effectively transport wastewater through the District to adjacent jurisdictions' sewer systems in accordance with the District's Policies, Criteria, and Standards, as described in **Chapter 3**. The results of this analysis are then used to identify deficiencies in the existing system, as well as improvements required to resolve those deficiencies. The analysis was performed for current conditions, as well as conditions anticipated in 10-years, 20-years, and for ultimate build-out. The hydraulic analysis was used to identify the projects included in the Capital Facility Plan (**Chapter 7**).

MODEL DEVELOPMENT

The existing sewerage facilities were evaluated for hydraulic capacity using the MOUSE computer model software, by DHI. Existing system data, including new sewer main and lift station data, was collected and input into the model. The model was then used to predict future flows and capacity problems to model proposed solutions and to check for appropriateness of pipe and pump sizing.

Recently, DHI has developed a newer modeling software program, called MIKE URBAN, to perform hydraulic analysis of sewer systems. This program operates using essentially the same modeling engine as MOUSE, but includes improved and enhanced functionality. DHI is no longer updating or supporting the MOUSE software, so for future analysis it will be necessary to convert the existing hydraulic model to the current MIKE URBAN software or to a new modeling software package.

The model was previously calibrated with the following methodology: During the winter of 2000/2001 and 2001/2002, the King County Department of Natural Resources and Parks Wastewater Treatment Division collected significant amounts of flow monitoring data as part of its Regional Infiltration/Inflow Control Program. The County also collected rainfall data and used Calamar radar technology to distribute the precipitation data across the entire County. The District used the data collected by King County and referenced in the County's Wet Weather Technical Memorandum dated June 2002 to calibrate its model. By using actual flow monitoring data, the District was able to develop a model that accurately reflects actual conditions within its sewerage system.

Adjustments were made to the model calibration for the current (2012) model using updated area and population assignments and using flow monitoring and rain gauge data collected between the summer of 2009 and spring of 2011 by King County as part of the County's decennial flow monitoring program. The calibrated model was then used to predict future flows, as described later in this chapter. After the model of the existing sewerage system had been calibrated, the next step was to run the model for a storm event with a 20-year recurrence interval for the existing conditions, the 10-year, 20-year and ultimate build-out scenarios. After running the model simulations, the results from each scenario were analyzed for system deficiencies.

METHOD OF ANALYSIS

Model Physical Data and Assumptions

The sewerage system represented in the model includes the major pipes and lift stations in the system. This skeletonized model includes pipes with a diameter equal to or larger than 10 inches, with a few exceptions. Local systems with smaller pipe are assumed to be designed to adequately handle the flow. The model also incorporates the majority of the District's lift stations. Only a few lift stations with minor discharge rates were not specifically modeled. However, flow from these stations was included in the gravity flow projections of the sewer conveyance systems downstream of the lift stations.

Physical data was used to construct the model whenever possible. In instances where physical data was not available, assumptions about the existing system had to be made. These assumptions were based on knowledge of the District and engineering judgment. For the construction of the physical model, the following assumptions were made:

- Pipes constructed prior to 1980 that did not have the material type specified were assumed to be smooth concrete.
- Pipes constructed after 1980 that did not have the material type specified were assumed to be plastic (PVC).
- Inverted siphon pipes were included in the model, with nodes at major bends or cleanout vaults, as necessary.
- Manholes that did not have a diameter specified were assumed to have a diameter of 4 feet.
- All lift stations considered to pump substantial flow were included in the skeletonized model. Pump curves, on/off elevations, and wet well volume information were obtained from District construction records and input for each lift station facility. Lift stations with flow considered to be negligible were not included in the model.
- For two of the King County mini basins which were identified by the County as having high rates of I/I, the model contains the entire network of pipes and manholes in each basin.

Model Flow Development

Current and future population assignments for each mini basin were input into the model based on the population forecasts for the District sewer basins. The District is comprised of 22 sewer basins. These basins were delineated based on existing topography and the conveyance patterns of the existing sewerage system. Population information for each sewer basin can be found in **Chapter 4**. Existing population assignments were based on the 2012 populations for the District sewer basins. For the 10-year, 20-year and ultimate build-out scenarios, the forecasted population was assigned to each sewer basin in the same way it was applied in the existing condition scenario. To obtain a uniform distribution of sanitary flow in the model, the appropriate amount of sanitary flow was injected into each manhole in the sewer basin, resulting from the population assignments to the manholes.

Meteorological Data

The MOUSE model required precipitation and evaporation data to generate I/I potential. The county developed sewer basin specific precipitation time series as part of the its Regional Infiltration/Inflow Control Program by using Calamar radar to identify the varying precipitation patterns between rain gauges and factoring the gauge data accordingly. This precipitation was developed for selected rainstorms and combined with local rain gauge data, resulting in a precipitation data set for each monitoring basin, covering the same period of time the County flow monitors were in place. The District used this data and information to generate the storms that would be run through the model to predict future flows. Evaporation data was obtained from the historical Puyallup pan evaporation data record and input to the model. A standard pan evaporation factor of 0.75 was applied to the data.

Calibration

Sanitary flow calibration consists of two primary elements: the total flow produced by one person over a 24-hour (diurnal) period and the definition of how that flow fluctuates over the same period. This information, combined with the previously discussed population and employment data, was used to calibrate each mini basin for sanitary sewage flows for the model analysis performed for the 2005 Sewer Comprehensive plan.

The first step in the calibration process was to determine the dry day flow for each mini basin. A dry day is defined as a day during which prior rains have minimal influence on the flow. On dry days, flow is comprised of two components, sanitary flow and base infiltration and inflow (I/I). Sanitary flow is wastewater that has been generated by the ratepayers of the District. Base I/I is related to groundwater and is generally present, even on dry days, and remains relatively steady over weeks and months. The dry day flow data was then averaged together to come up with an Average Dry Day Flow (ADDF) for each mini basin.

The average sanitary flow of each mini basin was divided by the current population of the mini basin to obtain the average per capita flow. Composite diurnal curves were developed for each mini basin.

Once the calibration process for sanitary flows was complete, a second calibration related to the hydrologic response to rainfall was performed. The purpose of this second calibration was to add the flow produced by rainfall dependent I/I.

The rainfall dependent I/I consists of three components. The first component includes information regarding the existing soils, groundwater, groundcover, and topographic conditions of each mini basin. The second component controls the amount of I/I that actually enters the system at each catchment location. This is expressed in the model as a percentage of infiltration and a percentage of inflow “potential”, simulated by the hydrologic component of the MOUSE model. The third component is the precipitation and evaporation data for the two years leading up to and including the storm event being modeled. Once the information input was complete, the MOUSE model was run to generate the rainfall dependent I/I. After this step was completed, the rainfall dependent I/I was added to the dry day flows and checked against the flow monitoring data. If the generated curves did not match the flow monitoring data, the three components of the rainfall dependent I/I were modified and the process was repeated.

This iterative process was completed when the flow produced by the model matched the flow monitoring data. The model was then considered to be fully calibrated and ready to analyze the sewage system.

For the current (2012) Sewer Comprehensive Plan model, more accurate information was available to determine the sewered area. Methodology was also improved to estimate populations within each sewer basin that are served by the existing sewer system. Since the original calibration was performed with different population and area data, certain rainfall-dependent I/I parameters and per capita flow rates were changed in the model to be consistent with the flow outputs in the calibrated model.

New catchments added to the current model were not assigned any rainfall dependent I/I parameters. Instead, to mimic I/I flows, each was assigned a uniform area-dependent flow rate ranging from 500 to 1,100 gallons per acre per day, depending on the drainage basin where the catchments were located.

The flow produced by I/I will typically increase over time as the pipes and appurtenances age. In order to account for these increased amounts of I/I, the I/I was increased by seven percent per decade from the calibrated 2003 model, per King County's methodology.

In order to verify that the model has been updated correctly to reflect growth and changes in the District's sewer system, the model was checked against sewer flow monitoring data collected by King County from the summer of 2009 through the spring of 2011 at 16 locations throughout the District. Rain gauge data was collected for the same period, and simulations were performed using that rain gauge data. The results were compared to the flow monitoring data and further adjustments were made to the I/I parameters in an attempt to get the model to closely match the measured conditions.

During the analysis it was determined that the sanitary sewage component of the wastewater flows generated from potable water disposal is significantly less than the impact of I&I, in general and certainly during peak wet weather events. Reductions to the sewage entering the system by water conservation measures most certainly results in conveying and treating less sewage than without conservation. While water conservation will result in less sewage generated by both existing and future customers, the impact of the reduction to the District's facilities is, in most cases, much less significant than I&I when analyzing the system and determining Capital Facility Project elements or considering modifications to their Operation and Maintenance Plans.

The capacity analysis was performed using the unit 20-year storm event developed for the 2005 Sewer Comprehensive Plan and the hydraulic model calibrated in 2012.

Existing Conditions

The following system deficiencies were found during the model simulation for the existing condition. Four deficiencies warrant further investigation and potential upgrade. The rest of the deficiencies do not warrant immediate system upgrades, but should be subject to visual monitoring during and immediately following periods of heavy rainfall. The deficiencies are summarized as follows:

1. Minor surcharging occurs upstream of existing siphon located on 228th Avenue SE near the intersection of SE 277th Place. Surcharging is related to Lift Station 36 discharge. No corrective action is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.

2. Very minor surcharging occurs upstream of Lift Station 31 due to the operational function of the lift station. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended. Inflows to this lift station are not likely to increase significantly, and the surcharging is resolved in the 20-year model because Lift Station 31 should be removed from service by that time.
3. Minor Surcharging occurs upstream of Lift Station 38 due to reverse pipe slope. The replacement of approximately 500 feet of existing 18-inch pipe with new sewer main is recommended. This may also be addressed in the short term through visual monitoring during periods of heavy rainfall.
4. Extensive surcharging could occur at Lift Station 12 during a 20-year storm event. To alleviate this surcharging, the capacity of the lift station will need to be increased from 800 gpm to 1,300 gpm. Additional impeller changes may be required in the future due to projected growth. Installation of a flow monitor upstream of the lift station is recommended prior to design of any improvements to verify incoming flows.
5. Piping located in SE Carr Road at the intersection with 108th Avenue SE shows minor, short duration surcharging. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
6. Piping located in S 192nd Street and SR 167 intersections and the S 55th Street (192nd Avenue) and 96th Avenue S intersection shows minor, short duration surcharging. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
7. The gravity sewer main near 108th Avenue SE shows extended duration surcharging during large storms due to the discharge from Lift Station 5B into the western force main. Due to construction considerations in upsizing these facilities, it is recommended that the total flows to the western force main be restricted to approximately 1,200 gpm, and that approximately 9,200 linear feet of existing 8-inch and 10-inch pipe in the north force main be upsized to 18-inches to accommodate the additional flows. Installation of a flow monitor at the outfall of the west force main to verify peak flows is recommended prior to the design of any improvements.
8. Due to discharge from Lift Station 5B and other gravity flows, the pipes on 123rd/126th Avenue SE between the force main outfall and the Cedar River Pipeline show extended duration surcharging. The replacement of approximately 3,075 feet of existing 15-inch, 18-inch, 21-inch, and 24-inch gravity pipe with new 18-inch, 24-inch, and 30-inch trunk sewer is recommended. Installation of flow monitors at the outfall of the north force main and in the Cascade Interceptor Sewer at the District boundary to verify peak flows is recommended prior to design of any improvements.
9. Piping near SE 204th Street and 23rd Court SE is experiencing extended duration, minor surcharging during large storms due to discharge from Lift Station 9. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
10. Minor surcharging is shown in the gravity system upstream of Lift Station 11A during large storms. This surcharging location is downstream of the Lift Station 28B discharge, and future flows will be reduced with the diversion of those tributary flows to the future Lift Station 46.
11. The gravity sewer system on Witte Road, south of SE 254th Place intersection demonstrates minor, short duration surcharging. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.

12. The section of the Lake Wilderness Interceptor on 225th Avenue SE, south of SE 268th Street shows minor, short duration surcharging. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
13. The gravity sewer main and southwest of SE 283rd Place at 231st Place SE shows minor, extended duration surcharging during large storms. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.

10-Year Scenario

For the 10-year (2022) scenario, the forecasted population data was incorporated with the established per capita flow rates for each calibrated sewer basin to determine future sanitary flows. As in the existing condition, future populations were assigned to each sewer basin. Substantial effort was made to determine areas of population growth and future development, and future population and area was distributed accordingly in the model for the 10-year, 20-year, and ultimate build out scenarios.

In the 10-year scenario, the following major assumptions were made:

- Sewage flow rate from Black Diamond was set at the projected peak inflow of 4.6 MGD, modeled as a constant flow rate.
- Increases in sanitary flows were due to increased residential and employment populations.
- Per capita flow rates and diurnal curves did not change from existing calibrated conditions.
- Increased I/I by 7 percent per decade.
- Lift Station 11B replaced Lift Station 11 in the model.
- Lift Station 46 was added.
- Lift Station 28B was removed from service with the addition of new gravity sewer to Lift Station 46.
- Lift Station 24B was removed from service with the addition of new gravity sewer.
- A new 18-inch force main, parallel to the two existing force mains, was added downstream of Lift Station 10B to increase capacity (see **Chapter 7** for sizing recommendations for future force main).
- All recommended improvements described in the results of the Existing Conditions Model were applied to the model.
- The Summit Place property (also known as the Donut Hole) and the area known as the Northern Notch, are outside of the UGA, and were not included in the projected flows for this analysis, or the other future conditions scenarios. If annexation does occur, these areas will be reviewed and analysis will be performed to determine their impact on the existing sewer system and to determine any necessary upgrades.

The MOUSE model was analyzed with the information entered for the 10-year conditions and generated the following deficiencies:

1. Minor surcharging will occur upstream of the existing siphon located on 228th Avenue SE near the intersection of SE 277th Place. The surcharging is related to Lift Station 36 discharge. No corrective action is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
2. Piping located on 125th Avenue SE south of SE 168th Street will experience minor surcharging due to undersized pipe and I/I. Visual monitoring during periods of heavy rainfall is recommended.
3. Piping located in SE Carr Road near the intersection with 108th Avenue SE will experience minor, short duration surcharging. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
4. Piping located on 108th Avenue SE north of SE 180th Place will experience minor, short duration surcharging. No upgrade is proposed at this time. Visual monitoring during periods of heavy flow is recommended.
5. Piping near SE 204th Street and 23rd Court SE will experience extended duration, minor surcharging during large storms due to discharge from Lift Station 9. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
6. Minor surcharging will occur on 159th Avenue SE north of 156th Avenue SE and east of 159th Avenue SE due to increased population and I/I. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended. This sewer system is downstream of the Lift Station 45 force main outfall, so the surcharging will be eliminated once the lift station is removed from service.
7. Minor surcharging will occur in the piping just upstream of Lift Station 14 to the north due to increase population and I/I. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
8. The gravity sewer main in and southwest of SE 283rd Place at 230th Place SE and east of 228th Avenue SE will experience moderate, extended duration surcharging during large storms. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
9. The section of the Lake Wilderness Interceptor on 225th Avenue SE, south of SE 268th Street will experience minor, short duration surcharging. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
10. The section of the Lake Wilderness Interceptor on SE 268th Street and 228th Ave SE, east of 225th Avenue SE, will experiencing minor short term surcharging due to increased population and I/I. No upgrades are proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
11. Moderate short duration surcharging will occur in the gravity sewer on Witte Road, west of the Lake Wilderness Golf Course. No upgrades are proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
12. Piping located in S 192nd Street and SR 167 intersection, and in SE 192nd Street and 96th Avenue South intersection will experience minor, short duration surcharging. No upgrades are proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
13. Extensive surcharging will occur at Lift Station 10B during a 20-year storm event. To alleviate this surcharging, a new Lift Station 10C will need to be constructed to divert a portion of the tributary flows from Lift Station 10B. A new sewer force main will also need to be constructed to convey the additional flows, as described in further detail in **Chapter 7.**

14. The existing Lift Station 11 force main does not have the capacity to convey the projected flows from the Black Diamond Trunk Line, and will result in extensive surcharging at Lift Station 11B. It is recommended that 1,150 linear feet of existing sewer force main be upsized to 18- inch pipe. Depending on the rate of growth in Black Diamond, the entire Lift Station 11B force main will eventually need to be upsized to 30-inch diameter, including the SE 256th Street conveyance system from the Lift Station 11B force main connection through Lift Station 10B. The north force main in SE 256th Street would remain in place.
15. Extensive surcharging will occur at Lift Station 38 during a 20-year storm event. To alleviate this surcharging, the capacity of the lift station will need to be increased from 2,000 gpm to 2,800 gpm, which can be accomplished through replacement of pumps and motors.

20-Year Scenario

For the 20-year (2032) scenario, the forecasted population data was further increased from the 10-year model. As in the existing condition and 10-year scenario, future populations were assigned to each sewer basin. I/I was increased by seven percent per decade, resulting in a 14 percent increase from the existing condition for the 20-year scenario.

In the 20-year scenario, the following assumptions were made:

- Sewage inflow rate from Black Diamond was set at the projected peak inflow of 5.2 MGD, modeled as a constant flow rate.
- Increases in sanitary flows were due to increased residential and employment populations.
- Per capita flow rates and diurnal curves did not change from existing calibrated conditions.
- Increased I/I by 7 percent per decade, for a total of 14 percent increase.
- The existing 12-inch portion of the Lift Station 5B north force main between SE Petrovitsky Road and the force main outfall was upsized to 18-inch diameter.
- Lift Station 20 was removed from service.
- The proposed Lift Station 45 Interceptor was added and Lift Station 31 and Lift Station 45 were removed from service.
- The existing Lift Station 11 force main and SE 256th Street Conveyance System through Lift Station 10B were upsized to 30-inch diameter force main.
- Lift Station 10C was added, with a pumping capacity modeled at 12,000 gpm. The existing Clark Fork and Meridian trunk sewers were diverted from Lift Station 10B to Lift Station 10C. The Lift Station was modeled to discharge to the proposed force main which was added downstream of Lift Station 10B for the 10-year scenario. The force main was modeled as 21-inch diameter in the model.
- All recommended improvements described in the results of the 10-year model were applied to the model.

The MOUSE model was run with the information entered for the 20-year conditions and generated the following deficiencies:

1. Minor surcharging will occur upstream of the existing siphon located on 228th Avenue SE near the intersection of SE 277th Place. The surcharging is related to Lift Station 36 discharge. No corrective action is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
2. Piping located on 125th Avenue SE, south of SE 168th Street will experience moderate surcharging due to undersized pipe and I/I. It is recommended that approximately 1,600 linear feet of existing 12-inch gravity sewer main be upsized to 15-inch diameter.
3. Piping located in SE Carr Road near the intersection of 108th Avenue SE will experience minor, short duration surcharging. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
4. Piping located on 108th Avenue SE north of SE 180th Place will experience minor, short duration surcharging. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
5. Piping near SE 204th Street and 23rd Court SE will experience extended duration, minor surcharging during large storms due to discharge from Lift Station 9. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
6. Minor surcharging will occur in the piping just upstream of Lift Station 14 to the north due to increased population and I/I. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
7. The gravity sewer main in and southwest of SE 283rd Place at 230th Place SE and east of 228th Avenue SE will experience moderate, extended duration surcharging during large storms. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
8. The section of the Lake Wilderness Interceptor in 225th Avenue SE, south of SE 268th Street could experience significant surcharging due to projected population growth in the sewer tributary area to the interceptor sewer. Due to the difficulty of this construction and the unknown nature of future improvements (such as upstream septic systems converting to sewer connections), no upgrade is proposed at this time. Visual monitoring during periods of heavy flow is recommended. Installation of a flow monitor is also recommended, and should be coordinated with flow monitoring upstream of Lift Station 36, which discharges to the gravity system upstream of the Lake Wilderness Interceptor.
9. The section of the Lake Wilderness Interceptor in SE 268th Street and 228th Avenue SE, east of 225th Avenue SE will experience major surcharging due to projected population growth in the sewer tributary area to the interceptor sewer. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended, in addition to the installation of a flow monitor.
10. Moderate, short duration surcharging will occur in the gravity sewer on Witte Road, west of the Lake Wilderness Golf Course. Replacement of approximately 4,625 linear feet of existing 12-inch and 15-inch gravity sewer main with 18-inch pipe is recommended. Installation of a flow monitor is recommended prior to the design of any improvements to verify peak flows.
11. Piping located in S 192nd Street and SR 167 intersection and the SE 192nd Street and 96th Avenue S intersection will experience minor, short duration surcharging. No upgrades are proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.

12. Short-term surcharging will occur in the piping downstream of the Lift Station 32 discharge. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
13. The existing 10-inch gravity sewer mains along the north and south shorelines of Pipe Lake will experience minor surcharging due to projected growth and increased infiltration and inflow. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
14. Surcharging will occur in the proposed Lift Station 12 Upgrade during a 20-year storm event. To alleviate this surcharging, the capacity of the proposed lift station will need to be increased from 1,300 gpm to 1,600 gpm with impeller changes.
15. Very minor surcharging will occur upstream of Lift Station 5B. No upgrades are proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
16. Surcharging will occur in Lift Station 36 during a 20-year storm event. To alleviate this surcharging, the capacity of the lift station will need to be increased from 800 gpm to 1,100 gpm with impeller changes. Installation of a flow monitor upstream of the lift station is recommended prior to upsizing to verify incoming peak flow rates.

Ultimate Build-Out Scenario

The sanitary flows for the ultimate build-out scenario were calculated with the general assumption that each sewer basin would be at maximum population density based on current zoning designations. Population projections in a few locations were scaled down in the model, since the calculated values far exceeded the planning projections and were determined to be unrealistic. The flow projections also assume that all properties currently operating on septic systems will be required to connect to the sewer system in the future. Forecasted population data for the ultimate build-out scenario was incorporated with the established per capita flow rates for each calibrated sewer basin to determine sanitary flows for the ultimate build-out scenario.

The amount of I/I was increased by seven percent per decade for four decades, resulting in a 28% maximum increase for the ultimate build-out scenario, per King County's methodology. In addition to the increased I/I, the areas of the basins located along the perimeter of the existing service area were increased to the limits of the proposed service area.

In the ultimate buildout scenario, the following assumptions were made in addition to (or replacing) those made for the year 2022 and 2032 conditions:

- Sewage inflow rate from Black Diamond was set at the projected peak inflow of 6.2 MGD, modeled as a constant flow rate.
- 28% increase from existing condition in rainfall dependent and base I/I.
- Service area was expanded to include the District's entire proposed service area.
- All recommended improvements described in the results of the 20-year model were applied to the ultimate model.

The following system deficiencies were found in the model run for the ultimate build-out scenario:

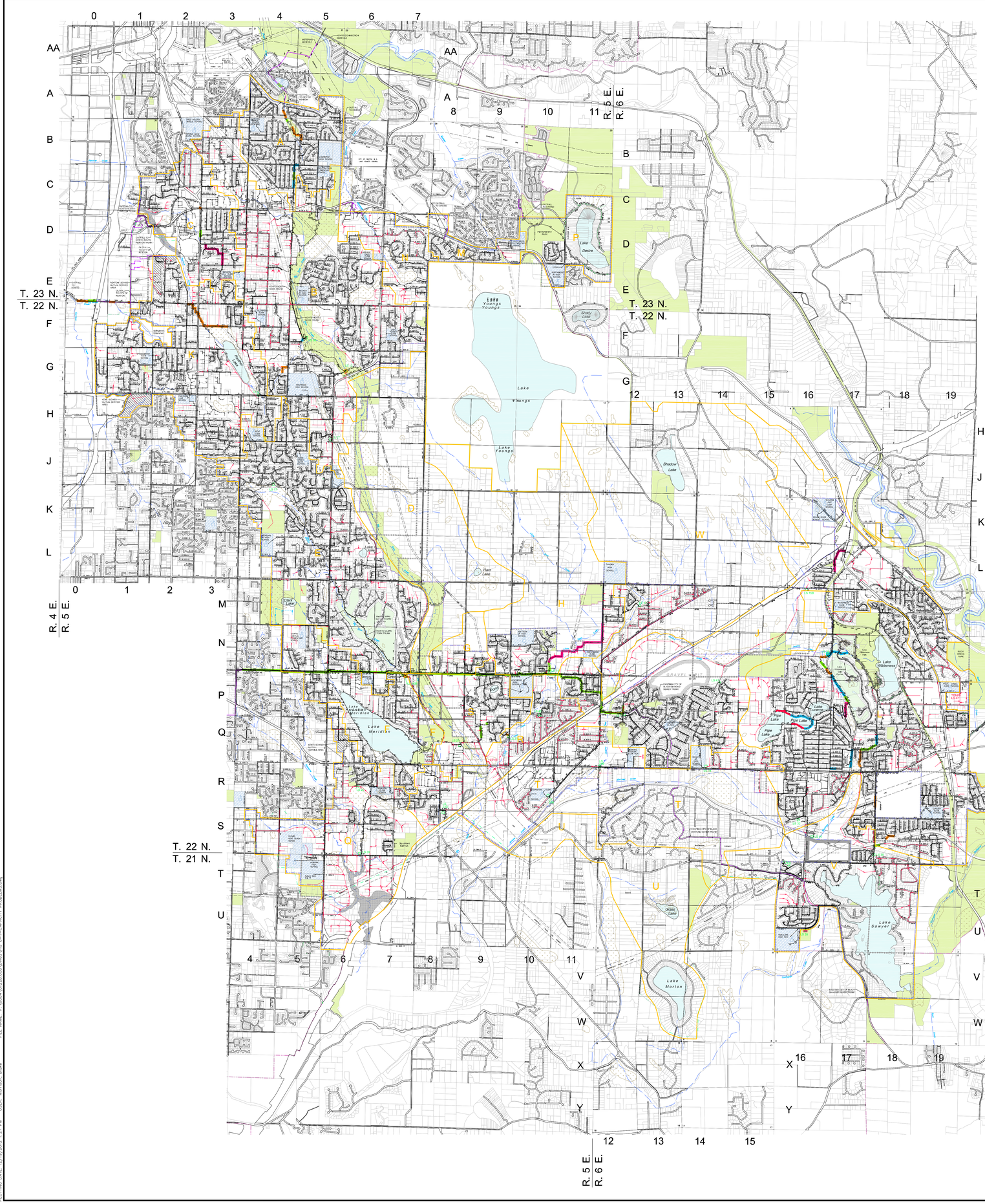
1. Minor surcharging will occur upstream of the existing siphon located on 228th Avenue SE near the intersection of SE 277th Place. The surcharging is related to Lift Station 36 discharge. No corrective action is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
2. Piping located on 108th Avenue SE between Carr Road and 182nd SE Avenue will experience major surcharging due to population growth and I/I. This would occur largely because of a section of 8-inch pipe which was installed at minimum grade, which creates a bottleneck for the upstream system. Replacement of approximately 150 linear feet of existing 8-inch sewer main with 12-inch sewer main is recommended. Visual monitoring during periods of heavy flow is recommended, and installation of a flow monitor to verify peak flows is recommended prior to the design of any improvements.
3. Piping on SE 183rd Place and 112th Avenue SE, south of SE 182nd Street will experience minor surcharging due to projected population growth and I/I. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
4. Piping near SE 204th Street and 23rd Court SE will experience extended duration, minor surcharging during large storms due to discharge from Lift Station 9. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
5. Major surcharging will occur in the piping upstream of Lift Station 14 due to projected population growth and I/I. Replacement of approximately 5,570 linear feet of existing 8-inch sewer main with 12-inch sewer main is recommended (unless other future improvements divert sewage inflow from the station).
6. The gravity sewer main in and southwest of SE 283rd Place at 230th Place SE and east of 228th Avenue SE will experience moderate extended duration surcharging during large storms. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
7. The section of the Lake Wilderness Interceptor on 225th Avenue SE, south of SE 268th Street could experience significant surcharging due to projected population growth in the sewer tributary area to the interceptor sewer. No upgrade is proposed at this time, due to the uncertainties associated with the upstream growth and difficulty of replacement at this location. Visual monitoring during periods of heavy rainfall is recommended, in addition to the installation of a flow monitor, as indicated in the 20-year improvements.
8. The section of the Lake Wilderness Interceptor on SE 268th Street and 228th Avenue SE east of 225th Avenue SE could experience significant surcharging due to projected population growth tributary to the interceptor sewer. No upgrade is proposed at this time, due to the uncertainties associated with the upstream growth and difficulty of replacement at this location. Visual monitoring during periods of heavy rainfall is recommended, in addition to installation of a flow monitor, as indicated in the 20-year improvements.
9. Piping located in S 192nd Street and SR 167 intersection and in SE 192nd Street and 96th Avenue S intersection will experience minor surcharging. No upgrades are proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
10. Short-term surcharging will occur in the piping downstream of the Lift Station 32 discharge. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
11. The existing 10-inch pipe along the north and south shorelines of Pipe Lake will experience moderate surcharging due to projected growth and increased infiltration and inflow. No upgrade is proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.

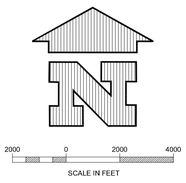
12. Minor surcharging will occur in the gravity system upstream of Lift Station 5B. No upgrades are proposed at this time. Visual monitoring during periods of heavy flow is recommended.
13. Minor surcharging will occur in the existing gravity system upstream of Lift Station 15B during a 20-year storm. No upgrades are proposed at this time. Visual monitoring during periods of heavy rainfall is recommended.
14. Significant surcharging of the wet well in Lift Station 10B will occur due to projected population increases and increasing I/I. Based on the modeled inflows, it is recommended that Lift Station 10C be sized to convey approximately 12,000 GPM for ultimate conditions. The sewer force main will need to be 30-inch diameter to convey this pumping rate.

Figure 6.1 shows all capacity issues identified in the existing, 10-year, 20-year, and ultimate build-out model scenarios. Proposed improvements are identified in **Chapter 7**. Locations with typically less significant capacity issues, where no improvements are proposed, are included on the list of monitoring projects.

SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN

FIGURE 6.1
SEWER SYSTEM
HYDRAULICS ANALYSIS
CAPACITY PROBLEMS





LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- SEWER DRAINAGE BASIN
- B — SEWER DRAINAGE BASIN DESIGNATION
- URBAN GROWTH AREA BOUNDARY
- EXISTING GRAVITY FACILITIES
- EXISTING FORCE MAIN FACILITIES
- EXISTING LOW PRESSURE FACILITIES
- EXISTING SEWER BY ADJACENT PURVEYORS
- EXISTING SEWER BY METRO
- EXISTING LIFT STATION
- FUTURE GRAVITY FACILITIES
- FUTURE LOW PRESSURE FACILITIES
- CAPACITY ISSUES - 2012 MODEL
- CAPACITY ISSUES - 2022 MODEL
- CAPACITY ISSUES - 2032 MODEL
- CAPACITY ISSUES - ULTIMATE MODEL
- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

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CHAPTER 7
CAPITAL FACILITY PLAN

INTRODUCTION

This chapter describes the improvements necessary for meeting the District's future sewerage system needs. The improvements have been prioritized for the short-term (next ten years) and the long-term (through ultimate buildout). Planned system improvements are primarily based on the District's policies and criteria described in **Chapter 3** and the system analysis described in **Chapter 6**.

It should be noted that the specific needs of the sewer system must be evaluated on an ongoing basis. Significant thought has gone into the analysis of improvements in order to select the most cost-effective plan of action that meets the District's future needs. However, as growth and land use patterns are likely to vary from neighborhood to neighborhood over the planning period, the size and timing of necessary projects may differ from the recommendations in the program. Additional facility requirements should be identified as part of ongoing facility planning efforts.

RECOMMENDED PROJECTS

The recommended improvements within this section focus on upgrading the existing system to meet the District's policies and criteria. The recommended improvements also include any facilities necessary to provide the level of service required by the DOE, King County, and other agencies.

All recommended projects belong to one of two categories, pipe replacements/upgrades or lift station replacement/upgrades. Each recommended project also belongs to one of two priority classifications, either short-term or long-term. Short-term projects are expected to be constructed within the next ten years. Recommended projects that are not expected to be constructed during the next ten years are classified as long-term projects.
Each recommended project has been assigned an identification number. Pipe replacement/upgrade projects are listed in **Table 7.1**. Lift Station projects are listed in **Table 7.2**. In addition, the projects are shown in **Figures 7.1** through **7.24**. The identification numbers identify the map grid where the project is located. For example, a pipe project identified as F4-5 can be found in **Figure 7.7** as the pipe coded (5) in grid F4.

Table 7.1 also provides a preliminary opinion of probable cost for each recommended project based on July 2012 dollars. Typically, these cost projections are for the total cost of the project including design and construction. The methodology used to estimate the costs in this plan is described in further detail in the following section.

The figures also include future schematic improvements to provide an adequate sewer conveyance system within the existing and future service areas. These projects are not identified specifically in the Capital Facility Plan, as the timing and extent of future development cannot be predicted with certainty. These planned improvements should provide adequate conveyance within the study area in

accordance with recent land use policies and current zoning. The future system is schematic only, especially in areas not yet developed, where the figures display general alignments and service/flow directions. Proposed piping and facilities may change configuration as development occurs and as land use policies change. These future improvements are meant as a guide to planning for providing service.

COST ESTIMATE METHODOLOGY

The planning-level cost estimates prepared as part of the Capital Facility Plan are provided for guidance in project evaluation, funding and implementation. The project cost estimates are presented in July 2012 dollars and are based on the Seattle Construction Cost Index of 9075.0 from the Engineering News Record. These estimates are approximately average costs for similar types of projects but generally do not take into account individual variables related to particular projects that can significantly affect costs. For example, a project in close proximity to a wetland may have an above-average cost because of the cost associated with protecting the wetland. Likewise, a project located in a seldom used private road may have a lower than average cost because of the reduced need for traffic control. For this reason, it is recommended that a "project-specific" estimate of probable construction cost be prepared prior to initiating any specific project in order to include these unaccounted for variables. Additionally, capital costs estimated for the various projects should be adjusted to account for inflation rates applicable to the proposed design and construction schedules. As a result, final project costs will vary from the planning-level costs projected herein.

Construction costs for projects within the Capital Facility Plan were estimated by:

- Researching average pipe costs from other jurisdictions and cost estimating guides and then adjusting those cost to July 2012 dollars in order to estimate the probable base construction cost of each project. The probable base construction cost only includes construction labor and materials.
- Probable allied costs include estimated planning, permitting, surveying, design and legal costs, construction administration and observation, preparation of construction record drawings and sales tax, and were generally assumed to be 40 percent of the estimated base construction cost. The allied construction costs were adjusted as needed to include project specific costs such as costs for geotechnical exploration, land acquisition, etc., if any such costs were specifically identified as being necessary.
- Total project costs are the sum of the probable base construction costs and probable allied costs.

Costs for the piping projects are presented in **Table 7.1**, and the lift station projects are presented in **Table 7.2**.

Pipe Installations/Replacements/Upgrades

Q9-1: Lift Station 46 Force Main

From the new LS46 (Lift Station project Q9-1), the sewage will be pumped through a new force main that will be installed along 156th Place SE to approximately SE 268th Street, then westward along existing easements and discharge to a point in the District's Meridian Trunk. A total of approximately 3,820 lineal feet of 12-inch diameter force main will be installed for this project. This includes a crossing at Big Soos Creek along the same alignment as the existing gravity sewer main for LS21. These sewer mains will be located on a combination of City of Covington right-of-way and existing easements. The LS21 Gravity Sewer Diversion (project Q9-2), LS28B Interceptor (project S10-3) and the LS46 Force Main project are key elements to the overall LS46 regional strategy for addressing the District's conveyance system needs in the southeast portion of the District and the City of Covington's Town Center. This is a short-term project with a probable project cost of approximately $2,006,000 — see **Figure 7.19.**

Q9-2: Lift Station 46 Gravity Sewer – North (Lift Station 21 Diversion)

A new gravity sewer diversion pipeline will be installed to divert a substantial portion of the wastewater flow currently going to existing LS21 to the new LS46 (see Lift Station project Q9-1). The 12-inch gravity sewer will extend from about SE 268th Street southerly along 156th Place SE to just north of the intersection with SE 272nd Street, approximately 1,360 lineal feet. This will provide relief at the existing LS21, which is presently operating at or near full capacity and cannot be easily upgraded due to site constraints. By reducing the inflow to this facility, the useful life of the station will be prolonged and will lessen required O&M measures needed in the future. This is a short-term project with a probable project cost of approximately $805,000, see **Figure 7.19**.

S10-3: Lift Station 46 Gravity Sewer – South (Lift Station 28B Interceptor)

A new gravity sewer will be installed to redirect sewage flows currently going to existing LS28B to the new LS46 (see Lift Station project Q9-1), and will serve new development southwest of Covington Way. Approximately 6,150 lineal feet of new 18-inch gravity sewer will extend to the southwest on SE Wax Road from LS28B, and then northwest on Covington Way to 168th Place SE, where it will leave the roadway and travel though easements on private property and cross under State Route 18 and beneath SE 272nd Street before discharging to LS46. This is a short-term project with a probable project cost of approximately $9,550,000, see **Figure 7.19**.

R6-4: Lift Station 20 Interceptor

Sewage generated by the northerly portion of Basin Q is currently served by LS20 and conveyed to the north through a 10-inch force main. At some point in the future, the District plans to install approximately 1,000 feet of 10-inch or 12-inch gravity main that would connect the piping upstream of LS20 to the existing 12-inch gravity line located southwest of Horizon Elementary School. The purpose of this project is to eliminate the operation and maintenance costs associated with LS20, rather than to remedy a deficiency in the existing system. This project is located in an existing wetland buffer. Due to the topography and the elevations of the existing system, open cutting within the buff-

er will be required during construction. This is a short-term project with a probable project cost of approximately $434,000, see **Figure 7.18**.

F4-5: Lift Station 5B North Force Main Improvements – Phase 1

The gravity system downstream of the LS5B west force main experiences extended duration surcharging in the existing and future models. Downstream improvements to the west would be extremely difficult and expensive due to magnitude, topography, and sensitive area. In order to divert flows to the north, the District will need to upsize the existing north force main. Phase 1 of the project would include upsizing approximately 7,100 LF of 8-inch and 10-inch pipe to 18-inch force main between SE 196th Street and SE Petrovitsky Road to direct LS5B flows to the north and reduce flows to the west. This would include construction at the boundary of existing wetlands, and may include the replacement of some existing force main near the lift station. This project would also include decreasing the diameter of approximately 130 LF of pipe in LS5B West Force Main to 6-inches to reduce capacity in the force main. Phase 2 (project No C4-12) will upsize existing 12-inch pipe from Petrovitsky Road to the force main outfall at SE 165th Street/126th Avenue SE to 18-inch pipe. Increased flows to the north will require improvements to the downstream gravity system, which are included in the Cascade Interceptor Upgrade (project A4-6 and project A4-7). This is a short-term project with a probable project cost of approximately $3,281,000 (see **Figures 7.4** and **7.7**).

A4-6: Cascade Interceptor Upgrade

Portions of the Cascade Interceptor between SE 156th Street and the District Boundary (Cedar River Pipeline) would surcharge during the twenty-year storm. This surcharging will increase with future population growth and increasing infiltration and inflow. The District is also proposing to route more sewage from LS5B through its north force main (see projects F4-5 and C4-12). This project will upsize approximately 325 lineal feet of 15-inch pipe to 18-inch pipe, upsize approximately 1,050 lineal feet of 15-inch and 18-inch pipe to 24-inch pipe, and upsize 1,700 lineal feet of 21-inch and 24-inch pipe to 30-inch pipe to collect increased discharge from the LS5B north force main and increased gravity flows. Improvements will also be required in sections of the Cascade Interceptor maintained by the City of Renton (see project A4-7). This is a short-term project with a probable project cost of approximately $1,779,000, see **Figure 7.2**.

A4-7: Cascade Interceptor Upgrade (City Of Renton)

Portions of the Cascade Interceptor near Glenwood Avenue could surcharge when the District upgrades its LS5B north force main (see projects F4-5 and C4-12). In order to convey the increasing flows, this project will upsize approximately 920 lineal feet of 21-inch pipe to 24-inch pipe and upsize approximately 2,610 lineal feet of 24-inch pipe to 30-inch pipe. Improvements will also be required in sections of the Cascade Interceptor within the District Boundary (see project A4-6). This is a short-term project with a probable project cost of approximately $2,111,000. The District's cost will be in accordance with the 1964 Agreement with the City of Renton. The District anticipates, per the agreement, it will be required to fund approximately $1,690,000. See **Figure 7.2**.

P12-8: Lift Station 11B Force Main Bottleneck Upgrade

This project will involve upsizing approximately 1,150 lineal feet of existing 14-inch force main to 18-inch pipe. This will remove a bottleneck from the existing LS11 force main and add capacity over the short term. In conjunction with the force main improvements, the siphon on SE 265th Street will need to be opened to allow for additional capacity. This will require addition of air-phase odor control facilities at the force main discharge to the siphon main, which will be included in the project. Additional flows from Black Diamond will require construction of a new 30-inch force main to replace the existing one as a separate project (see project N11-17). This is a short-term project with a probable project cost of approximately $1,657,000. See **Figure 7.15**.

N16-10: Witte Road SE Main Upgrade – Phase A

Two existing segments of reverse slope pipe near LS38 experience surcharging during the 20-year storm event. To alleviate this surcharging, these two segments of existing 18-inch pipe will be replaced with new 18-inch pipe with modified inverts that allow for gravity flow. Extended surcharging also occurs upstream of LS38, primarily along Witte Road SE, during the 20-year storm event. This project is broken into two phases. Phase A includes the replacement of approximately 500 feet of existing 18-inch pipe with new 18-inch main at a positive slope. Phase A is a short-term project with a probable project cost of approximately $237,000, see **Figure 7.16**. Phase B includes the replacement of 12-inch and 15-mains with new 18-inch main and is a long term project (see project P17-19).

N7-11: Lift Station 10C Force Main

Since the existing dual 18-inch force mains serving LS10B will not have the capacity to convey flows from the future LS10C, a new 30-inch equivalent force main will need to be constructed. The force main will extend from the proposed lift station to the west along SE 256th Street. The route shown in the figure is approximate, and the location of the connection to King County sewers has not been determined. It is estimated that the proposed force main may be up to 15,500 feet in length. The force main could also be constructed prior to LS10C to provide additional capacity to LS10B in the interim, which could delay the need for LS10C. This is identified as a short-term project with a probable project cost of approximately $8,680,000 (see **Figures 7.13** and **7.18**).

C4-12: Lift Station 5B North Force Main Improvements – Phase 2

The gravity system downstream of the LS5B west force main experiences extended duration surcharging in the existing and future models. Downstream improvements to the west would be extremely difficult and expensive due to topography and sensitive areas. To divert flows to the north, the District will need to upsize the existing north force main. Phase 1 is described in project F4-5. Phase 2 will upsize approximately 3,700 lineal feet of 12-inch force main from Petrovitsky Road to the force main outfall at SE 165th Street/126th Avenue SE to 18-inch diameter force main. Increased flows to the north will require improvements to the downstream gravity system, which are included in projects A4-6 and A4-7. This is identified as a long-term project with a probable project cost of approximately $1,532,000 (see **Figures 7.2** and **7.4**).

C5-14: 125th Avenue SE Main Upgrade

Significant surcharging occurs during the 20-year storm event in the gravity system in the 20-year (2032) scenario. Surcharging begins at the intersection of 125th Avenue SE and SE 172nd Street, continues north along 125th Avenue SE, and ends at the intersection of 126th Place SE and SE 168th Street. The proposed improvement will alleviate this surcharging and includes the replacement of approximately 1,600 feet of existing 12-inch concrete pipe that was installed in the late 1950's with new 15-inch PVC main. This is identified as a long-term project with a probable project cost of approximately $609,000, see **Figure 7.4**.

M12-15: Lift Station 43 Interceptor

The northeast portion of Basin H is currently served by LS43. Installation of approximately 7,000 LF of 12-inch and 15-inch sewer from LS43 to LS11, including the replacement of approximately 790 of existing 8-inch sewer with 12-inch main, would allow for the removal of LS43 from service. A portion of this project may be constructed with developer extensions. This route includes a crossing under State Route 18, and is contingent upon development of the Covington Notch area. This is identified as a long-term project with a probable project cost of approximately $4,284,000, see **Figure 7.15**.

N11-16: Little Soos Creek Main Upgrade

Basin W and the northeast portion of Basin H are currently served by an 8-inch gravity main, which will not be large enough to convey projected flows in the ultimate condition. The proposed improvements will upsize approximately 5,570 lineal of existing 8-inch gravity sewer to 12-inch pipe to convey projected flows. If flows from LS43 are diverted (see project M12-15), this project may not be necessary. This is identified as a long-term project with a probable project cost of approximately $2,027,000, see **Figure 7.14**.

P11-17: Lift Station 11B Force Main/SE 256th Street Conveyance System Upgrade

The District will construct approximately 15,000 lineal feet of 30-inch equivalent force main from LS11B to LS10B/10C. The existing conveyance system does not have the capacity for projected flows. Timing of this project is contingent upon the level of development in Black Diamond. This is identified as a long-term project with a probable project cost of approximately $8,400,000, see **Figures 7.13, 7.14** and **7.15**.

Q7-18: Meridian Trunk Line Upgrade

The proposed improvement will replace the existing 24-inch concrete Meridian Trunk line from SE 272nd Street to just upstream of LS10B with approximately 7,600 lineal of 30-inch pipe to convey projected flows for ultimate conditions. The Trunk line will also be nearing the end of its service life at that time. This is identified as a long-term project with a probable project cost of approximately $4,132,000 (see **Figures 7.13**, **7.14**, **7.18** and **7.19**).

P17-19: Witte Road SE Main Upgrade – Phase B

Extended surcharging occurs upstream of LS38, primarily along Witte Road SE, during the 20-year storm event. This project is divided into two phases. Phase A is a short term project that includes the replacement of the existing reverse slope 18-inch pipe (see project P17-10). Phase B includes the replacement approximately 4,625 feet of existing 12-inch and 15-inch pipe with new 18-inch main. This is a long-term project with a probable project cost of approximately $2,023,000, see **Figure 7.16**.

Q9-20: Lift Station 45 Interceptor

The LS45 Interceptor is the ultimate solution proposed for interception of LS45 and involves the construction of approximately 5,900 lineal feet of 15 inch sewer, which will be served by the proposed LS46 (Lift Station project Q9-1), at an approximate cost of $2,350,000, see **Figures 7.14** and **7.19**. Connection to the existing dry gravity sewer downstream of LS31 and abandonment of LS31 and LS45 are included. Construction of this project is contingent upon future development along the proposed alignments. Portions of the interceptor may be constructed through developer extensions.

P10-21: Lift Station 14 Interceptor

Sewage generated by Basin H and Basin W is currently served by LS14 and conveyed via a 10-inch force main to the south, where it connects to two parallel 18-inch force mains, which also serve LS11 and LS15B. In order to remove LS14 from service, the District would need to install approximately 1,500 feet of 15-inch gravity main that would connect the piping upstream of LS14 to the existing 15-inch gravity line at the north end of the Wingfield development. The purpose of this project is to eliminate the operation and maintenance costs associated with LS14, rather than to remedy a deficiency in the existing system. This project is located in an existing wetland buffer and would include crossing SE 256th Street, which contains a dense utility corridor. Since a portion of the 15-inch sewer is currently tributary to LS45, which does not have the capacity to pump additional flows from the LS14 service area, the project is contingent upon construction of the LS45 Interceptor (Project R9-20). This is a long-term project with a probable project cost of approximately $1,190,000, see **Figure 7.14**.

C2-22: Carr Road and 108th Avenue SE Main Upgrade

Significant surcharging occurs during the 20-year storm event under ultimate buildout conditions in the gravity system. Surcharging would begin at the intersection of Carr Road and 108th Avenue SE and runs southward along 108th Avenue SE. This surcharging would occur upstream of a section of 8-inch pipe which was installed at minimum grade. The proposed improvement will alleviate this bottleneck and includes the replacement of approximately 150 feet of existing 8-inch pipe with new 12-inch PVC main. This is identified as a long-term project with a probable project cost of approximately $125,000, see **Figure 7.3**.

Table 7.1 - Capital Facility Plan for Pipeline Installation/Replacement/Upgrade

Project No./ Figure	Location	Existing Pipe Type	Existing Diameter	Proposed Pipe Type	Proposed Diameter	Length	Opinion of Probable Cost Short-term	Opinion of Probable Cost Long-term
Pipe Replacement/Upgrades								
Q9-1/ Fig.7.19	LS46 Force Main	N/A	N/A	PVC	12”	3,820	$2,006,000	
Q9-2/ Fig.7.19	LS46 Gravity Sewer – North (LS21 Diversion)	N/A	N/A	PVC	12”	1,360	$805,000	
S10-3/ Fig.7.19	LS46 Gravity Sewer – South (LS28B Interceptor)	N/A	N/A	PVC/DI	18”	6,150	$9,550,000	
R6-4/ Fig.7.18	LS20 Interceptor	N/A	N/A	PVC	10” or 12”	1,000	$434,000	
F4-5/ Fig.7.4,7.7	LS5B North Force Main Improvements – Phase 1	AC/ Conc	8” and 10”	PVC	18”	7,100	$3,281,000	
A4-6, / Fig.7.2	Cascade Interceptor Upgrade	DI/ PVC	15”, 18”, 21” and 24”	PVC/DI	18”, 24”, and 30”	3,075	$1,779,000	
A4-7/ Fig.7.2	Cascade Interceptor Upgrade (City of Renton)	PVC	21” and 24”	PVC	24” and 30”	3,530	$1,690,000 (80% of total costs)	
P12-8/ Fig.7.15	LS11B Force Main Bottleneck Upgrade	DI	14”	DI	18”	1,150	$1,657,000	

* **July 2012 Dollars**

Table 7.1 - Capital Facility Plan for Pipeline Installation/Replacement/Upgrade

Project No./ Figure	Location	Existing Pipe Type	Existing Diameter	Proposed Pipe Type	Proposed Diameter	Length	Opinion of Probable Cost Short-term	Opinion of Probable Cost Long-term
N16-10/ Fig.7.16	Witte Road SE Main Upgrade – Phase A	PVC	18"	PVC	18"	500	$237,000	
N7-11/ Fig.7.13, 7.18	LS10C Force Main	N/A	N/A	PVC	30”	15,500	$8,680,000	
C4-12/ Fig.7.2,7.4	LS5B North Force Main Improvements – Phase 2	PVC	12”	PVC	18”	3,700		$1,532,000
C5-14/ Fig. 7.4	125th Avenue SE Main Upgrade	CONC	12"	PVC	15"	1,600		$609,000
M12-15/ Fig. 7.15	LS43 Interceptor	N/A PVC	N/A 8”	PVC	12” and 15”	7,000		$4,284,000
N11-16/ Fig. 7.14	Little Soos Creek Main Upgrade	CONC	8”	PVC	12”	5,570		$2,027,000
P11-17/ Fig.7.13, 7.14,7.15	LS11B Force Main/ SE 256th Street Conveyance System Upgrade	PVC/DI	14”, 16”, & 18”	PVC/DI	30”	15,000		$8,400,000
Q7-18/ Figs.7.13, 7.14, 7.18, 7.19	Meridian Trunk Line Upgrade	CONC	24”	PVC	30”	7.600		$4,132,000

*** July 2012 Dollars**

Table 7.1 - Capital Facility Plan for Pipeline Installation/Replacement/Upgrade

Project No./ Figure	Location	Existing Pipe Type	Existing Diameter	Proposed Pipe Type	Proposed Diameter	Length	Opinion of Probable Cost Short-term	Opinion of Probable Cost Long-term
P17-19/ Fig.7.16	Witte Road SE Main Upgrade – Phase B	PVC	12" and 15"	PVC	18"	4,625		$2,023,000
Q9-20/ Fig.7.14,7.19	LS45 Interceptor	N/A	N/A	PVC	15"	5,900		$2,350,000
P10-21/ Fig. 7.14	LS14 Interceptor	N/A	N/A	PVC	15"	1,500		$1,190,000
C2-22/ Fig.7.3	Carr Road and 108th Avenue SE Main Upgrade	CONC	8"	PVC	12"	150		$125,000
TOTAL FOR PIPE REPLACEMENT/UPGRADES							$30,119,000	$26,672,000

* **July 2012 Dollars**

Lift Station Additions/Abandonments/Upgrades

Q9-1A: Lift Station 46

The proposed LS46 and force main (see pipe installation project Q9-1) will be designed and constructed to address the wastewater conveyance needs in the City of Covington area. A portion of this area is presently served by LS28B, and additional areas are served by LS24B and LS21. When completed, LS46, its force main, and the two new gravity sewers (see pipe installation projects Q9-2 and S10-3) will provide service to the Town Center area of Covington, and will permit the District to remove LS28B and LS24B from service. In addition, this action will relieve LS21 capacity issues by intercepting a significant portion of the tributary sewage, and also allow LS31 and LS45 to eventually be removed from service (see pipe installation project R9-20). The completion of these projects will also permit the District to make further strategic modifications to its wastewater conveyance system in areas beyond Covington in the future. LS46 will be constructed at the intersection of 156th Place SE and SE 272nd Street. It will have a pumping capacity of approximately 1,000 GPM, and will be designed with consideration for future capacity upgrades to 2,400 GPM. This is a short-term project with a probable project cost of approximately $6,000,000, see **Figure 7.19**.

R12-2: Lift Station 24B Abandonment

SE 272nd Street will be widened near the intersection of SE Wax Road, which will require the removal of LS24B. This will be accomplished by installing approximately 500 feet of 15-inch diameter gravity pipe across Jenkins Creek and tying into the existing system at a manhole located west of the lift station on SE 272nd Street. The street project is currently in the design phase and will be constructed within the next five years. This is a short-term project with a probable project cost of approximately $913,000. This cost is relatively high due to significant groundwater in this area. An adjacent pipeline had to be installed by scuba divers due to the groundwater conditions and the slope must be very flat in order to tie into the existing downstream system, see **Figure 7.20**.

G6-3: Lift Station 12 Upgrade

Sewage generated within the easterly half of Basin B drains to existing LS12. Under current conditions, a 20-year storm event could cause extensive surcharging, which will increase with projected growth and higher inflow and infiltration. To alleviate the surcharging, the pumping capacity of LS12 will be increased from 800 gpm to 1,300 gpm. The lift station should be designed to pump 1,600 GPM under ultimate development conditions. The increasing amount of surcharging in future conditions model is likely a result of the assumption that inflow and infiltration will increase at a rate of 7 percent per decade (up to 28 percent maximum). If the actual inflow and infiltration increases at a lower rate, this project may be delayed. The existing pumps and motors will be replaced with new pumps and motors that are capable of producing the increased pumping rates. The station currently has an electrical plug for a portable generator connection; this upgrade should include an electrical evaluation to determine if a permanent generator should be installed. This is a short-term project with a probable project cost of approximately $513,000, see **Figure 7.7**.

N7-4: Lift Station 10C Addition

Due to projected population increases and I/I, projected inflows to LS10B will begin to exceed its pumping capacity of 10,000 GPM. Since LS10B is constructed adjacent to a wetland, and cannot easily be expanded, a new LS10C will be constructed on the original LS10 site. A portion of the flows that are currently directed to LS10B will be diverted to LS10C, which will be required to pump approximately 12,000 GPM under ultimate conditions. The existing SE 256th Street conveyance system does not have the capacity for the projected flows, so a new force main will be constructed from LS10C to the King County trunk line. This is a short-term project with a probable project cost of approximately $20,000,000, see **Figure 7.13**.

P19-5: Lift Station 47 Addition

The proposed Lift Station 47 and force main will be designed and constructed to serve the proposed Arbors at Rock Creek subdivision and other future development. The Lift Station will have a pumping capacity of approximately 140 GPM . The District will share cost of construction with the developer. This is a short-term project, with the District's portion of the cost being approximately $325,000, see **Figure 7.16.**

Table 7.2 - Lift Station Abandonment/Upgrades

Basin/ Figure	Location	Pipe Type	Existing Pumping Capacity (gpm)	Proposed Pumping Capacity (gpm)	Opinion of Probable Cost Short-term
Q9-1A/ Fig.7.19	LS46	N/A	N/A	1,000/ 2,400	$6,000,000
Q11-2, Q12-2/ Fig.7.20	LS24B Abandonment	N/A	500	0	$913,000
G6-3/ Fig.7.7	LS12 Upgrade	N/A	800	1,300/ 1,600	$513,000
N7-4/ Fig.7.13	LS10C	N/A	N/A	12,000	$20,000,000
P19-5/ Fig.7.16	LS47	N/A	N/A	140	$325,000
TOTALS FOR LIFT STATION ABANDONMENT/UPGRADES					$27,751,000

General Facilities

GF-1 – Maintenance Facility

The District intends to develop the parcel adjacent to the District Headquarters with a maintenance building capable of housing the District's large equipment, with drive-through bays for the District's dump truck, backhoe and vactor truck. The building will also include wash-down facilities for the vehicles and storage space. This facility will serve as an emergency headquarters for the District and will be fully contained to include personnel housing quarters, full commercial kitchen, and emergency food and medical supplies. The total cost for this short-term project is estimated to be $1,900,000. This cost will be divided between the water and sewer capital facility plans, with $1,300,000 included in the sewer plan.

GF-2 – SCADA Upgrade

The District intends to upgrade its existing telemetry system. The current system, which was installed in 1999, uses digital radio transceivers to transmit data. This will be replaced with cellular technology, at a cost of $375,000. This is a short-term project.

Table 7.3 - General Facilities

Basin	Figure	Location	Opinion of Probable Cost Short-term
GF-1	7-4	Maintenance Facility	$1,300,000
GF-2	N/A	SCADA Upgrade	$375,000
TOTAL GENERAL FACILTIES			$1,675,000

Summary of Capital Facility Plan Costs

The following **Table 7.4** summarizes the total Capital Facility Plan costs.

Table 7.4 - Summary of Capital Facility Plan

	Opinion of Probable Costs Short-term	Opinion of Probable Cost Long-term
Total for Pipe Replacement/Upgrades	$30,119,000	$26,672,000
Total for Lift Station Abandonment/Upgrades	$27,751,000	
Total for General Facilities	$1,675,000	
TOTAL CAPITAL FACILITY PLAN	$59,545,000	$26,672,000

General Improvements

Odor Control Program

The District is experimenting with chemical addition to its sewage to control odors related to long detention times. Odors are a problem mainly during hot summer weather when the flows are lower due to little rain and low ground water tables. As a result, sewage detention times increase and sewage quality deteriorates. King County requires the District to provide liquid phase odor control to the sewage prior to its delivery to King County's sewerage system. The District has currently identified Bioxide and caustic soda as acceptable methods of odor control.

Currently, the District uses Bioxide to provide liquid phase odor control at several lift stations. Bioxide is a proprietary process which controls hydrogen sulfide odors and corrosion through a biological process. This biological process creates an environment in which certain naturally occurring bacteria thrive and use dissolved gas as part of their metabolism. The District has realized that some of the force mains traverse such a long distance and the duration times are so long that Bioxide is not always an effective odor control option. The District has used shock doses of caustic soda to address these situations and is currently in the process of researching other alternatives that would provide system-wide odor control in the future.

The District is committed to providing solutions to odor control related issues. LS10B and LS15B include air-phase and liquid-phase odor control measures. The air-phase odor control eliminates odors located in the immediate vicinity of the lift station. The liquid-phase odor control injects odor reducing chemicals into either the wet well or the force main, primarily benefitting the downstream system. LS11B is currently under construction, and will include air and liquid phase odor control measures.

The SE 256th Street conveyance system contains two parallel force mains. Under current operating conditions, the flows from both force mains are routed into the south force main east of the siphon under Big Soos Creek to reduce odor control issues, with only local flows being routed through the north pipe to the siphon. Due to increasing projected flows, the District will need to operate both force mains (including the siphon) at full capacity. In order to alleviate the odor control issues that will arise, it is recommended that the District install air-phase odor control facilities on the north force main upstream of the existing siphon.

Infiltration/Inflow Reduction Program

The District has implemented an Infiltration and Inflow reduction program for several years. This program's goal is to reduce or eliminate inflow and infiltration within the District's system. As part of this program, the District can monitor pump run times throughout the year to establish baseline sewer flows and determine wet weather impacts to its system. In addition, at the District's discretion, District staff will evaluate and repair sources of inflow and infiltration within the District's sewer conveyance system. Smoke testing and video inspections of the sewer mains are performed to detect and disconnect illegal connections to the District's system such as roof downspouts, footing drains, or storm sewers. The smoke testing and video inspections also allow the District to identify leak points within its system where pipes or manholes may have deteriorated, suffered from root intrusions, or been damaged by the construction of other nearby utilities. District staff also seals manhole lids with silicone in areas where stormwater runoff could enter the sewer system during wet weather events.

Concrete Pipe Replacement for Inflow and Infiltration Reduction

The majority of the collection system pipes installed prior to the mid-1970s, particularly the collection system in the northwest portion of the District's service area, is composed of concrete and reinforced concrete. The average service life of concrete pipe is 50 to 60 years. A significant portion of this pipe will likely need replacement within the next 10 to 20 years. Deteriorating pipe conditions contribute to capacity issues within the system due to additional inflow and infiltration. Several of the projects identified earlier in this section are necessary based on King County's methodology of a 28 percent increase in I/I for the ultimate condition. If the ongoing I/I programs by the District are successful, some of the projects may not be necessary or may be reduced in scope. The District's I/I and monitoring programs will evaluate the flows in these pipes to determine when replacement is warranted.

Hydraulic Model Update

The existing hydraulic model for the District's sewer system is operated using MOUSE software, by DHI. DHI has developed a newer program, called MIKE URBAN, to perform hydraulic analysis of sewer systems. This program operates using essentially the same modeling engine as MOUSE, but includes improved and enhanced functionality, and is designed to interface with geographic information system (GIS) data. DHI is no longer updating or supporting the MOUSE software, so it will be necessary to convert the existing hydraulic model to the current MIKE URBAN software or to a modeling software package by another company.

ULID Projects

Portions of Soos Creek Water & Sewer District's sewerage collection system have been constructed through Utility Local Improvement District (ULID) projects. The location and timing of future ULID's is unknown at this time, but this plan anticipates that portions of the future collection system will be constructed using this approach. The future improvements would follow the future sewerage facilities as shown on **Figures 7.1** through **7.24**.

Monitoring Project

The District has developed a plan in areas that are expected to experience low level surcharging in the sewerage system (based on hydraulic analysis or visual observation) will be monitored. This monitoring plan will consist of visual inspections by District staff of the manholes in which the surcharging is demonstrated in the model during periods of heavy flow. The surcharging elevation and duration and any other additional information will be logged and reviewed after each large rainfall event. If District staff notice that either the surcharging elevation or the duration of a particular area is increasing or surcharging more than anticipated, an investigation into the cause of the surcharging and additional analysis would be warranted.

Twenty sites in the sewerage system have been identified as having low level surcharging that should be monitored. For some areas, this monitoring is only necessary for the short-term planning horizon because there is either a project planned for the long-term to correct the surcharging, or the surcharging is alleviated by other upgrades to the system (such as upstream diversion). In other areas, monitoring is necessary for only the long-term planning horizon since the existing system has the capacity to convey existing flows. In these cases, surcharging only occurs in the future, with increased flows due to population growth and increased I/I. Finally, other areas will require monitoring for both the short-term and the long-term planning horizons. These areas have some surcharging in the short-term, which may increase in the long-term planning horizon, but probably not enough to warrant a system upgrade.
Each monitoring site has been assigned an identification number and is listed in **Table 7.5**. The locations are also referenced on **Figures 7.1** through **7.24**.

Table 7.5 - Monitoring Plan

Site No.	Figure/Grid	Location	Description
A-1	7.2/B5	Piping in 126th Avenue SE north of LS5B discharge	Low level surcharging during short-term
A-2	7.2/A4,B4	Cascade Interceptor upgrade	Extended duration surcharging during short-term
B-1	7.7/G4	Piping downstream of LS9 discharge	Minor surcharging likely due to lift station operation during both short-term and long-term
B-2	7.7/F5	Piping upstream of LS5B	Moderate surcharging during very long term
C-1	7.3/D3	Piping in 108th Avenue SE south of Carr Road	Minor surcharging during both short-term and long-term planning horizons
C-2	7.3/D3	Piping in SE 183rd Place south of SE 182nd Street	Minor surcharging during long-term
F-1	7.18/R7	Piping downstream of LS23D discharge	Very minor surcharging during both short-term and long-term
J-1	7.12/L16	Piping upstream of LS15B	Intermittent surcharging during the long-term
K-1	7.6/F0,F2	S 192nd Street between 84th Avenue S and 96th Avenue S	Minor, short duration surcharging during both short-term and long-term
K-2	7.6/H2	Piping near 108th Avenue SE east of 106th Avenue SE/ SE 192nd Street intersection	Minor long duration surcharging during 20-year storm event in short-term
L-1	7.21/Q17	Piping downstream of LS32 discharge	Short-term surcharging during long-term
L-2	7.16/N16	Piping upstream of LS38	Surcharging due to reverse slope piping, monitoring during both short-term and long-term
L-3	7.21/R17	Piping downstream of LS36 discharge	Very minor surcharging due to lift station operation during both short-term and long-term
L-4	7.16/P17	Witte Road SE Main upgrade	Short duration surcharging during both short-term and long-term
L-5	7.21/P18	Lake Wilderness Interceptor between SE 272nd Street and Lake Wilderness Drive	Short duration surcharging during both short-term and long-term
L-6	7.15/P15	Sewer on north and south	Sort duration surcharging during long-

Table 7.5 - Monitoring Plan

Site No.	Figure/Grid	Location	Description
	7.21/Q16	shore line of Pipe Lake	term planning horizon
R-1	7.19/R9	Piping upstream of LS31	Very minor surcharging during the short and long-term
S-1	7.19/Q9	Piping downstream of LS45 discharge in 159th Avenue SE.	Minor surcharging during short-term
V-1	7.21/S18	Piping in and near SE 283rd Place	Minor surcharging during the short and long-term

Flow Monitors

Included in the list of Capital Improvement projects are a number of large, expensive projects that will involve difficult construction conditions and will require significant design and permitting efforts. The necessity for some these projects is based largely on the results of hydraulic modeling, and should be verified with flow monitoring data, both to insure proper sizing of the improvements, and to better determine when the projects will be necessary.

A good strategy might be to install flow monitors for suspected problem areas using a phased approach, rather than installing all of the meters at the same time. This would allow more opportunity for evaluation of the metering to make sure useful and reliable data is being provided.
Installation of flow meters at new locations may potentially be a collaborative effort with King County, with each party sharing information and possibly expenses. Targeted use of flow meters could also help locate areas with higher than normal I&I issues, which could potentially be repaired to avoid downstream piping upsizing and modifications. Flow monitors can be used to verify or refute projected capacity problems, potentially eliminating costly projects or providing confidence that improvements are warranted.

The District will install flow monitors in several locations to verify project requirements and to monitor other critical parts of the sewer system where significant flow increases were projected. Each monitoring location is listed in **Table 7.6**, and is included on **Figures 7.1** through **7.24**. These locations are deemed to be more critical to the future operation of the District's system than the visual monitoring areas listed above in **Table 7.5**.

Table 7.6 Flow Monitor Locations

MH No.	Figure/ Grid	Project/Location	Description
372	7.3/C2	Carr Road and 108th Avenue SE Main Upgrade	Monitor flows for long-term to verify need for project.
292	7.4/A2	LS5B North Force Main Upgrade (Ph.1 and Ph. 2)/Cascade Interceptor Upgrade	Monitor flows in Cascade Interceptor at District boundary for short-term and long-term to verify timing and project requirements.
68	7.2/B-5	LS5B North Force Main Upgrade (Ph.1 and Ph. 2)/Cascade Interceptor Upgrade	Monitor flows at LS5B north force main outfall for short-term and long-term to verify timing and project requirements.
463-8	7.7/F4	LS5B North Force Main Upgrade (Ph. 1)	Monitor flows at LS5B west force main outfall for short-term to verify timing and project requirements.
690-2/ 675	7.7/G6	LS12 Upgrade	Monitor inflows to LS12 for short-term to verify timing and project requirements.
14-8	7.16/N-16	Witte Road SE Main Upgrade	Monitor flows in Witte Road Sewer for long-term to verify timing of project.
464-11	7.16/P18	Lake Wilderness Interceptor/227th Place SE	Monitor flows in Lake Wilderness Interceptor for long-term. Coordinate flow monitoring with that of LS36.
556-5	7.21/Q17	Lake Wilderness Interceptor/225th Avenue SE	Monitor flows in Lake Wilderness Interceptor for long-term. Coordinate flow monitoring with that of LS36.
901-1/ 901-2	7.21/S18	LS36	Monitor inflows to LS36 for long-term planning horizon to verify timing of impeller upgrades.
613-4	7.13/P7	Meridian Trunk Sewer	Monitor inflows to Lift Station for short-term and long-term to verify timing of Lift Station 10C and Meridian Trunk upgrade.

Projects Removed from the 2005 Comprehensive Plan

SE 262nd Street Pipe Replacement

The gravity line which transports sewage to LS11 from areas to the west does not have the capacity to transport future anticipated sewage volumes. The proposed improvement involved the replacement of approximately 1,000 feet of gravity pipe with 12-inch pipe to convey projected flows west of LS11. Now that LS46 will be constructed, which will divert the existing LS28B Service Area from the pipe and eliminate any surcharging, this project has been removed from the District's Capital Facility Plan.

Main Upgrade West of 124th Avenue SE

This proposed project was located in the northwest portion of the District, and included the replacement of approximately 3,500 feet of existing 8-inch and 10-inch pipe with new 12-inch and 15-inch main to alleviate the projected flow rates due to population and I/I increases. Revised population projections for the tributary area for this gravity sewer were significantly lower than those in the 2005 plan, eliminating the capacity concerns, so this project has been removed from the District's Capital Facility Plan.

SR 18 Interceptor

The proposed SR18 Interceptor was a gravity main that would divert flow from the LS15B force main to King County's proposed Pump Station D, and involved the construction of approximately 12,000 feet of 24-inch diameter gravity main and 3,000 feet of 18-inch diameter force main. Pump Station D is no longer expected to be the regional lift station for this area, as the District will provide sewer service within its service area; therefore, this project has been removed from the District's Capital Facility Plan.

S 192nd Street Main Upgrade

This improvement included the replacement of approximately 2,400 lineal feet of existing 18-inch and 24-inch pipe with new 24-inch and 30-inch main to alleviate surcharging along S 192nd Street between 84th Avenue S and SR 167 as well as in the trunk along SR 167 south of S 192nd Street to approximately SE 196th Street. The proposed LS5B North Force Main Upgrade and Cascade Interceptor Upgrade will divert flows from this system and decrease the surcharging in the pipes. Because of this, the project was removed from the District's Capital Facility Plan. However, visual monitoring is still recommended to determine if future upgrades may be necessary.

108th Avenue SE Main Upgrade

The proposed improvement included the replacement of approximately 2,000 feet of existing 15-inch pipe with new 24-inch main in the gravity system near 108th Avenue SE, between SE 196th Street and SE 192nd Street, to transport the anticipated sewage flows during large storms in the ultimate condition. The proposed LS5B North Force Main Upgrade and Cascade Interceptor Upgrade will divert flows from this system and decrease the surcharging in the pipes. Because of this, the project was removed from the District's Capital Facility Plan.

Main Upgrade Upstream of Lift Station 12

The proposed improvement to the piping upstream of LS12 included the replacement of approximately 2,400 feet of existing 10-inch and 12-inch main with new 12-inch and 18-inch main to alleviate extensive surcharging occurring during the 20-year storm in the ultimate condition. Population projections were revised for the current comprehensive plan and adjustments were made to I/I parameters while "truthing" the model calibration. Results showed decreased flows from the projections in the 2005 Comprehensive Plan. Because of this, the project was removed from the District's Capital Facility Plan.

Lift Station 14 Force Main Relocation

As future projected peak flows into LS10B approach 10,000 gpm, consideration was given on how to divert flow away from the station. This project involved diverting flow from LS14 to the SR18 Interceptor and would have required the construction of approximately 1,000 feet of 8-inch force main. Pump Station D is no longer expected to be the regional lift station for this area as the District will provide sewer service within its planning area. Therefore, this project has been removed from the District's Capital Facility Plan. An alternate project called the LS14 Interceptor, which would remove LS14 from service by routing its flows through new and existing sewer to the proposed LS46, is now included.

Lift Station 5B Upgrade

LS12 conveys sewage to a manhole located upstream of LS5B. In order to alleviate surcharging in LS5B caused by increased flows in the ultimate condition, which would be caused by increased pumping capacity in LS12, the pumping capacity of Lift Station 5B was to be increased from 3,500 gpm to 4,000 gpm. The existing pumps and motors would be replaced with new equipment capable of producing the increased flow. This upgrade would also include electrical upgrades and a new generator, and possibly an increase to the wet well storage capacity. The proposed LS5B North Force Main Upgrades will decrease the total dynamic head on the existing pumps and allow LS5B to pump additional flows without an upgrade. Therefore, this project has been removed from the District's Capital Facility Plan.

Lift Station 28B Upgrade

This project proposed that the pumping capacity of Lift Station 28B be increased from 500 gpm to 670 gpm to alleviate the surcharging in the wet well in ultimate conditions. Lift Station 46 and the LS28B Gravity Interceptor are now proposed, which would eliminate Lift Station 28B from service, so this project has been removed from the District's Capital Facility Plan.

Jenkins Creek Trunk

The Jenkins Creek Trunk was the ultimate solution proposed for the interception of LS15B and involved the construction of approximately 15,500 lineal feet of 18-inch and 30-inch gravity sewer

main from LS15B to LS11B. This would have required a major change in the pumping capacity at LS11B, which is currently under construction. Additionally, alternative service concepts such as LS10C have been developed that eliminate the need for this project. Therefore, this project has been removed from the District's Capital Facility Plan

SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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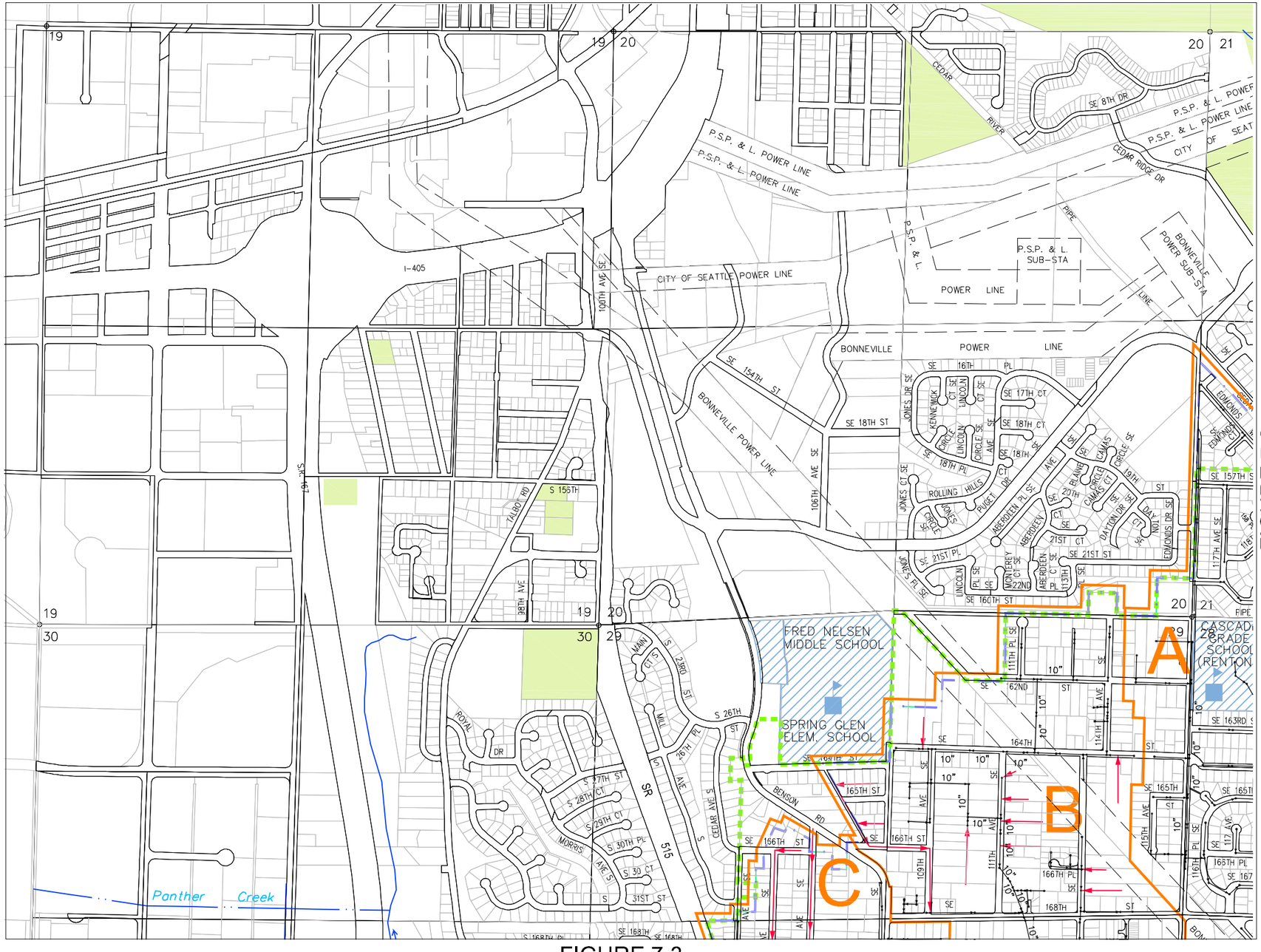


FIGURE 7-3

AA

FIGURE 7-2

A

B

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
- B — DRAINAGE AREA DESIGNATION
- URBAN GROWTH AREA BOUNDARY
- EXISTING GRAVITY FACILITIES
- EXISTING FORCE MAIN FACILITIES
- EXISTING LOW PRESSURE FACILITIES
- EXISTING SEWER BY ADJACENT PURVEYORS
- EXISTING SEWER BY METRO
- EXISTING LIFT STATION
- FUTURE LIFT STATION
- FUTURE GRAVITY FACILITIES
- FUTURE FORCE MAIN FACILITIES
- FUTURE LOW PRESSURE FACILITIES
- 8 — 30" — PIPE FACILITIES TO BE ADDED OR UPGRADED / NEW MAIN SIZE & REFERENCE NO.
- 6 — LIFT STATION FACILITIES TO BE ADDED, UPGRADED OR ABANDONED / REFERENCE NO.
- MH XXX-X — PROPOSED FLOW MONITOR LOCATION
- A-2 — PROPOSED VISUAL MONITORING LOCATION
- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

N

500 0 500 1000
SCALE IN FEET

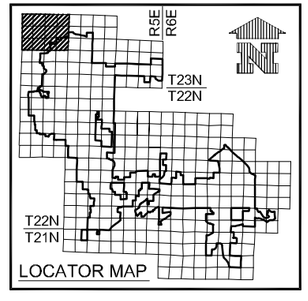


FIGURE 7-1

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

4 5 6 7

AA

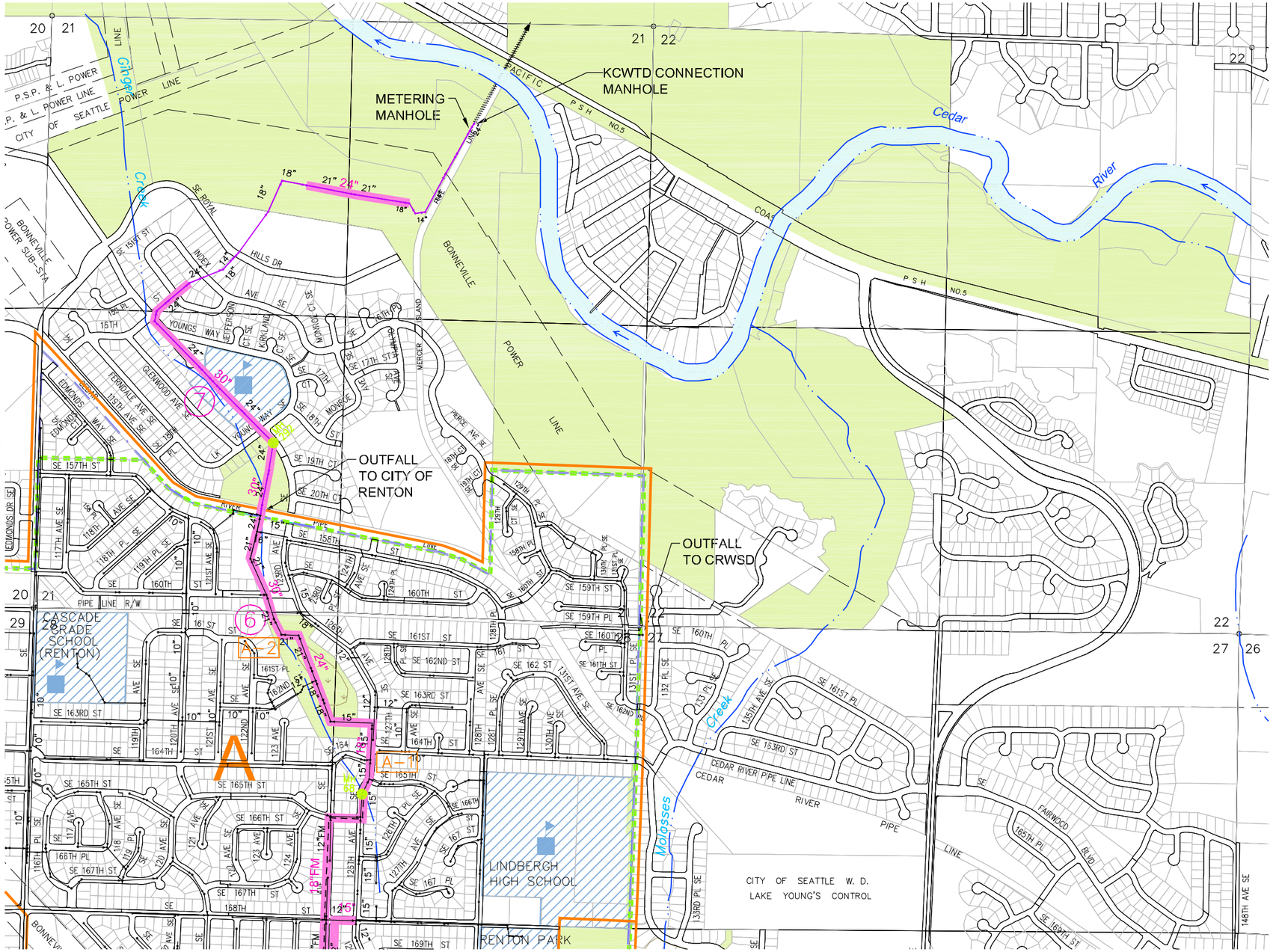
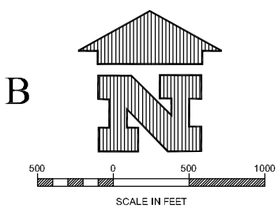


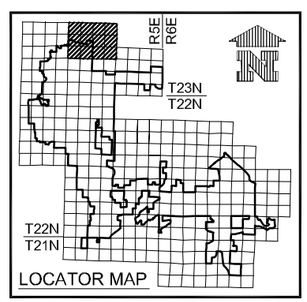
FIGURE 7-4

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
- B — DRAINAGE AREA DESIGNATION
- URBAN GROWTH AREA BOUNDARY
- EXISTING GRAVITY FACILITIES
- EXISTING FORCE MAIN FACILITIES
- EXISTING LOW PRESSURE FACILITIES
- EXISTING SEWER BY ADJACENT PURVEYORS
- EXISTING SEWER BY METRO
- EXISTING LIFT STATION
- FUTURE LIFT STATION
- FUTURE GRAVITY FACILITIES
- FUTURE FORCE MAIN FACILITIES
- FUTURE LOW PRESSURE FACILITIES
- (8) — 30" — PIPE FACILITIES TO BE ADDED OR UPGRADED / NEW MAIN SIZE & REFERENCE NO.
- (6) — LIFT STATION FACILITIES TO BE ADDED, UPGRADED OR ABANDONED / REFERENCE NO.
- A — WH XXX-X — PROPOSED FLOW MONITOR LOCATION
- A-2 — PROPOSED VISUAL MONITORING LOCATION
- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

B





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FIGURE 7-2

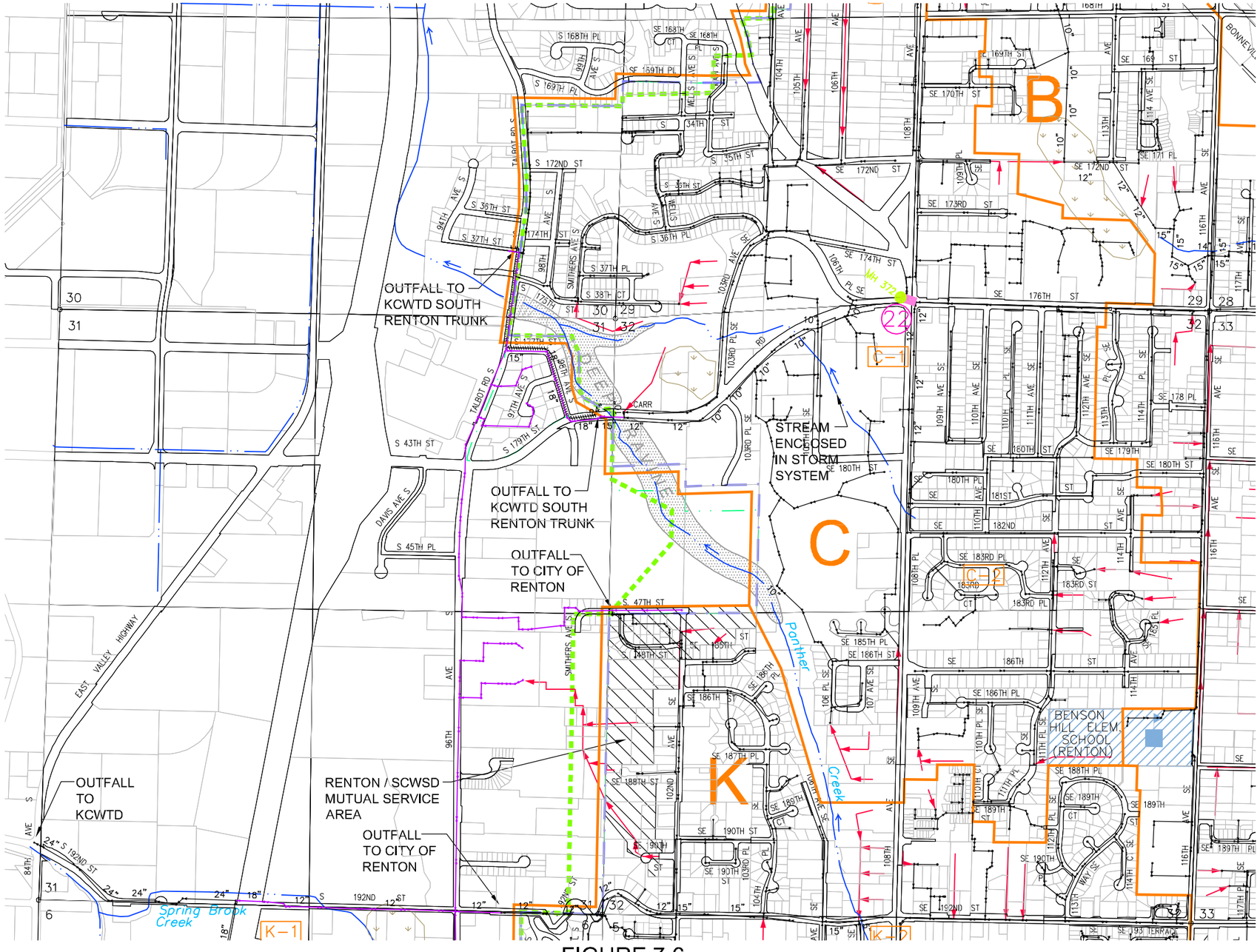
FIGURE 7-1

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

0 1 2 3

FIGURE 7-1


OUTFALL TO KCWTD SOUTH RENTON TRUNK
OUTFALL TO KCWTD SOUTH RENTON TRUNK
OUTFALL TO CITY OF RENTON
OUTFALL TO CITY OF RENTON
OUTFALL TO KCWTD
RENTON / SCWSD MUTUAL SERVICE AREA
STREAM ENCLOSED IN STORM SYSTEM
Panther Creek
Spring Brook Creek
BENSON HILL ELEM. SCHOOL (RENTON)
EAST VALLEY HIGHWAY
TALBOT RD S
S 168TH PL
SE 169TH PL
S 169TH PL
SE 170TH ST
S 172ND ST
SE 172ND ST
S 173RD ST
SE 173RD ST
S 174TH ST
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SE 190TH ST
S 191ST ST
SE 191ST ST
S 192ND ST
SE 192ND ST
S 193 TERRACE
S 43TH ST
S 45TH PL
S 47TH ST
SE 193 TERRACE
SE 178 PL
SE 171 PL
SE 169 ST
SE 180TH PL
SE 183RD PL
SE 185TH PL
SE 186TH PL
SE 187TH PL
SE 188TH PL
SE 189TH PL
SE 190TH PL
SE 191ST PL
SE 192ND PL
SE 193 PL
SE 174TH PL
SE 176TH PL
SE 177TH PL
SE 178TH PL
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SE 173RD ST
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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

4 5 6 7

FIGURE 7-2

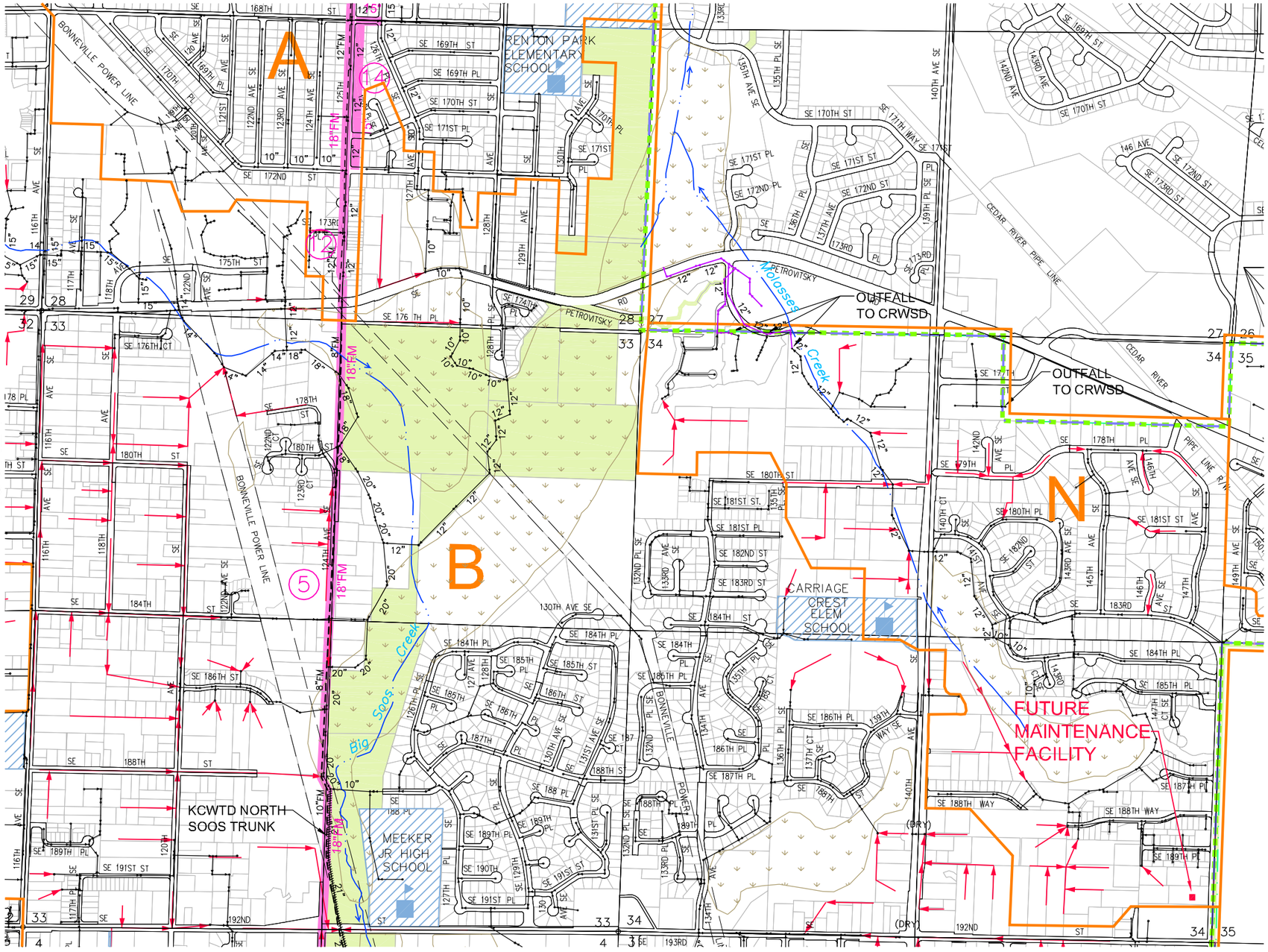


FIGURE 7-3

FIGURE 7-5

FIGURE 7-7

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
- B — DRAINAGE AREA DESIGNATION
- URBAN GROWTH AREA BOUNDARY
- EXISTING GRAVITY FACILITIES
- EXISTING FORCE MAIN FACILITIES
- EXISTING LOW PRESSURE FACILITIES
- EXISTING SEWER BY ADJACENT PURVEYORS
- EXISTING SEWER BY METRO
- EXISTING LIFT STATION
- FUTURE LIFT STATION
- FUTURE GRAVITY FACILITIES
- FUTURE FORCE MAIN FACILITIES
- FUTURE LOW PRESSURE FACILITIES
- ⑧ 30" — PIPE FACILITIES TO BE ADDED OR UPGRADED / NEW MAIN SIZE & REFERENCE NO.
- ⑥ — LIFT STATION FACILITIES TO BE ADDED, UPGRADED OR ABANDONED / REFERENCE NO.
- MH XXX-X — PROPOSED FLOW MONITOR LOCATION
- A–2 — PROPOSED VISUAL MONITORING LOCATION
- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

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SCALE IN FEET

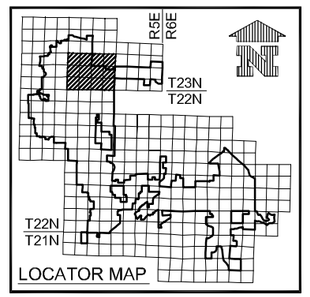


FIGURE 7-4

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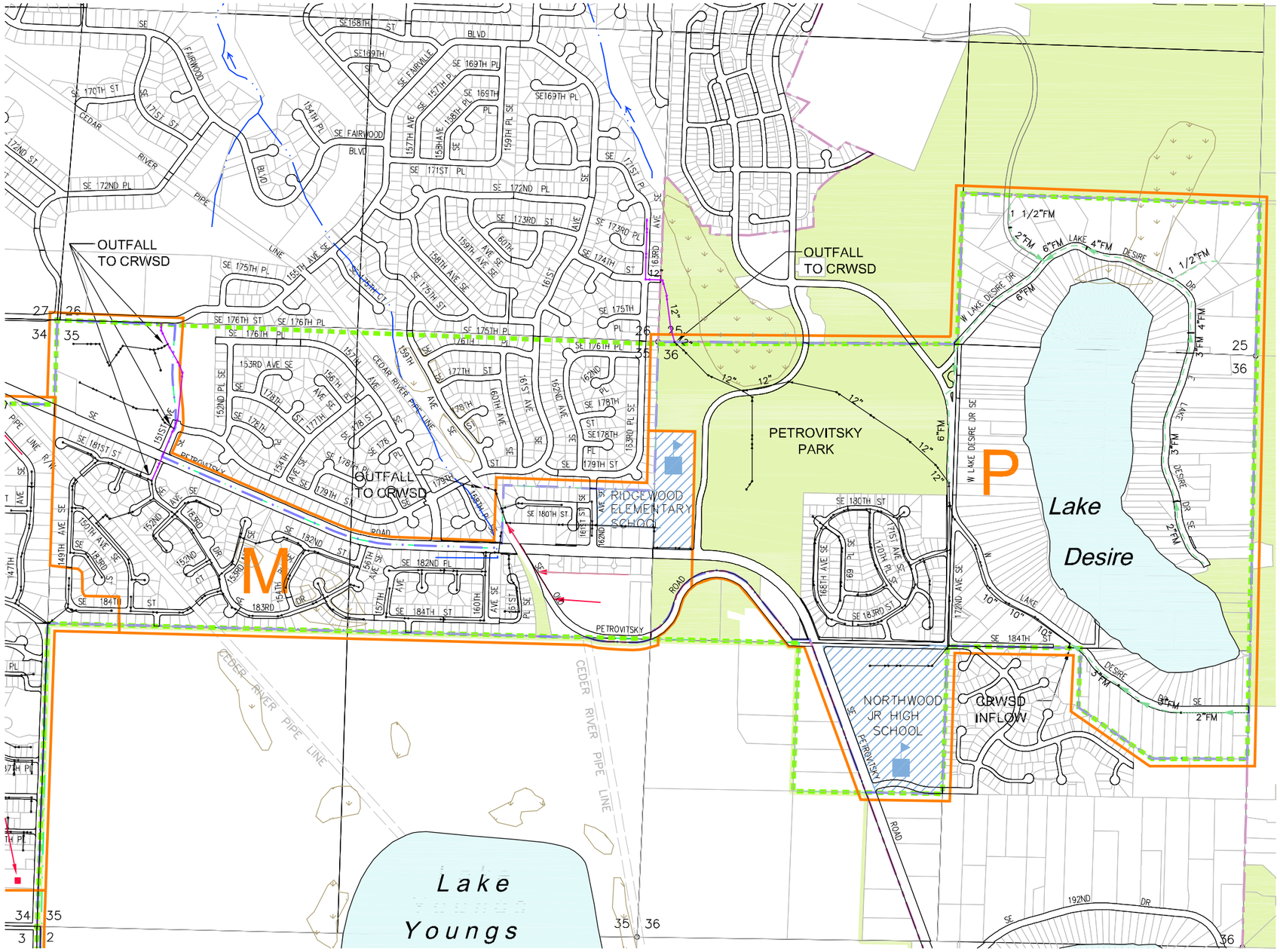
SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

8 9 10 11

C

D

E


OUTFALL TO CRWSD
OUTFALL TO CRWSD
OUTFALL TO CRWSD
PETROVITSKY PARK
RIDGEWOOD ELEMENTARY SCHOOL
NORTHWOOD JR HIGH SCHOOL
CRWSD INFLOW
Lake Desire
Lake Youngs
CEDER RIVER PIPE LINE
CEDAR RIVER PIPE LINE
PETROVITSKY ROAD
SE 168TH ST
SE 169TH ST
SE 170TH ST
SE 171ST ST
SE 172ND PL
SE 173RD ST
SE 175TH PL
SE 176TH ST
SE 176TH PL
SE 180TH ST
SE 182ND PL
SE 183RD
SE 184TH ST
SE FAIRWOOD BLVD
SE 169TH PL
SE 171ST PL
SE 173RD PL
SE 174TH ST
SE 175TH
SE 178TH
SE 178TH ST
SE 179TH ST
SE 180TH ST
SE 183RD ST
SE 184TH
W LAKE DESIRE DR SE
LAKE DESIRE DR SE
172ND AVE SE
168TH AVE SE
157TH AVE SE
158TH AVE SE
159TH PL SE
161ST AVE SE
162ND AVE SE
163RD AVE SE
152ND PL SE
153RD AVE SE
154TH PL SE
155TH AVE SE
156TH AVE SE
147TH AVE SE
149TH AVE SE
150TH AVE SE
151ST AVE SE
152ND AVE SE
153RD AVE SE
157TH PL SE
158TH PL SE
159TH AVE SE
160TH AVE SE
161ST PL SE
162ND PL SE
163RD PL SE
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179TH ST
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198TH AVE SE
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235TH AVE SE
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237TH AVE SE
238TH AVE SE
239TH AVE SE
240TH AVE SE
241ST AVE SE
242ND AVE SE
243RD AVE SE

SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

0 1 2 3

FIGURE 7-3

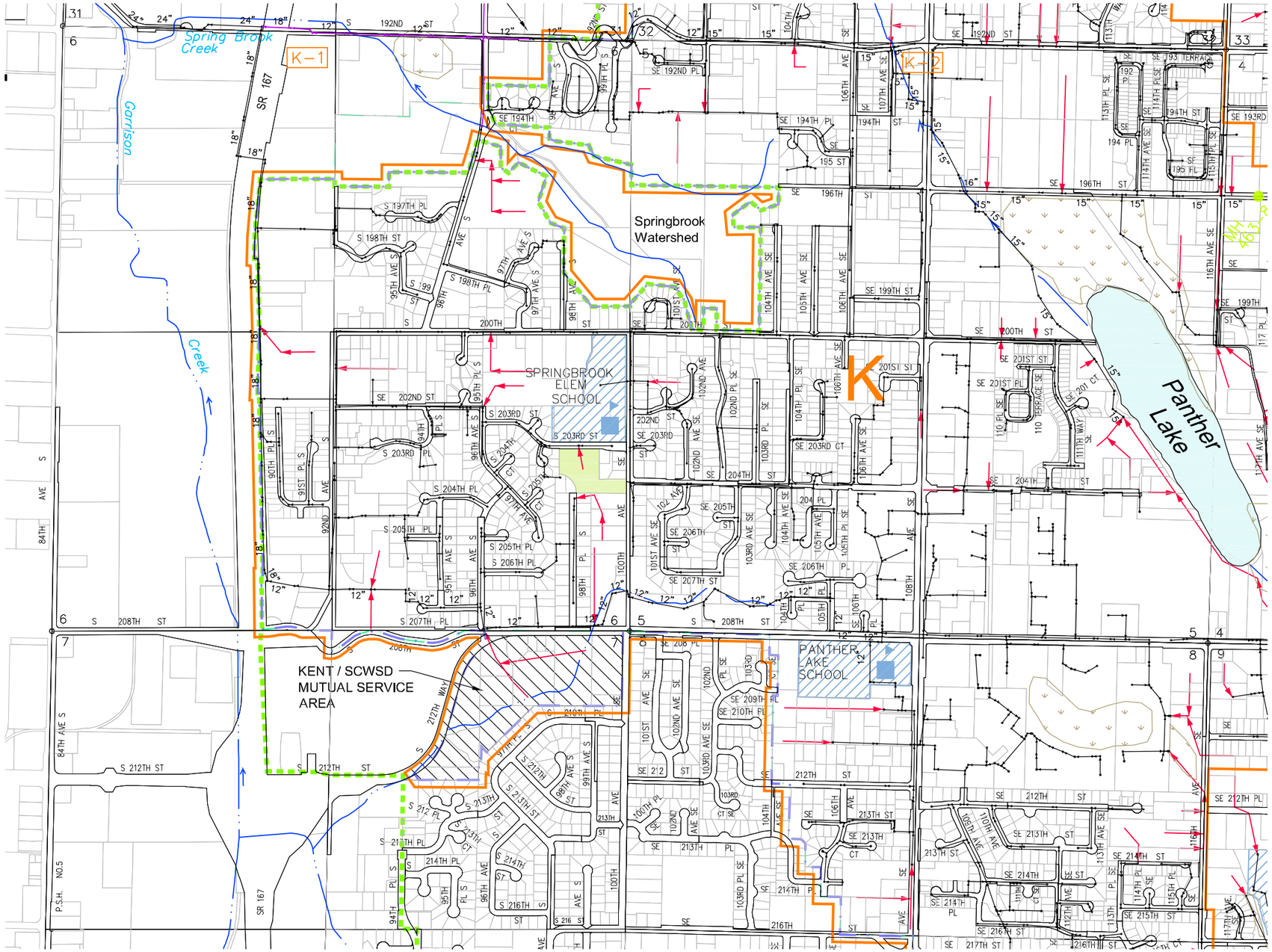


FIGURE 7-8

F

G

H

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
- B — DRAINAGE AREA DESIGNATION
- URBAN GROWTH AREA BOUNDARY
- EXISTING GRAVITY FACILITIES
- EXISTING FORCE MAIN FACILITIES
- EXISTING LOW PRESSURE FACILITIES
- EXISTING SEWER BY ADJACENT PURVEYORS
- EXISTING SEWER BY METRO
- EXISTING LIFT STATION
- FUTURE LIFT STATION
- FUTURE GRAVITY FACILITIES
- FUTURE FORCE MAIN FACILITIES
- FUTURE LOW PRESSURE FACILITIES
- 8 — 30" — PIPE FACILITIES TO BE ADDED OR UPGRADED / NEW MAIN SIZE & REFERENCE NO.
- 6 — LIFT STATION FACILITIES TO BE ADDED, UPGRADED OR ABANDONED / REFERENCE NO.
- MH XXX-X — PROPOSED FLOW MONITOR LOCATION
- A-2 — PROPOSED VISUAL MONITORING LOCATION
- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

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SCALE IN FEET

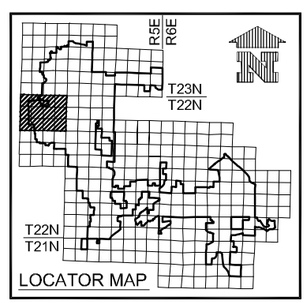


FIGURE 7-6

FIGURE 7-7

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

4 5 6 7

FIGURE 7-4

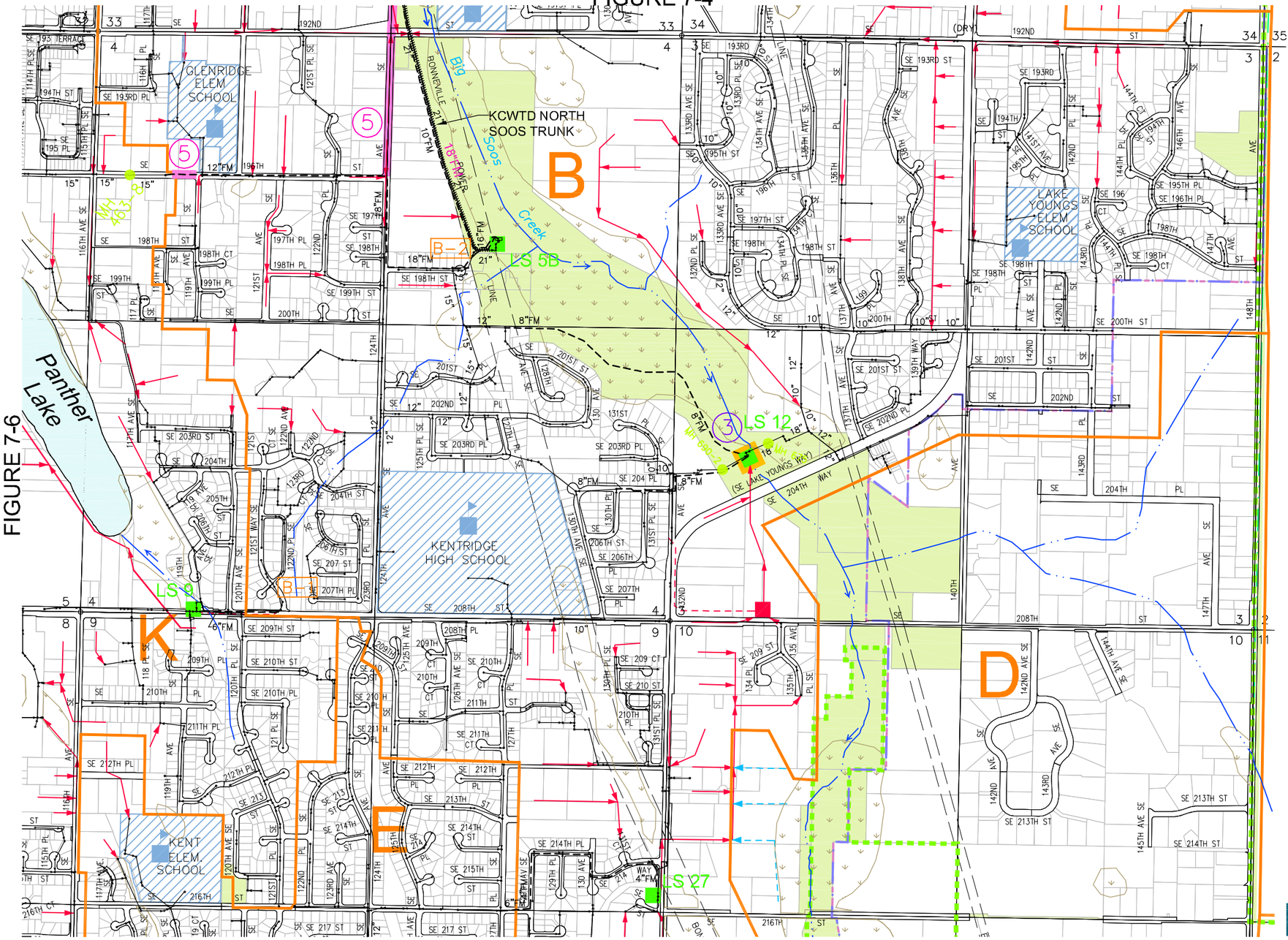


FIGURE 7-9

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
- B — DRAINAGE AREA DESIGNATION
- URBAN GROWTH AREA BOUNDARY
- EXISTING GRAVITY FACILITIES
- EXISTING FORCE MAIN FACILITIES
- EXISTING LOW PRESSURE FACILITIES
- EXISTING SEWER BY ADJACENT PURVEYORS
- EXISTING SEWER BY METRO
- EXISTING LIFT STATION
- FUTURE LIFT STATION
- FUTURE GRAVITY FACILITIES
- FUTURE FORCE MAIN FACILITIES
- FUTURE LOW PRESSURE FACILITIES
- 8 / 30" — PIPE FACILITIES TO BE ADDED OR UPGRADED / NEW MAIN SIZE & REFERENCE NO.
- 6 — LIFT STATION FACILITIES TO BE ADDED, UPGRADED OR ABANDONED / REFERENCE NO.
- MH XXX-X — PROPOSED FLOW MONITOR LOCATION
- A-2 — PROPOSED VISUAL MONITORING LOCATION
- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

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SCALE IN FEET

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11130 NE 33rd Place, Suite 200 Bellevue, WA 98004

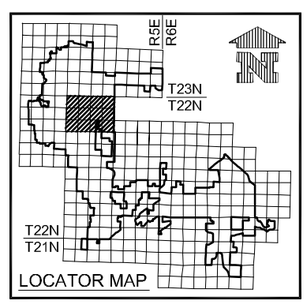


FIGURE 7-7

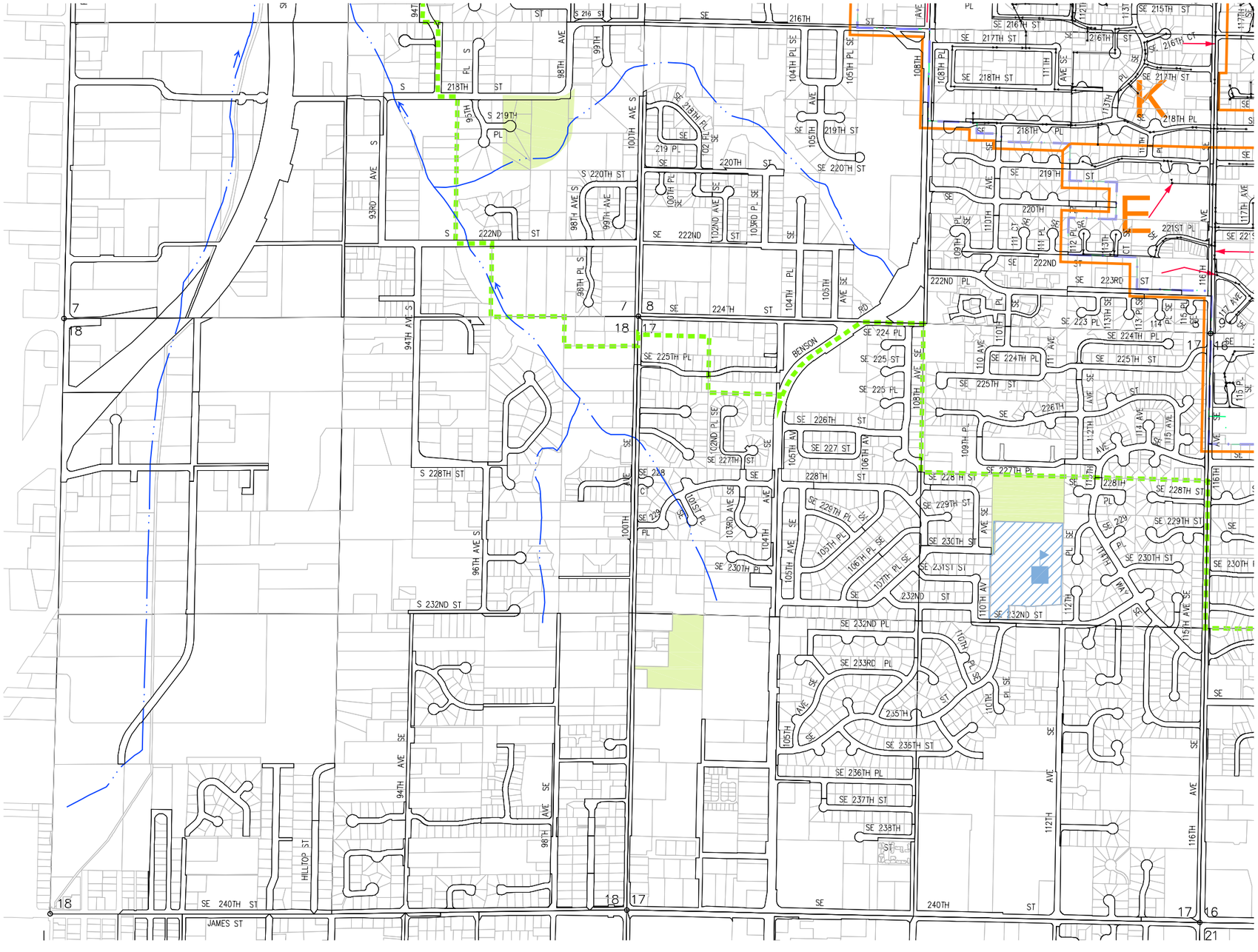
FIGURE 7-6

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

0 1 2 3

FIGURE 7-6


SE 216TH ST
S 218TH ST
S 219TH PL
SE 219 PL
SE 220TH ST
S 220TH ST
S 222ND ST
SE 222ND ST
SE 224TH ST
SE 225TH PL
SE 225 ST
SE 225 PL
SE 226TH ST
SE 227 ST
SE 227TH ST
S 228TH ST
SE 228TH ST
SE 229TH ST
SE 230TH ST
SE 230TH PL
S 232ND ST
SE 232ND ST
SE 232ND PL
SE 233RD PL
SE 235TH ST
SE 236TH PL
SE 237TH ST
SE 238TH ST
SE 240TH ST
JAMES ST
HILLTOP ST
BENSON RD
94TH AVE S
95TH AVE S
96TH AVE S
98TH AVE S
100TH AVE S
93RD AVE S
98TH PL S
99TH AVE S
94TH AVE SE
96TH AVE SE
98TH AVE SE
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102ND PL SE
102ND AVE SE
103RD PL SE
104TH PL SE
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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

4 5 6 7

FIGURE 7-7

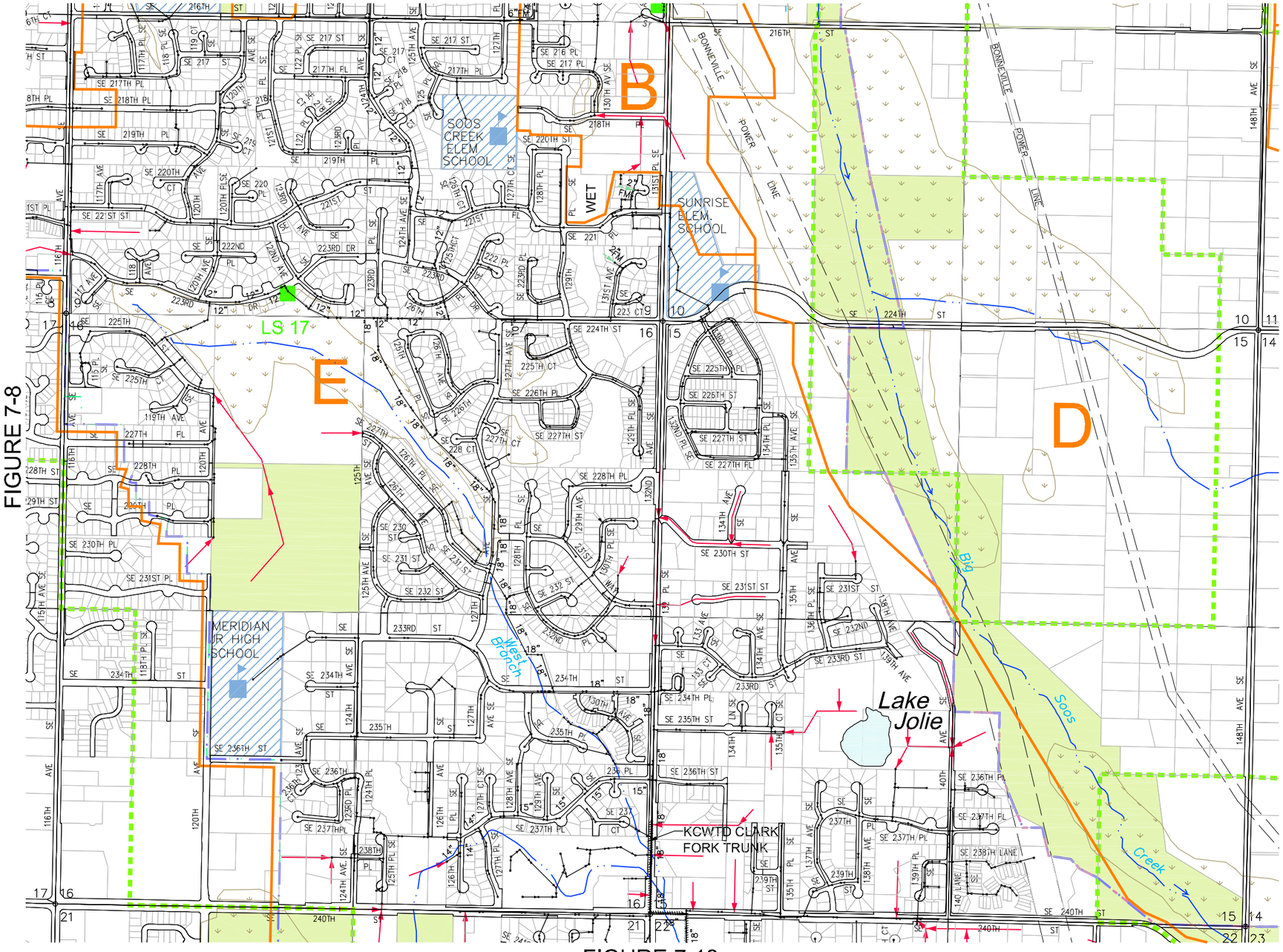


FIGURE 7-8

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FIGURE 7-10

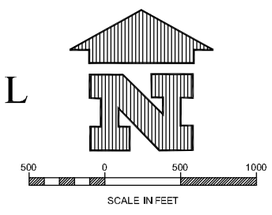
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FIGURE 7-13

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
- B — DRAINAGE AREA DESIGNATION
- URBAN GROWTH AREA BOUNDARY
- EXISTING GRAVITY FACILITIES
- EXISTING FORCE MAIN FACILITIES
- EXISTING LOW PRESSURE FACILITIES
- EXISTING SEWER BY ADJACENT PURVEYORS
- EXISTING SEWER BY METRO
- EXISTING LIFT STATION
- FUTURE LIFT STATION
- FUTURE GRAVITY FACILITIES
- FUTURE FORCE MAIN FACILITIES
- FUTURE LOW PRESSURE FACILITIES
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- 6 — LIFT STATION FACILITIES TO BE ADDED, UPGRADED OR ABANDONED / REFERENCE NO.
- MH XXX–X — PROPOSED FLOW MONITOR LOCATION
- A–2 — PROPOSED VISUAL MONITORING LOCATION
- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

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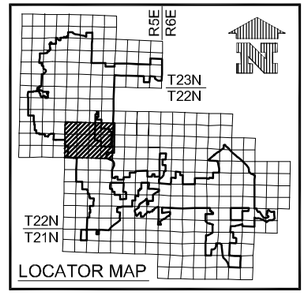


FIGURE 7-9

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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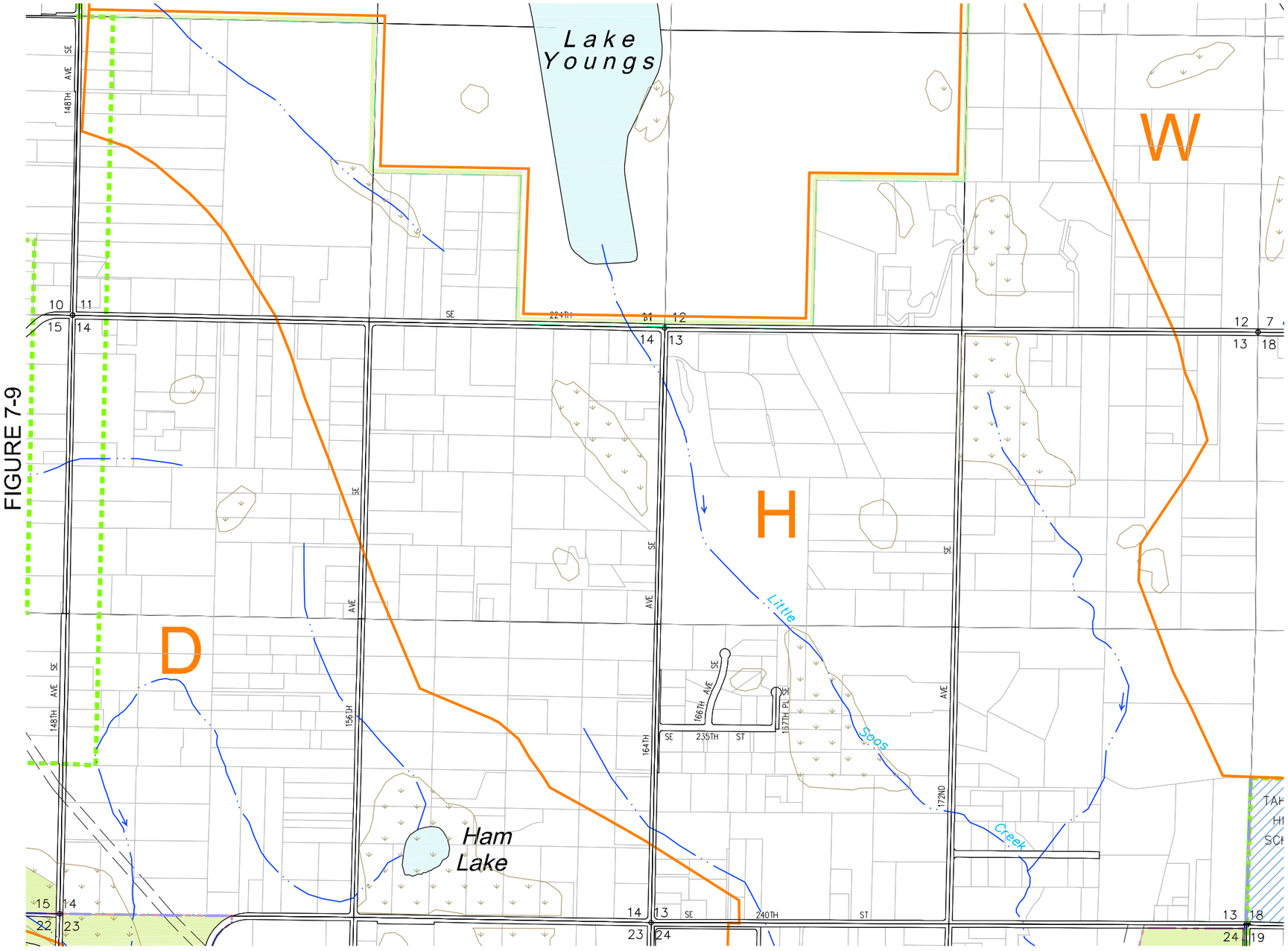


FIGURE 7-9

FIGURE 7-11

FIGURE 7-14

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
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- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

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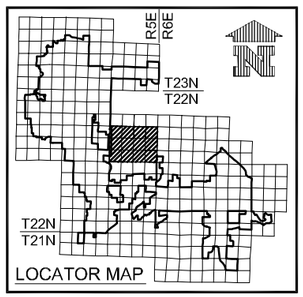


FIGURE 7-10

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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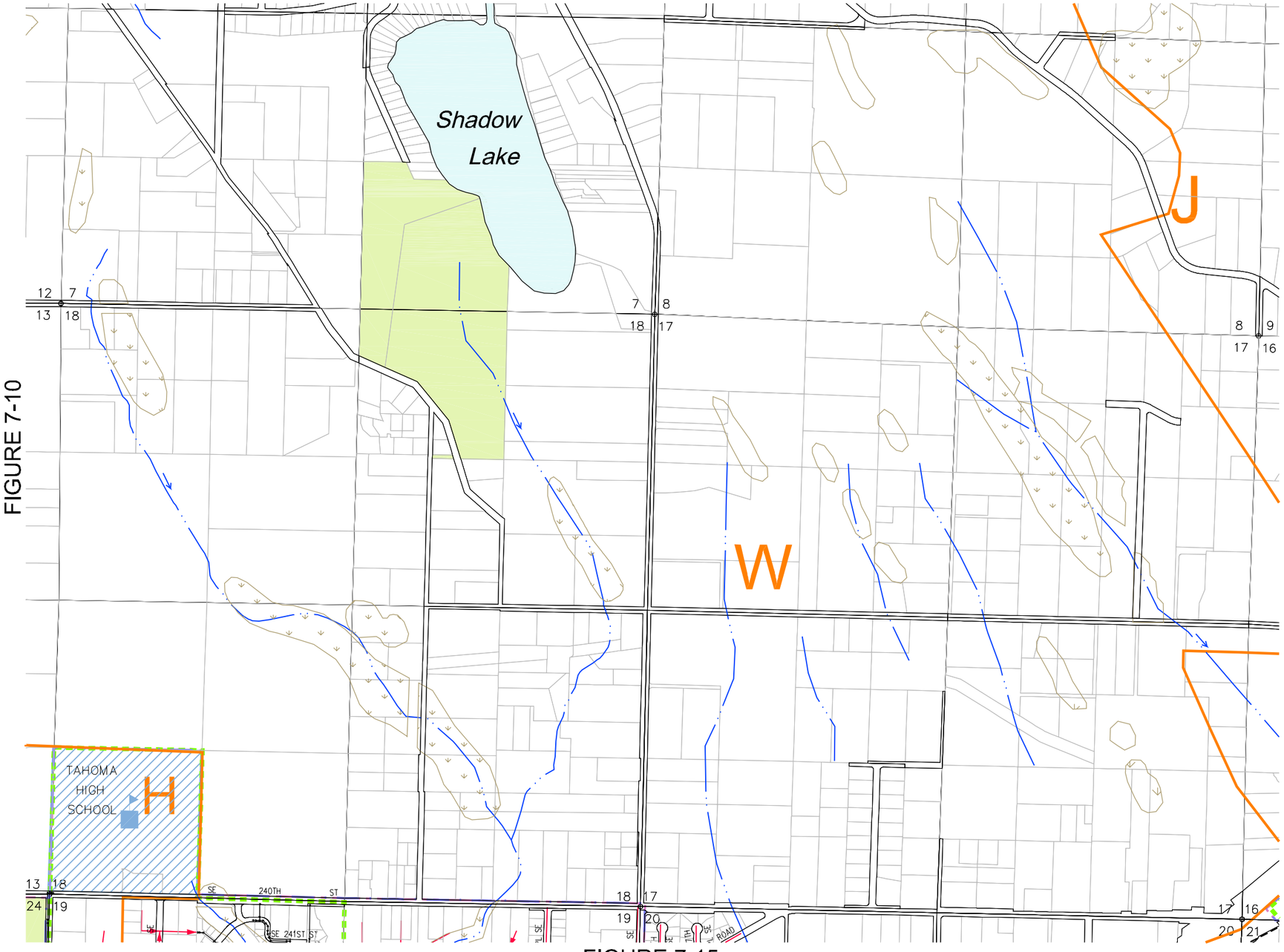


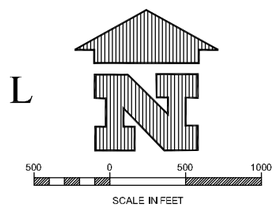
FIGURE 7-10

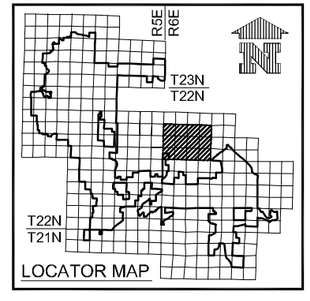
FIGURE 7-12

FIGURE 7-15

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
- B — DRAINAGE AREA DESIGNATION
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- EXISTING LIFT STATION
- FUTURE LIFT STATION
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- WETLAND
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- PARK
- GOLF COURSE





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FIGURE 7-11

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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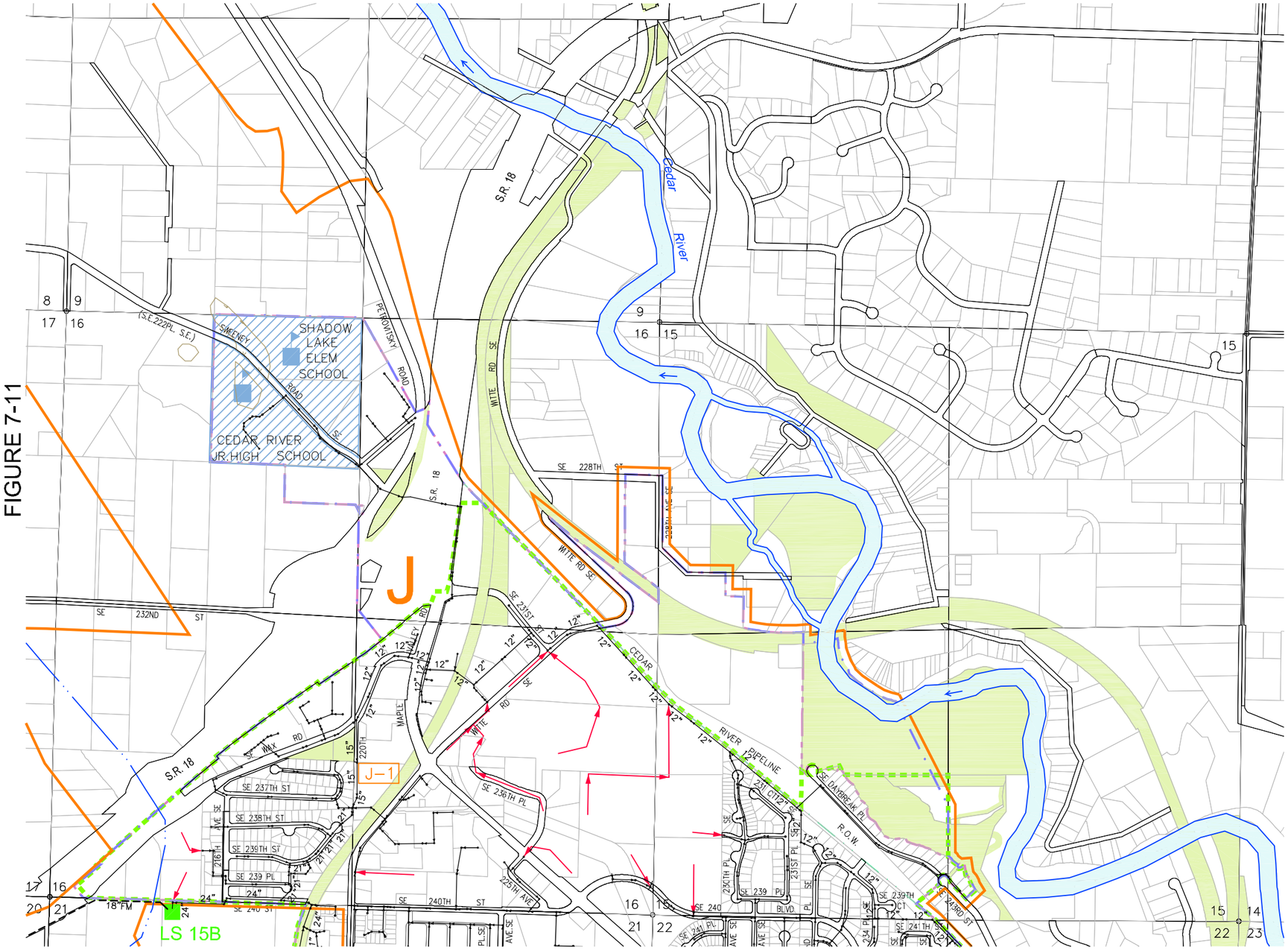


FIGURE 7-16

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
- B — DRAINAGE AREA DESIGNATION
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- EXISTING LOW PRESSURE FACILITIES
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- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

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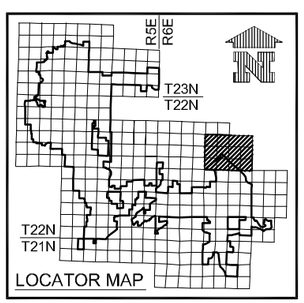


FIGURE 7-12

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USER: Wolf, Brion
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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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FIGURE 7-9

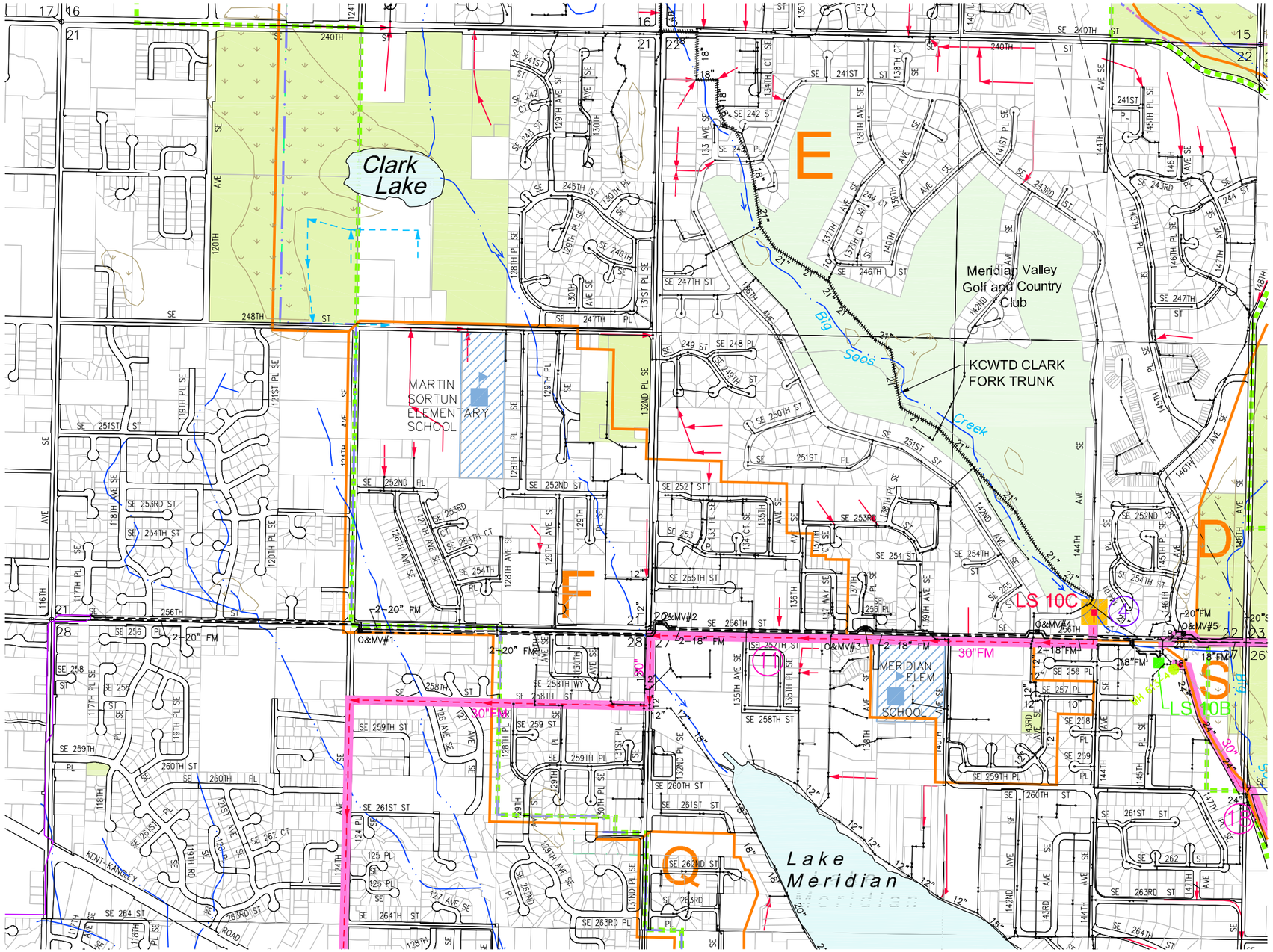


FIGURE 7-18

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FIGURE 7-14

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LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
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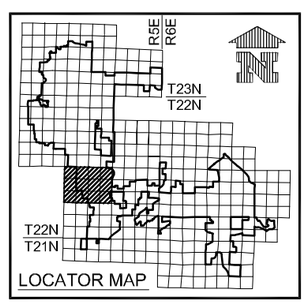


FIGURE 7-13

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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FIGURE 7-10

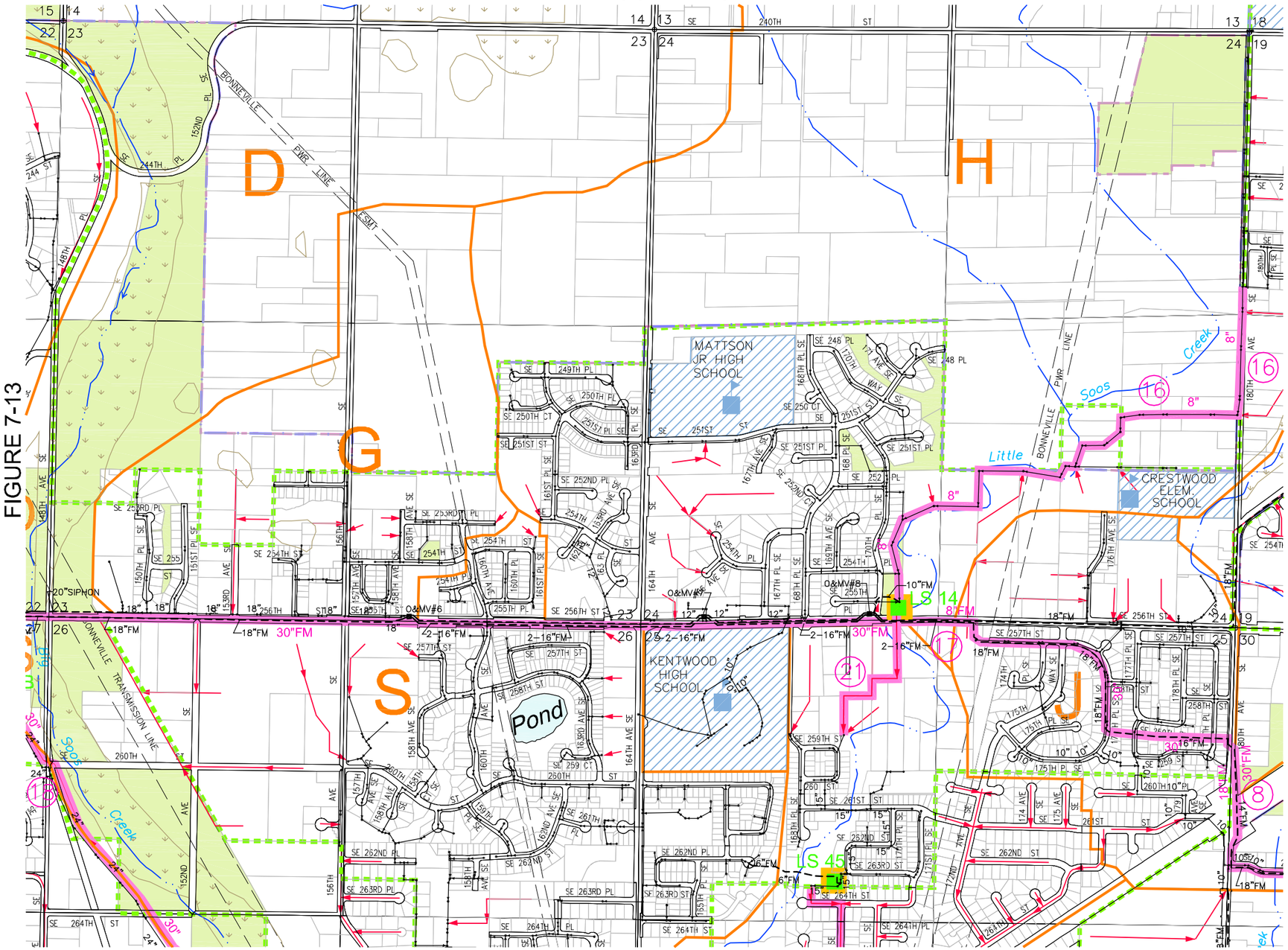


FIGURE 7-13

FIGURE 7-15

FIGURE 7-19

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
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- EXISTING FORCE MAIN FACILITIES
- EXISTING LOW PRESSURE FACILITIES
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- EXISTING SEWER BY METRO
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- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

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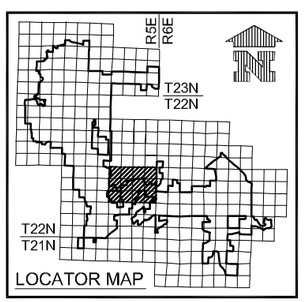


FIGURE 7-14

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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FIGURE 7-11

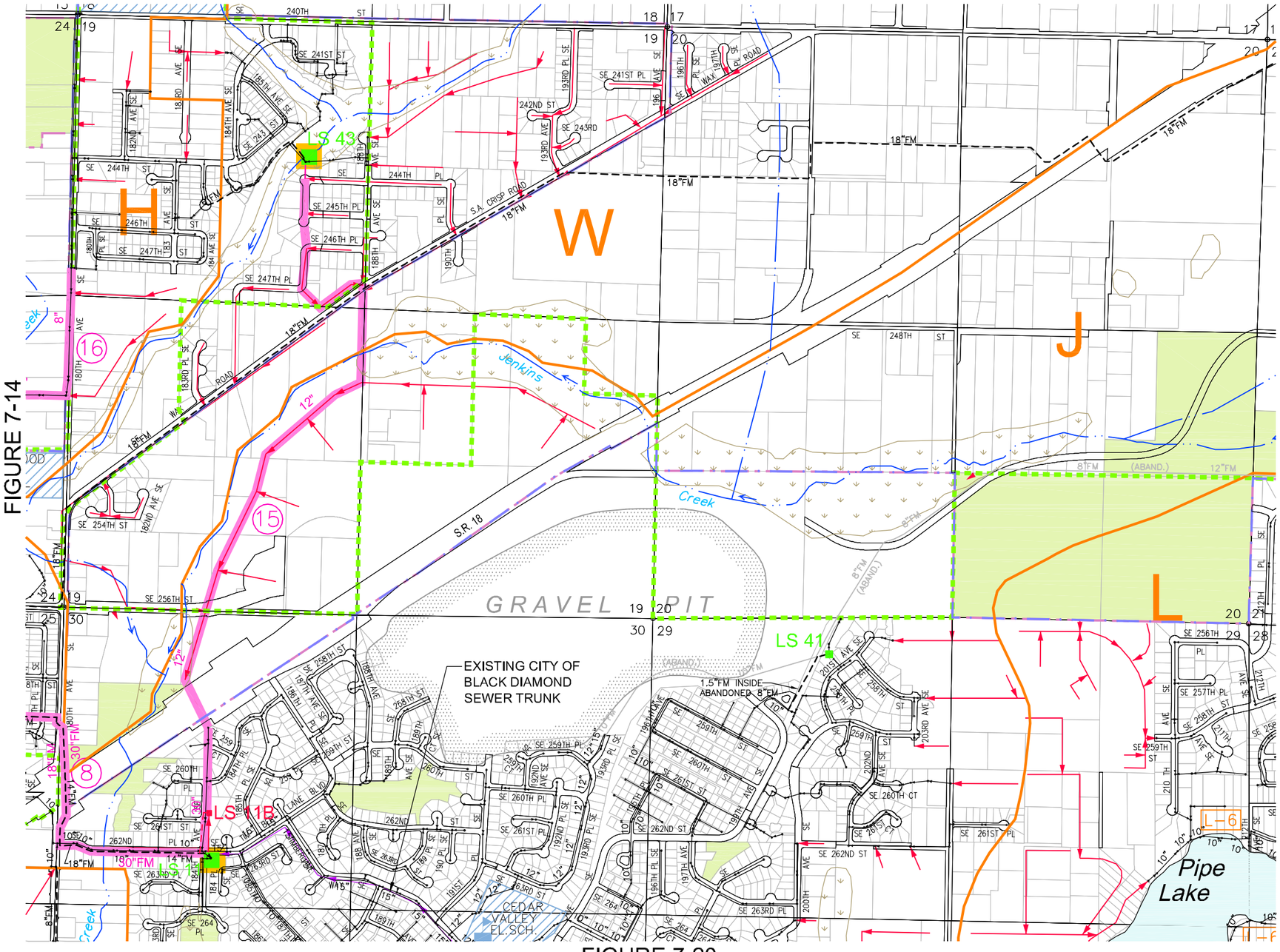


FIGURE 7-20

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FIGURE 7-16

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LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
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- FUTURE LOW PRESSURE FACILITIES
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- WETLAND
- EXISTING SCHOOL SITE
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- GOLF COURSE

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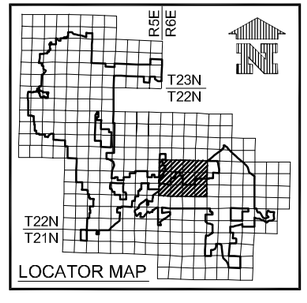


FIGURE 7-15

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FIGURE 7-14

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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FIGURE 7-12

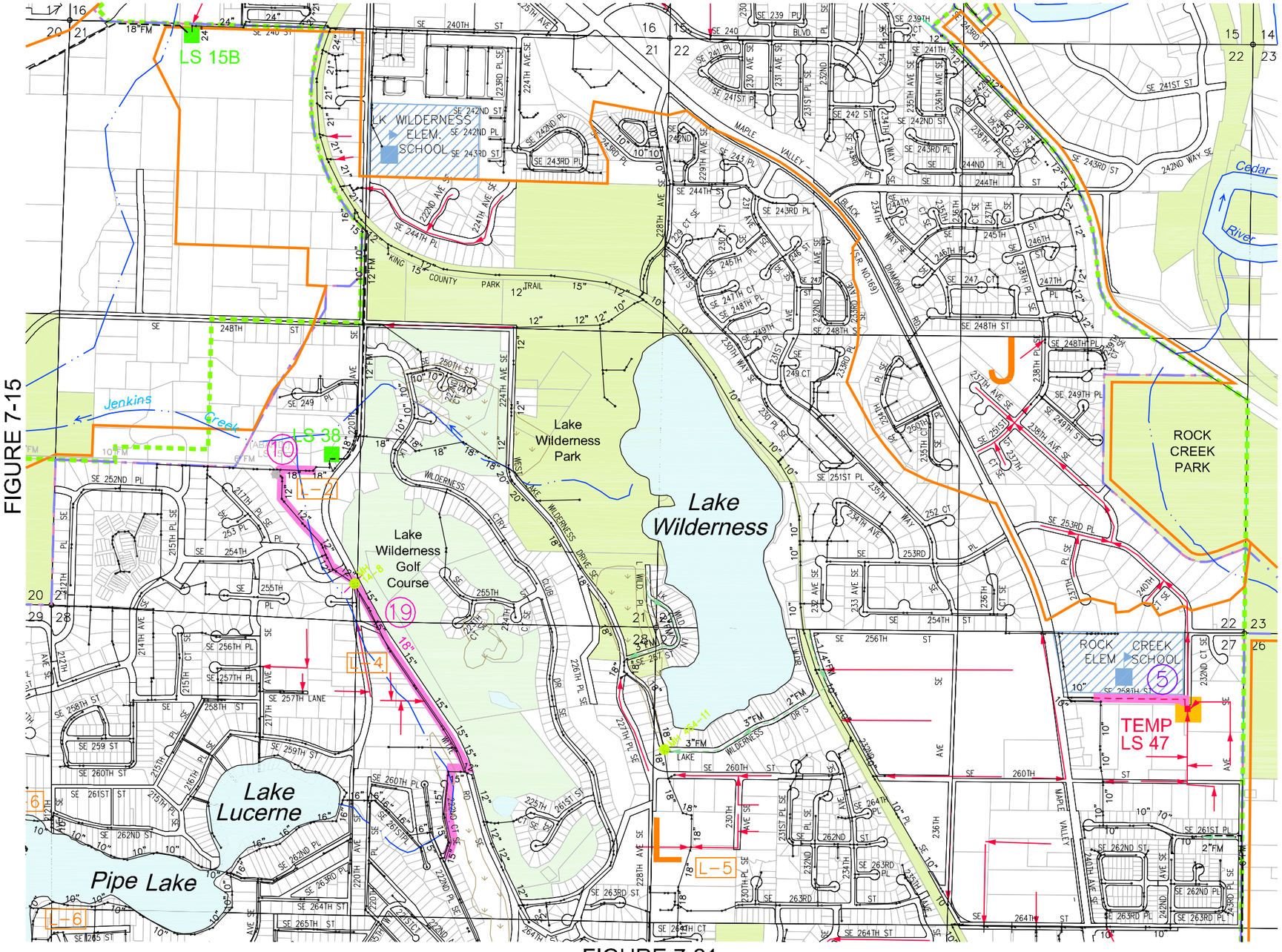


FIGURE 7-15

FIGURE 7-17

FIGURE 7-21

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
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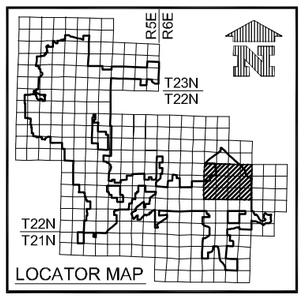


FIGURE 7-16

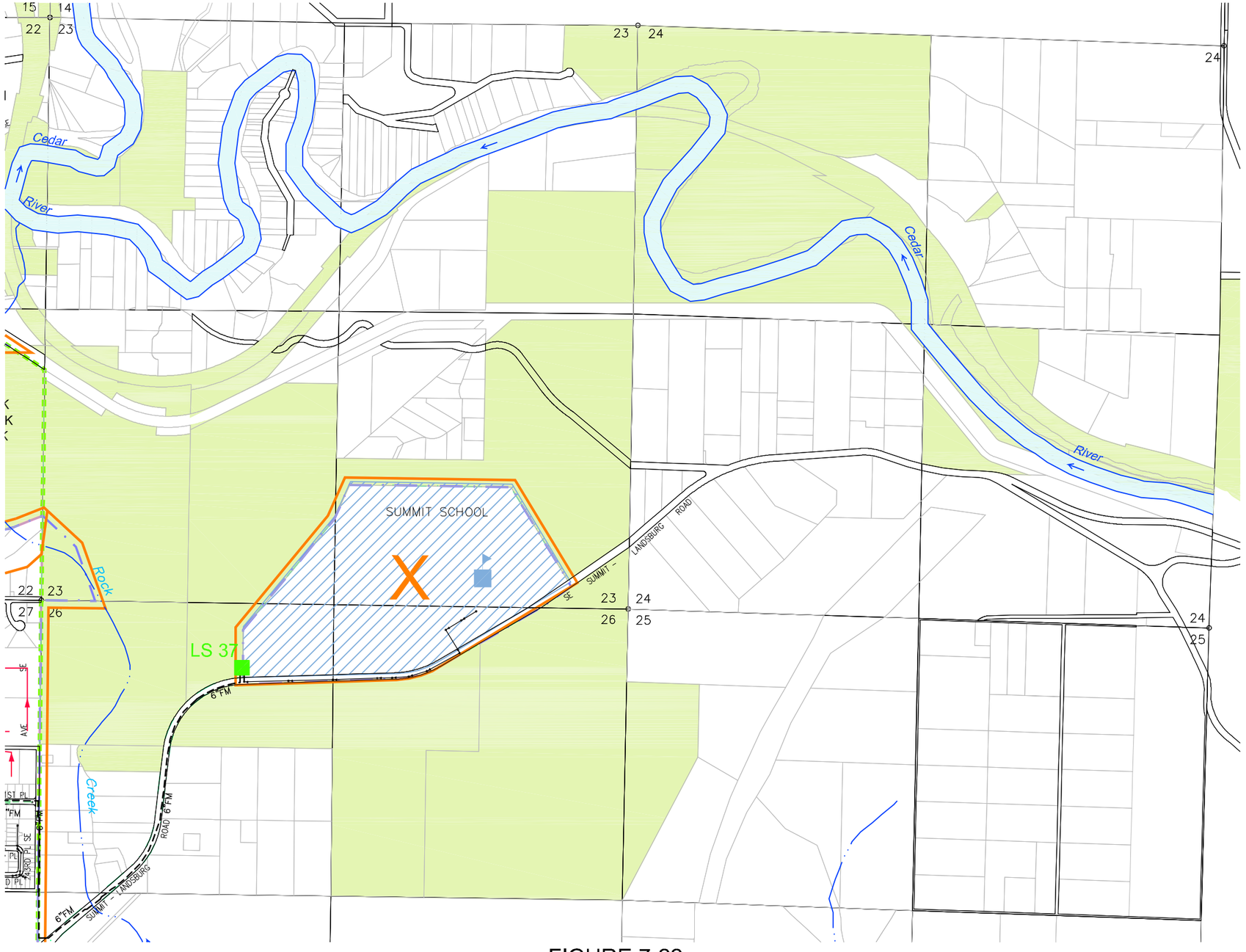
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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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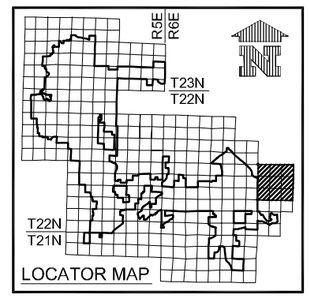
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LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
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FIGURE 7-22

FIGURE 7-17

FIGURE 7-16

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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FIGURE 7-13

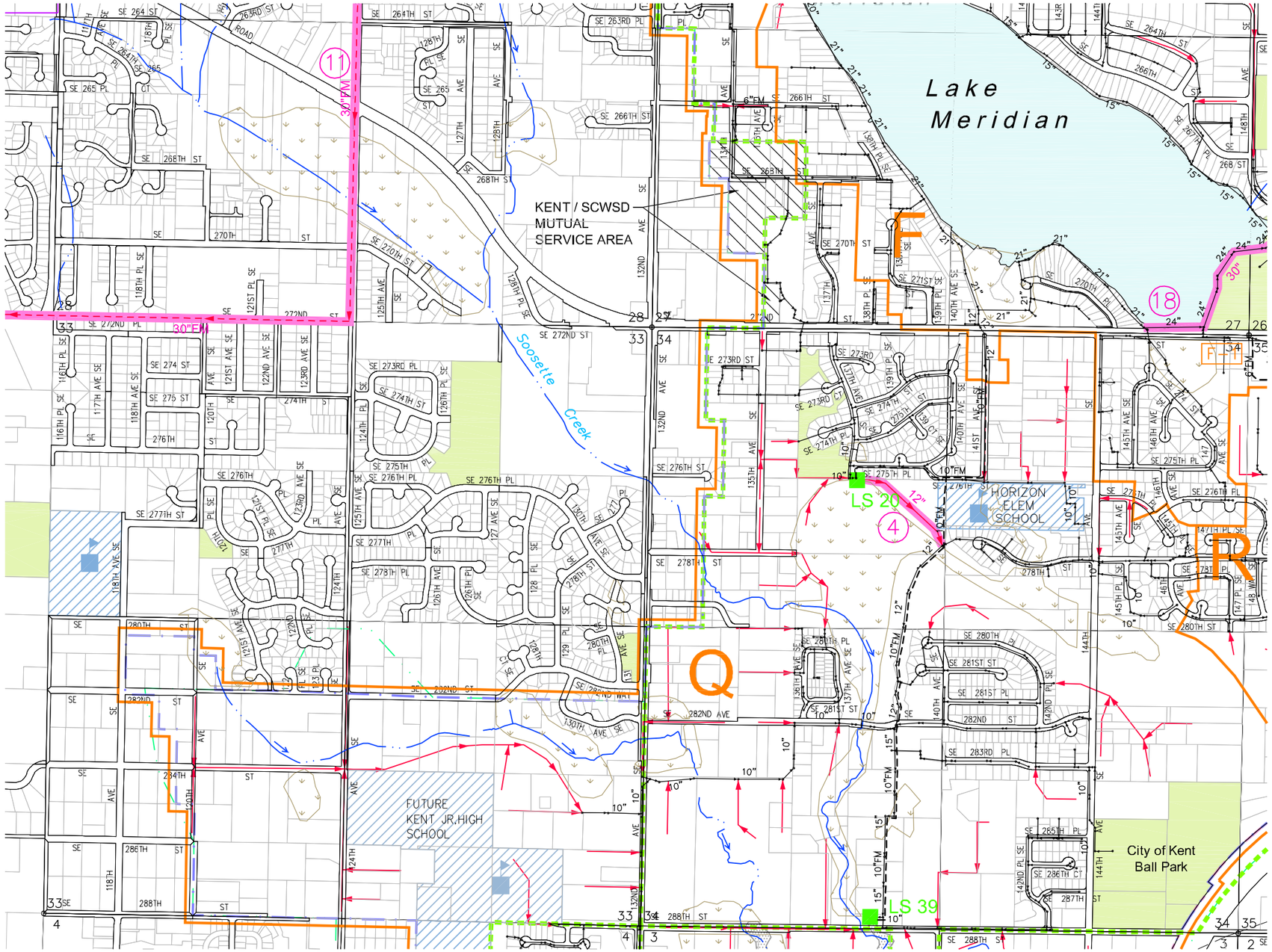


FIGURE 7-23

FIGURE 7-19

LEGEND

- SCWSD SEWER CORPORATE BOUNDARY
- SEWER PLANNING AREA (SERVICE AREA)
- DRAINAGE AREA BOUNDARY
- B — DRAINAGE AREA DESIGNATION
- URBAN GROWTH AREA BOUNDARY
- EXISTING GRAVITY FACILITIES
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- EXISTING LOW PRESSURE FACILITIES
- EXISTING SEWER BY ADJACENT PURVEYORS
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- A-2 — PROPOSED VISUAL MONITORING LOCATION
- WETLAND
- EXISTING SCHOOL SITE
- PARK
- GOLF COURSE

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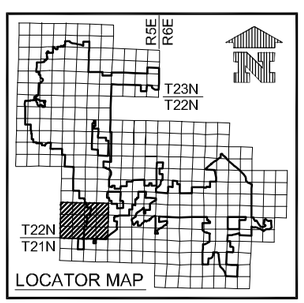


FIGURE 7-18

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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FIGURE 7-14

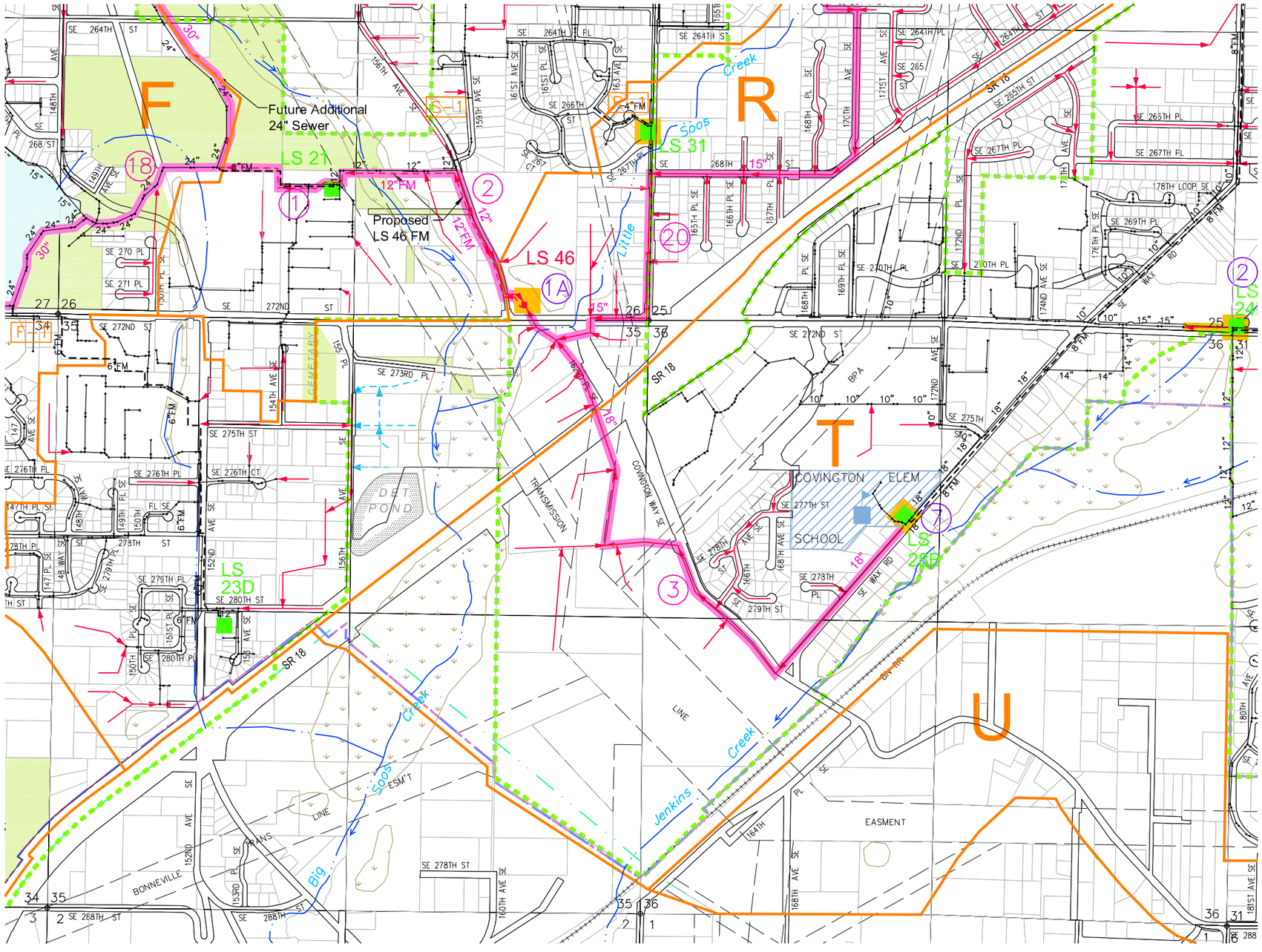


FIGURE 7-18

FIGURE 7-20

LEGEND

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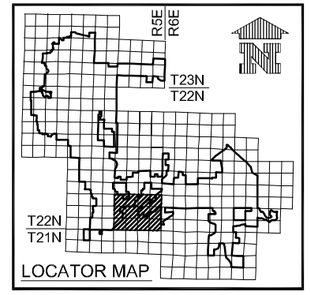


FIGURE 7-19

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

12 13 14 15

FIGURE 7-15

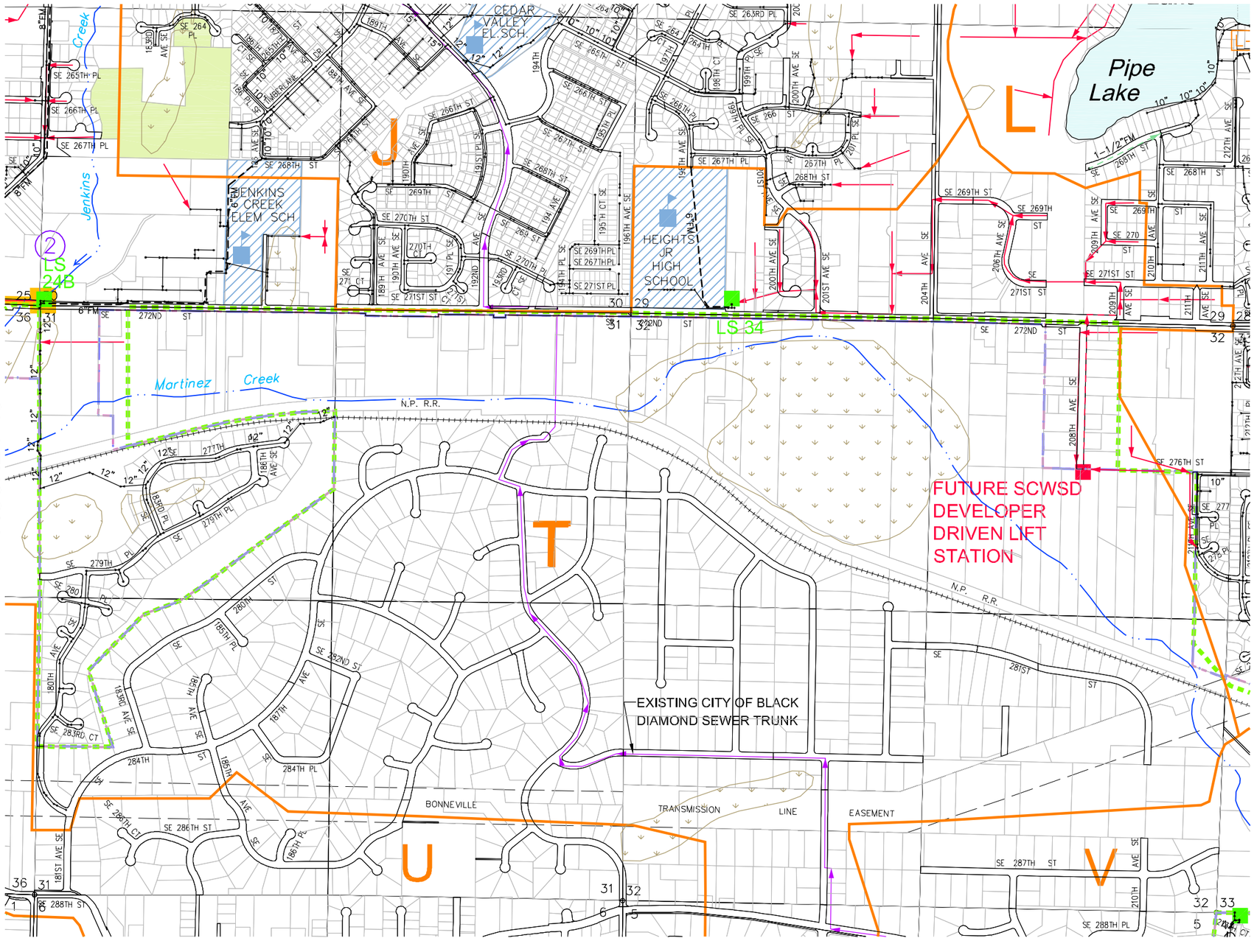


FIGURE 7-19

FIGURE 7-21

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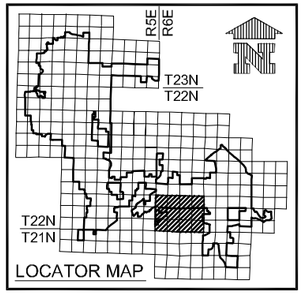
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LEGEND

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FIGURE 7-20

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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FIGURE 7.16

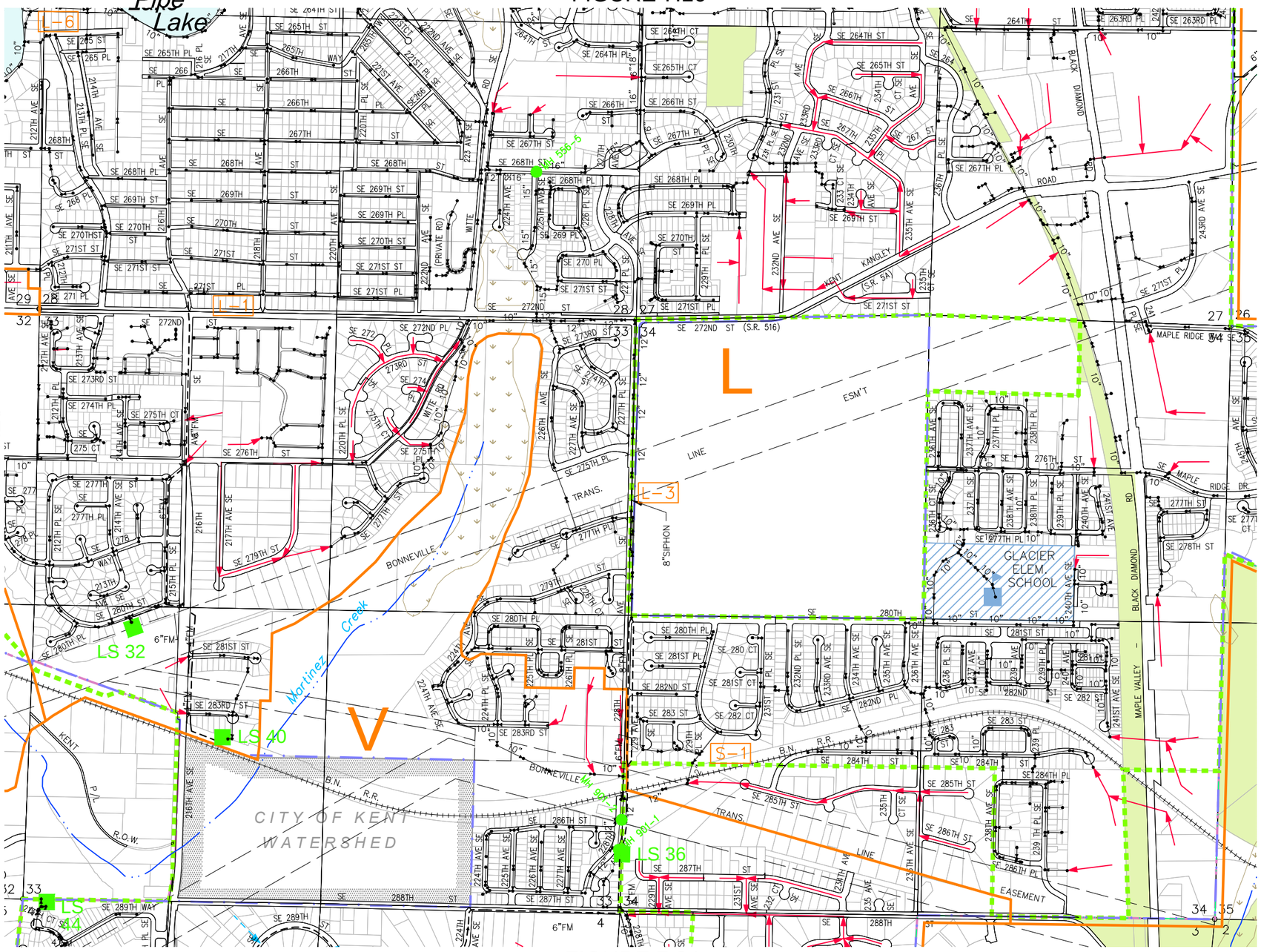


FIGURE 7.20

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FIGURE 7.22

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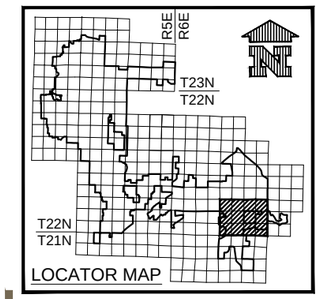
FIGURE 7.24

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FIGURE 7.21

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

16 17 18 19

FIGURE 7-17



FIGURE 7-21

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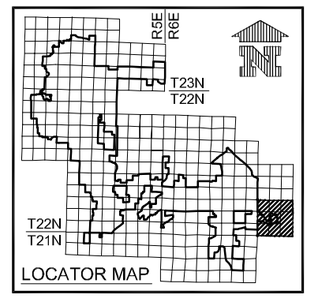
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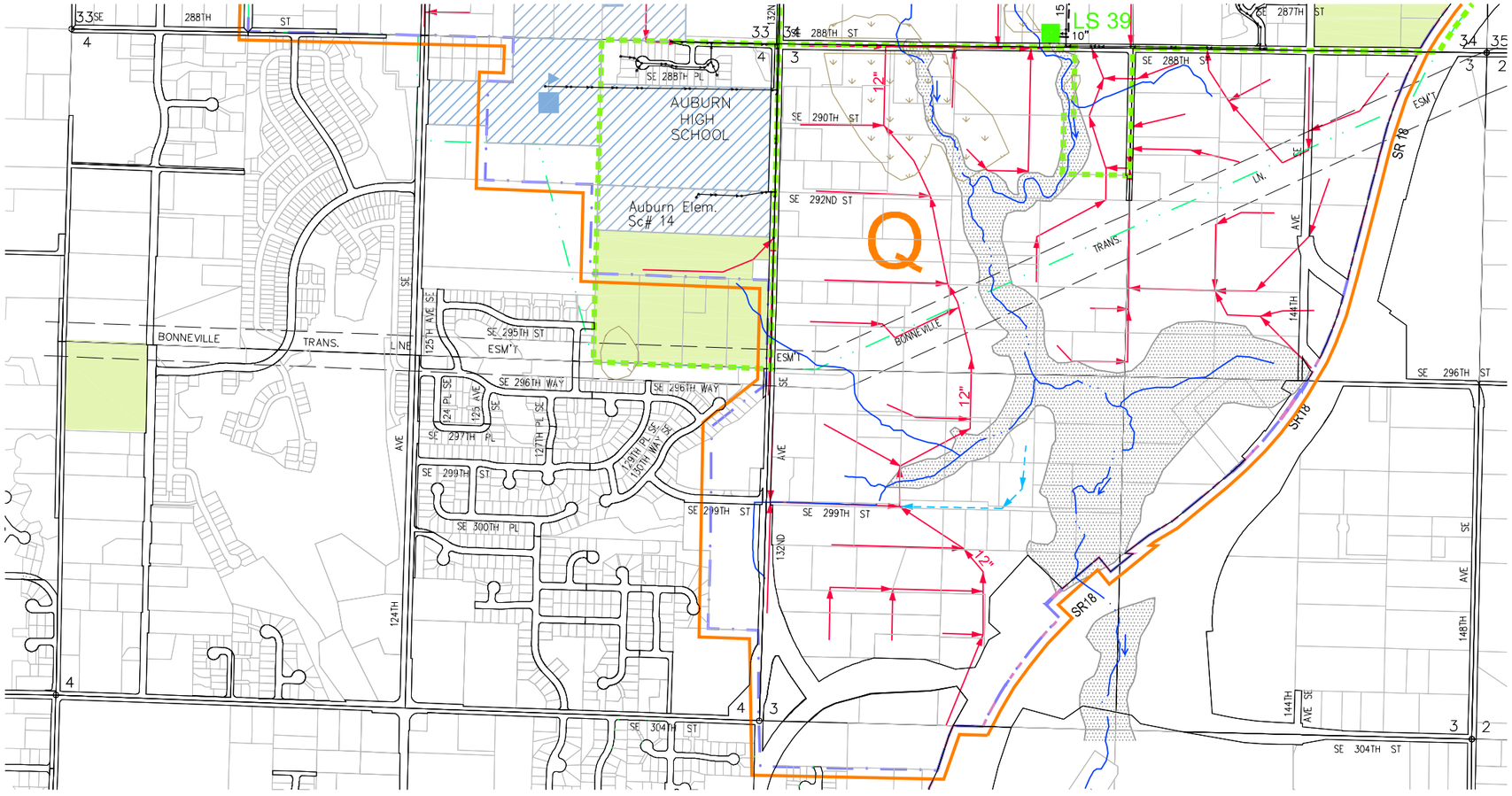
FIGURE 7-22

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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FIGURE 7-18



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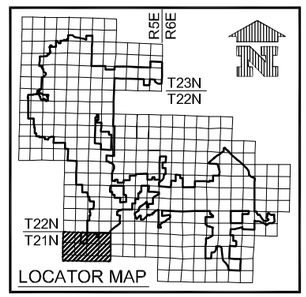
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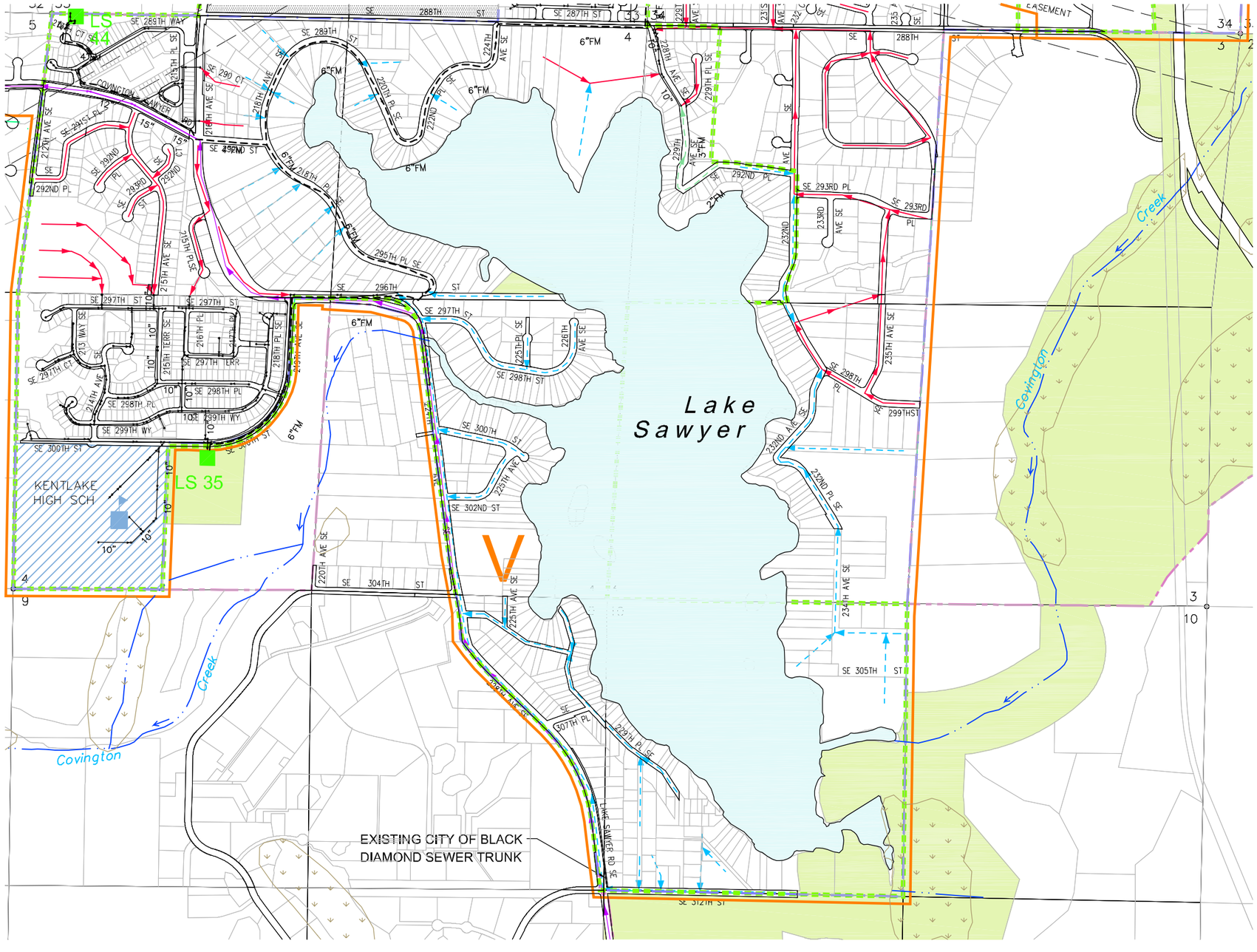
FIGURE 7-23

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SOOS CREEK WATER & SEWER DISTRICT
SEWER COMPREHENSIVE PLAN
EXISTING AND PROPOSED SEWERAGE FACILITIES

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FIGURE 7-21



LEGEND

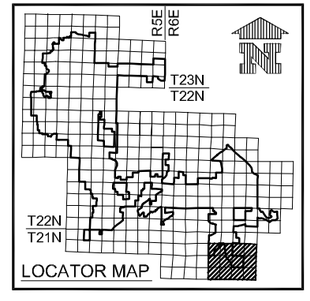
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FIGURE 7-24

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CHAPTER 8

FINANCIAL PROGRAM

INTRODUCTION

This chapter gives an overview of Soos Creek Water & Sewer District's financial condition and considers the effects of the proposed Capital Facility Plan on the District's budgeting process. The two major expense categories of a wastewater utility are operating expenses and project costs for Capital Facility Plan construction projects. Inflation affects both of these categories. To determine the revenues required to meet the projected expenses, inflation must be taken into account in several items.

FINANCIAL STATUS

The District uses the Budget Accounting and Reporting System (BARS), of the Washington State Auditor's Office, to maintain their financial records. A periodic internal review is performed on all of the District's financial procedures and financial conditions. The District is also subject to audits by the Washington State Auditor's Office. The last audit of the District's records was performed in 2011, based on year-end 2010 records.

The District examines their billing and rate structures on an annual basis. An analysis is required to keep rates as low as possible, while still allowing the District to function as a viable entity. Any action considered ineffective, inefficient, or wasteful by the Board of Commissioners and District staff is examined, improved, or eliminated, if possible.

A summary of income and expenses of the District's sewer system was obtained from the District's Finance Department for the fiscal years 2010-2011, and is shown in **Table 8.1**. The Finance Department maintains an extensive set of accounts that monitors and evaluates fiscal performance. Historical information provided in this Plan is a summary of the data available and has been condensed for presentation purposes.

Table 8.1 - Summary of Income and Expenses

	2011	2010
OPERATING REVENUES		
Sewer	$23,041,102	$20,712,480
Other operating revenue	$1,349,530	$1,208,514
Total Operating Revenues	***$24,390,632***	***$21,920,994***
OPERATING EXPENSES		
Sewage treatment	$15,018,611	$13,306,831
Maintenance	$2,019,077	$2,439,700
Business and accounting	$876,315	$835,750
Administration	$953,560	$1,129,113
Business and payroll taxes	$302,794	$288,568
Depreciation	$4,036,482	$3,944,166
Total Operating Expenses	***$23,206,839***	***$21,944,128***
OPERATING INCOME	$1,183,793	($23,134)
NON-OPERATING REVENUES (EXPENSES)		
Assessment interest	$6,136	$8,125
Investment interest	$320,050	$292,283
Gain on sale of surplus property	$436	$10,383
Interest paid on revenue bonds and loans	($153,787)	($142,218)
Amortization of debt discount and expense	($12,158)	($2,032)
Loss on abandonment of utility plant	($172,807)	$0
Total Non-Operating Revenues (Expenses)	***($12,130)***	***$166,541***
INCOME BEFORE CONTRIBUTIONS IN AID OF CONSTRUCTION	$1,171,663	$143,407
Contributions in aid of construction	$2,289,921	$2,550,840
CHANGE IN NET ASSETS	**$3,461,584**	**$2,694,247**

The District has experienced slower growth in the past few years, which is reflected in reduced general facility charge collections and developer and other contributions. The District is operating at a level that in the past years has produced a modest net income. The District increases service rates and capital facility charges (General Facility Charges) in anticipation of needed rehabilitation and capacity increases to serve the rapid growth that the District has experienced.

Table 8.2 provides a summary of the District's water and sewer financial history for the past 10 years.

Table 8.2 - Water and Sewer 10-Year Financial Summary

Year	Total Revenues	% chg	Total Expenditures	% chg	Contributions + Extraordinary Items	Change in Net Assets	Total Capital Assets
2002	$21,193,725	-	$19,818,211	-	$6,054,272	$7,429,785	$125,491,885
2003	$21,980,845	4%	$21,452,532	8%	$9,758,594	$10,286,907	$131,037,424
2004	$22,748,784	3%	$23,025,512	7%	$8,898,186	$8,621,458	$139,650,442
2005	$24,771,456	9%	$24,282,474	5%	$11,239,691	$11,728,673	$144,551,337
2006	$27,250,299	10%	$26,064,502	7%	$8,944,224	$10,130,021	$147,842,551
2007	$28,022,373	3%	$27,495,778	5%	$12,706,288	$13,232,883	$155,751,207
2008	$27,806,651	-1%	$27,707,447	1%	$8,070,710	$8,169,914	$162,502,867
2009	$30,419,408	9%	$30,272,310	9%	$3,359,093	$3,506,191	$163,046,043
2010	$29,537,310	-3%	$30,135,923	0%	$3,811,643	$3,213,030	$165,211,387
2011	$32,588,122	10%	$31,602,692	5%	$3,424,492	$4,379,922	$165,620,809
Average Annual Increase (%)		5%		5%			

BOND DEBT

The District, which has a debt rating of "AA" by Standard & Poor's, reports a combined Sewer and Water bond debt principal. Year-end summaries and annual debt service costs of outstanding bonds are shown in **Table 8.3** and **Table 8.4**.

Table 8.3 - End of Year Summaries of Outstanding Revenue and Refunding Bonds

	2011		2010		2009	
Year Issued	Principal	Accrued Interest	Principal	Accrued Interest	Principal	Accrued Interest
1991*	-	-	-		$1,755,000	-
1999	-	-	$730,000	$2,738	$895,000	$3,356
2011	$5,375,000	$41,956	-	-	-	-
Total	**$5,375,000**	**$41,956**	**$730,000**	**$2,738**	**$2,650,000**	**$3,356**

* Capital appreciation bonds.

Table 8.4 - Annual Debt Service Costs on Outstanding Bonds

Year	Principal	Interest	Total
2012	$530,000	$167,825	$697,825
2013	$545,000	$151,925	$696,925
2014	$560,000	$135,575	$695,575
2015	$575,000	$118,775	$693,775
2016	$595,000	$101,525	$696,525
2017 to 2020	$2,570,000	$217,275	$2,787,275
Total	**$5,375,000**	**$892,900**	**$6,267,900**

RATES AND CHARGES

Existing Sewer Rates

The District charges a fixed bi-monthly residential charge on single residential units and a rate based on water consumption for most other types of connections. An additional maintenance charge is added for some types of special pumping conditions.

The existing monthly sewer service rate structure for the District was adopted by the District's Board of Commissioners with Resolution No. 3318-C on November 16, 2011. These rates are charged to maintain and operate the District, in conjunction with prudent financial management.

The District's current sewer rate structure, shown in **Table 8.5**, is comprised of two components: the District's sewer service charge and a pass-through of the King County charge for wastewater treatment. The structure differentiates between single-family residential and non-residential (commercial) customer classes. For single-family residences, all customers pay a fixed charge for both the District and King County portion of the rate. Non-residential (commercial) customers pay the same fixed charge as single-family residences plus a volume charge for every 100 cubic feet over 1,500 cubic feet of bi-monthly water consumption. Properties served by a grinder pumps owned and maintained by the District pay an additional $5.00 per month for sewer service. The rates for the District and King County are shown in **Table 8.5**.

Table 8.5 - 2012 Bi-Monthly Sewer Rates, per Resolution No. 3318-C

	King County Charge	Soos Creek Charge	Total Charge
Single-family Residential and Multi-Unit Residential	$72.20	$33.70	$105.90
Commercial	$72.20	$33.70	$105.90
Volume Charge	$4.80	$2.25	$7.05

Single-family residential units include individual homes and individually "permit-connected" (or owned) trailers, mobile homes and condominiums. Multifamily residential units include apartment buildings, multi-unit houses (duplex, etc.), and trailer or mobile home parks. Commercial connections are billed bi-monthly on the basis of 1,500 cf of water usage, or major fraction thereof, with a minimum charge of $105.90. The actual water meter readings are used to determine the bill amount. In addition, the District has established a Senior and Disabled Rate structure for low income customers 65 years or older or customers with permanent disabilities. The rate reduction schedule for eligible low income senior and disabled persons is outlined in the District's Resolution No. 2320-C, as modified by Resolution No. 3318-C.

The District's utility billing could consist of some or all of the following: sewer, county billing, late charge, account set-up fee, collection fee, NSF check fee, duplicate billing fee, grinder pump maintenance fee, and unauthorized connection fee.

Rate Findings and Recommendations

The District's sewer rate structure is defined to achieve two objectives. First it supports a level of equity by distinguishing between residential and commercial (non-residential) customers. Second, by imposing a variable charge to non-residential customers, it seeks to recover increased conveyance and treatment costs from those customers that demand the higher level of service due to their larger volumes.

The District has evaluated charging single-family units based on water consumption that would promote water conservation. The District's service area for sewer covers approximately 30 square miles versus the water service area that covers approximately 15 square miles. The District provides sewer service in six cities and three other special purpose districts where they provide the water service. It is not economically or logistically feasible for the District to receive the meter readings from the various jurisdictions in order to charge a single-family unit for sewer service based on water consumption. Technology in the future may make this option feasible.

General Facilities Area Charges

A General Facilities Area Charge is a charge collected from each new connection or expansion of a existing facility to the District's system representing a proportional share of the facilities for which costs are not directly assignable to an individual property. Costs that are considered a general benefit are spread over areas of the District which require similar service by way of a General Facilities Area Charge. These charges are periodically reviewed by the District so that future general facilities, as well as those already constructed, can be paid at the appropriate time. The 2012 General Facility Charges are governed by Resolution No. 3318-C, and are as follows:

Residential	$2,672.00 per Equivalent Residential Unit (ERU)
Commercial	$0.2672 per square foot

A fee of $97.12 is charged per front foot of sewer line, and $1,789 is charged per stub (per Resolution No. 3318-C) for Method 4 connections.

Fees for a Sewer Availability Certificate Charge are applied as follows: $100.00 for single-family properties within 150 feet of an existing main line (per Resolution No. 3318-C).

Sewer Development Fees are applied to standard main extensions planned and designed by an engineer retained privately by the developer.

The minimum plan review fee has been established by the District. The fee is paid by the District for the first "cycle" of plan review. Each subsequent cycle of plan review is paid by the developer as follows (per Resolution No. 3318-C):

Each for second cycle	$5,000.00
For each cycle required after two	$2,500.00

Side Sewer Permit Fees

Side sewer permit fees are charged at the time of request for connection of the individual houses to the system to cover the cost of the inspection. If the construction is more difficult and requires more stringent inspection, agreements, etc., as in the case of grinder pumps, additional costs may be charged to the property owner to cover the additional District costs.

Other Fees and Charges

A number of other charges and fees have been established to cover requests for service as they arise and are further described in **Chapter 3** and the District's resolutions.

METHODS FOR FINANCING IMPROVEMENTS

Several methods for financing improvements are available. These methods consist of District revenue funds, the sale of sewer revenue bonds, and other sources of loans and grants. These funding types are further described in the following paragraphs. In general, the facilities that have a useful service life extending beyond 20 years and that benefit the overall District should be financed by revenue bonds or a low interest Public Works Trust Fund (PWTF) long-term loan. When portions of these facilities serve a new area, the proportional costs of those facilities should be assessed to the owners in the area.

District Funds

With the exception of developer extensions, all improvements to the District system must be financed by the District. Though property owners in ULIDs are assessed the costs of construction over a period of years, the District must immediately obtain the funds for construction, and as the assessments are collected, they are applied to paying the previously established debt. General facility charges finance the improvements, but the charges actually apply to retiring the debt established when the improvements are constructed. Therefore, sources of funding are necessary to pay the costs as they arise. Some such sources are outlined below.

Sewer Operating Revenue

The District maintains a number of funds for construction, operation, and retirement of debt. The investment of these funds, at times when they are idle, generates interest to assist in payments of debts.

Developer Extensions

If a developer, or other party, desires to extend the sewer system to their property, they may do so at their own expense provided that: 1) they comply with the District's design standards; 2) the extension meets comprehensive plan requirements; and 3) the extension is in conformance with the existing land use. The developer normally provides the basic sewer service and contributes an appropriate amount for the general facilities necessary for the area, usually in the form of a residential equivalent unit charge. Developer financing will be a major source of funding for facilities located in undeveloped areas.

Occasionally, a developer may be required to construct off-site improvements in order to provide sewer to the new development. If properties that benefit from the off-site improvements are not associated with the development, those properties will be subject to a latecomer's agreement. The developer would receive the latecomer's fees when these properties connect to the new main, subject to the conditions in the District's latecomers policies.

A reimbursement area shall be established by the District to include those properties that benefit from the new improvements. The base amount of the latecomer charge shall be a pro rata share of reasonable construction and contract administration costs of the mainline extension project. This includes fees, including but not limited to, design, engineering, installation, restoration and permit fees and charges specifically applicable to the extension. The pro rata share of costs shall be determined by an audit of the owner's invoices and other documentary evidence of actual costs by the District's consulting engineer. The 15-year reimbursement period commences from the date the facilities are accepted by the District, without regard to the date of determination of the reimbursement amount or execution of a reimbursement agreement. Continued entitlement to Latecomer reimbursement is conditioned upon the owner's continued compliance with the notice provisions of RCW 57.22 which requires notice every two (2) years of updated owner information. No reimbursement to the owner shall be made upon expiration of the 15-year period.

Revenue Bonds

A major source of funds for capital improvements is sewer revenue bonds, which are sold to support general improvements to the District's sewer system. Normally, these improvements are items of significant cost with a useful service life that extends well into the future. Therefore, these costs should be paid by existing, as well as future, rate payers benefiting from these improvements. Current customers should not pay for improvements beyond the benefit which they derive. These bonds constitute a lien against the earnings of the District. Bonds may be issued for varying periods of time and at varying interest rates, depending on the bond market, with a maximum payable period of thirty years. Revenue bonds may be retired by a combination of operating revenues (after operation and maintenance expenses), general facilities charges, connection and latecomer charges, and ULID assessments. The expenditure of these bond funds is limited to major capital

improvements and to those projects approved by the Board of Commissioners. An initial authorizing vote of the people is required in order to sell revenue bonds. A vote was taken in 1961 providing the initial authorization, and additional authorization is not needed.

Although there are no statutory limitations on the amount of indebtedness that can be incurred, there is an economic limit to the amount the public is willing and able to pay for service. The revenue bond fund was established to assure that the net revenues after operation and maintenance expenses are sufficient to cover the annual bonded debt service.

Assessments (Utility Local Improvement Districts)

Improvements to the sewer system can be financed by assessments generated by the formation of a ULID. If a majority of property owners agree to form a ULID, the property that benefits from it will pay for all or a portion of the cost of the improvements. These assessments may be paid upfront in cash, but generally are paid with interest over a period of time, usually 10 to 15 years. Typically, the assessments are specified in the petition or overall ULID scheme and contribute to the revenue bond fund for payment of the revenue bonds.

Loans

Low interest rate loans are available from the State Public Works Trust Fund (PWTF) for repair and replacement of existing sewer systems.

The PWTF Construction Loan Program is a commonly used, low-cost revolving-loan fund established by the 1985 State Legislature to provide financial assistance to local governments for public works projects. Eligible projects include repair, replacement, rehabilitation, reconstruction, or improvement of eligible public works systems to meet current standards for existing users. Recent revisions to the program have now made growth-related projects consistent with 20-year projected needs eligible for this program.

The applicant must be a local government, such as a city, county or special purpose utility district, and have an approved long-term plan for financing its public works needs. Local governments must compete for PWTF dollars, since more funds are requested each year than are made available by the state legislature. The Public Works Board evaluates each application and transmits a prioritized list of projects to the Legislature. The Legislature then indicates its approval by passing an appropriation from the Public Works Assistance Accounts to cover the cost of the approved loans. Once the Governor has signed the appropriations bill into law, the local governments receiving the loans are offered a formal loan agreement with the appropriate interest rate and terms, as determined by the Public Works Board. The District does not depend or rely upon this funding source for future sewer improvements. If the government's ability to provide grants and loans to sewer districts improves, this funding source would be reconsidered.

The District's PWTF loan balance and maturity schedules are shown in **Table 8.6** and **Table 8.7**.

Table 8.6 – Summary of Public Works Trust Fund Loans Outstanding

	2011	2010	2009
Balance	$2,792,392	$3,324,057	$3,855,723
Less: Current Portion	($531,665)	($531,665)	($531,665)
Long-Term Debt	$2,260,727	$2,792,392	$3,324,058
Accrued Interest Payable on Loans	$12,362	$14,861	$17,359

Table 8.7 – Annual Debt Service on Public Works Trust Fund Loans

Year	Principal	Interest	Total
2012	$531,665	$24,724	$556,390
2013	$531,665	$19,728	$551,393
2014	$531,665	$14,731	$546,396
2015	$345,288	$9,734	$355,022
2016	$157,623	$6,781	$164,405
2017 to 2021	$694,485	$14,163	$708,647
Total	**$2,792,392**	**$89,861**	**$2,882,253**

Grants

Grants are not anticipated to be used as a funding source for the District in the near future. If government ability to provide grants to sewer districts improves, this funding source would be reconsidered.

Accounting Funds

The District maintains several funds, each of which has been established for a specific purpose or purposes. These funds are as follows:

- Capital Improvement Fund
- Lift Station 11B Construction Fund
- Maintenance Fund

- Revenue Bond Fund
- Revenue Bond Reserve Fund

Other Sources

The District receives income from other sources, such as sewer service availability charges, sewer ERU general facilities charges (GFC), method 4 charges, segregation fees, sewer availability certificate charges, sewer development fees, sewer side service fees, shut-off penalties and collection charges, unauthorized connection charges, and equipment rental and labor charges.

FINANCING THE COMPREHENSIVE PLANS RECOMMENDATIONS

An actual determination of where financial resources will be generated must be considered due to the various funding alternatives available to the District, and the funds that have been established to handle revenues for construction. The improvements indicated in **Tables 7.1** through **7.3** in Chapter 7 involve an extensive amount of new large-scale construction. The mentioned time schedule is subject to change but should be reliable for near term projects.

The improvements to be funded by ULID should not present a problem in obtaining funding by sewer revenue bonding, as long as the District continues to manage accounts and bond retirement funds appropriately. The amount of improvements to be installed by ULID and by Developer Extension will be much higher than the amounts listed. The costs in **Tables 7.1** through **7.3** deal only with major projects, not with neighborhood or new plat projects, which comprise the majority of construction in the District.

As ULIDs are developed and assessments are levied, the assessments are used to retire the outstanding bonds. This allows the District to work with property owners to form additional ULIDs. Therefore, with proper management, the ULIDs take care of themselves over time. In addition, the new ULID customers will pay for a portion of the bond retirement in their monthly service payments. ULIDs which have already been constructed by the District are being paid off by property owners as the assessment periods expire. This helps the District to form new ULIDs and sell bonds with a proven track record of debt payment.

Problems may arise as ULIDs are retired and the ratio of operating funds covering the bond payments becomes larger. Creation of new ULIDs aids this condition. One benefit is that the amount of bond coverage required is less for assessed debt than for debt retired by service charges.

The District and its customers are obviously best served by ULID formations and assessments used to cover improvements. Continuing the policy of providing service for customers as it is requested, constructing most improvements on a “pay-as-you-go” basis, managing the funds of the District to

retire debts and maximize income, and timing District funded projects as funds are available encourages this process.

Additional improvements, besides those listed in **Tables 7.1** through **7.3**, will be constructed as requested, primarily in areas that already have their general facilities constructed. These improvements will primarily be developer projects of varying size. They will gradually provide the District with additional customers. The extent and timing of the projects are unknown, and they will not require District funding. Accordingly, they have not been included in the Capital Facility Plan. The work will be designed and inspected by the District, and will meet the required design criteria of the District. Therefore, major maintenance problems are not anticipated.

Allocation of Funds for Improvements

The District's allocation of funds for improvements is generally based upon the requirements for that specific improvement. Consideration is given for a specific project based upon whether the project benefits are localized or benefit the entire District. Another funding consideration is whether a project is maintenance and replacement oriented or an upgrade to an existing system to improve service or system reliability.

Sources of funding for improvements are categorized into three areas generally described below.

Funding Sewer Main Replacement

The materials used in sanitary sewer construction generally have an expected useful life of 50 to 100 years. In that time, erosion, corrosion, and normal usage may damage the system sufficiently to require replacement. If the system is maintained properly, and corrosive materials are controlled, the life of the system may be even longer. If circumstances, or the nature of the wastewater, are such that corrosion is accelerated, replacement of portions of the system may be more frequent.

Once areas are developed, the roads, storm drainage and utilities will continue to be used indefinitely. Consequently, planning for replacement of facilities is a necessary fact, recognizing the effects of time. Repairs of facilities are made in a routine manner as difficulties arise, but the total replacement of a facility which has completed its useful life must be considered.

General facility funds tend to be based upon the one time construction of the facilities, unless a definite upgrade program is planned. When the general facilities, or individual pipe and appurtenances require replacement, funds must be available for that work. The depreciation coverage in the monthly rate is budgeted for the eventual replacement of existing facilities. These funds are invested to allow for maximum growth until the time they are required to pay for the necessary replacement construction. The District includes these funds in the Maintenance Fund.

Rate Funded

Rate funded projects are viewed as maintenance or replacement oriented. These projects are necessary to sustain the current sewer system.

General Facility Charge (GFC) Funded

The General Facility Charge (GFC) is a one-time fee, paid at the time the permit for development is issued. This charge is designed to recover a proportionate share of the cost of the existing system that has been borne by the District's ratepayers and attempts to establish equity between the District's existing and future customers by placing new customers on par with existing ratepayers. To ensure that the sewer utility achieves its fiscal policy of fully recovering the costs of system expansion and a proportional share of the investment in the existing system from new development, the GFC calculation should include the cost of future facilities and the interest accrued on existing system capacity.

Developer Extension (DE) Funded

Developer extension projects are viewed as solely funded by developers. These facilities are built to District standards and approved and accepted by the District upon completion. The District reimburses any over-sizing to the developer from GFC funds.

SERVICE POLICIES

The District has established methods, criteria, terms and conditions upon which sewer service is made available, which are described in detail in **Chapter 3.**

FUTURE FINANCIAL ANALYSIS

The District has projected approximately $89.55 million dollars in sewer capital projects over the next 20 years. These improvements are summarized in the District's Capital Facility Plan. The District also maintains a Capital Improvement Plan (CIP). The CIP is used to implement the Capital Facility Plan and is updated annually, through the budget process, in order to better forecast project costs and timing. In conjunction with this effort, future rate projections should be analyzed to reflect changes in system costs and other assumptions. As described in **Chapter 7**, projects recommended for the next 10 years total $60.55 million dollars. The remaining projects are recommended for the following ten years and total $29.0 million dollars.

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CHAPTER 9

MAINTENANCE AND OPERATIONS PROGRAM

INTRODUCTION

This chapter provides an overview of Soos Creek Water & Sewer District's sewer system responsibility and authority, system operation and control, management program, emergency response, and preventative measures. More information regarding certain programs is available from the District and has been referenced in this chapter.

MANAGEMENT AND OPERATIONS RESPONSIBILITY

The responsibilities for the day-to-day management of the sewer portion of the District including operation, maintenance and administration are listed below.

Board of Commissioners

The District has five elected Commissioners, each serving six-year terms. The Board of Commissioners holds regular meetings at the District office on a schedule as established by the Board. A record of all resolutions adopted by the Board is maintained at the District office. The current elected commissioners are:

	Term Expires
Alice R. Marshall	January, 2016
Darold Stroud	January, 2016
Steve Pfaff	January, 2018
Gary O. Cline	January, 2020
Larry West	January, 2020

DISTRICT MANAGEMENT TEAM

General Manager

Responds to complaints, public affairs, and press relations. Responsible for development, field operations and rate setting. Oversees all the operations as listed below as a management team.

Ron Speer, General Manager – 19 years with the District

- Chair MWPAAC sub-committee sewage disposal agreements
- Member of MWPAAC subcommittee Rates and Finance
- State Association Legislative Committee
- Member Alternate SPU Operating Board
- Member of King County Financial Policy Committee
- State of Washington Water Manager IV Certification
- Associate in Applied Science, Mid-Management
- Master of Public Administration from University of Washington (MPA)
- Washington Waste Water Collection Level 3 certification
- Commissioner of Johnson County Fresh Water Supply District No. 1 for two years

- General Manager Johnson County Fresh Water Supply District No. 1 for 7½ years.

Finance Manager

Responsible for accounting, finance, budgeting and information systems.

Rob Howell, Finance Manager – 18 years with the District

- BS, MBA, MPAcc (Master of Accounting)
- CPA, CGFM (Certified Government Financial Manager)

Human Resources Manager

Responsible for personnel policies, compensation and benefit programs.

Marci Oda, Human Resources Manager – 15 years with the District

- B.A. in Business Management
- Member SHRM (Society for Human Resources Manager)
- Member NHMA (Northwest Human Resources Management Association)

Office Personnel

Development

- Responsible for new developments, side sewer permits, and removal of unauthorized connections.

Accounting

- Responsible for accounting, payroll and computer functions.

Billing/Customer Service

- Responsible for billing, customer calls, reception and cash receipts.

Field Personnel

Responsible for the maintenance and repair of the District's sewer and water systems and equipment.

Responsible for inspections, water quality, cross-connection control and safety regulations.

Ken Van Den Bergh, Field Superintendent – 30 years with the District

- Wastewater Collection Specialist Certificate II
- State of Washington – Water Distribution Manager III certification

Meter Reading and Maintenance

- Responsible for meter reading, repair, maintenance and utility locates.

Collection/Distribution Systems

- Responsible for maintenance and repair of water distribution and sanitary sewer collection systems.

Pump and Lift Stations

- Responsible for maintenance and repair of all equipment for the pump stations.

  Inspections/Water Quality/Cross Connections/Safety

The District receives professional services from the following:

District Engineering Consultant

Stantec Consulting Ltd.

Gregory G. Hill, P.E.

- Over 25 years experience in water and sewer engineering
- B.S. Civil Engineering, North Dakota State University

District Attorney

Hanis Irvine Prothero, PLLC

Mike Hanis, District Attorney

- Over 40 years experience in the field of water and sewer law
- B.A. Business Administration, Brigham Young University
- J.D. Willamette University College of Law, Salem, Oregon

District Staff

Table 9.1 is an approximation of current staffing requirements for the general maintenance tasks. It represents a general guideline rather than actual requirements.

Table 9.1 - General Maintenance Staffing Requirements

	Functions	Staffing (person)
1	Lift Station Maintenance	2½
2	Collection System maintenance (Including cleaning and t.v. inspection)	3¾
3	Infiltration/Inflow control	¼
4	Developer Extension Inspection	½
5	New Hookup Inspection	½
6	Supervision	2
7	Line Locations, miscellaneous	1
8	Customer assistance, billing, delinquent accounts	4½
	Total	15

A copy of the District's organizational chart is included at the end of this chapter as **Figure 9.1**.

CERTIFICATION STATUS

The State does not require a certification for sewer operators. The District encourages and reimburses employees to sit for sewer certification testing.

PROFESSIONAL DEVELOPMENT

The District encourages professional growth among its staff members and has policies in place that supports this position.

Employee Certification

The District will pay for the fees, as well as, an employee's time to sit for Waste Collection Specialist testing. Currently, four employees have received a certification of a Waste Collection Specialist from the Washington Waste Water Collection Personnel Association.

The District will pay annual renewal fees for all required certifications (even if more than one is required.). If an employee has a higher certification than is required, the District will pay for the highest certification rating.

Continuing Education and Tuition Reimbursement

The District encourages participation in workshops, seminars and other education programs to improve job skills. After one year of regular full-time employment, other continuing education classes offered in accredited schools or colleges are also considered for tuition reimbursement, but participation is taken on the employee's own time. Education assistance is limited to courses that apply directly to an employee's opportunities within the District.

ROUTINE OPERATION AND PREVENTATIVE MAINTENANCE

The key to routine operation is the ongoing maintenance of all facilities and equipment. All facilities and equipment are checked in accordance with manufacturer's specifications. Lubrication and maintenance charts are provided for each piece of equipment. The following is an overview of the maintenance schedules for facilities and equipment:

Daily Facility Maintenance

- Receive and analyze telemetry readings – Lift Stations

Weekly Facility Maintenance

- Lift Station Reports – Lift Stations

Monthly Facility Maintenance

- Run Generators - Lift Stations
- Change filters – Lift Stations
- Clean probes – Lift Stations
- Clean priming tanks – Lift Stations
- Run vibration tests – Lift Stations

Semi-Annual Facility Maintenance

- Clean Stations – Lift Stations
- Grease Bearings – Lift Stations
- Clean the Wet Wells – Storage Facilities

Yearly Facility Maintenance

- Change oil, antifreeze and all air filters – Generator maintenance
- Flushing of sewer mains – Collection system
- Check all system valves – Force Mains

Year round, On-going, or Periodic Facility Maintenance

- Maintain building and site – Lift Stations

MOTOR VEHICLES, EQUIPMENT AND SUPPLIES

The District owns the following equipment listed in **Table 9.2**.

Table 9.2 – Motor Vehicles and Equipment

Item	Description
1	07 Caterpillar Backhoe
2	99 Case Backhoe
3	Wacker/Compactor (2)
4	Portable Air Compressor
5	Stihl Cut Off Saw
6	Speed Shore 6'x8'
7	Mikasa Plate Compactor
8	Cues Mini Camera
9	2011 Stihl Chain Saw
10	Easement Machine
11	Hole Hog
12	CAT Asphalt Roller
13	07 Tetex Portable Light
14	93 Ingersoll Rand Air Compressor
15	Concrete Saw
16	09 Ford F-150
17	05 Chevrolet Trailblazer (2)
18	03 Ford F-550
19	06 Ford F-150 (2)
20	04 Ford F-450
21	02 Chevrolet Van
22	05 Peterbuilt Jet Truck
23	10 Ford Ranger (2)
24	02 Interstate Lawn Trailer
25	01 Ford F-250
26	10 Peterbuilt Vactor Truck
27	02 Dodge Caravan
28	00 Chevrolet Step Van

Table 9.2 – Motor Vehicles and Equipment

Item	Description
29	03 Ford F-450 Utility Truck
30	09 Ford F-450 Dump Truck
31	07 Ford F-150 (2)
32	07 Chevrolet Silverado
33	07 Ford Ranger
34	91 International Dump Truck
35	99 International Dump Truck
36	Portable Generator (1000W)
37	Onan Generator (150KW)
38	Honda Generator (3000W) w/Inverter
39	Honda Generator (2000W) w/Inverter
40	Honda Generator (3500W)
41	99 Onan Portable Generator (80KW)
42	96 Onan Generator (150KW)
43	Honda Portable Generator (3500W)
44	Kawasaki 2” Pump
45	Honda 3” Trash Pump
46	Homelite 2” Diaphram Pump
47	MQ Submersible Pump
48	92 Gorman Rupp Portable Pump
49	01 Cornell Pump
50	82 Tilt Trailer (Shoring Box)
51	90 Tilt Trailer (Shoring Box)
52	06 C&B Easement Trailer
53	04 Interstate Trailer (I&I)
54	91 Backhoe Trailer
55	96 Tow Master Trailer
56	10 Fuel Trailer

REPLACEMENT OF TRUCKS AND EQUIPMENT

The District has compiled a list of equipment with its planned replacement date. Additional equipment may be replaced or purchased as required. A replacement schedule for some of the larger items that the District owns follows in **Table 9.3**.

Table 9.3 Equipment Replacement Schedule

Description	Year of Replacement	Replacement Cost	Total
2009 1/2 ton Ford Pickup	2014	$25,000	
1991 10 to 12 yard Dump Truck	2014	$150,000	$175,000
Jet Truck	2015	$165,000	
1-ton Ford (Jet Truck Chaser)	2015	$35,000	$200,000
Case Backhoe	2016	$100,000	$100,000
2010 Vactor Truck	2017	$350,000	
Chev. SUV (Foreman)	2017	$25,000	$375,000

Supplies

The District maintains a complete inventory system of all supplies and parts in stock for the sewer system. A separate inventory list is maintained for the sewer system and those items used for either the water or sewer system. The supplies and parts are located at the District office. The inventory could be used to maintain or repair facilities within the District.

EMERGENCY RESPONSE PROGRAM

The District's Emergency Response Program has many elements, including an Emergency Call-Up List, Vulnerability Analysis, and Emergency Response Plan. This program helps the District address emergency situations in an effective and systematic manner. The following text describes elements of the District's Emergency Response Program.

The District has prepared an Emergency Response Plan to predetermine what actions will be taken by the District to reduce the risk of, respond to, and recover from an emergency. The plan addresses the purpose, organization, concept of operations, administration and logistics, and direction and control.

In 2004, the District completed an update to their Emergency Response Plan in response to the 2002 Bioterrorism Act. The Emergency Response Plan includes system specific information, explanation of roles and responsibilities, communications procedures, emergency contact lists, situation specific action plans, and information on personnel safety. This Plan is reviewed and updated periodically.

Since 1992, the District has had a Mutual Aid Agreement, through the Washington Association of Sewer and Water Districts with other participating water and sewer districts to provide personnel and equipment to other districts that request assistance during a disaster.

Emergency Call-Up List

The District's telephone number (206) 630-9900 is staffed 24-hours a day, seven days per week. The appropriate personnel will be contacted during an emergency situation.

Two field employees are on call after working hours, and are contacted in an emergency. In the event of a major emergency, the District Manager and Operations Manager will be contacted. The field coordinators would then mobilize their crews.

Construction Clean-up and Repair	**Phone**
CJ's SuperClean	(253) 639-9171
Service Pro of Renton	(425) 255-2227
Bar-Low Construction Co.	(253) 833-4497
Excavation Contractors	**Phone**
Accurate Enterprises, Inc.	(206) 255-6642 (Ed Woyvodich)
Tri-State Construction	(425) 455-2570
Sewage Spills	**Phone**
Department of Ecology	(425) 649-7000 (Ron Devitt)
Public Health – Seattle and King County	(206) 296-4500
King County Right-of-Way Emergencies	**Phone**
King County Utility Inspections	(206) 296-8122
Materials	**Phone**
H.D. Fowler	(425) 746-8400 (Ryan Huff)
HD Supply	(206) 387-4154 (Mark Thommasen)

Mainline Problems	Phone
Aqua Clean Jet-n-Vac	(206) 948-4175 (Dennis Palmer)
City of Covington	(253) 638-1110
City of Kent	(253) 856-5200
City of Renton	(425) 430-7204

Pump Station – Electrical Troubleshooting	Phone
Omega Contractors	(425) 881-1697
Cascade Machinery	(206) 762-0500
Utilities Services	(206) 246-5674

Sewage Transfer	Phone
MAR-VAC	(206) 762-0240 or (800) 540-7491 (John Hinsee)
Long Evergreen Septic	(253) 852-0550

Vulnerability Assessment and Hazard Mitigation Plan

The District has completed a Vulnerability Assessment for its water system, portions of which are also applicable to its sanitary sewer operations. The District has also completed a Hazard Mitigation Plan, updated in 2009. The Hazard Mitigation Plan focuses on natural disasters such as earthquakes and outlines measures the District will take to reduce risks of damage to its facilities and reduce service disruption impacts to customers. The Vulnerability Assessment focuses on manmade disasters.

Security measures protect all District facilities, including the headquarters and remote sites, such as the lift stations. The doors and entrances to all facilities remain locked when not in use. All access ladders are fitted with a locked panel and are protected by metal cages in order to discourage access by unauthorized personnel. Lift stations and buildings are also monitored for intrusion and smoke. Any incidence of alarm would result in notification and call out to the on-call person. The District has not experienced any significant problems with vandalism or interference with facility operations by unauthorized personnel.

Portions of the District's system include sewer pipes which are crossing, or are adjacent to, creeks, wetlands, or seismic hazard areas. In the event of an emergency due to an interruption in sewer service, the District has portable pumping equipment available to quickly redirect sanitary sewer flow away from impacted facilities until repairs are completed. The District also has portable generators to provide electrical power at those lift station which do not have permanently installed back-up power generators. Only two of the lift stations have no form of backup power. However, both of these stations are provided with overflows that bypass sewage flow to gravity sewers in the event the stations are unable to operate.

In addition to its own in-house equipment and personnel, the District has available the resources listed above in the Emergency Call-Up List.

A prolonged emergency might require public notification measures by the District. This could involve contacting the local news media and mailing notices to the customers. Other methods include door-to-door notification or the District could use vehicles with loud speakers. Specific contacts include:

Kent and Renton School District

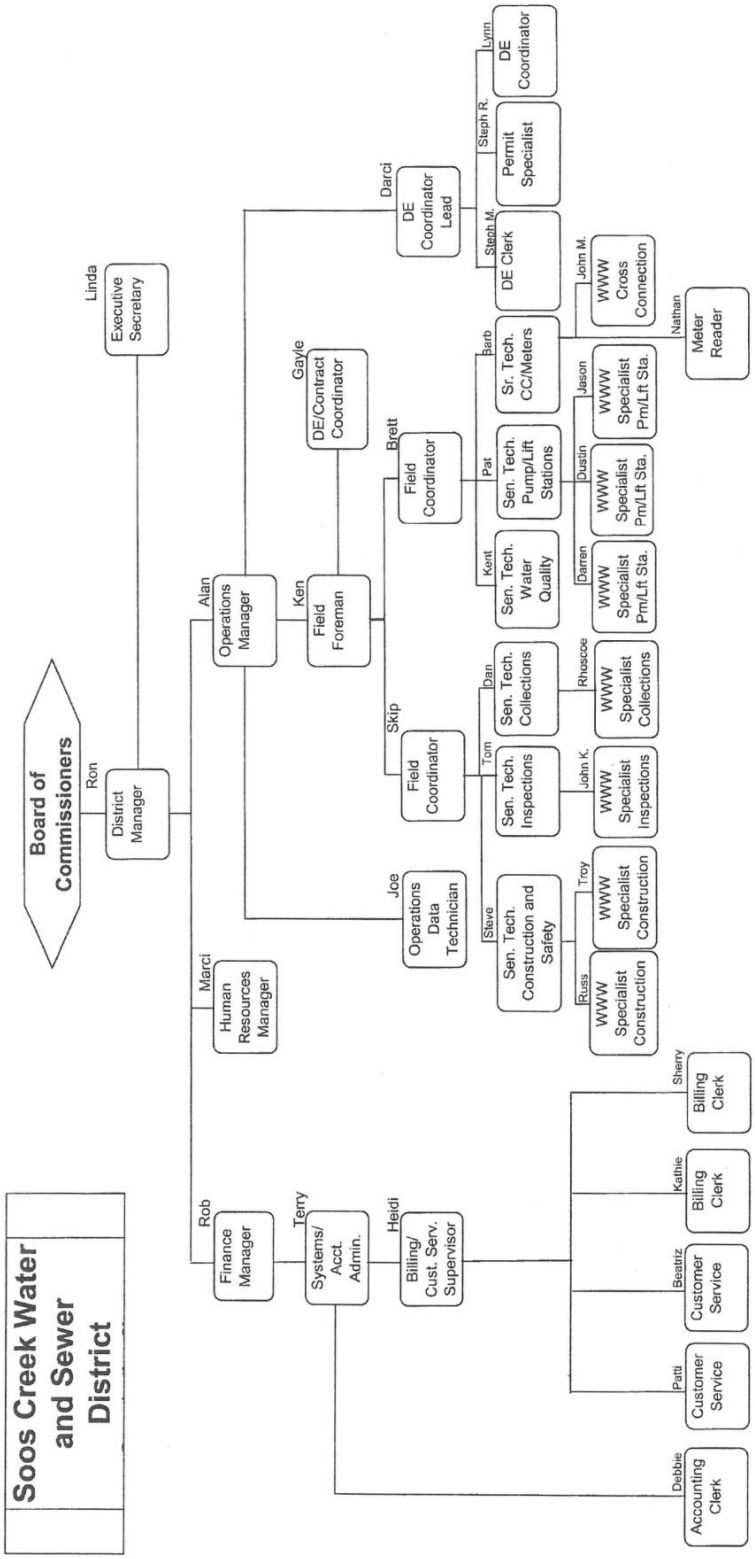
In case of notification, the District would contact the principal of the affected school(s). The District has a list for internal use which includes the names and phone numbers of each school within the District.

Newspaper Contacts	Phone
Seattle Times	(206) 464-2121
Reporter	
Kent	(253) 872-6600
Renton	(425) 255-3484

Television Contacts	Phone
KING	(206) 448-5555
KSTW	(206) 441-1111
KIRO	(206) 728-7777
KOMO	(206) 404-4000

Radio Contacts	Phone
KIRO (FM)	(206) 726-5476
KOMO	(206) 404-5666

Figure 9.1 - Organizational Chart



CHAPTER 10
STORM AND SURFACE WATER CONSIDERATIONS

INTRODUCTION

The District recognizes its role as a regional service provider of utility (currently water and sewer) facilities in multiple governmental jurisdictions. Storm and surface water flow impacts sewer systems through infiltration, inflow and illegal connections. Additionally, storm water can flood property and transport pollution, if not managed. As new development occurs within or adjacent to its current corporate boundaries, the District recognizes that there is a need to coordinate storm and surface water aspects of development. To that end, the District is willing, capable, and able to fill that need, if other jurisdictions are willing to work with the District to enable this result, for some or all areas of the District's jurisdiction.

REGULATORY AUTHORITY

The District's ability to provide storm water system services is bestowed by RCW 57.08.005. The law provides for the ability "to construct, condemn and purchase, add to, maintain and operate systems of drainage for the benefit and use of the district, the inhabitants thereof and persons outside of the district…" Also under this authority, the District may charge for these services and construct and maintain storm water systems, including natural drainage systems throughout the District and throughout other political subdivisions within the District.

STORMWATER REGULATION

Storm water is regulated by a number of Federal, State and Local Laws, briefly cited below. All of the laws are complex and the following is not intended to be a complete summary of the law, rather, to acknowledge these laws that govern storm drainage systems. The Federal laws are cited first, followed by state laws that implement these acts and technical governing documents.

Federal Clean Water Act

The EPA has delegated authority for water quality regulatory programs to the Washington State Department of Ecology. Department of Ecology has produced and updates storm water regulatory guidance.

Federal Endangered Species Act

Programs under this Act are administered by the US Department of Fish and Wildlife Services and the National Oceanic and Atmospheric Administration (NOAA). The Act seeks to conserve endangered or threatened species, as well as the ecosystems on which those species depend.

Federal National Flood Insurance Act of 1968

Programs under this Act are administered by the Federal Emergency Management Agency (FEMA) and are targeted at minimizing flood damage through several different means and programs.

U.S. Environmental Protection Agency

Certain municipalities and other entities are subject to permitting under the EPA National Pollution Discharge Elimination System (NPDES) Phase I and Phase II Stormwater Regulations.

State of Washington Water Pollution Control Act (RCW 90.48)

Discharges to state waters shall not cause pollution and require the use of all known, available, and reasonable treatments and best management practices approved by Department of Ecology.

State of Washington Water Quality Standards

Various Washington Administrative Codes (WAC) set standards for protecting ground water, surface water and sediment management.

Department of Ecology and King County Stormwater Regulations and Manuals

Stormwater system design and construction must comply with either the 2012 Stormwater Management Manual for Western Washington or the 2009 King County Surface Water Design Manual, or alternative manual approved by the Department of Ecology.

DRAINAGE PROVISON TO SPECIFIC AREAS

Coordination with Cities and King County

The District recognizes that some jurisdictions may not have the staff, funding, or desire to serve their entire jurisdiction or even a portion thereof, with storm water services. As an existing regional utilities provider, the District is in a better position than some to provide those services and is willing to work with jurisdictions so that their citizens are well served. In order for the District to provide storm water services within an area, a jurisdiction (City or County) with current authority for those services will have to grant the District authority to provide those services. This is typically done through the comprehensive planning process, which can be amended on a yearly basis.

As cities annex portions or all of their Potential Annexation Areas (PAAs), an immediate need for storm system evaluation and management will occur. The District already has interlocal service area agreements with each of the cities that have designated a PAA within the service area of the District for sewer. If desired, an amendment to an existing interlocal agreement to include these storm water services could be prepared.

ANNEXATION

Any area where the District contemplates providing storm water services will need to be within the District's boundary. If an area is outside of the District's boundary, that area would have to petition for annexation to the District and the annexation is subject to the King County Boundary Review Board's process and approval by the King County Council.

STORMWATER PLANNING

One step in provision of storm water services is to create a storm water comprehensive plan. The storm water plan may contain regulatory, programmatic and technical standards and must comply with federal, state, and local mandates.

FUNDING PLAN

The District will consider provision of storm water services to an area on a case-by-case basis. The District's sewer and water customers would not be expected to fund a storm water program that serves a portion of the District's customers. A funding mechanism and rates will be developed to cover the District's expenses for developing and maintaining the storm water program; construction, maintenance and replacement of storm water facilities; and implementation of best management practices.

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APPENDICES

LIST OF APPENDICES

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APPENDIX B AGENCY COMMENTS

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APPENDIX A

SEPA DETERMINATION

NOTICE OF ACTION

Notice is given under SEPA, RCW 43.21C.080, that Soos Creek Water & Sewer District took the action described in (2) below on February 6, 2013.

1. Any action to set aside, enjoin, review, or otherwise challenge such action on the grounds of noncompliance with the provisions of chapter 43.21C RCW (State Environmental Policy Act) shall be commenced on or before May 13, 2013.

2. Description of agency action: Adopting an Environmental Checklist, and making a Proposed Determination of Nonsignificance pursuant to SEPA.

3. Description of proposal (if not covered by (2)): Soos Creek Water and Sewer District, Sewer Comprehensive Plan Update, dated 2012; Agency Review Draft for submission to DOE, King County, cities and other interested parties for review.

4. Location of proposal (a sufficient description should be given to locate the site, if any, but a complete legal description is not required): This is a non-project action. The Sewer Comprehensive Plan will apply throughout the District, and within its planning area.

5. Type of environmental review under SEPA (include name and date of any environmental documents): Resolution 3373-S, dated February 6, 2013; Adoption of Environmental Checklist, and making Proposed Determination of Nonsignificance.

6. Documents may be examined during regular business hours at (location, including room number, if any):

Soos Creek Water and Sewer District
14616 SE 192nd Street
Renton, Washington 98058

7. Name of agency, proponent, or applicant giving notice: Soos Creek Water and Sewer District.

8. This notice is filed by (signature of individual and capacity in which the person is signing):

Dated this 8th day of April, 2013.

Ron Speer, District Manager

SEPA RULES

WAC 197-11-970 DETERMINATION OF NON-SIGNIFICANCE (DNS).

DETERMINATION OF NON-SIGNIFICANCE

Description of proposal: SOOS CREEK WATER AND SEWER DISTRICT, SEWER COMPREHENSIVE PLAN UPDATE, DATED 2013

THIS PLAN ESTABLISHES THE SEWER SYSTEM POLICIES AND CRITERIA IN ACCORDANCE WITH THE DISTRICT'S FRAMEWORK, ANALYZES THE EXISTING SEWER SYSTEM AND ITS OPERATIONS, AND RECOMMENDS IMPROVEMENTS TO CORRECT DEFICIENCIES AND MEET FUTURE SERVICE NEEDS. THIS PLAN PROVIDES THE DISTRICT WITH A GUIDE TO EVALUATE THE IMPACTS OF FUTURE PROPOSED DEVELOPMENT AND LAND USE ON THE SEWER SYSTEM. THE SCOPE OF THE PLAN IS AS FOLLOWS:

- REVIEW AND UPDATE THE SEWER SYSTEM POLICIES AND CRITERIA TO ENSURE FUTURE IMPROVEMENTS AND EXPANSIONS ARE CONSISTENT WITH ADJACENT JURISDICTIONS COMPREHENSIVE PLANS.
- ESTIMATE THE EFFECT OF FUTURE LAND USES ON POPULATION AND HOUSEHOLD TRENDS WITHIN THE SEWER SERVICE AREA.
- ESTABLISH REGULATORY AUTHORITY FOR FUTURE STORM AND SURFACE WATER CONSIDERATIONS FOR A PORTION OF OR ALL OF THE DISTRICT'S JURISDICTION AREA.
- DOCUMENT THE EXISTING SEWER SYSTEM.
- UPDATE THE MODEL FOR THE HYDRAULIC ANALYSIS OF THE SEWER SYSTEM.
- ASSESS THE CAPABILITY OF THE EXISTING SEWER SYSTEM TO MEET EXISTING AND FUTURE DEMANDS.
- IDENTIFY EXISTING SEWER SYSTEM DEFICIENCIES AND DEVELOP THE CAPITAL FACILITY PLAN, INCLUDING PRIORITIES FOR CONSTRUCTION.
- SUMMARIZE FINANCING METHODS FOR RECOMMENDED FACILITY IMPROVEMENTS.
- DOCUMENT THE DISTRICT'S MAINTENANCE AND OPERATIONS PROGRAM FOR THE SEWER FACILITIES.

Proponent: SOOS CREEK WATER AND SEWER DISTRICT

Location of proposal, including street address, if any:

THE SERVICE PLAN AREA IS COMPRISED OF ALL OR PORTIONS OF SECTIONS 20, 21, 25, 28, 29, 30, 31, 32, 33, 34, 35 AND 36 OF TOWNSHIP 23 NORTH, RANGE 5 EAST, W.M., AND SECTIONS 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, AND 18 OF TOWNSHIP 22 NORTH, RANGE 5 EAST W.M., KING COUNTY, WASHINGTON, AND IS SITUATED ON THE SOOS CREEK PLATEAU ADJACENT TO, AND WITHIN, THE CITIES OF KENT, MAPLE VALLEY, COVINGTON, BLACK DIAMOND AND RENTON. A MAP OF THE DISTRICT IS ATTACHED.

Lead agency: SOOS CREEK WATER AND SEWER DISTRICT

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

[ ] There is no comment period for this DNS.

[X] This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below. Comments must be submitted by FEBRUARY 20, 2013.

Responsible Official: RON SPEER

Position/Title: DISTRICT MANAGER

Address: PO BOX 58039
14616 SE 192nd Street
RENTON, WASHINGTON 98058-1039

Phone: 253-630-9900

Date: FEBRUARY 6, 2013

Signature: _____
RON SPEER, DISTRICT MANAGER

[X] There is no agency appeal.

ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers to provide additional information reasonably related to determining if there may be significant adverse impact.

Use of Checklist for Non-project Proposals:

Complete this checklist for non-project proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON-PROJECT ACTIONS (part D).

For non-project actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," and "affected geographic area," respectively.

A. **BACKGROUND**

1. Name of proposed project, if applicable:

   SOOS CREEK WATER AND SEWER DISTRICT, SEWER COMPREHENSIVE PLAN, DATED 2013

2. Name of applicant:

   SOOS CREEK WATER AND SEWER DISTRICT

3. Address and phone number of applicant and contact person:

   PO BOX 58039
   14616 SE 192ND STREET
   RENTON, WASHINGTON 98058
   (253) 630-9900
   RON SPEER, DISTRICT MANAGER

4. Date checklist prepared: OCTOBER 15, 2012

5. Agency requesting checklist:

   SOOS CREEK WATER & SEWER DISTRICT

   ADDITIONALLY, A DISTRIBUTION LIST IS ATTACHED (EXHIBIT B) LISTING THOSE AGENCIES RECEIVING A COPY OF THIS SEPA CHECKLIST TO PROVIDE COMMENT.

6. Proposed timing or schedule (including phasing, if applicable):

   THE SEWER COMPREHENSIVE PLAN, DATED 2013, IS EXPECTED TO BE ADOPTED IN THE WINTER OF 2013

7. Do you have any plans for future additions, expansion, or further activity related to, or connected with this proposal? If yes, explain.

   YES, THE SEWER COMPREHENSIVE PLAN, DATED 2013, DISCUSSES ADDITIONS AND IMPROVEMENTS TO THE SOOS CREEK WATER AND SEWER DISTRICT SEWER SYSTEM. HIGH PRIORITY IMPROVEMENTS WILL LIKELY OCCUR WITHIN THE NEXT SIX YEARS AND ARE DISCUSSED IN THE CAPITAL FACILITIES CHAPTER OF THE PLAN. THESE PROJECTS WILL BE REVIEWED AND ADDRESSED BY APPROPRIATE AGENCIES AS THE PROJECTS COMMENCE. ALTHOUGH UNLIKELY, THERE MAY BE FUTURE ADJUSTMENTS IN THE SEWER SERVICE AREA OR UNFORESEEN ANNEXATIONS, DEVELOPER EXTENSIONS, ETC, WHICH WOULD BE REVIEWED AS THEY OCCUR. THE PLAN ALSO ESTABLISHES REGULATORY AUTHORITY FOR FUTURE STORM AND SURFACE WATER CONSIDERATIONS FOR A PORTION OF OR ALL OF THE DISTRICT'S JURISDICTION AREA.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

   NONE, AS PART OF THIS SEWER COMPREHENSIVE PLAN; PROJECTS PROPOSED IN THE PLAN MAY REQUIRE, THEIR OWN ENVIRONMENTAL CHECKLIST AND DETERMINATION, WHICH WOULD OCCUR AS SPECIFIC PROJECTS ARE PROPOSED.

KING COUNTY AND THE CITIES OF KENT, MAPLE VALLEY, BLACK DIAMOND, COVINGTON, AND RENTON MAY HAVE SPECIFIC CAPITAL IMPROVEMENT PLANS, INCLUDING PROJECTS WHICH MAY REQUIRE DISTRICT ACTIONS, WHICH MAY TRIGGER ENVIRONMENTAL ANALYSES. INFORMATION REGARDING SPECIFIC PLANS OR PROJECTS SHOULD BE LOCATED WITHIN RESPECTIVE JURISDICTION COMPREHENSIVE PLANS AND CAPITAL IMPROVEMENT PROGRAMS (CIP'S). SEPA DETERMINATIONS AND ANALYSES WILL OCCUR ON A PROJECT-BY-PROJECT BASIS, AS REQUIRED.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

NONE KNOWN THAT WOULD AFFECT THIS COMPREHENSIVE PLAN.

10. List any government approvals or permits that will be needed for your proposal, if known.

THE PROJECTS OUTLINED IN THE SEWER COMPREHENSIVE PLAN, DATED 2013, WILL, GENERALLY, REQUIRE APPROVAL OR REVIEW FROM THE FOLLOWING AGENCIES:

WASHINGTON STATE DEPARTMENT OF ECOLOGY (DOE)

METROPOLITAN KING COUNTY COUNCIL

KING COUNTY DEPARTMENT OF PERMITTING & ENVIRONMENTAL REVIEW

KING COUNTY REAL PROPERTY DIVISION

KING COUNTY UTILITIES TECHNICAL REVIEW COMMITTEE

CITY OF KENT

CITY OF RENTON

CITY OF COVINGTON

CITY OF BLACK DIAMOND

CITY OF MAPLE VALLEY

CEDAR RIVER WATER & SEWER DISTRICT

COVINGTON WATER DISTRICT

KING COUNTY WATER DISTRICT NO. 111

MUCKELSHOOT TRIBE

AUBURN SCHOOL DISTRICT

WASHINGTON STATE DEPARTMENT OF FISH & WILDLIFE

WASHINGTON STATE DEPARTMENT OF HEALTH

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

KING COUNTY PLANNING & ASSET MANAGEMENT

SEATTLE PUBLIC UTILITIES

KING COUNTY FIRE DISTRICT 40

KENT FIRE DISTRICT RFA

KENT SCHOOL DISTRICT

EAST KING COUNTY REGIONAL WATER ASSOCIATION

RENTON SCHOOL DISTRICT

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

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- SUMMARIZE FINANCING METHODS FOR RECOMMENDED FACILITY IMPROVEMENTS.
- DOCUMENT THE DISTRICT'S MAINTENANCE AND OPERATIONS PROGRAM FOR THE SEWER FACILITIES.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any applications related to this checklist.

THE SERVICE PLAN AREA IS COMPRISED OF ALL OR PORTIONS OF SECTIONS 20, 21, 25, 28, 29, 30, 31, 32, 33, 34, 35 AND 36 OF TOWNSHIP 23 NORTH, RANGE 5 EAST, W.M., AND SECTIONS 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, AND 18 OF TOWNSHIP 22 NORTH, RANGE 5 EAST W.M., KING COUNTY, WASHINGTON, AND IS SITUATED ON THE SOOS CREEK PLATEAU ADJACENT TO, AND WITHIN, THE CITIES OF KENT, MAPLE VALLEY, COVINGTON, BLACK DIAMOND AND RENTON. A MAP OF THE DISTRICT IS ATTACHED.

TO BE COMPLETED BY APPLICANT

B. **ENVIRONMENTAL ELEMENTS**

1. **EARTH**

A. General description of the site (circle one): **(FLAT), (ROLLING), (HILLY), (STEEP SLOPES)**, MOUNTAINOUS, OTHER (_____).

B. What is the steepest slope on the site (approximate percent slope)?

ACTUAL LAND SLOPES VARY. THE VAST MAJORITY OF THE SERVICE AREA HAS SLOPES BETWEEN 0% TO 15%. ALONG STATE ROUTE 167 AND SOME OF THE CREEKS, SLOPES MAY EXCEED 50%, HOWEVER, THE MAJORITY OF THESE AREAS HAVE SLOPES WHICH DO NOT EXCEED 15 TO 30%.

C. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

ALDERWOOD GRAVELLY SANDY LOAM (AGB, C AND D)

EVERETT GRAVELLY SANDY LOAM (EVB, C AND D)

ALDERWOOD AND KITSAP SOILS (AKF)

ARENTS (AMB AND C

ALDERWOOD MATERIAL (AMB AND C)

TOGETHER WITH SMALLER SECTIONS OF:

BEAUSITE GRAVELLY SANDY LOAM (BEC)

BELLINGHAM SILT LOAM (BH)

BRISCOT SILT LOAM (BR)

INDIANOLA LOAMY (INC)

KITSAP LOAM (KPB)

MIXED ALLUVIAL LAND (MA)

NORMA SANDY LOAM (NO)

ORINDA SILT LOAM (OS)

PUYALLUP LOAM (PY)

RENTON LOAM (RE)

SEATTLE MUCK (SK)

SNOHOMISH SILT LOAM (SO)

URBAN LAND (UR) AND

TUKWILA MUCK (TU)

D. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

KING COUNTY GIS INFORMATION SHOWS THE FOLLOWING HAZARD AREAS:

SEISMIC, EROSION AND LANDSLIDE HAZARD AREAS ALONG SOOS CREEK, WHICH FLOWS NORTH TO SOUTH THROUGH THE DISTRICT, A LANDSLIDE HAZARD AREA JUST EAST OF LAKE DESIRE, COAL MINE HAZARD AREAS NORTHWESTERLY OF LAKE DESIRE, AS WELL AS OTHER LANDSLIDE, EROSION AND SEISMIC HAZARD AREAS THROUGHOUT THE DISTRICT'S SERVICE AREA. ANY HAZARD AREAS WOULD BE ADDRESSED BY INDIVIDUAL PROJECTS AS NECESSARY.

E. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

DOES NOT APPLY. ANY PROJECT SPECIFIC REQUIREMENTS WILL BE ADDRESSED ON A PROJECT BY PROJECT BASIS.

F. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

NO, NOT AS A RESULT OF THIS PLAN. SLIGHT EROSION COULD OCCUR AS A RESULT OF TRENCHING ACTIVITIES ASSOCIATED WITH THE INSTALLATION OF FUTURE UTILITY IMPROVEMENTS. APPROPRIATE EROSION CONTROL MEASURES WILL BE PROVIDED AS NECESSARY FOR SPECIFIC CONSTRUCTION PROJECTS.

G. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

NONE AS A RESULT OF THIS PLAN. SEWER MAINS ARE GENERALLY CONSTRUCTED WITHIN EXISTING ROAD PRISMS, THOUGH OCCASIONALLY WITHIN EASEMENT PROPERTIES, AND DO NOT TYPICALLY ADD IMPERVIOUS SURFACE. THIS ISSUE WILL BE ADDRESSED WITH INDIVIDUAL SEWER MAIN PROJECTS AS NECESSARY.

H. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

DOES NOT APPLY TO THIS PLAN. EROSION CONTROL MEASURES WILL BE ADDRESSED AS NEEDED ON AN INDIVIDUAL PROJECT BY PROJECT BASIS.

2. **AIR**

A. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.

DOES NOT APPLY. DUST AND STANDARD EMISSIONS FROM CONSTRUCTION EQUIPMENT COULD OCCUR DURING INDIVIDUAL PROJECTS.

B. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

NO.

C. Proposed measures to reduce or control emissions or other impacts to air, if any.

DOES NOT APPLY. EMISSION CONTROL ISSUES WILL BE ADDRESSED AS INDIVIDUAL PROJECTS OCCUR.

3. **WATER**

A. SURFACE

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, salt-water, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

ACCORDING TO KING COUNTY GIS INFORMATION AND THE KING COUNTY WETLAND INVENTORY, AS WELL AS OTHER DOCUMENTS, THERE ARE SEVERAL STREAMS, LAKES, PONDS AND WETLANDS (OF VARIOUS CLASSIFICATIONS) WITHIN THE SERVICE PLANNING AREA. THERE ARE SEVERAL STREAMS WHICH GENERALLY FLOW NORTH AND SOUTH THROUGH THE DISTRICT INCLUDING BIG SOOS CREEK AND OTHER CLASS 2 (WITH SALMONIDS) STREAMS. MAJOR WATER BODIES INCLUDE PANTHER LAKE, LAKE DESIRE, LAKE MERIDIAN, PIPE LAKE, LAKE JOLIE, LUCERNE LAKE, LAKE WILDERNESS AND PORTIONS OF LAKE SAWYER AND CLARK LAKE, TOGETHER WITH THEIR TRIBUTARIES.

THE MAJORITY OF THE WETLANDS WITHIN THE SERVICE PLANNING AREA ARE WITHIN THE GREEN RIVER BASIN IN THE SOOS CREEK, JENKINS CREEK AND BLACK RIVER SUB BASINS. ADDITIONAL WETLANDS ARE WITHIN THE LOWER CEDAR RIVER SUB BASIN, WHICH IS PART OF THE CEDAR RIVER BASIN

SOOS CREEK WETLAND NO. 1 IS A CLASS 2 PALUSTRINE EMERGENT NARROW-LEAVED PERSISTENT (CATTAIL) OR SHALLOW MARSH WETLAND.

SOOS CREEK WETLAND NO. 2 IS QUITE LARGE, AND ENCOMPASSES PORTIONS OF BIG SOOS CREEK. IT IS A CLASS 1C WETLAND WITH SEVERAL CLASSIFICATIONS AND HABITATS WITHIN IT AND INCLUDES THE FOLLOWING: PALUSTRINE EMERGENT WETLAND, SCRUB-SHRUB 1 & 2, FORESTED WETLAND, AND OPEN WATER WETLAND TYPES. THE KING COUNTY WETLANDS INVENTORY INDICATES THAT IT HAS GREAT BLUE HERONS, WHICH ARE ON THE STATE MONITORED LIST.

SOOS CREEK WETLAND NO. 4 IS A CLASS 2 PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (HARDHACK) WETLAND.

SOOS CREEK WETLAND NO. 5 IS A CLASS 2 PALUSTRINE EMERGENT NARROW-LEAVED PERSISTENT (FOXTAIL/CATTAIL/JUNCUS EFFUSUS) OR MEADOW WETLAND. THE INVENTORY STATES THE PRESENCE OF A RED-TAILED HAWK IN THE VICINITY OF THIS WETLAND. WHILE NOT A SPECIES OF CONCERN, NOR A MONITORED SPECIES, THE KING COUNTY COMPREHENSIVE PLAN 1994'S TECHNICAL APPENDIX C INDICATES THAT THE STATE CONSIDERS SITES WHICH THE SPECIES MAY USE IN URBAN AND EMERGING URBAN TO BE A PRIORITY AREA.

SOOS CREEK WETLAND NOS. 6 & 7 ARE CLASS 3 PALUSTRINE OPEN WATER WETLANDS.

SOOS CREEK WETLAND NO. 8 ENCOMPASSES PORTIONS OF BIG SOOS CREEK AND IS A CLASS 2 PALUSTRINE OPEN WATER, FORESTED BROAD-LEAVED DECIDUOUS WETLAND. THE INVENTORY ALSO INDICATES THAT THE WETLAND HAS GREAT BLUE HERONS AND GREEN-BACKED HERONS IN THE VICINITY. BOTH SPECIES OF HERONS ARE STATE MONITORED SPECIES.

SOOS CREEK WETLAND NO. 9 IS ABOUT 82 ACRES IN SIZE AND ENCOMPASSES PORTIONS OF BIG SOOS CREEK. IT IS A CLASS 2 PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (WILLOW/HARDHACK), FORESTED NEEDLE-LEAVED EVERGREEN (HEMLOCK/WESTERN RED CEDAR) AND EMERGENT NARROW-LEAVED PERSISTENT (JUNCUS EFFUSUS) WETLAND. IT HAS GREEN-BACKED HERONS WHICH USE THE SITE.

SOOS CREEK WETLAND NO. 12 IS A CLASS 2 PALUSTRINE OPEN WATER.

SOOS CREEK WETLAND NO. 13B IS WITHIN THE NATIONAL WETLAND INVENTORY. IT IS 1.3 ACRES AND IS A CLASS 4A PALUSTRINE EMERGENT SEASONAL FLOODED

SOOS CREEK WETLAND NO. 15 IS ALSO A CLASS 2 PALUSTRINE AQUATIC BED FLOATING-LEAVED (POND WEED) AND EMERGENT NARROW-LEAVED PERSISTENT (CATTAIL) OR DEEP MARSH WETLAND.

SOOS CREEK WETLAND NO. 16 IS ABOUT 150 ACRES IN SIZE AND ENCOMPASSES PORTIONS OF BIG SOOS CREEK. IT IS A CLASS 2 PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (WILLOW), FORESTED NEEDLE-LEAVED EVERGREEN (HEMLOCK/WESTERN RED CEDAR) AND EMERGENT NARROW-LEAVED PERSISTENT (JUNCUS EFFUSUS/SCRIPUS MICROCARPUS) WETLAND.

SOOS CREEK WETLAND NO. 20 IS ABOUT 32 ACRES IN SIZE. IT IS BOTH A CLASS 2 PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (HARDHACK/WILD CRABAPPLE) AND FORESTED BROAD-LEAVED DECIDUOUS (OREGON ASH) WETLAND. IT TOO HAS GREAT BLUE HERONS WHICH USE THE SITE.

SOOS CREEK WETLAND NO. 21 IS WITHIN THE NATIONAL WETLAND INVENTORY. IT IS 2.86 ACRES AND IS A CLASS 4 PALUSTRINE FORESTED SEASONALLY FLOODED

SOOS CREEK WETLAND NO. 25 IS A CLASS 3 PALUSTRINE OPEN WATER WETLAND.

SOOS CREEK WETLAND NO. 26 IS BOTH A CLASS 2 PALUSTRINE AQUATIC BED FLOATING-LEAVED (YELLOW POND WEED) AND UNCONSOLIDATED BOTTOM MUD WETLAND. THIS WETLAND IS HOME TO A HERON ROOKERY.

SOOS CREEK WETLAND NO. 30 IS ABOUT 185 ACRES IN SIZE AND ENCOMPASSES PORTIONS OF BIG SOOS CREEK. IT IS A CLASS 2 PALUSTRINE FORESTED BROAD-LEAVED DECIDUOUS (RED ALDER/BLACK COTTONWOOD), EMERGENT NARROW-LEAVED PERSISTENT (JUNCUS EFFUSUS/SCIRPUS MICROCARPUS) AND EMERGENT NARROW-LEAVED PERSISTENT (CATTAIL) WETLAND.

SOOS CREEK WETLAND NO. 65 IS WITHIN THE NATIONAL WETLAND INVENTORY. IT IS BOTH A CLASS 4 PALUSTRINE EMERGENT TEMPORARY FLOODED A CLASS 4 PALUSTRINE SCRUB-SCRUB TEMPORARY FLOODED WETLAND.

SOOS CREEK WETLAND NO. 75 IS BOTH A CLASS 2 PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (HARDHACK/RED OSIER

DOGWOOD) AND FORESTED BROAD-LEAVED DECIDUOUS (BLACK COTTONWOOD/RED ALDER) WETLAND.

SOOS CREEK WETLAND NO. 76 IS A CLASS 2 PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (HARDHACK) WETLAND.

BLACK RIVER WETLAND NO. 6, OTHERWISE KNOWN AS PANTHER LAKE, IS SURROUNDED BY RESIDENTIAL DEVELOPMENT AND THE LAKE APPEARS TO BE FAIRLY UNAFFECTED BY DEVELOPMENT, EXCEPT FOR LITTER. THE WETLAND IS BOTH A CLASS 1C PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (HARDHACK) AND LACUSTRINE LITTORAL AQUATIC BED FLOATING-LEAVED (WATER SHIELD/WHITE POND LILY) WETLAND. IT TOO IS A SITE THAT GREAT BLUE HERON USE.

BLACK RIVER WETLAND NO. 14B IS A CLASS 4 PALUSTRINE EMERGENT SEASONALLY FLOODED WETLAND.

BLACK RIVER WETLAND NO. 17 IS BOTH A CLASS 4 PALUSTRINE EMERGENT TEMPORARY FLOODED AND A CLASS 4 PALUSTRINE SCRUB-SCRUB TEMPORARY FLOODED WETLAND.

BLACK RIVER NO. 21 IS A CLASS 2 PALUSTRINE EMERGENT PERSISTENT (JUNCUS EFFUSUS) OR WET MEADOW WETLAND.

LOWER CEDAR RIVER WETLAND NO. 15 IS BOTH A PALUSTRINE FORESTED SEASONALLY FLOODED WETLAND AND A PALUSTRINE SCRUB-SCRUB TEMPORARY FLOODED WETLAND.

LOWER CEDAR RIVER WETLAND NO. 16 IS BOTH A PALUSTRINE EMERGENT SEASONALLY FLOODED WETLAND AND A PALUSTRINE SCRUB-SCRUB TEMPORARY FLOODED WETLAND.

LOWER CEDAR RIVER WETLAND NO. 18 IS A CLASS 2 PALUSTRINE FORESTED DECIDUOUS (ALDER) WETLAND.

LOWER CEDAR RIVER WETLAND NO. 20 IS A CLASS 2 PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (WILLOW) WETLAND.

LOWER CEDAR RIVER WETLAND NO. 22 IS A CLASS 1D PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (HARDHACK), SCRUB-SHRUB BROAD-LEAVED EVERGREEN (LABRADOR TEA) AND UNCONSOLIDATED BOTTOM MUD WETLAND, OTHERWISE KNOWN AS A BOG AND OPEN WATER WETLAND. GREAT BLUE HERONS USE THE SITE, ACCORDING TO THE KING COUNTY INVENTORY.

LOWER CEDAR RIVER WETLAND NO. 23 IS A CLASS 1D PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (HARDHACK), SCRUB-SHRUB BROAD-LEAVED EVERGREEN (LABRADOR TEA), FORESTED

BROAD-LEAVED DECIDUOUS (OREGON ASH) AND FORESTED NEEDLE-LEAVED EVERGREEN (HEMLOCK) WETLAND. THE INVENTORY INDICATES THAT THE RED-TAILED HAWK MAY USE THIS SITE. WHILE NOT A SPECIES OF CONCERN NOR A MONITORED SPECIES, THE KING COUNTY COMPREHENSIVE PLAN 1994'S TECHNICAL APPENDIX C INDICATES THAT THE STATE CONSIDERS SITES WHICH THE SPECIES MAY USE IN URBAN AND EMERGING URBAN TO BE A PRIORITY AREA

LOWER CEDAR RIVER WETLAND NO. 25 IS A CLASS 1D PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (HARDHACK) AND SCRUB-SHRUB BROAD-LEAVED EVERGREEN (LABRADOR TEA) WETLAND. THE INVENTORY INDICATES THAT RED-TAILED HAWK MAY USE THIS SITE.

LOWER CEDAR RIVER WETLAND NO. 63 IS A CLASS 3 PALUSTRINE SCRUB-SHRUB BROAD-LEAVED DECIDUOUS (HARDHACK) WETLAND.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

THE SEWER COMPREHENSIVE PLAN, DATED 2013, DOES NOT REQUIRE WORK NEAR THE DESCRIBED WATERS. HOWEVER, ADOPTION OF THE PLAN WILL ALLOW THE CONTINUED DESIGN AND DEVELOPMENT OF AN APPROPRIATE SEWER SYSTEM THROUGHOUT THE DISTRICT. INDIVIDUAL PROJECTS WILL REQUIRE THEIR OWN ENVIRONMENTAL EVALUATION.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

DOES NOT APPLY TO THIS PLAN.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities, if known.

DOES NOT APPLY.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

YES, SOME PORTIONS OF THE SERVICE PLANNING AREA, WHICH ARE ADJACENT TO BIG & LITTLE SOOS CREEKS, ARE WITHIN THE 100-YEAR FLOODPLAIN.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

NO.

B. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities, if known.

THERE WILL BE NO GROUNDWATER WITHDRAWALS AS A RESULT OF THIS PLAN. GROUNDWATER ISSUES WILL BE ADDRESSED BY INDIVIDUAL PROJECTS AS NECESSARY.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage: industrial, containing the following chemicals: agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

DOES NOT APPLY.

C. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

THERE WILL BE NO WATER RUN OFF AS A RESULT OF THIS PLAN. ANY PROJECT SPECIFIC WATER RUNOFF ISSUES WILL BE ADDRESSED BY INDIVIDUAL PROJECTS AS NECESSARY.

2) Could waste materials enter ground or surface waters? If so, generally describe.

NOT AS A RESULT OF THIS PLAN.

D. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

DOES NOT APPLY.

4. **PLANTS**

A. Check or circle types of vegetation found on the site:

X Deciduous Tree: **ALDER**, **MAPLE**, **ASPEN**, Other (**COTTONWOOD**, **DOGWOOD**)
X Evergreen Tree: **FIR**, **CEDAR**, **PINE**, Other (**SPRUCE**)
X **SHRUBS**
X **GRASS**
X **PASTURE**
___ Crop Or Grain
X Wet Soil Plants: **CATTAIL**, **BUTTERCUP**, **BULRUSH**, **SKUNK CABBAGE**, Other (____)
X Water Plants: **WATER LILY**, Eelgrass, **MILFOIL**, Other (**RUSHES**)
X Other Types Of Vegetation

B. What kind and amount of vegetation will be removed or altered?

NONE AS A RESULT OF THIS PLAN. VEGETATION REMOVAL WILL BE ADDRESSED BY INDIVIDUAL PROJECTS AS NECESSARY.

C. List threatened or endangered species known to be on or near the site.

NONE KNOWN.

D. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

DOES NOT APPLY TO THIS PLAN. LANDSCAPE AND RESTORATION REQUIREMENTS WILL BE ADDRESSED BY INDIVIDUAL PROJECTS AS NECESSARY.

5. **ANIMALS**

A. Circle any birds and animals that have been observed on or near the site or are known to be on or near the site:

Birds: **HAWK**, **HERON**, **EAGLE**, **SONGBIRDS**, Other (____)
Mammals: **DEER**, Bear, Elk, **BEAVER**, Other (**SQUIRREL**, **MICE**, **RABBITS**)
Fish: **BASS**, **SALMON**, **TROUT**, Herring, Shellfish, Other) ( )

B. List any threatened or endangered species known to be on or near the site.

AS MENTIONED PREVIOUSLY IN THIS DOCUMENT, RAPTORS AND SEVERAL SPECIES OF TROUT AND SALMON, WHICH ARE LISTED AS SPECIES OF CONCERN OR ENDANGERED SPECIES BY STATE AND FEDERAL AGENCIES, ARE KNOWN TO BE WITHIN THE PLAN SERVICE AREA.

C. Is the site part of a migration route? If so, explain.

KING COUNTY GIS INFORMATION INDICATES THAT THERE IS A WILDLIFE NETWORK, MIGRATION ROUTE RUNNING NORTH AND SOUTH THROUGH THE APPROXIMATE MIDDLE OF THE PLAN SERVICE AREA.

D. Proposed measures to preserve or enhance wildlife, if any:

DOES NOT APPLY. ADOPTION OF THIS PLAN WILL HAVE NO IMPACT ON NEARBY WILDLIFE. IMPACTS TO WILDLIFE WILL BE ADDRESSED BY INDIVIDUAL PROJECTS.

6. ENERGY AND NATURAL RESOURCES

A. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

DOES NOT APPLY. ADOPTION OF THIS PLAN WILL NOT REQUIRE ANY ENERGY OR NATURAL RESOURCES.

B. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

NO.

C. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

DOES NOT APPLY.

7. ENVIRONMENTAL HEALTH

A. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

NO.

1) Describe special emergency services that might be required.

DOES NOT APPLY.

2) Proposed measures to reduce or control environmental health hazards, if any:

DOES NOT APPLY. NO HAZARDS ARE IDENTIFIED.

B. Noise

1) What types of noise exist in the area that may affect your project (for example: traffic, equipment, operation, other)?

NONE.

2) What types and levels of noise would be created by, or associated with, the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

NONE AS A RESULT OF THIS PLAN. INDIVIDUAL PROJECTS WILL ADDRESS LONG AND SHORT TERM NOISE LEVELS AS NECESSARY.

3) Proposed measures to reduce or control noise impacts, if any:

DOES NOT APPLY. NOISE IMPACTS WILL ADDRESSED BY INDIVIDUAL PROJECTS AS NECESSARY.

8. **LAND AND SHORELINE USE**

A. What is the current use of the site and adjacent properties?

THE 2008 KING COUNTY COMPREHENSIVE PLAN WITH THE 2010 UPDATE, AS ADOPTED UNDER THE GROWTH MANAGEMENT ACT, HAS DESIGNATED THESE AREAS AS URBAN AND AS BEING LOCATED WITHIN THE KING COUNTY URBAN GROWTH AREA. THERE ARE AREAS EAST OF BIG SOOS CREEK AND SOUTHWEST OF LAKE YOUNGS WHICH HAVE BEEN DESIGNATED RURAL. THE SERVICE PLANNING AREAS ARE PREDOMINATELY RESIDENTIAL.

B. Has the site been used for agriculture? If so, describe.

UNKNOWN, ALTHOUGH IT IS REASONABLE TO PRESUME SOME AREAS IN THE SEWER SERVICE AREA HAVE BEEN USED FOR AGRICULTURE IN THE PAST.

C. Describe any structures on the site.

THERE ARE VARIOUS TYPES OF STRUCTURES, RANGING FROM COMMERCIAL TO RESIDENTIAL WITHIN THE SERVICE PLANNING AREA.

D. Will any structures be demolished? If so, what?

DOES NOT APPLY.

E. What is the current zoning classification of the site?

THE SERVICE AREA INCLUDES A VARIETY OF URBAN LAND USES INCLUDING (BUT NOT LIMITED TO) SINGLE FAMILY RESIDENTIAL, MULTI-FAMILY RESIDENTIAL, AND COMMERCIAL. ALTHOUGH THE AREA IS PREDOMINATELY RESIDENTIAL, THE AREA WITHIN THE UGA ALSO INCLUDES BUSINESS AND COMMERCIAL CLASSIFICATIONS WHILE THE RURAL PORTION OF THE SERVICE AREA HAS KING COUNTY DESIGNATIONS OF RA-2.5 THROUGH RA-10.

THE CITY OF RENTON HAS ITS WATERSHED LOCATED WITHIN THE SERVICE AREA OF THE SEWER COMPREHENSIVE PLAN, DATED 2013. ITS ZONING IS CONSISTENT WITH THAT LAND USE.

CURRENTLY, PORTIONS OF THE PLAN ARE WITHIN AREAS WHERE EITHER THE CITY OF KENT OR RENTON HAVE OR WILL HAVE JURISDICTION OVER THE LAND USE. THE AREAS WILL RETAIN THEIR URBAN AND RURAL DESIGNATIONS THAT ARE PROVIDED BY THE COUNTYWIDE PLANNING POLICIES AND THE KING COUNTY COMPREHENSIVE PLAN. THE DISTRICT HAS AGREEMENTS WITH BOTH THE CITY OF KENT AND RENTON DEFINING SERVICE RESPONSIBILITIES. ACCORDING TO THE EAST AND SOUTH KING COUNTY COORDINATED WATER SUPPLY PLAN, IT IS NOT ANTICIPATED THAT THE PLAN WOULD BE AFFECTED BY A TRANSFER OF LAND USE JURISDICTION.

F. What is the current comprehensive plan designation of the site?

THE KING COUNTY COMPREHENSIVE PLAN HAS DESIGNATED THE VAST MAJORITY OF THE AREA AS URBAN AND WITHIN THE URBAN GROWTH AREA (UGA) FOR KING COUNTY FOR THE

IMPLEMENTATION OF THE GROWTH MANAGEMENT ACT. SOME AREAS SOUTHWEST OF LAKE YOUNGS AND EAST OF BIG SOOS CREEK HAVE BEEN DESIGNATED AS RURAL.

G. If applicable, what is the current shoreline master program designation of the site?

KING COUNTY HAS DESIGNATED LAKE YOUNGS AS CONSERVANCY; CITY OF KENT HAS DESIGNATED BIG SOOS CREEK AS URBAN CONSERVANCY (LOW INTENSITY), LAKE MERIDIAN AS SHORELINE RESIDENTIAL AND URBAN CONSERVANCY (OPEN SPACE), AND PANTHER LAKE AS SHORELINE RESIDENTIAL AND URBAN CONSERVANCY (LOW INTENSITY); CITY OF RENTON HAS DESIGNATED LAKE DESIRE AS SHORELINE SINGLE FAMILY AND URBAN CONSERVANCY; CITY OF BLACK DIAMOND HAS DESIGNATED LAKE SAWYER AS SHORELINE RESIDENTIAL, SHORELINE RESIDENTIAL LIMITED, URBAN CONSERVANCY, AND NATURAL; CITY OF COVINGTON HAS DESIGNATED BIG SOOS CREEK AS URBAN CONSERVANCY AND PIPE LAKE AS URBAN CONSERVANCY AND SHORELINE RESIDENTIAL; AND MAPLE VALLEY HAS JURISDICTIONAL AUTHORITY TO MANAGE THE SHORELINE REGULATIONS FOR LAKE WILDERNESS.

H. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

KNOWN SENSITIVE AREAS ARE AS DESCRIBED IN SECTIONS B1D AND B3 OF THIS DOCUMENT.

I. Approximately how many people would reside or work in the completed project?

NONE.

J. Approximately how many people would the completed project displace?

NONE.

K. Proposed measures to avoid or reduce displacement impacts, if any:

DOES NOT APPLY.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

DOES NOT APPLY TO THIS PLAN. INDIVIDUAL PROJECTS WILL BE REVIEWED FOR COMPATIBILITY WITH EXISTING AND PROJECTED LAND USES AND PLANS.

9. **HOUSING**

A. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

DOES NOT APPLY.

B. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

DOES NOT APPLY.

C. Proposed measures to reduce or control housing impacts, if any:

DOES NOT APPLY.

10. **AESTHETICS**

A. What is the tallest height of any proposed structure(s), not including antennas: what is the principal exterior building material(s) proposed?

DOES NOT APPLY.

B. What views in the immediate vicinity would be altered or obstructed?

DOES NOT APPLY.

C. Proposed measures to reduce or control aesthetic impacts, if any:

DOES NOT APPLY.

11. **LIGHT AND GLARE**

A. What type of light or glare will the proposal produce? What time of day would it mainly occur?

DOES NOT APPLY.

B. Could light or glare from the finished project be a safety hazard or interfere with views?

DOES NOT APPLY.

C. What existing off-site sources of light or glare may affect your proposal?

DOES NOT APPLY.

D. Proposed measures to reduce or control light and glare impacts, if any:

DOES NOT APPLY.

12. RECREATION

A. What designated and informal recreational opportunities are in the immediate vicinity?

THERE ARE SEVERAL PARK AND RECREATIONAL OPPORTUNITIES WITHIN THE SERVICE AREA INCLUDING RENTON, SOOS CREEK, GARRISON CREEK, NORTH MERIDIAN AND PETROVITSKY PARKS, AMONGST OTHERS. THERE IS A DEPARTMENT OF FISH AND WILDLIFE BOAT LAUNCH AT LAKE DESIRE AND THE LAKE YOUNGS PARK AND TRAIL. THERE ARE ALSO SEVERAL OTHER LAKES IN THE AREA THAT PROVIDE RECREATIONAL OPPORTUNITIES.

B. Would the proposed project displace any existing recreational use? If so, describe.

NO.

C. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

DOES NOT APPLY. THERE WILL BE NO IMPACTS AS A RESULT OF THIS PLAN.

13. HISTORIC AND CULTURAL PRESERVATION

A. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

NONE KNOWN.

B. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

THERE ARE SEVERAL POTENTIAL HISTORIC SITES WITHIN THE SERVICE AREA:

- NICHOLIS HOUSE AT 16832 108TH AVE SE, KENT
- RESIDENCE AT 20406 108TH AVE SE, KENT
- HOUSE AND BARN AT 21837 14TH AVE SE, KENT
- RANCH/FARM AT 22841 148TH AVE SE, KENT
- SAAR PIONEER CEMETARY AT 9100 S. 212 ST., KENT
- LAKE WILDERNESS LODGE AT 22500 SE 248TH STREET, MAPLE VALLEY

C. Proposed measures to reduce or control impacts, if any:

DOES NOT APPLY.

14. **TRANSPORTATION**

A. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on-site plans, if any.

DOES NOT APPLY TO THIS PLAN. THE SERVICE AREA IS SERVED BY MANY ROADS. INDIVIDUAL PROJECTS WILL ADDRESS PUBLIC STREETS AND HIGHWAYS THAT SERVE EACH PROJECT.

B. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

DOES NOT APPLY TO THIS PLAN. THERE ARE NUMEROUS BUS ROUTES IN THE AREA. INDIVIDUAL PROJECT CHECKLISTS WILL PROVIDE THIS INFORMATION AS NECESSARY.

C. How many parking spaces would the completed project have? How many would the project eliminate?

NONE.

D. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

NO.

E. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

DOES NOT APPLY.

F. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

NONE.

G. Proposed measures to reduce or control transportation impacts, if any:

DOES NOT APPLY.

15. **PUBLIC SERVICES**

A. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

NO.

B. Proposed measures to reduce or control direct impacts on public services, if any.

DOES NOT APPLY.

16. **UTILITIES**

A. Circle utilities currently available at the site: **ELECTRICITY, NATURAL GAS, WATER, REFUSE SERVICE, TELEPHONE, SANITARY SEWER, SEPTIC SYSTEM, OTHER.**

B. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

THE SEWER COMPREHENSIVE PLAN, DATED 2013, SERVES AS A GUIDE FOR THE CONTROLLED EXPANSION OF SEWER SERVICES WITHIN THE PLANNING AREA. SUBSEQUENT ACTIONS MAY INCLUDE CONSTRUCTION OF SEWER MAINS, PUMP STATIONS AND APPURTENANCES CONSISTENT WITH THE EAST AND SOUTH KING COUNTY COORDINATED SEWER SUPPLY PLANS, THE KING COUNTY, CITY OF KENT AND CITY OF RENTON COMPREHENSIVE PLANS AND THE AREA ZONING. SEWER SERVICE WILL BE PROVIDED BY SOOS CREEK WATER AND SEWER DISTRICT. THE PLAN ALSO ESTABLISHES REGULATORY AUTHORITY FOR FUTURE STORM AND SURFACE WATER CONSIDERATIONS FOR A PORTION OF OR ALL OF THE DISTRICT'S JURISDICTION AREA.

C. **SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Richard Sauer

Date Submitted: 2.4.13

D. **SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS**

(1) How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

THIS PROPOSAL, THE SOOS CREEK WATER AND SEWER DISTRICT SEWER COMPREHENSIVE PLAN, DATED 2013, WILL NOT DIRECTLY AFFECT THE ENVIRONMENT. THE PLAN RESPONDS IN AN ORDERLY MANNER TO FUTURE DEVELOPMENT APPROVED BY VARIOUS AGENCIES, IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS. SUBSEQUENT ACTIONS MAY INCLUDE UTILITY IMPROVEMENT PROJECTS CONSISTENT WITH ESTABLISHED LOCAL GOVERNMENT GUIDELINES.

Proposed measures to avoid or reduce such increases are:

PROPOSED PROJECTS WILL BE REVIEWED AND ADDRESSED BY THE APPROPRIATE AGENCIES AS PROJECTS COMMENCE. ADDITIONALLY, DEVELOPMENT AND GROWTH WILL BE MONITORED AND CONTROLLED BY THE APPROPRIATE KING COUNTY AND /OR CITY AGENCIES.

(2) How would the proposal be likely to affect plants, animals, fish, or marine life?

THE PROPOSED PROJECTS AND POTENTIAL DEVELOPMENT WILL RESULT IN THE LOSS OF PLANTS WHERE SEWER SYSTEM FACILITIES ARE INSTALLED ALONG EASEMENTS OR ON SPECIFIC SITES. IT IS NOT ANTICIPATED THAT THE PROPOSED PROJECTS WILL HAVE A SIGNIFICANT IMPACT UPON FISH OR WILDLIFE.

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

PROPOSED PROJECTS WILL BE REVIEWED AND ADDRESSED BY APPROPRIATE AGENCIES AS THEY COMMENCE.

(3) How would the proposal be likely to deplete energy or natural resources?

DOES NOT APPLY, AS THE PLAN WILL HAVE NO DIRECT EFFECT UPON ENERGY RESOURCES OR MOST NATURAL RESOURCES. THE PLAN DOES HAVE A STRONG CONSERVATION ELEMENT WITHIN IT WHICH WILL FACILITATE THE CONSERVATION OF WATER AND ENERGY RESOURCES. IT IS POSSIBLE THAT THERE MAY BE SOME LOCATIONS WHERE TREES MAY BE CUT AND NOT REPLANTED IN SOME DEVELOPMENT LOCATIONS.

Proposed measures to protect or conserve energy and natural resources are:

DEVELOPMENT MUST CONFORM TO KING COUNTY AND THE APPROPRIATE CITY GUIDELINES AND REGULATIONS

(4) How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

THE SEWER COMPREHENSIVE PLAN, DATED 2013, WILL NOT AFFECT THE CURRENT USAGE OF SITES. PROJECTS WITHIN THE SERVICE AREA WILL ADDRESS THESE CONCERNS MORE SPECIFICALLY.

Proposed measures to protect such resources or to avoid or reduce impacts are:

PROPOSED PROJECTS WILL BE REVIEWED AND ADDRESSED BY APPROPRIATE AGENCIES AS THE PROJECTS COMMENCE.

(5) How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

THIS PLAN AMENDMENT DOES NOT ALLOW OR ENCOURAGE USES INCOMPATIBLE WITH EXISTING PLANS. THE PLAN AMENDMENT DOES SHOW SOME PROPOSED FACILITIES IN THE VICINITY OF WATER BODIES, HOWEVER, LAND AND SHORELINE USES SHOULD NOT BE AFFECTED.

Proposed measures to avoid or reduce shoreline and land use impacts are:

CONFORMANCE TO APPLICABLE KING COUNTY AND LOCAL JURISDICTION GUIDELINES, ZONING REQUIREMENTS, ALL STATE REGULATION AND DISTRICT STANDARDS WOULD BE REQUIRED WHEN FUTURE DEVELOPMENT OCCURS.

(6) How would the proposal be likely to increase demands on transportation or public services and utilities?

THE SEWER COMPREHENSIVE PLAN, DATED 2013, DOES NOT CONFLICT WITH ANY KNOWN ENVIRONMENTAL LAWS. DEVELOPMENT AND GROWTH WHICH MAY FOLLOW WILL BE IN ACCORDANCE WITH ENVIRONMENTAL RESTRICTIONS, AS WELL AS LOCAL GUIDELINES.

THE PLAN ITSELF WILL NOT INCREASE THE DEMAND UPON TRANSPORTATION OR OTHER PUBLIC SERVICES. FUTURE UTILITY PROJECTS WHICH MAY AFFECT PUBLIC SERVICES AND TRANSPORTATION WILL BE ADDRESSED ON AN INDIVIDUAL BASIS.

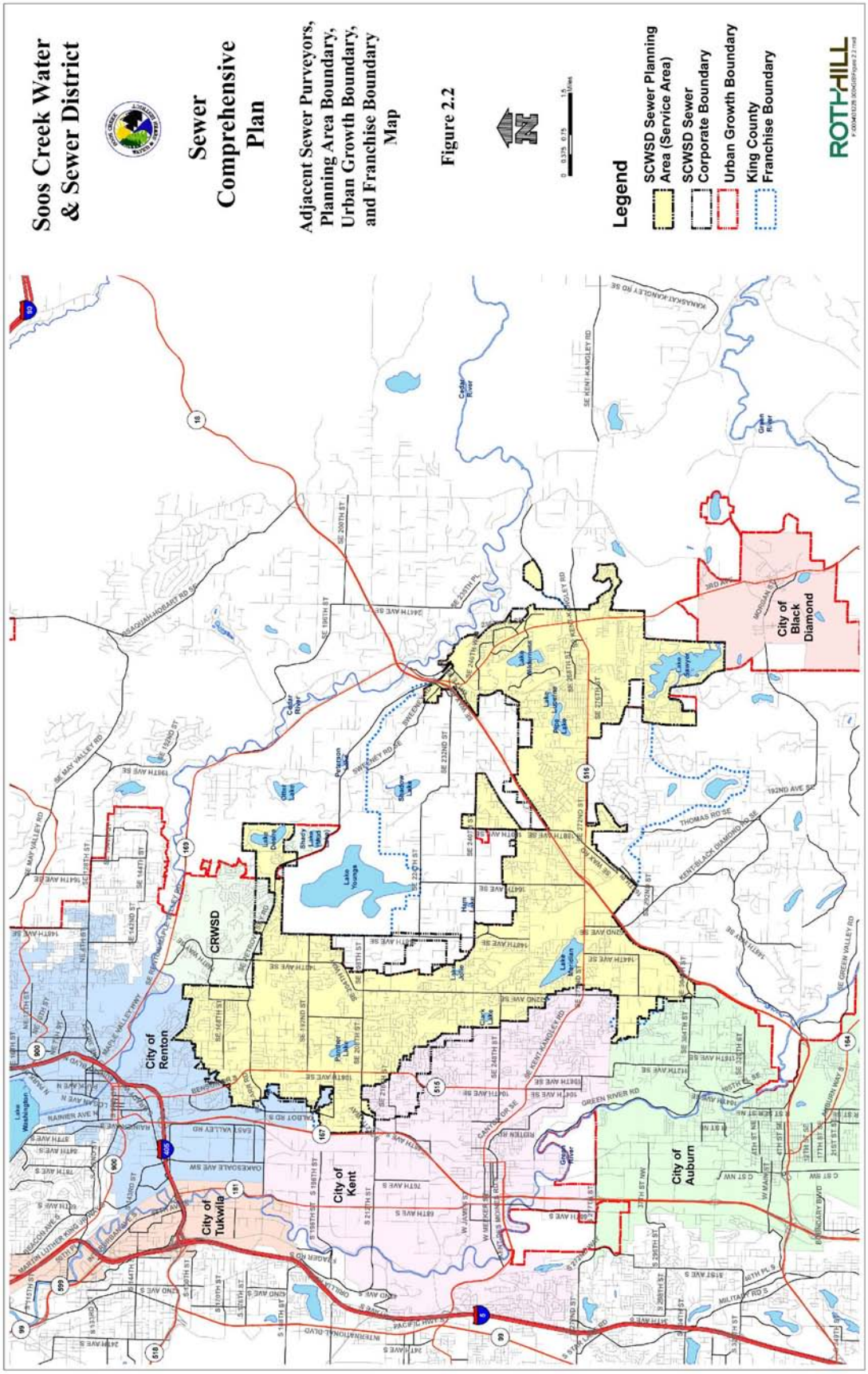
Proposed measures to reduce or respond to such demand(s) are:

GROWTH TO BE GUIDED BY KING COUNTY AND CITY COMPREHENSIVE PLANNING. UTILITIES AND SERVICES MAY BE EXTENDED AND EXPANDED TO MEET THESE PROJECTED NEEDS.

(7) Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

THE SEWER COMPREHENSIVE PLAN, DATED 2013, DOES NOT CONFLICT WITH ANY KNOWN ENVIRONMENTAL LAWS. PORTIONS OF SOME OF THE PROJECTS MAY REQUIRE A UTILITY EXCEPTION FOR MINOR VARIANCES TO PORTIONS OF THE SENSITIVE AREAS ORDINANCE. DEVELOPMENT AND GROWTH WHICH MAY FOLLOW WILL BE IN ACCORDANCE WITH ENVIRONMENTAL RESTRICTIONS, AS WELL AS COUNTY AND CITY PLANNING GUIDELINES.

EXHIBIT A: DISTRICT MAP



SOOS CREEK WATER AND SEWER DISTRICT

Sewer Comprehensive System Plan Update, 2012

EXHIBIT B

Determination of Non-Significance and SEPA Checklist Distribution List

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KING COUNTY DEPARTMENT OF PERMITTING & ENVIRONMENTAL REVIEW
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RHART@COVINGTONWA.GOV

APPENDIX B

AGENCY COMMENTS

Cobley, Pam

From: Evans, Alison (ECY) <AEVA461@ECY.WA.GOV>
Sent: Wednesday, January 08, 2014 2:23 PM
To: Cobley, Pam; Lane, Tonya (ECY)
Cc: Schmidt, Chris
Subject: RE: Soos Creek Letter

No comments from me, looks good!
Thanks Pam and Tonya.
Alison

From: Cobley, Pam [pam.cobley@stantec.com]
Sent: Wednesday, January 08, 2014 1:32 PM
To: Lane, Tonya (ECY)
Cc: Evans, Alison (ECY); Schmidt, Chris
Subject: RE: Soos Creek Letter

Ok, sounds good. We are still waiting to hear from King County if they have additional questions. Otherwise, we will process final copies for approval.

Thanks,
Pam

Pamela-Rae Cobley
Project Manager
Stantec, formerly Roth Hill
11130 NE 33rd Place, Suite 200 Bellevue WA 98004-1465
Phone: (425) 289-7309
Fax: (425) 869-1190
pam.cobley@stantec.com



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From: Lane, Tonya (ECY) [mailto:tlan461@ECY.WA.GOV]
Sent: Wednesday, January 08, 2014 1:29 PM
To: Cobley, Pam
Cc: Evans, Alison (ECY); Schmidt, Chris
Subject: RE: Soos Creek Letter

OK, got it. That does it for me, but if Alison needs additional info she can contact you. Thanks Pam!

From: Cobley, Pam [mailto:pam.cobley@stantec.com]
Sent: Wednesday, January 08, 2014 1:23 PM
To: Lane, Tonya (ECY)
Cc: Evans, Alison (ECY); Schmidt, Chris
Subject: RE: Soos Creek Letter

Hi Tonya,

No worries. I was waiting for information from the District before I responded to you.

Per your request, attached is the letter we sent last month for your review and comment.

In response to your comment on the written legal agreement with the homeowners regarding access in case of emergency maintenance; this has been included in the District's Application and Agreement for Special Service. Should you need to see a copy, please let me know.

Let me know if you have additional questions. Hope to hear from you soon.

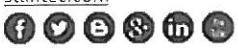
Thanks,
Pam

Pamela-Rae Cobley
Project Manager
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From: Lane, Tonya (ECY) [mailto:tlan461@ECY.WA.GOV]
Sent: Wednesday, January 08, 2014 1:05 PM
To: Cobley, Pam
Cc: Evans, Alison (ECY)
Subject: FW: Soos Creek Letter

Hi Pam,

Just following up with you about the letter you originally sent to Ecology prior to the holidays. We still need a copy, particularly if a formal response is being or has been requested. I remember Mike saying there was something in the

letter about wanting a response from our agency within two weeks. Unfortunately this has not been possible under the circumstances. Please provide an electronic copy at your soonest convenience so that we may read it and have it for the file. Again, my apologies for our misplacing the original.

Thanks!

Tonya Lane | Municipal Facility Manager | Department of Ecology | Water Quality Program | Northwest Regional Office, 3190 160th Avenue SE, Bellevue, WA 98008-5452 | 425-649-7050 | tlan461@ecy.wa.gov

Additional wastewater discharge records may be available online at the Ecology Water Quality Program database, the Permitting and Reporting Information System (PARIS).

From: Lane, Tonya (ECY)
Sent: Monday, January 06, 2014 11:54 AM
To: 'pam.cobley@stantec.com'
Cc: Evans, Alison (ECY)
Subject: Soos Creek Letter

Hi Pam,

Thanks for your call this morning. Right before he left (retired) before the holidays Mike Dawda mentioned your letter relating to Soos Creek and private ownership of grinder pumps. He appears to have misplaced it during the course of cleaning out his office. I'm hoping you can e-mail a copy to me so we're sure to have a record for the Soos Creek files.

Incidentally I spoke with our Unit Supervisor, Mark Henley, this morning about the letter. He remembers seeing it at one point, and indicated that the proposed language in the letter sounded fine but that a written legal agreement with homeowners would be prudent to ensure access in case emergency maintenance is needed.

Alison Evans, who has been out of the office recently, is the primary Soos Creek point of contact going forward (she's copied on this e-mail). If there is further need to discuss Ecology's position on grinder pumps, please feel free to contact her. Thanks for your help, and Happy New Year.

Tonya Lane | Municipal Facility Manager | Department of Ecology | Water Quality Program | Northwest Regional Office, 3190 160th Avenue SE, Bellevue, WA 98008-5452 | 425-649-7050 | tlan461@ecy.wa.gov

Additional wastewater discharge records may be available online at the Ecology Water Quality Program database, the Permitting and Reporting Information System (PARIS).

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Fax: (425) 869-1190

December 19, 2013

Attention: Mike Dawda
State of Washington Department of Ecology
Northwest Regional Office
3190 – 160th Ave SE
Bellevue, WA 98008-5452

Dear Mr. Dawda,

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

On behalf of Soos Creek Water & Sewer District, thank you for your comments, dated May 15, 2013, on the District draft Sewer Comprehensive Plan, 2013. We have reviewed your comments and offer the following responses:

Comment 1
Ecology's primary comment is concerning the private ownership of grinder pumps. The Comprehensive Plan, in several places (e.g. page, 3-6, Section 1.3.5, Paragraph 2; page 3-6, Section 1.3.5.2; and page 3-17, section 4.3.4), indicates that the District may allow private ownership of grinder pumps.

Response
Page 3-6, 1.3.5.2-Privately Owned Grinder Pumps, after the second sentence, the following will be inserted:

"If the owner fails to address any needed repairs, the District will perform the necessary repairs to avoid or minimize any environmental contamination, and will invoice the property owner for the time and materials for the repair. If the District does not receive payment within 30 days, the District will place a lien against the property for the costs associated with the repairs."

Comprehensive Plan modifications proposed as noted.

Comment 2
Page 1-3, First Sentence: The Comprehensive Plan states: The King County Approval is accomplished through the Utilities Technical Review Committee (UTRC) that review all proposed comprehensive plans prior to submitting a recommendation to the County Council. If the Comprehensive Plan meets Ecology's criteria, Ecology will approve the plan only after King County approves the plan.

Response
Thank you for the comment. The District understands that DOE and King County review and approve the plans as noted on page 1-2, Approval Process

No Comprehensive Plan modifications proposed.

Comment 3
Page 1-3, Lift Station Capacity Definition: The maximum capacity for a lift station is equal to the peak, wet weather flow that the largest pump within the lift station has been designed to convey. The Lift Station Capacity should be defined as the "Firm Capacity", which is the capacity of the lift station with the largest pump

Response
Page 1-3, Definitions, Lift Station Capacity will be revised by inserting "Firm" between "Station" and "Capacity". The new definition title will be "Lift Station Firm Capacity".

Thank you again for your comments. We believe these responses adequately address your concerns. Should you have additional comments or questions, please provide them by within two weeks of the date of this letter. If we do not hear from you by then, we will finalize the changes in the Plan and forward it to you for final approval. Should you have additional questions, please feel free to contact me at (425) 289-7309 or Chris Schmidt, PE at (425) 289-7315.

Regards,

STANTEC CONSULTING SERVICES INC.

Pamela-Rae Cobley
Project Manager
Phone: (425) 289-7309
Fax: (425) 869-1190
pam.cobley@stantec.com

Attachment: None

c. Ron Speer – Soos Creek Water & Sewer District
Mike Hanis, District Attorney – Hanis Irivine Prothero, PLLC
Gregory G. Hill, PE, District Engineer - Stantec
Chris Schmidt, PE - Stantec

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Roth Hill, LLC
Bellevue, WA

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

May 30, 2013

Ms. Pamela-Rae Cobley, Project Manager
Roth Hill
11130 NE 33rd Pl, Ste 200
Bellevue, WA 98004

Re: Ecology's Comments on *Soos Creek Water and Sewer District Sewer Comprehensive Plan*, Draft, 2013, Roth Hill

Dear Ms. Cobley:

On behalf of Soos Creek Water and Sewer District (District), the Department of Ecology (Ecology) received the above-referenced *Draft Sewer Comprehensive Plan* (Comprehensive Plan) from Roth Hill on March 21, 2013.

This letter represents Ecology's review of the plan which is based significantly on the requirements of the Washington Administrative Code (WAC) Chapter 173-240-050. Overall the plan is comprehensive and well written, however the District needs to address the comments listed below before Ecology can approve the plan.

Ecology's primary comment is concerning the private ownership of grinder pumps. The Comprehensive Plan, in several places (e.g., page 3-6, Section 1.3.5, Paragraph 2; page 3-6, Section 1.3.5.2; and page 3-17, Section 4.3.4), indicates that the District may allow private ownership of grinder pumps.

Please be advised of Ecology's position on privately-owned grinder pumps and our policy with regard to implementing WAC 173-240-104. The regulation states that "domestic sewage facilities will not be approved unless *ownership and responsibility for operation and maintenance* is by a public entity……. nothing in this rule precludes a public entity from contracting operation and maintenance of domestic sewage facilities." The exception is that "ownership by nonpublic entities may be approved if the department determines the ownership is in the *public interest*". To date, the District has not presented Ecology with a case in which private ownership would clearly be in the "public interest". Therefore, Ecology cannot approve the above-referenced Comprehensive Plan until the reference to "the private ownership and responsibility for operation and maintenance of grinder pumps" is removed from it.

Ecology's other comments are shown in the table below:

Comprehensive Plan Page	***Ecology's Comments***
Page 1-3, First Sentence: The Comprehensive Plan states: The King County approval is accomplished through the Utilities Technical Review Committee (UTRC) that reviews all proposed comprehensive plans prior to submitting a recommendation to the County Council.	If the Comprehensive Plan meets Ecology's criteria, Ecology will approve the plan only after King County approves the plan.
Page 1-3, Lift Station Capacity Definition: The maximum capacity for a lift station is equal to the peak, wet weather flow that the largest pump within the lift station has been designed to convey.	The Lift Station Capacity should be defined as the "Firm Capacity", which is the capacity of the lift station with the largest pump out of service.

If you have any questions, please contact me at the above office address, at (425) 649-7027, or at mike.dawda@ecy.wa.gov.

Sincerely,

Mike Dawda

Mike Dawda
Water Quality Section

MD:bl
cc: Ron Speer, Soos Creek Water and Sewer District
Chris Schmidt, P.E., Roth Hill
Gregory Hill, P.E., Roth Hill
Alison Evans, Ecology

Stantec Consulting Services Inc.
11130 NE 33rd Place, Suite 200
Bellevue WA 98004-1465
Tel: (425) 869-9448
Fax: (425) 869-1190

December 19, 2013

Attention: Stephen Hirschey
King County Utilities Technical Review Committee
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 512
Seattle, WA 98104-3855

Dear Mr. ~~Hirschey~~ Steve,

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

On behalf of Soos Creek Water & Sewer District, thank you for your comments, dated June 5, 2013, on the District draft Sewer Comprehensive Plan, 2013. We have reviewed your comments and offer the following responses:

Comment 1
Reference the current 2012 King County Comprehensive Plan (KCCP) and policies as compared ot the Plan's reference to the 1994 King County Comprehensive Plan With Amendments Through 2001. A current copy of the KCCP can be found at http://www.kingcounty.gov/property/permits/codes/growth/CompPlan.aspx;

Response
Chapter 2 – Background, text on page 2-11, King County Comprehensive Plan – 1994 Plan With Amendments Through 2001, first four paragraphs will be replaced with the following:

"King County Comprehensive Plan – With Updates Through 2012

The King County Comprehensive Plan manages the projected growth within unincorporated King County by designating where growth will occur through policies, goals, plans and regulations. The plan includes a land use map of unincorporated King County and a zoning map of projected growth. An urban growth boundary is also defined in the plan to direct projected growth into urban areas.

Policy F-101 of plan states: *"King County, the cities, special purpose districts, and/or local service providers shall plan as partners. King County's planning will focus on the unclaimed urban unincorporated areas and cities potential annexation areas."*

Policy F-201 of the plan states: *"The capital facilities plans and capital improvement programs prepared by all other agencies that provide services to unincorporated areas of the county should be consistent with the King County Comprehensive Plan."*

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

In addition, Policy F-255, in part states: *"In the Urban Growth Area, all new development shall be served by public sewers unless:..."*

In conjunction with F-201, Policy F-256 states: *"In the Urban Growth Area, King County and sewer utilities should jointly prioritize the replacement of onsite systems that serve existing development with public sewers, based on the risk of potential failure. King County and sewer utilities should analyze public funding options for such conversion and should prepare conversion plans that will enable quick and cost-effective local response to health and pollution problems that may occur when many on-site system fail in an area."* The District provides sewer service to some, but not all, of the residents within the urban and unincorporated portion of its sewer service area. Other properties remain on septic systems.

The District does not intend to extend sanitary sewer service to properties zoned rural unless King County provides an exception. This Comprehensive Sewer Plan demonstrates the District ability to adequately serve within its sanitary sewer service area."

Comprehensive Plan modifications proposed as noted.

Comment 2
Update the discussion for the Lea Hill area that was annexed to the City of Auburn;

Response
Chapter 2 – Background, page 2-14, 2009 City of Auburn Comprehensive Plan, second sentence will be revised to state:

"An agreement between Auburn and the District has been established and states the District will provide sewer service to the northeastern portion of the Lea Hill area since it can provide the most efficient method of service for this area."

Comprehensive Plan modifications proposed as noted.

Comment 3
Consideration of planning future demand to include meeting the cities adopted population and employment targets under the Growth Management Act (GMA) to more fully integrate sewer planning to local government actions under GMA;

Response
Thank you for the comment. The District is committed to working with each city to meet sewer demand needs within its service area whether now or in the future.

No Comprehensive Plan modifications proposed.

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

Comment 4
Clarification of the District policy related to the District not allowing joint use of its facilities with other jurisdictions or agencies. It is not clear if this policy is only for Emergency Response or if it applies at all times. Clarifying this policy would be beneficial because other elements of the Plan refer to joint use of facilities among neighboring jurisdictions. Perhaps a definition of what is meant by "joint use' would be helpful;

Response
Page 3-11, Chapter 3, Policies, Criteria and Standards, Policy 2.3 Emergency Response Plan, Criteria, 2.3.1.1 – Joint Use of District Facilities will be revised as follows:

> "The District shall not allow joint use of its facilities with other jurisdictions or agencies unless otherwise negotiated. However, under emergency conditions the District will consider use by other jurisdictions or agencies on a case-by-case basis or by a signed mutual aide agreement."

Comment 5
Identify the quantity of wastewater, the periods of production and the character of the industrial wastewater insofar as it may affect the sewer system or treatment plant for the following entities not listed in Table 5-5 that hold Industrial Wastewater Discharge permits in your service area:

- Black Diamond Neighborhood Market
- Soos Creek Organics Inc.
- Friendly Wash LLC
- Covington Multicare Clinic;

Response
Based on the current information received from King County Table 5.5 (Chapter 5 Existing Sewerage System, page 5-29) will be updated as follows:

Company Name	Location	Permitted Volume in GPD	Comments
Covington Water District	26420 Witte Road SE	600	Potable Water Treatment Plan
ExxonMobil Oil	3100 Benson Road South	700	Groundwater Remediation – Petroleum
Lake Meridian Estates	Lake Meridian Estates	No Volume	General (Type of Operation)
Covington Multicare Clinic	17700 SE 272nd	No Volume	Hospital
Friendly Wash LLC	19044 – 108th Avenue SE	No Volume	Vehicle

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

Puget Sound Personal Warehouse LLC	11024 SE 208th Street	24,000	Washing Construction Dewatering

Comment 6
The evaluation of water use opportunities as required by RCW 90.48.112;

Response
Chapter 3 – Policies, Criteria and Standards, page 3-18, 5. Environmental Stewardship, Policy 5.2 Wastewater Reuse and Rainwater Reclamation states:

"POLICY 5.2 WASTEWATER REUSE AND RAINWATER RECLAMATION

The District is committed to wastewater reuse and rainwater reclamation. They can serve as cost-effective and environmentally beneficial sources of water for industrial processes, sanitation and irrigation and thereby increase the security and reliability of the region's drinking water supply.

The District may develop projects or consider participation as appropriate in the water reuse projects and programs developed by Seattle Public Utilities and others, including demonstration or pilot projects that may be developed in accordance with applicable federal, state, and local laws and regulations."

District staff may investigate and recommend proposed changes to the District's development and service policies and regulations that may be desirable in order to encourage the promotion of these programs and technologies.

While there are currently no viable candidates for reclaimed water within the District's water service area, opportunities within the District's sewer service area may exist. The District may investigate potential reuse opportunities as presented by neighboring purveyors.

In accordance with the District's commitment, the District may continue to work with King County to identify opportunities and explore ownership and management options to produce and deliver reclaimed water."

No Comprehensive Plan modifications proposed.

Comment 7
The steps being taken to reduce inflow and infiltration (I/I) for the North Basin.

Response
Chapter 7, page 16 includes discussion of the District's Infiltration/Inflow Reduction Program and Concrete Pipe Replacement for Inflow and Infiltration Reduction. Specific reference is made to the northwest portion of the District's service area.

No Comprehensive Plan modifications proposed.

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

Comment 8
The Plan includes discussion of the District constructing facilities to replace the needs for regional wastewater conveyance facilities planned by the King County Wastewater Treatment Division (WTD); see for example the discussion page 5-12, third paragraph. The UTRC sees the value in coordinated infrastructure development so that utility investments are strategic and efficient. Because these projects are concepts in the comprehensive plan inserting "could" in front of "replace" makes it clear that a final determination on what facilities are built to serve which needs will be made in the future. Adding text noting that construction of any facilities that could replace County needs will be coordinated with WTD through review of facilities design under KCC 28.84.050 and interlocal agreements between with District and WTD is needed to make clear that coordination with WTD will be done. This will help to ensure that facilities are designed and built using criteria and design standards that meet both the needs of the District and WTD.

Response
Chapter 5, Existing Sewerage System, Collection and Conveyance System, General, page 5-12, third paragraph, after the eleventh sentence the following will be inserted after, "The District's planned future construction of facilities in this area replaces the need for King County's concept to build Pump Station B.":

> "New District facilities will be in accordance with applicable regulations and interlocal agreements."

Comprehensive Plan modifications as proposed as noted.

Comment 9
Please note that King County's estimates for 20 year peak I/I differ from those listed in the last paragraph of page 5-25. Estimates developed during the King County Regional I/I Control Program result in weighted averages of approximately 3000 gallons per acres per day (gpad) for the south basins and 3800 gpad for the north basin. These 20-year peak I/I estimates are the result of long term (60 year) runs of hydrologic models calibrated to flow monitoring data collected during the wet seasons of 2000-2001 and 2001-2002. This difference would need to be discussed if coordinated facilities were planned and implemented as discussed on page 5-12 of the draft plan.

Response

The King County Regional I/I Control Program predicts Higher Peak Estimates based on 60-year modeling simulations and statistical analysis. We have noted that the County has acknowledged that some of these estimates may be overly conservative. Through an agreement with the County, flow monitoring with mutually agreed-upon "trigger points" is being undertaken at critical locations within the District's service area to estimate the sizing and timing of future facilities. The County and the District are collaborating to obtain and evaluate this information for coordinated facilities.

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

Flow monitoring for some of the newer basins in the District shows almost negligible I/I rates, suggesting that some of the County's I/I assumptions may not be realistic.

Chapter 5, Existing Sewerage System, Collection and Conveyance System, Infiltration and Inflow, page 5-25 and 5-26. The chapter text will be replaced with the following:

"INFILTRATION AND INFLOW

A portion of the flow in any sanitary sewer system may consist of infiltration and inflow (I/I). Infiltration is attributed to groundwater entering into the sewer system and inflow is storm water flowing directly into the system as the result of a "storm incident" or illegal connections such as a direct connection of storm sewers, downspouts or foundation drains. Infiltration can enter the system through leaking pipe joints, structural cracks or other physical defects. Many areas of the District system are in soils which are permeable and have seasonal high groundwater, which is possibly the source of the majority of the system I/I.

Elimination of storm inflow from the system is difficult due to conflicting concerns. Sealing manhole lids and maintaining the water tightness of the lids decreases inflow, but gas, particularly hydrogen sulfide and methane, can collect in the sealed manholes. The District attempts to minimize vent holes for the system, but inflow cannot be prevented completely. The hydraulic computer model of the District's conveyance system was previously calibrated to dry weather and weather flow data collected through King County's I/I program during the wet seasons of 2001-2002. The model calibration has been updated, based upon joint flow-monitoring data at critical locations obtained by King County and the District. The rate of I/I subsequently varies by basin, due in part to the ages of the pipes and the groundwater table in each part of the system. At this time, the exact rate of I/I in each of the District's mini-basins is unknown and likely fluctuates, but can be reasonably estimated due to the comprehensive approach in which flow data was collected throughout the District and used to calibrate the model. The District has no plans to conduct a Sanitary Sewer Evaluation Study on its system at this time. The weighted average of the -system for a 20-year recurrence storm event from the previous District Comprehensive Plan Update was approximately 1,685 gallons per acre of service area per day (gpad) for the North Basins and 665 gpad for the South Basins.

The District developed its model using some of the same methodology and assumptions as the King County hydraulic model in order to provide a level of uniformity between the models. For instance, the District's model assumed an increase in I/I of seven percent per decade, with a maximum increase of 28 percent for the ultimate model even though it believes its system will not deteriorate that rapidly due to an aggressive I/I control program.

Since the previous update, the District's hydraulic model has been updated in some basins where the model under-simulated I/I during flow-metered rainfall events. In other cases, where the model over-simulated I/I, the more conservative parameters were maintained. This "truthing" and updating the model has resulted in a more accurate modeling tool that was used to evaluate the capacity of the system for this plan.

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

The District has been actively monitoring and modeling its wastewater system for more than two decades, and refining the tool along the way, which has given the District confidence with the accuracy of the results.

The King County Regional I/I Control Program predicts higher peak I/I estimates based on 60-year modeling simulations and statistical analysis. Adopting this standard for increased I/I likely increases the improvements required in the Capital Facility Plan at ultimate conditions for the District, but the order of magnitude of those increases is unknown. Additionally, the District believes that making overly conservative assumptions relating to I/I, as described above, counteracts the ability to model the representative effects of increased water conservation, and the subsequent reduction to sanitary sewer flows. The District's Water Comprehensive Plan identifies a policy and strategy to promote water conservation for its system, which has been proven successful by the reduced per capita consumption by its customers. In order to use the sewer hydraulic model to verify the effects of water conservation, population increases and I/I increases would need to be removed. This would be time consuming and expensive and the District has no plans to undergo that effort at this time.

The District strives to eliminate as many inflow sources as can be found while maintaining the integrity of the sewer environment, mainly by minimizing vent holes and sealing manhole lids. During the design and construction of new main extensions, the District utilizes manhole liners and wraps as well as sealed manhole covers in wet areas. The District also performs video inspections during the wet season on all new gravity sewers to check for leaks.

The District is committed to an aggressive I/I policy to address further degradation of its system and to thereby reduce overall I/I effects over time. The District will also continue its commitment to work closely with King County regarding I/I assumptions and related subjects as more data bcomes available. Through an agreement with the County, flow monitoring with mutually agreed-upon "trigger points" is being undertaken at critical locations within the District's service area to estimate the sizing and timing of future facilities. The County and the District are collaborating to obtain and evaluate this information for coordinated facilities."

Comprehensive Plan modifications as proposed as noted.

Comment 10

The discussion of the King County I/I Program on page 5-26 is not current. Revisions of this discussion is suggested. Please see the Regional I/I Program web page at: http//www.kingcounty.gov/environment/wastewater/II/History.aspx for a summary of the program history. The current I/I program activities include analysis of results from Skyway I/I control project. Analysis of the effectiveness of the Skyway I/I reduction project will be complete in late 2013. The analysis will test the cost-effectiveness of I/I reduction and the potential to offset the need for a larger conveyance or storage facility. The results of this analysis will be used to develop recommendations to the King County Council regarding long-term I/I reduction controls, including applicable changes to policy or code.

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

Response

Chapter 5, Existing Sewerage System, Collection and Conveyance System, Infiltration and Inflow, page 5-26 and 5-27. The chapter text will be replaced with the following:

> "King County conducted a 6-year comprehensive study to address the I/I issue. The Regional Wastewater Services Plan (RWSP) identified four steps to achieve its goal:
>
> - Meter and identify I/I in the overall system
> - Conduct pilot I/I control projects in order to identify cost-effective I/I removal techniques in this region
> - Evaluate financial options and solutions
> - Ultimately design a long-term control program for the local agencies and King County
>
> King County is using several methods to identify and meter I/I in the system. Smoke testing utilizes a smoke bomb that is dropped in a sanitary sewer pipe. The area can then be monitored for any smoke that appears. Broken pipes, leaky manhole covers, connected catch basins or connection of roof and foundation drains can then be detected. Dye testing uses a flourizine dye to look for inappropriate connections. The dye can be introduced to a catch basin to see if it appears in a sanitary sewer downstream. TV inspection uses a small camera that can be used to find root intrusion breaks or water infiltration. Observation detects I/I by noting where backups occur in the system at manholes, homes, businesses or treatment facilities.
>
> The following work was completed as part of the comprehensive study:
>
> - Current levels of I/I were defined for each local agency tributary to the regional system through extensive flow monitoring and modeling program (2001-2002). The flow monitoring system used over 800 flow meters to measure flows throughout the County. Rainfall in the region was also monitored by King County. The system (CALAMAR) used a combination of 73 rain gauges throughout the region, as well as the National Weather Service radar, to generate rainfall quantities.
> - Ten pilot projects were selected and constructed in 12 local agency jurisdictions to demonstrate the effectiveness of collection system rehabilitation projects and to test various technologies and gain cost information (2003-2004).
> - Final draft model standards, procedures, policies, and guidelines were developed (October 2004) for use by local agencies to reduce I/I in their systems. These will remain draft pending completion of the recommended initial projects in 2013.
> - A thorough benefit-cost analysis was completed to determine the cost-effectiveness of I/I reduction (November 2005).

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

- A long-term regional I/I control plan was developed, and approved by the King County Council (May 2006).
- King County worked with the local sewer agencies to conduct an I/I reduction feasibility analysis and selected three initial I/I reduction project areas (2007-2009).
- In 2009, the Decennial Flow Monitoring (DFM) Project began. A total of 235 flow monitoring units including 223 portable area-velocity flow meters and 12 pump station meters were installed in the separated portion of WTD's service area. Flow data was collected over a two wet-season period from September 2009 through early-to-mid 2011. Data from the Decennial Flow Monitoring project will provide the information necessary to check and revise several planning assumptions for conveyance system projects slated for construction over the next 40 years. The final data will also be used for project design and be available to component agencies for their use in planning and design
- The current King County I/I program activities include analysis of results from Skyway I/I control project. Analysis of the effectiveness of the Skyway I/I reduction project will be complete in late 2013. The analysis will test the cost-effectiveness of I/I reduction and the potential to offset the need for a larger conveyance or storage facility. The results of this analysis will be used to develop recommendations to the King County Council regarding long-term I/I reduction controls, including applicable changes to policy or code.

The District will review the conclusions and recommendations from King County's I/I program, amd determine how the results may be applicable to the District's system."

Comprehensive Plan modifications as proposed as noted.

Comment 11
We note chapter 10 addresses storm and surface water management considerations and that perhaps that section is not applicable and/or needed for a sewer comprehensive plan.

Response
Chapter 10 – Storm and Surface Water Considerations is included in the Plan for future consideration should the opportunity arise where a new development may need storm water services within the District's sewer service area. The District's ability to provide storm water system services is bestowed by RCW 57.08.005.

No Comprehensive Plan modifications proposed.

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

Comment 12
Franchises are not a Plan issue however we take this opportunity to ensure the District's franchises are current. Our records indicate the District holds two franchises Franchise 13583 (expires July 19, 2024), and Franchise 14916 (expires May 24, 2029) for sewer facilities. Please affirm the franchise areas are current.

Response
Thank you for your comment. The District's existing franchises are current and update.

No Comprehensive Plan modifications proposed.

Thank you again for your comments. We believe these responses adequately address your concerns. Should you have additional comments or questions, please provide them by within two weeks of the date of this letter. If we do not hear from you by then, we will finalize the changes in the Plan and forward it to you for final approval. Should you have additional questions, please feel free to contact me at (425) 289-7309 or Chris Schmidt, PE at (425) 289-7315.

Regards,

STANTEC CONSULTING SERVICES INC.

Pamela-Rae Cobley
Project Manager
Phone: (425) 289-7309
Fax: (425) 869-1190
pam.cobley@stantec.com

Attachment: None

c. Ron Speer – Soos Creek Water & Sewer District
Mike Hanis, District Attorney – Hanis Irivine Prothero, PLLC
Gregory G. Hill, PE, District Engineer - Stantec
Chris Schmidt, PE - Stantec

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King County

Utilities Technical Review Committee
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 512
Seattle, WA 98104-3855
www.kingcounty.gov

June 5, 2013

Mr. Ron Speer, General Manager
Soos Creek Water & Sewer District
P O Box 58039
Renton, WA 98058-1039

Dear Mr. Speer:

Thank you for submitting the Soos Creek Water & Sewer District (District) draft Sewer Comprehensive Plan (Plan) for King County approval. The Utilities Technical Review Committee (UTRC) received the draft Plan from your consultant Roth Hill on March 11, 2013. In accordance with chapter 57.16 Revised Code of Washington (RCW) and the King County Code chapters 13.24 and 28.84 the UTRC has reviewed the draft Plan for consistency with the King County Comprehensive Plan and the King County Code.

In reviewing the draft Plan, the UTRC found that it is largely consistent with the County's comprehensive plan and code. However, seven additions are necessary before we can make a recommendation to the King County Council for approval of the District's final Plan. We request the Plan include:

1. Reference to the current 2012 King County Comprehensive Plan (KCCP) and policies as compared to the Plan's reference to the 1994 King County Comprehensive Plan With Amendments Through2001. A current copy of the KCCP can be found at: http://www.kingcounty.gov/property/permits/codes/growth/CompPlan.aspx;
2. Update the discussion for the Lea Hill area that was annexed to the City of Auburn;
3. Consideration of planning future demand to include meeting the cities adopted population and employment targets under the Growth Management Act (GMA) to more fully integrate sewer planning to local government actions under GMA;
4. Clarification of the District policy related to the District not allowing joint use of its facilities with other jurisdictions or agencies. It is not clear if this policy is only for Emergency Response or if it applies at all times. Clarifying this policy would be beneficial because other elements of the Plan refer to joint use of facilities among neighboring jurisdictions. Perhaps a definition of what is meant by "joint use" would be helpful;

5. Identify the quantity of wastewater, the periods of production and the character of the industrial wastewater insofar as it may affect the sewer system or treatment plant for the following entities not listed in Table 5-5 that hold Industrial Wastewater Discharge permits in your service area:
    - Black Diamond Neighborhood Market
    - Soos Creek Organics Inc.
    - Friendly Wash LLC
    - Covington Multicare Clinic;
6. The evaluation of reclaimed water use opportunities as required by RCW 90.48.112; and
7. The steps being taken to reduce inflow and infiltration (I/I) for the North Basin.

The Plan includes discussion of the District constructing facilities to replace the needs for regional wastewater conveyance facilities planned by the King County Wastewater Treatment Division (WTD); see for example the discussion page 5-12, third paragraph. The UTRC sees the value in coordinated infrastructure development so that utility investments are strategic and efficient. Because these projects are concepts in the comprehensive plan inserting "could" in front of "replace" makes it clear that a final determination on what facilities are built to serve which needs will be made in the future. Adding text noting that construction of any facilities that could replace County needs will be coordinated with WTD through review of facilities design under KCC 28.84.050 and interlocal agreements between with District and WTD is needed to make clear that coordination with WTD will be done. This will help to ensure that facilities are designed and built using criteria and design standards that meet both the needs of the District and WTD.

Please note that King County's estimates for 20 year peak I/I differ from those listed in the last paragraph of page 5-25. Estimates developed during the King County Regional I/I Control Program result in weighted averages of approximately 3000 gallons per acre per day (gpad) for the south basins and 3800 gpad for the north basins. These 20-year peak I/I estimates are the result of long term (60 year) runs of hydrologic models calibrated to flow monitoring data collected during the wet seasons of 2000-2001 and 2001-2002. This difference would need to be discussed if coordinated facilities were planned and implemented as discussed on page 5-12 of the draft plan.

The discussion of the King County Regional I/I Program on page 5-26 is not current. Revision of this discussion is suggested. Please see the Regional I/I Program web page at: http://www.kingcounty.gov/environment/wastewater/II/History.aspx for a summary of program history. The current I/I program activities include analysis of results from the Skyway I/I control project. Analysis of the effectiveness of the Skyway I/I reduction project will be complete in late 2013. The analysis will test the cost-effectiveness of I/I reduction and the potential to offset the need for a larger conveyance or storage facility. The results of this analysis will be used to develop recommendations to the King County Council regarding long-term I/I reduction controls, including applicable changes to policy or code.

We note chapter 10 addresses storm and surface water management considerations and that perhaps that section is not applicable and/or needed for a sewer comprehensive plan.

Franchises are not a Plan issue however we take this opportunity to ensure the District's franchises are current. Our records indicate the District holds two franchises (Franchise 13583 (expires July 19, 2024), and Franchise 14916 (expires May 24, 2029)) for sewer facilities. Please affirm the franchise areas are current.

If your utility is planning on constructing or performing maintenance work on sewer lines within the rights-of-way of roads in unincorporated King County, please follow these two requirements to ensure successful completion of your projects:

- Contact the King County Department of Transportation, Road Services Division, Capital Improvement Program, to coordinate scheduling of your work in unincorporated King County with the County's annual overlay program (cip.roads@kingcounty.gov or 206-296-3746). The timing for obtaining a right-of-way use permit will depend on when an overlay is planned or completed. Insufficient coordination may result in the denial of the permit to work within the right-of-way once an overlay of the road section has been completed.

- Adhere to the current set of King County road and construction standards (http://www.kingcounty.gov/transportation/kcdot/Roads/EngineeringServices/RoadStandards2007.aspx). Generally Utility's standards differ from the County's standards, however when construction and or maintenance of utilities requires work within the road right-of-way in unincorporated King County, the current edition of the King County Road and Construction Standards shall apply to any installation or work in these rights-of-way. Use of methods and materials that do not comply with county standards could require redoing work already completed and could delay or add conditions to acceptance of the work, both at added time and cost to your project.

We look forward to seeing the final Plan and working with you to secure the King County Council's approval. The Council's final action on the Plan will constitute King County's approval of the plan.

If you have any questions or concerns about any of the information in the letter, please do not hesitate to call me at 206-205-0817.

Sincerely,

Stephen Hirschey

Stephen Hirschey
Chair, Utilities Technical Review Committee

cc Ms. Pam Cobley, Project Manager, Roth Hill
Ms. Alison Evans, P.E., Water Quality Program, Washington State Department of Ecology

RECEIVED
JUN 07 2013
Roth Hill, LLC
Bellevue, WA

Stantec Consulting Services Inc.
11130 NE 33rd Place, Suite 200
Bellevue WA 98004-1465
Tel: (425) 869-9448
Fax: (425) 869-1190

Stantec

December 19, 2013

Attention: David M. Christensen, Wastewater Utility Supervisor
City of Renton
1055 South Grady Way
Renton, WA 98057

Dear Mr. ~~Christensen~~ Dave,

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

On behalf of Soos Creek Water & Sewer District, thank you for your comments, dated May 15, 2013, on the District draft Sewer Comprehensive Plan, 2013. We have reviewed your comment and offer the following response:

Comment 1
On page 7-4, Project A4-7: Cascade Interceptor Upgrade (City of Renton) the last sentence of the section references a requirement for the District to fund 80% of the capital costs. The City feels that any cost participate between the City and the District will be in accordance with our existing 1964 agreement. Section 7 of that agreement refers only to maintenance, repairs, and operation" of the Cascade Interceptor for which we currently have established the 80%/20% participation level between the two agencies. As such, new capital to convey additional flows would not appear to be covered by this section. The City's preference would be for the plan to simply acknowledge the existing agreement and note the cost participation, if any, would be an item of further discussion between the City and the District.

Response
Page 7-4, Project A4-7, fifth sentence of the paragraph will be replaced with the following:

"...The District's cost will be in accordance with the 1964 Agreement with the City of Renton. The District anticipates, per the agreement, it will be required to fund approximately $1,690,000.

Reference: Soos Creek Water & Sewer District – draft Sewer Comprehensive Plan, 2013

Thank you again for your comments. We believe these responses adequately address your concerns. The District is in process of finalizing the Plan and will provide a final document once all approvals have been received. Should you have additional questions, please feel free to contact me at (425) 289-7309 or Chris Schmidt, PE at (425) 289-7315.

Regards,

STANTEC CONSULTING SERVICES INC.

Pamela-Rae Cobley
Project Manager
Phone: (425) 289-7309
Fax: (425) 869-1190
pam.cobley@stantec.com

Attachment: None

c. Ron Speer – Soos Creek Water & Sewer District
Mike Hanis, District Attorney – Hanis Irivine Prothero, PLLC
Gregory G. Hill, PE, District Engineer - Stantec
Chris Schmidt, PE - Stantec

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Denis Law
Mayor

City of Renton

Public Works Department - Gregg Zimmerman, P.E., Administrator

May 15, 2013

RECEIVED
MAY 20 2013
Roth Hill, LLC
Bellevue, WA

Ms. Pamela-Rae Cobley
Roth Hill, LLC
11130 NE 33rd Place, Suite 200
Bellevue, WA 98004

RE: Soos Creek Water & Sewer District Draft Sewer Comprehensive Plan, 2013

Dear Ms. Cobley:

The City of Renton Wastewater Utility Section has reviewed the draft comprehensive sewer plan for Soos Creek Water and Sewer District (District). Our review focused strictly on wastewater related items only. You may receive additional comments from other divisions or departments of the City related to their specific interests.

The Wastewater Utility has one comment regarding the draft plan. On page 7-4, Project A4-7: Cascade Interceptor Upgrade (City of Renton) the last sentence of the section references a requirement for the District to fund 80% of the capital costs. The City feels that any cost participation between the City and the District will be in accordance with our existing 1964 agreement. Section 7 of that agreement refers only to "maintenance, repairs, and operation" of the Cascade Interceptor for which we currently have established the 80%/20% participation level between the two agencies. As such, new capital to convey additional flows would not appear to be covered by this section. The City's preference would be for the plan to simply acknowledge the existing agreement and note that cost participation, if any, would be an item of further discussion between the City and the District.

Thank you for the opportunity to review this draft plan. If you have any questions regarding our comment, please contact me at 425.430.7212.

Sincerely,

David M. Christensen
Wastewater Utility Supervisor

cc: Lys Hornsby, Utility Systems Director
Jennifer Henning, CED Current Planning Manager
Ron Speer, District Manager, Soos Creek Water and Sewer District, 14616 SE 192nd, Renton, WA, 98058

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Soos Creek Water & Sewer District
Sewer Comprehensive Plan

Mar-13

Distribution List

Agency	Contact	Address
Cedar River Water & Sewer District	Ron Sheadel General Manager	PO BOX 1040 Maple Valley, WA 98038
King County Water District #111	Chris Hall General Manager	27224 144th Ave SE Kent, WA. 98042
Covington Water District	Gwenn Maxfield General Manager	18631 SE 300th Place Kent, WA. 98042
City of Kent	Tim LaPorte Public Works Director	220 Fourth Ave S Kent, WA. 98032
City of Maple Valley	Steve Clark Public Works Director	P O Box 320 Maple Valley, WA. 98038
City of Black Diamond	Seth Boettcher Public Works Director	P O Box 599 Black Diamond, WA. 98010
City of Covington	Glenn Akramoff Public Works Director	16720 SE 271st St., Suite 100 Covington, WA. 98042
City of Auburn	Dennis Dowdy Public Works Director	25 W. Main Auburn, WA. 98002
City of Renton	Gregg Zimmerman Public Works Administrator	1055 S. Grady Way Renton, WA. 98057
Fire District No. 40	Mark Peterson Fire Chief	18002 108th Ave SE Renton, WA 98055
Kent Fire District No. 37 RFA	Jim Schneider Fire Chief	24611-116th Avenue SE Kent, WA 98031
Auburn School District	Dennis Herren School District Superintendent	915 4th Street NE Auburn, WA 98002
Kent School Distrtict 415	Edward Vargas School District Superintendent	12033 SE 256th Street Kent, WA 98030
Renton School District 403	Vera Risdon School District Superintendent	300 SW 7th Street Renton, WA 98055
Tahoma School District 409	Mike Maryanski School District Superintendent	25720 Maple Valley Black Diamond Road Maple Valley, WA 98038
Washington State Department of Ecology	Alison Evans Permit Manager	3191 - 160th Avenue SE Bellevue, WA 98008
King County DNRP	Steve Hirschey Water Quality Planner/Project Manager	201 S. Jackson Street, RM 512 Seattle, WA 98104-3855

APPENDIX C

ADOPTING RESOLUTIONS

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 3444-S

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington; final approval of the 2014 Comprehensive Sewer Plan.

WHEREAS, sewer districts are required by RCW 57.16.010 to adopt a general comprehensive plan for the sewer system for the district; and

WHEREAS, pursuant to direction of the Board of Commissioners, all portions and sections of the District were investigated in order to select a general comprehensive plan for a sewer system for the district suitable and adequate for present and reasonably foreseeable future needs thereof; and

WHEREAS, the Comprehensive Plan provides for treatment plants and other methods and services, if any, for the prevention, control, and reduction of water pollution and for the treatment and disposal of sewage and industrial and other liquid wastes now produced or which may reasonably be expected to be produced within the district, and for such portions of the district as may reasonably be served; provides for the acquisition or construction and installation of laterals, trunk sewers, intercepting sewers, syphons, pumping stations or other sewage collection facilities, septic tanks, septic tank systems or drainfields, and systems for the transmission and treatment of wastewater; and

WHEREAS, the Comprehensive Plan provides a long-term plan for financing the planned projects and the method of distributing the cost and expense of the sewer system and services, including the creation of local improvement districts or utility local improvement districts; and

provides whether the whole or some part of the cost and expenses shall be paid from revenue or general obligation bonds; and

WHEREAS, on March 6, 2013, the Sewer Comprehensive Plan Agency Review Draft (then denominated 2013 Sewer Review Draft) was adopted by Resolution 3381-S for submission to an engineer designated by the King County Council, to the King County Director of Health, to the Washington State Department of Ecology, and to the governing bodies of all cities and towns, portions of which are included in the District, all in accordance with RCW 57.16.010; and

WHEREAS, the Plan (now denominated 2014 Sewer Comprehensive Plan) was approved by the Washington State Department of Ecology on March 18, 2014, in accordance with the provisions of RCW 35.67.030, RCW 90.48.110, and Chapter 173-240 WAC; and

WHEREAS, the Plan was approved by the King County Council on June 5, 2014, by Ordinance 17821; and

WHEREAS, the 2014 Comprehensive Sewer Plan for adoption by this Resolution is the 2013 Review Draft as modified during the process of the approvals of the Department of Ecology, and by the King County Council.

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, as follows:

SECTION 1: That the Soos Creek Water and Sewer District 2014 Comprehensive Sewer Plan is hereby granted final approval, and adopted by the Board of Commissioners of the District in accordance with RCW 57.16.010.

ADOPTED by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 23rd day of July, 2014.

GARY CLINE, President

STEVE PFAFF, Secretary

ALICE MARSHALL, Commissioner

DAROLD STROUD, Commissioner

LARRY WEST, Commissioner

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office • 3190 160th Ave SE • Bellevue, WA 98008-5452 • 425-649-7000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

March 18, 2014

Mr. Ron Speer
District Manager
Soos Creek Water and Sewer District
14616 SE 192nd St
PO Box 58039
Renton, WA 98058-1039

Dear Mr. Speer:

Re: *Soos Creek Water and Sewer District Sewer Comprehensive Plan*, Final 2014, Roth Hill

Pursuant to RCW 90.48.110 and WAC 173-240-050, the above-referenced general sewer plan has been reviewed by the Department of Ecology (Ecology) and is hereby **approved**. Sewage facilities within the planning area boundary shall be constructed according to the approved general sewer plan and any approved amendments.

Engineering reports and plans and specifications for sewer line extensions, including pump stations, need not be submitted for approval, except as noted below. In the following situations, Ecology approval is necessary for sewer line extensions and pump stations prior to construction:

a) The proposed sewers or pump stations involve installation of overflows or bypasses; or

b) The proposed sewers or pump stations discharge to an overloaded treatment, collection, or disposal facility; or

c) The proposed sewers or pump stations will be funded with grants and loans.

When engineering reports and plans and specifications for construction are required, they must be submitted to Ecology for review and approval in accordance with Chapter 173-240 WAC.

If you have any questions concerning this approval, please contact Alison Evans at 425-649-7160 or Alison.Evans@ecy.wa.gov.

Sincerely,

Kevin C. Fitzpatrick
Water Quality Section Manager

KF:ae

cc: Alison Evans, Ecology
Pamela-Rae Cobley, Roth Hill
Stephen Hirschey, King County UTRC Chair

King County

KING COUNTY

Signature Report

June 2, 2014

Ordinance 17821

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

RECEIVED
JUN 17 2014
SOOS CREEK WATER & SEWER DISTRICT

Proposed No. 2014-0155.1 **Sponsors** Dembowski and Dunn

AN ORDINANCE approving the Soos Creek Water & Sewer District Sewer Comprehensive Plan.

STATEMENT OF FACTS:

1. King County has adopted K.C.C. chapter 13.24, which requires approval of comprehensive plans for sewer utilities that provide service in unincorporated King County as a prerequisite for operating in unincorporated King County, receiving approval for annexation proposals, being granted right of way franchises, and being given approval for right of way construction permits. Title 57 RCW and K.C.C. chapters 13.24 and 28.84 prescribe the requirements for approval of such plans, including consistency with state and local planning requirements.

2. The district's last sewer system plan was prepared in 2005. Both Washington state Department of Ecology and King County regulations require sewer system plans to be updated as needed.

3. The district's service area is within King County and the district has adopted a sewer system plan update ("the plan").

4. King County has adopted a Comprehensive Plan that includes wastewater policies in its provisions for facilities and services (policies F-

214, and F-255 through F-264) that call for consistency with other adopted plans, pursuit of reclaimed water, and protection of water resources.

5. K.C.C. chapter 13.24 requires the utilities technical review committee to review and make a recommendation to the King County executive and council on the plan, the requirements under K.C.C. chapter 13.24 and consistency with the King County Comprehensive Plan. The utilities technical review committee has reviewed the planning data and district operations and has found:

a. The plan uses population and employment forecasts developed by the Puget Sound Regional Council and acknowledges the housing and job growth targets adopted by the Growth Management Planning Council for the district's service area;

b. Portions of the district's service area are in unincorporated King County;

c. The capital facility plan is adequate to meet anticipated facility and service needs;

d. The plan is consistent with applicable Washington state water quality laws; and

e. The plan is consistent with other pertinent county adopted plans and policies.

6. Washington state Department of Ecology approval is pending upon King County's approval of the plan.

7. Under the state Environmental Policy Act the district issued a Determination of Nonsignificance for the issuance of the plan on February 6, 2013. There were no appeals.

8. The district's operations and facilities meet multiple existing statutory, administrative and planning standards. As the district's operations, facilities and planning meet the requirements of the King County Code, and are consistent with the King County Comprehensive Plan, the utilities technical review committee has recommended approval of the plan.

BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

SECTION 1. The Soos Creek Water & Sewer District Sewer Comprehensive Plan, Attachment A to this ordinance, is hereby approved as a sewer system plan.

Ordinance 17821 was introduced on 4/14/2014 and passed by the Metropolitan King County Council on 6/2/2014, by the following vote:

Yes: 8 - Mr. Phillips, Mr. von Reichbauer, Mr. Gossett, Ms. Hague, Ms. Lambert, Mr. McDermott, Mr. Dembowski and Mr. Upthegrove
No: 0
Excused: 1 - Mr. Dunn

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Larry Phillips, Chair

ATTEST:

Anne Noris, Clerk of the Council

APPROVED this 5th day of June, 2014.

Dow Constantine, County Executive

RECEIVED
2014 JUN -6 PM 3:49
KING COUNTY
CLERK
COUNTY COUNCIL

Attachments: A. Soos Creek Water & Sewer District Sewer Comprehensive Plan

APPENDIX D

EXISTING SERVICE AGREEMENTS

Existing Service Agreements Index

☑= In Appendix D ☒ = Not in Appendix D

Other Agency	Date of Agreement	Resolution No.	Resolution Date	Purpose
Metro ☒	August 1, 1963	CSD 26	July 18, 1963	Authorization of a contract for sewage disposal.
City of Renton ☒	March 27, 1964	--	--	Agreement of joint use of interceptor through Tiffany Park area.
Metro ☒	April 6, 1967	CSD 66	March 16, 1967	Approval, ratification and confirmation of Soos Creek Drainage Basin Agreement.
Water District No. 58 ☒	1968	--	--	Sewage disposal to Water District No. 108 facilities from Fairwood 9.
Metro ☒	February 20, 1969	--	--	First supplement to Soos Creek Drainage Basin Agreement.
City of Kent, Metro ☒	July 8, 1969	--	--	Allocation of costs for the Mill Creek Interceptor. The District is allowed to pump up to 5.75 mgd to the interceptor.
City of Kent, Metro ☒	August 22, 1969	--	--	Joint use and oversizing of Metro's Mill Creek Interceptor.
Metro ☒	--	CSD 202	October 7, 1971	Authorization for joint use of South Renton Trunk.
City of Renton ☒	November 19, 1974	CSD 448	October 17, 1974	Sewage disposal from Scott's Terrace (ULID no. 11) to Renton.
Water District No. 58 ☒	--	CSD 530	December 18, 1975	Authorization for joint use of facilities.
City of Kent ☒	--	CSD 891	September 7, 1978	Road use agreement for Springbrook Interceptor.

Existing Service Agreements Index

☑= In Appendix D ☒ = Not in Appendix D

Other Agency	Date of Agreement	Resolution No.	Resolution Date	Purpose
Water District No. 108, Water District No. 58 ☒	January 1, 1980	CSD 1183	January 3, 1980	Reciprocal agreement with Water District No. 108 for services to the Molasses Creek, Madsen Creek, Lake Desire, Spring Lake and Shady Lake drainage areas.
Cedar River Water & Sewer District ☒	December 1987	SC 0114-C	December 17, 1987	Sarbell Development (Albertson's)
City of Black Diamond ☑	September 5, 1990	SC 0567-S	August 23, 1990	Interlocal Agreement for conveyance of Black Diamond's wastewater through District's system.
City of Renton ☑	August 6, 1991	SC 0666-S	April 18, 1991	Agreement for the transfer of facilities and for the establishment of service boundaries.
City of Renton ☑	--	SC 0840-C	September 24, 1992	Finalizing agreement with City of Renton service limits of District and City collection systems.
City of Renton ☑	--	SC 1109-S	April 20, 1994	Amendment to 1992 Agreement.
City of Kent ☑	March 2, 1995	SC 1232-S	November 2, 1994	Interlocal Agreement for establishment of sewer service area boundaries.
City of Renton ☑	--	SC 1480-C	August 21, 1996	Approving Interlocal Agreement for establishment of Service Area Boundaries.
City of Renton ☑	October 10, 1997	SC 1611-C	May 21, 1997	Amending service area.
City of Black Diamond ☑	April 21, 1999	--	--	Amendment to Interlocal Agreement for conveyance of Black Diamond wastewater flows
King County ☑	July 19, 1999	1920-S	August 14, 1999	Accepting King County sewer franchise (Franchise 13583)

Existing Service Agreements Index

☑= In Appendix D ☒ = Not in Appendix D

Other Agency	Date of Agreement	Resolution No.	Resolution Date	Purpose
Cedar River Water & Sewer District☑	January 17, 2001	2124-C	January 17, 2001	Service Agreement Amendment
City of Auburn ☑	March 21, 2001	SC 2141-S	March 21, 2001	Interlocal Agreement for establishment of sewer service area boundaries
King County ☒	May 20, 2002	SC 2323-S	May 22, 2002	Agreement for Coordinated Facility Development
City of Black Diamond ☒	--	--	--	Interlocal Agreement for establishment of sewer system boundaries and conditions of service within the City of Black Diamond
City of Renton ☑	January 26, 2004	2545-C	January 21, 2004	Amending provision to previous
King County ☑	May 24, 2004	--	--	Sewer Franchise 14916
City of Maple Valley ☑	May 22, 2006	2832-S	June 6, 2006	Interlocal Agreement for provisions of sanitary sewer service within Maple Valley
King County ☑	January 17, 2006	By Motion	June 7, 2006	Agreement for the conveyance of sewage from the City of Black Diamond
City of Covington ☑	September 6, 2007	3004-S	September 26, 2007	Interlocal Agreement for provisions of sewer service
City of Renton ☑	July 18, 2008	By Motion	May 5, 2008	Agreement for the transfer of facilities and for the establishment of service boundaries
City of Renton ☑		3271-S	January 5, 2011	Approving addendum to Cascade Interceptor Agreement

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 0567 - S

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, authorizing execution of Interlocal Agreement with Black Diamond.

WHEREAS, Soos Creek Water and Sewer District has negotiated with the City of Black Diamond for an agreement wherein the District will provide for conveyance of Black Diamond wastewater flows through the District; and

WHEREAS, said negotiations have culminated in the preparation of INTERLOCAL AGREEMENT BETWEEN THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON, AND SOOS CREEK WATER & SEWER DISTRICT, KING COUNTY, WASHINGTON, REGARDING CONVEYANCE OF BLACK DIAMOND WASTEWATER FLOWS; and

WHEREAS, the Board of Commissioners of the District has reviewed said proposed Agreement, and hereby finds its execution to be in the best interests of the public welfare.

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Soos Creek Water and Sewer District as follows:

SECTION 1: That the INTERLOCAL AGREEMENT BETWEEN THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON, AND SOOS CREEK WATER & SEWER DISTRICT, KING COUNTY, WASHINGTON, REGARDING CONVEYANCE OF BLACK DIAMOND WASTEWATER FLOWS, a copy of which is attached hereto as "Exhibit A" and incorporated herein by this reference, is hereby approved, and the Board is authorized to execute said Agreement.

SECTION 2: That the staff of the District is authorized

to do all things necessary to effectuate said Agreement, and carry out the terms and conditions thereof.

ADOPTED by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 23rd day of August, 1990.

JOHN PAVEL, President

KAREN WEBSTER, Secretary

CLEMENT QUANRUD, Commissioner

PATRICK BRAZIL, Commissioner

EMILIO PIEROTTI, Commissioner

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 0666-S

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, authorizing execution of Agreement with City of Renton for transfer of facilities and establishment of service boundaries.

WHEREAS, the District and the City of Renton have negotiated an Agreement for the transfer of facilities and establishment of service boundaries with the City of Renton within the City's corporate limits and/or service area; and

WHEREAS, such agreement makes appropriate arrangements for service of bonded indebtedness, revenue and service issues, and payment for facilities; and

WHEREAS, the Board finds it in the best interests of the welfare of the District to enter into the Agreement.

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Soos Creek Water and Sewer District, as follows:

SECTION 1: That the District shall execute the Agreement with the City of Renton for transfer of facilities and establishment of service areas, a copy of which is on file at the District's office.

SECTION 2: That execution of the Agreement will be deemed complete only after approval of the King County Boundary Review Board pursuant to R.C.W. 36.93.

SECTION 3: That the District's Staff should do all things reasonably necessary to carry out the Agreement upon its approval by the Boundary Review Board.

ADOPTED by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public

meeting thereof on the 18th day of April, 1991.

PATRICK BRAZIL, President

CLEMENT QUANRUD, Secretary

JOHN PAVEL, Commissioner

EMILIO PIEROTTI, Commissioner

- excused.

KAREN WEBSTER, Commissioner

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 0840 - C

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, finalizing agreement with City of Renton regarding transfer of facilities and establishment of service areas.

WHEREAS, the following steps have been taken and acts accomplished:

a. The City of Renton ("the City") and the District entered into an AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SEWER BOUNDARIES ("the Agreement").

b. Resolution No. 0666-S was adopted by the District at a regular meeting of the Board of Commissioners approving the Agreement.

c. The Agreement was filed with a Notice of Intention with the King County Boundary Review Board for approval of the portion of the Agreement regarding permanent service outside the boundaries of the District and the City, pursuant to RCW 36.93.090.

d. The King County Boundary Review Board chose not to take jurisdiction for review of the Agreement, received no request for review, and has deemed the proposal approved; and

WHEREAS, the Agreement was submitted to King County for its review and comment, and the County has not objected to the contents of the Agreement; and

WHEREAS, the Agreement does not change the corporate boundaries of either the City or the District, and therefore, no

formal action is necessary by King County following the Boundary Review Board's approval.

NOW, THEREFORE, BE IT RESOLVED by the Commissioners of Soos Creek Water and Sewer District, King County, Washington, as follows:

SECTION 1: That Soos Creek Water and Sewer District hereby gives final approval to the AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SEWER BOUNDARIES, and hereby formally adopts the contents thereof as the policy of the District.

Adopted by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 24th day of September, 1992.

CLEMENT QUANRUD, President

PATRICK BRAZIL, Secretary

KAREN WEBSTER, Commissioner

JOHN PAVEL, Commissioner

EMILIO PIEROTTI, Commissioner

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 1109 - S

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, amending agreement with City of Renton regarding transfer of facilities and establishment of service areas.

WHEREAS, by Resolution 840-C the District approved entry into an AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SEWER BOUNDARIES ("the Agreement") with the City of Renton; and

WHEREAS, an additional area of the District has been identified as being appropriate for receipt of sewer service from the City of Renton: and

WHEREAS, the District and the City desire to amend the Agreement regarding its establishment of sewer service areas.

NOW, THEREFORE, BE IT RESOLVED by the Commissioners of Soos Creek Water and Sewer District, King County, Washington, as follows:

SECTION 1: That Soos Creek Water and Sewer District hereby agrees to amendment of the AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SEWER BOUNDARIES with the City of Renton to add the properties shown on Exhibit "A" hereto to the sewer service area of the City, and to remove the same from the sewer service area of the District.

SECTION 2: That the District take such action as is appropriate to accomplish the terms hereof, and to remove the properties described herein from the District's sewer service area.

Adopted by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 20th day of April, 1994.

JOHN PAVEL, President

KAREN WEBSTER, Secretary

PATRICK BRAZIL, Commissioner

PHILIP SULLIVAN, Commissioner

CLEMENT QUANRUD, Commissioner

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 1232-S

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, approving INTERLOCAL AGREEMENT FOR ESTABLISHMENT OF SANITARY SEWER SERVICE AREA BOUNDARIES with City of Kent.

WHEREAS, the District and the City of Kent have studied their sewer service areas, and have reached agreement regarding which entity should provide sanitary sewer service to the areas of present and future overlap between them as the City annexes those areas designated by it as its planning and future annexation area; and

WHEREAS, the District and the City desire to enter into an Interlocal Agreement designating their respective future sanitary sewer service areas to be relied upon as each plans and constructs infrastructure to serve its present and future service area; and

WHEREAS, an Interlocal Agreement designating service area is consistent with planning principals under the Growth Management Act and other pertinent State and County regulations and ordinances; and

WHEREAS, determining future service areas will provide maximum efficient use of existing and future facilities, orderly and efficient sanitary sewer system planning, and is in the public interest.

NOW, THEREFORE, BE IT RESOLVED by the Commissioners of Soos Creek Water and Sewer District, King County, Washington, as follows:

SECTION 1: That Soos Creek Water and Sewer District hereby authorizes execution of the following:

CITY OF KENT and SOOS CREEK WATER AND SEWER DISTRICT
INTERLOCAL AGREEMENT FOR
ESTABLISHMENT OF SANITARY SEWER SERVICE AREA BOUNDARIES

SECTION 2: That the District shall take such action as is appropriate to accomplish the terms and purposes hereof.

Adopted by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 2nd day of November, 1994.

-excused from signature-
JOHN PAVEL, President

KAREN WEBSTER, Secretary

PATRICK BRAZIL, Commissioner

PHILIP SULLIVAN, Commissioner

CLEMENT QUANRUD, Commissioner

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 1480-C

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, approving INTERLOCAL AGREEMENT FOR THE ESTABLISHMENT OF SERVICE AREA BOUNDARIES with City of Renton.

WHEREAS, the District and the City of Renton have studied their water and sanitary sewer service areas, and have reached agreement regarding which entity should provide water service and sanitary sewer service to the areas of present and future overlap between them as the City annexes those areas designated by it as its planning and future annexation area; and

WHEREAS, the District and the City desire to enter into an Interlocal Agreement designating their respective future water service and sanitary sewer service area boundaries to be relied upon as each plans and constructs infrastructure to serve its present and future service area; and

WHEREAS, an Interlocal Agreement designating service area boundaries is consistent with planning principals under the Growth Management Act and other pertinent State and County statutes, regulations and ordinances; and

WHEREAS, determining future service areas will provide maximum efficient use of existing and future facilities, orderly and efficient water system and sanitary sewer system planning, and is in the public interest.

NOW, THEREFORE, BE IT RESOLVED by the Commissioners of Soos Creek Water and Sewer District, King County, Washington, as follows:

SECTION 1: That Soos Creek Water and Sewer District hereby authorizes execution of the

CITY OF RENTON and SOOS CREEK WATER AND SEWER DISTRICT
INTERLOCAL AGREEMENT FOR THE
ESTABLISHMENT OF SERVICE AREA BOUNDARIES

SECTION 2: That the District shall take such action as is appropriate to accomplish the terms and purposes hereof.

Adopted by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 21st day of August, 1996.

KAREN WEBSTER, President

-excused-
PATRICK BRAZIL, Secretary

STEVE SANDELIUS, Commissioner

-excused-
PHILIP SULLIVAN, Commissioner

CLEMENT QUANRUD, Commissioner

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 1611-C

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, amending agreement with City of Renton regarding transfer of facilities and establishment of service areas.

WHEREAS, the District has entered into an AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SEWER BOUNDARIES with the City of Renton; and

WHEREAS, the District and the City desire to amend the Agreement regarding its establishment of sewer and water service areas.

NOW, THEREFORE, BE IT RESOLVED by the Commissioners of Soos Creek Water and Sewer District, King County, Washington, as follows:

SECTION 1: That Soos Creek Water and Sewer District hereby agrees to amendment of the Interlocal Agreement with the City of Renton by execution of the following, a copy of which is attached hereto as Exhibit A:

INTERLOCAL AGREEMENT FOR THE
ESTABLISHMENT OF SERVICE BOUNDARIES

SECTION 2: That the District take such action as is appropriate to accomplish the terms hereof.

Adopted by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 21st day of May, 1997.

STEVE SANDELIUS, President

PHILIP SULLIVAN, Secretary

PATRICK BRAZIL, Commissioner

KAREN WEBSTER, Commissioner

CLEMENT QUANRUD, Commissioner

CITY OF RENTON and SOOS CREEK WATER AND SEWER DISTRICT INTERLOCAL AGREEMENT FOR THE ESTABLISHMENT OF SERVICE BOUNDARIES

THIS AGREEMENT, made and entered into this 10th day of October, 1997, by and between the **CITY OF RENTON**, a Washington municipal corporation, hereinafter referred to as "the City", and **SOOS CREEK WATER AND SEWER DISTRICT**, a Washington municipal corporation, hereinafter referred to as "the District", both being duly organized and existing under and by virtue of the laws of the State of Washington,

WITNESSETH:

WHEREAS, both the City and the District are public agencies authorized by law and qualified to engage in furnishing water service and sanitary sewer service within their prescribed areas; and

WHEREAS, it is in the public interest for the parties herein to amend the boundaries previously agreed to under the 1991 Interlocal Agreement to provide for the efficient planning and development of water and sewer services in areas which may be served by either, or both, of the parties herein.

NOW, THEREFORE:

IT IS HEREBY AGREED by and between the parties hereto as follows:

1. **Water Service Boundary.** The parties have agreed on a revision to the permanent water service area boundary between them. The revised boundary is legally described in Exhibit "A", which is attached hereto, and by this reference incorporated herein. The boundary is graphically depicted on the map attached hereto as Exhibit "B", which is by reference incorporated herein.

2. **Sewer Service Boundary.** The parties have agreed on a revision to the permanent sewer service area boundary between them. The revised boundary is legally described in Exhibit "C", which is attached hereto, and by this reference incorporated herein. The boundary is graphically depicted on the map attached hereto as Exhibit "D", which is by reference incorporated herein.

3. **Transfer of Service Area.** The City shall assume responsibility to provide service to the area(s) on the City's side of the respective service area boundaries as revised by this agreement, whether or not annexed to the City. The District shall assume responsibility to provide service to the area(s) on the District's side of the respective service area boundaries as revised by this agreement, whether or not annexed to the City. As part of this agreement, the sewer facilities installed under District ULID 11 shall be transferred to the City as described in the November 19, 1974 interlocal agreement notwithstanding that the properties served by these sewers have not been annexed to the City.

4. **Governmental Approvals.** The parties may give notice of the adoption of this Agreement to Metropolitan/King County, to the Department of Ecology, to the Department of Health, and to any other agency with jurisdiction or mission relevant to the terms hereof, and shall cooperate and assist in all reasonable manner in procuring any necessary approvals hereof by those agencies.

5. **Sanctity of Agreement.** This agreement constitutes the entire agreement of the parties regarding the subject matter hereof, and there are no other representations or oral agreements other than those listed herein, which vary the terms of this agreement. Future agreements may occur between the parties to transfer additional, or future service areas by mutual agreement.

6. **Obligations Intact.** Nothing herein shall be construed to alter the rights, responsibilities, liabilities, or obligations of either the City or the District pursuant to the AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SERVICE BOUNDARIES, previously executed by the parties, except as specifically set forth herein.

Approved by Resolution No. 3287 of the **City of Renton**, Washington, at its regular meeting held on the 6th day of October, 1997.

CITY OF RENTON

By: Jesse Tanner
Jesse Tanner

Title: mayor

Attest: Brenda Fritsvold
~~City Clerk~~ Brenda Fritsvold
Deputy City Clerk

Approved by Resolution No. 1611-C of Soos Creek Water and Sewer District of King County, Washington, at its regular meeting held on the 21st day of May, 1997.

SOOS CREEK WATER AND SEWER DISTRICT

By: _____
Steve Sandelius, President of Board

By: _____
Philip Sullivan, Secretary of Board

EXHIBIT "A"

SOOS CREEK WATER & SEWER DISTRICT AND CITY OF RENTON

AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR ESTABLISHMENT OF SERVICE BOUNDARIES (WATER SERVICE BOUNDARY LINE)

APRIL 19, 1996

BEGINNING at a point described as the intersection of the North line of the South 1,350 feet of the Northwest quarter of Section 6, Township 22 North, Range 5 East, W.M., in King County, Washington, and the Easterly right-of-way margin of Primary State Highway No. 5, also known as State Route No. 167, said point being on the existing boundary of Soos Creek Water & Sewer District;

Thence Easterly along said North line to the North-South center line of said Section 6, also being the West line of Tract 1, Spring Brook Acre Tracts, as recorded in Volume 12 of Plats, page 60, records of King County, Washington;

Thence Southerly along said West line to the South line of said Tract 1;

Thence Easterly along said South line to the West line of the South 132 feet of the East 660 feet of said Tract 1;

Thence North along said West line to the North line of said South 132 feet of the East 660 feet of said Tract 1;

Thence Easterly along said North line to the Westerly margin of 96th Avenue South, also known as John Langston Road or Springbrook Road or Talbot Road;

Thence Northerly along said Westerly margin to its intersection with the Westerly extension of the most Northerly line of Tract 8, of said Plat of Spring Brook Acre Tracts;

Thence South 74°50'00" East along said extension to the Easterly margin of said 96th Avenue South and continuing South 74°50'00" East along said most Northerly line, a distance of 189.00 feet;

Thence South 00°44'00" East, a distance of 188.40 feet;

Thence South 58°38'00" East, a distance of 89.35 feet along the line common to Tracts 8 and 9, said Plat of Spring Brook Acre Tracts;

Thence North 41°22'00" East, a distance of 128.10 feet;

Thence South 64°22'00" East, a distance of 275.60 feet;

Thence South 16°58'00" West, a distance of 239.80 feet;

Thence South 31°43'00" East, a distance of 210.90 feet;

Thence South 68°25'00" East, a distance of 99.50 feet;

Thence South 60°35'30" East, a distance of 28.17 feet to the most Northerly corner of Tract 7, said Plat of Spring Brook Acre Tracts;

Thence South 00°12'30" East, a distance of 396.04 feet;

Thence South 39°31'00" East, a distance of 383.85 feet;

Thence North 89°32'00" East, a distance of 340.00 feet to the East line of the Northeast quarter of said Section 6, said East line also being the West line of Section 5, Township 22 North, Range 5 East, W.M.;

Thence North along a line common to said Sections 5 and 6, a distance of 21.50 feet to a point that lies North 00°12'30" West, a distance of 241.50 feet from the Southwest corner of the Southwest quarter of the Northwest quarter of said Section 5;

Thence North 40°41'00" East, a distance of 230.30 feet;

Thence South 84°12'00" East, a distance of 245.90 feet;

Thence South 34°26'00" East, a distance of 147.30 feet;

Thence South 14°49'00" East, a distance of 257.44 feet to a line 30.00 feet North of, as measured at right angles to, and lying parallel with the South line of the Northwest quarter of said Section 5, said line also being the North margin of Southeast 200th Street;

Thence Easterly along said parallel line to the West line of the East one-half of the Southwest quarter of the Northwest quarter of said Section 5;

Thence North 00°31'17" East along said West line, a distance of 190.00 feet;

Thence South 88°38'33" East, to the East line of the West 115.00 feet of the East half of said Southwest quarter of the Northwest quarter;

Thence South 00°31'17" West along said East line, a distance of 190.00 feet to the North margin of said Southeast 200th Street;

Thence South 88°38'33" East along said North margin, a distance of 377.82 feet to the West line of the East 156.00 feet of said Southwest quarter of the Northwest quarter;

Thence North 00°39'11" East along said West line, also being the West line of the Plat of Parkridge East 1, as recorded in Volume 132 of Plats, pages 45 and 46, records of King County, Washington, a distance of 918.18 feet to the South line of Lot 2, King County Short Plat No. R877058, recorded under Auditor's File No.'s 7803010983 and 7808100855, records of King County, Washington;

Thence North 89°20'49" West, a distance of 59.00 feet;

Thence South 85°17'46" West, a distance of 80.30 feet;

Thence North 89°24'30" West, a distance of 96.01 feet;

Thence North 05°09'11" West, a distance of 111.45 feet;

Thence North 53°49'07" East, a distance of 198.22 feet;

Thence South 48°37'32" East, a distance of 118.20 feet to the Northeast corner of said Lot 2;

Thence North 69°21'46" East, a distance of 165.28 feet to the East line of the Southwest quarter of the Northwest quarter of said Section 5;

Thence North 00°39'11" East along said East line, a distance of 147.85 feet to the North line of said Southwest quarter;

Thence Westerly along said North line to the West line of said Section 5, also being the East line of said Tract 9, said Plat of Spring Brook Acre Tracts;

Thence Northerly along said East line to a point that lies 271.50 feet South, as measured along said East line from the Northeast corner of said Tract 9;

Thence North 78°21'42" West, a distance of 336.34 feet;

Thence North 26°09'56" West, a distance of 106.78 feet;

Thence North 83°20'02" West, a distance of 289.79 feet;

Thence North 70°34'46" West to an intersection with the Southerly extension of the West line of the Plat of Springbrook Terrace, Amended, as recorded in Volume 131 of Plats, pages 55 through 58 as amended, records of King County, Washington;

Thence Northerly along said Southerly extension to the Southwest corner of said Plat of Springbrook Terrace, Amended;

Thence North 86°00'00" West a distance of 509.65 feet to the East line of the old right-of-way margin of 96th Avenue South, as established October 5, 1931, also known as John Langston Road or Springbrook Road or Talbot Road;

Thence Northwesterly and Northerly along said Easterly right-of-way margin to the South line of the North 425 feet of the Northwest quarter of the Northeast quarter of the Northeast quarter of said Section 6;

Thence South 88°27'05" East along said South line to the West line of said Plat of Springbrook Terrace, Amended;

Thence Northerly along said West line and its Northerly extension to the North line of said Section 6, also being the South line of Section 31, Township 23 North, Range 5 East, W.M.;

Thence Easterly along said South line to the East line of the West 1,003.00 feet of the Southeast quarter of the Southeast quarter of Section 31, Township 23 North, Range 5 East, W.M.;

Thence Northerly along said East line to the North line of the Southeast quarter of said Section 31;

Thence Easterly along said North line to the East quarter corner of said Section 31, said East quarter corner also being the Southwest corner of the Northwest quarter of Section 32, Township 23 North, Range 5 East, W.M.;

Thence Northeasterly to a point 600.00 feet North and 550.00 feet East of said Southwest corner;

Thence Northerly along a line parallel with and 550.00 feet East of the West line of said Northwest quarter to a point 900.00 feet North and 550.00 feet East of said Southwest corner;

Thence Northwesterly to a point on said West line of the Northwest quarter of said Section 32, 1,200.00 feet North of said Southwest corner, said West line also being the East line of the Northeast quarter of Section 31, Township 23 North, Range 5 East, W.M.;

Thence Northerly along said West line of said Northwest quarter, and the West line of Section 29, Township 23 North, Range 5 East, W.M. to the North line of the South half of the Southwest quarter of the Southwest quarter of said Section 29;

Thence Easterly along said North line, a distance of 802 feet, more or less to the Southerly extension of the West line of Lot 4 of King County Short Plat No. 577051, Recording No. 790280736;

Thence North 01°52'36" East along said Southerly extension to the South line of Lot 1 of Revised King County Short Plat No. 275022R, Recording No. 8003210741;

EXHIBIT "A", continued

Thence Westerly along said South line to the West line of said Lot 1;

Thence Northerly along said West line and the West line of Lots 2 and 3 of said Revised King County Short Plat No. 275022R to the North line of the South half of the Northwest quarter of the Southwest quarter of said Section 29;

Thence North 88°39'49" East along said North line to the West line of Lot 4 of King County Short Plat No. 577051, Recording No. 790280736;

Thence Northerly along said West line to the North line of said Lot 4;

Thence Easterly along said North line and its Easterly extension to the Easterly margin of State Route 515;

Thence Northerly along said East margin to the North line of the Southwest quarter of said Section 29;

Thence Easterly along said North line to the centerline of Cedar Avenue South (104th Avenue S.E.), said centerline also being the East line of the Southwest quarter of the Northwest quarter of said Section 29;

Thence Northerly along said East line to the Westerly extension of the South line of Lot 2 of City of Renton Short Plat No. 071-85;

Thence Easterly along the South line and said Westerly extension to the East line of said lot;

Thence Northerly along said East line to the Northeast corner of said lot;

Thence continuing Northerly along the East line of Lot 1 of said Short Plat to the Northeast corner of said Lot 1;

Thence Westerly along the North line of said lot and the Westerly extension thereof to said East line of the Southwest quarter of the Northwest quarter of said Section 29;

Thence Northerly along said East line to the South line of the North 100.00 feet of the Southwest quarter of the Northwest quarter of said Section 29;

Thence Westerly along said South line to the West line of the East 100.00 feet of the West half of the Northwest quarter of said Section 29;

Thence Northerly along said West line to the North line of the South 100.00 feet of the North half of the Northwest quarter of said Section 29;

Thence Easterly along said North line to its intersection with the Westerly margin line of Benson Road;

Thence Southerly along said West margin line to its intersection with the South line of the North half of the Northwest quarter of said Section 29;

Thence Easterly along said South line to its intersection with the Easterly margin line of Benson Road;

Thence Northerly along said East margin line to the South line of the following described parcel:

> Beginning at a point located North 01°42'40" East, a distance of 749.65 feet and North 88°17'20" West, a distance of 191.67 feet, more or less, from a point on the centerline of South 27th Street (S.E. 164th Street), a distance of 255.00 feet East of the Easterly margin line of Benson Road;
>
> Thence South 88°17'20" East, a distance of 191.67 feet, more or less, to a point located North 01°42'40" East, a distance of 749.65 feet, more or less, from said point on the centerline of said South 27th Street;
>
> Thence South 01°42'40" West, to a line parallel with and 400.00 feet North of the South line of the Northeast quarter of the Northwest quarter of said Section 29;
>
> Thence West along said parallel line to the Easterly margin of Benson Road;
>
> Thence Northerly along said Easterly margin to the Point of Beginning of this parcel's description;

Thence Easterly along said South line of the above-described parcel to the East line of said parcel, also being the West line of Spring Glen Elementary School Site;

Thence Northerly along said East line of said parcel to a line parallel with and 700 feet, more or less, North of the South line of the Northeast quarter of the Northwest quarter of said Section 29, also being the North line of Spring Glen Elementary School Site;

Thence Easterly along said parallel line to the North-South centerline of said Section 29;

Thence Northerly along said North-South centerline to the Westerly extension of the South margin of S.E. 160th Street;

Thence Easterly along said Westerly extension and said South margin to the centerline of the Bonneville Power Line right-of-way;

Thence Southeasterly along said centerline to the Westerly extension of the South margin of S.E. 162nd Street;

Thence Easterly along said extension and said South margin to the West line of the East 330.00 feet of the Northwest quarter of the Northeast quarter of said Section 29;

Thence North along said West line to the North line of said Northwest quarter of the Northeast quarter of said Section 29, also being the South line of Section 20, Township 23 North, Range 5 East, W.M.;

Thence Easterly along said South line of said Section 20 to the West line of the East 930.00 feet of the Southeast quarter of said Section 20;

Thence Northerly along said West line to the North line of the South 200.00 feet of said Southeast quarter;

Thence Easterly along said North line to the West line of the East 670.00 feet of said Southeast quarter;

Thence North 01°50'38" East, a distance of 105.01 feet to the North line of the South 305 feet, more or less, of said Southeast quarter;

Thence South 88°46'15" East along said North line to the West line of the East 330.00 feet of said Southeast quarter;

Thence Northerly along said West line to the South line of the Plat of Parkwood South Division No. 3, as recorded in Volume 109 of Plats, pages 57 and 58, records of King County, Washington;

Thence Easterly along said South line to the East line of said Section 20, also being the West line of Section 21, Township 23 North, Range 5 East, W.M.;

Thence Northerly along said West line to the Westerly extension of the South line of the Plat of Ponderosa Estates Addition, as recorded in Volume 70 of Plats, pages 34 and 35, records of King County, Washington;

Thence Easterly along said extension and said South line to the Southerly margin of the Cedar River Pipeline right-of-way;

Thence Southeasterly and Easterly along said Southerly right-of-way margin to the West line of the East half of the Southeast quarter of said Section 21;

Thence Northerly along said West line to the North line of the Southeast quarter of said Southeast quarter of Section 21;

Thence Easterly along said North line to the East line of said Section 21, said point being on the City of Renton City Limits as established by City Ordinance 3723, and the terminus of this boundary description.

EXHIBIT "C"

SOOS CREEK WATER & SEWER DISTRICT AND CITY OF RENTON

AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR ESTABLISHMENT OF SERVICE BOUNDARIES (SEWER SERVICE BOUNDARY LINE)

April 19, 1996

BEGINNING at a point described as the intersection of the North line of the South 1,350 feet of the Northwest quarter of Section 6, Township 22 North, Range 5 East, W.M., in King County, Washington, and the Easterly right-of-way margin of Primary State Highway No. 5, also known as State Route No. 167, said point being on the existing boundary of Soos Creek Water & Sewer District;

Thence Easterly along said North line to the North-South center line of said Section 6, also being the West line of Tract 1, Spring Brook Acre Tracts, as recorded in Volume 12 of Plats, page 60, records of King County, Washington;

Thence Southerly along said West line to the South line of said Tract 1;

Thence Easterly along said South line to the West line of the South 132 feet of the East 660 feet of said Tract 1;

Thence North along said West line to the North line of said South 132 feet of the East 660 feet of said Tract 1;

Thence Easterly along said North line to the Westerly margin of 96th Avenue South, also known as John Langston Road or Springbrook Road or Talbot Road;

Thence Northerly along said Westerly margin to its intersection with the Westerly extension of the most Northerly line of Tract 8, of said Plat of Spring Brook Acre Tracts;

Thence South 74°50'00" East along said extension to the Easterly margin of said 96th Avenue South and continuing South 74°50'00" East along said most Northerly line, a distance of 189.00 feet;

Thence South 00°44'00" East, a distance of 188.40 feet;

Thence South 58°38'00" East, a distance of 89.35 feet along the line common to Tracts 8 and 9, said Plat of Spring Brook Acre Tracts;

Thence North 41°22'00" East, a distance of 128.10 feet;

Thence South 64°22'00" East, a distance of 275.60 feet;

Thence South 16°58'00" West, a distance of 239.80 feet;

Thence South 31°43'00" East, a distance of 210.90 feet;

EXHIBIT "C", continued

Thence South 68°25'00" East, a distance of 99.50 feet;

Thence South 60°35'30" East, a distance of 28.17 feet to the most Northerly corner of Tract 7, said Plat of Spring Brook Acre Tracts;

Thence South 00°12'30" East, a distance of 396.04 feet;

Thence South 39°31'00" East, a distance of 383.85 feet;

Thence North 89°32'00" East, a distance of 340.00 feet to the East line of the Northeast quarter of said Section 6, said East line also being the West line of Section 5, Township 22 North, Range 5 East, W.M.;

Thence North along a line common to said Sections 5 and 6, a distance of 21.50 feet to a point that lies North 00°12'30" West, a distance of 241.50 feet from the Southwest corner of the Southwest quarter of the Northwest quarter of said Section 5;

Thence North 40°41'00" East, a distance of 230.30 feet;

Thence South 84°12'00" East, a distance of 245.90 feet;

Thence South 34°26'00" East, a distance of 147.30 feet;

Thence South 14°49'00" East, a distance of 257.44 feet to a line 30.00 feet North of, as measured at right angles to, and lying parallel with the South line of the Northwest quarter of said Section 5, said line also being the North margin of Southeast 200th Street;

Thence Easterly along said parallel line to the West line of the East one-half of the Southwest quarter of the Northwest quarter of said Section 5;

Thence North 00°31'17" East along said West line, a distance of 190.00 feet;

Thence South 88°38'33" East, to the East line of the West 115.00 feet of the East half of said Southwest quarter of the Northwest quarter;

Thence South 00°31'17" West along said East line, a distance of 190.00 feet to the North margin of said Southeast 200th Street;

Thence South 88°38'33" East along said North margin, a distance of 377.82 feet to the West line of the East 156.00 feet of said Southwest quarter of the Northwest quarter;

Thence North 00°39'11" East along said West line, also being the West line of the Plat of Parkridge East 1, as recorded in Volume 132 of Plats, pages 45 and 46, records of King County, Washington, a distance of 918.18 feet to the South line of Lot 2, King County Short Plat No. R877058, recorded under Auditor's File No.'s 7803010983 and 7808100855, records of King County, Washington;

Thence North 89°20'49" West, a distance of 59.00 feet;

Thence South 85°17'46" West, a distance of 80.30 feet;

EXHIBIT "C", continued

Thence North 89°24'30" West, a distance of 96.01 feet;

Thence North 05°09'11" West, a distance of 111.45 feet;

Thence North 53°49'07" East, a distance of 198.22 feet;

Thence South 48°37'32" East, a distance of 118.20 feet to the Northeast corner of said Lot 2;

Thence North 69°21'46" East, a distance of 165.28 feet to the East line of the Southwest quarter of the Northwest quarter of said Section 5;

Thence North 00°39'11" East along said East line, a distance of 147.85 feet to the North line of said Southwest quarter;

Thence Westerly along said North line to the West line of said Section 5, also being the East line of said Tract 9, said Plat of Spring Brook Acre Tracts;

Thence Northerly along said East line to a point that lies 271.50 feet South, as measured along said East line from the Northeast corner of said Tract 9;

Thence North 78°21'42" West, a distance of 336.34 feet;

Thence North 26°09'56" West, a distance of 106.78 feet;

Thence North 83°20'02" West, a distance of 289.79 feet;

Thence North 70°34'46" West to an intersection with the Southerly extension of the West line of the Plat of Springbrook Terrace, Amended, as recorded in Volume 131 of Plats, pages 55 through 58 as amended, records of King County, Washington;

Thence Northerly along said Southerly extension to the Southwest corner of said Plat of Springbrook Terrace, Amended;

Thence North 86°00'00" West a distance of 509.65 feet to the East line of the old right-of-way margin of 96th Avenue South, as established October 5, 1931, also known as John Langston Road or Springbrook Road or Talbot Road;

Thence Northwesterly and Northerly along said Easterly right-of-way margin to the South line of the North 425 feet of the Northwest quarter of the Northeast quarter of the Northeast quarter of said Section 6;

Thence South 88°27'05" East along said South line to the West line of said Plat of Springbrook Terrace, Amended;

Thence Northerly along said West line and its Northerly extension to the North line of said Section 6, also being the South line of Section 31, Township 23 North, Range 5 East, W.M.;

Thence Easterly along said South line to the Southeast corner of the Southeast quarter of said Section 31;

Thence Northerly along the East line of said Southeast quarter to the Northeast corner thereof, also being the Southwest corner of the Northwest quarter of Section 32, Township 23 North, Range 5 East, W.M.;

Thence Easterly along the South line of said Northwest quarter to the Southeast corner of the Southwest quarter of said Northwest quarter;

Thence Northerly along the East line of said Southwest quarter to the South line of the North 200.00 feet thereof;

Thence Westerly along said South line to the East line of the West half of said Southwest quarter;

Thence Northerly along said East line to the North line of said Southwest quarter;

Thence Westerly along said North line to the West line of said Northwest quarter of said Section 32, also being the East line of the Northeast quarter of said Section 31;

Thence Northerly along said East line to its intersection with the Northerly margin of South 179th Street, also known as Carr Road, est. 11-27-17 (former Carr Road No. 1147);

Thence Westerly along said Northerly margin, said margin being a curve to the left, the center of which bears South 00°01'50" West, having a radius of 1,462.69 feet, through a central angle of 02°21'07", an arc distance of 60.04 feet to the Easterly most corner of Lot 42, Plat of Scott's Terrace, (Recording No. 761680) as recorded in Volume 72 of Plats, pages 39 and 40, records of King County, Washington;

Thence continuing along the Northeasterly boundary of said plat the following bearings and distances:

Thence North 60°04'34" West, a distance of 250.34 feet;

Thence North 17°02'46" West, a distance of 112.00 feet;

Thence North 01°13'36" East, a distance of 268.68 feet;

Thence North 22°31'55" West, a distance of 180.92 feet;

Thence North 89°03'13" West, a distance of 565.00 feet to the centerline of Talbot Road, also known as 96th Avenue South, said point being on the existing boundary of Soos Creek Water & Sewer District;

Thence Northeasterly and Northerly along said centerline of Talbot Road to the North line of said Section 31, also being the south line of Section 30, Township 23 North, Range 5 East, W.M.;

Thence continuing Northerly along said centerline of Talbot Road to the South line of North 100.00 feet of the South half of the Northeast quarter of the Southeast quarter of said Section 30;

Thence Easterly along said South line to the East line of said Southeast quarter of said Section 30, also being the West line of Southwest quarter of Section 29, Township 23 North, Range 5 East, W.M.;

Thence Northerly along said West line to the North line of the South half of the Northwest quarter of the Southwest quarter of said Section 29;

Thence North 88°39'49" East along said North line to the West line of Lot 4 of King County Short Plat No. 577051, Recording No. 790280736;

Thence Northerly along said West line to the North line of said Lot 4;

Thence Easterly along said North line and its Easterly extension to the Easterly right-of-way margin of State Route 515;

Thence Northerly along said Easterly margin to the North line of the Southwest quarter of said Section 29, also being the South line of the Northwest quarter of said Section 29;

Thence Easterly along said South line to the West line of the Southeast quarter of the Northwest quarter of said Section 29;

Thence Northerly along said West line to the Westerly extension of the South line of Lot 4, Block 2, Plat of Akers Farms No. 5, as recorded in Volume 40 of Plats, page 27, records of King County, Washington;

Thence Easterly along the South line of said Lot 4 to the East line of the West half of said lot;

Thence Northerly along said East line, and the Northerly extension thereof to the South line of Lot 1, Block 2, of said Plat of Aker's Farms No. 5;

Thence Easterly along said South line to the West line of the East 62.50 feet of said Lot 1;

Thence Northerly along said West line to the Northerly line of said Lot 1, also being the Southerly margin of Southeast 166th Street;

Thence Northeasterly to a point on the Northerly margin of said Southeast 166th Street, which lies 237.41 feet East of said West line of the Southeast quarter of the Northwest quarter of said Section 29, said point also described as the Southwest corner of Lot 4 of Tract A, said Plat of Aker's Farms No. 5;

Thence North 24°02'04" East, 182.23 feet along the Westerly line of said Lot 4;

Thence Southeasterly along the Southerly line of the North half of said Lot 4 to the Easterly line thereof;

Thence North 24°02'04" East along said Easterly line, also being the Northwesterly line of Lot 5, Block A of said Plat, to a point 107 feet Southwesterly from the most Northerly corner of said Lot 5;

Thence Southeasterly to a point on the Easterly line of said Lot 5 lying 107 feet Southerly from the Northeast corner thereof, said point also being on the West right-of-way margin of 106th Avenue Southeast;

Thence continuing Southeasterly to the intersection of the West line of Lot 1, Block 4 of said Plat and the North line of the South 273 feet of said Lot 1, said point also being on the East right-of-way margin of 106th Avenue Southeast;

Thence Easterly along said North line to the East line of said Lot 1, also being the West line of Lot 2, Block 4 of said Plat;

Thence Southerly along said West line to the North line of the South 120 feet of said Lot 2;

Thence Easterly along said North line to the West line of the East 20 feet of said Lot 2;

Thence Northerly along said West line and its Northerly extension thereof to the Westerly extension of the South right-of-way margin of South 29th Street, also known as Southeast 166th Street;

Thence Easterly along said Westerly extension and said South margin of South 29th Street to the Southerly extension of the Easterly right-of-way margin of 106th Place Southeast;

Thence Northwesterly along said Southerly extension and continuing Northwesterly along said Easterly margin and its Northerly extension to the centerline of Southeast 164th Street, also known as South 27th Street;

Thence Easterly along said centerline to the East line of said Northwest quarter of Section 29, also being the West of the Northeast quarter of said Section 29;

Thence Northerly along said West line to the North line of the South 430.00 feet of the Northwest quarter of said Northeast quarter of Section 29;

Thence Easterly along said North line to the East line of the West 450.00 feet of said Northwest quarter of the Northeast quarter;

Thence Northerly along said East line to its intersection with the Westerly extension of the South right-of-way margin of Southeast 162nd Street;

Thence Easterly along said Westerly extension and said South margin to the West line of the East 330.00 feet of said Northwest quarter of the Northeast quarter;

Thence North along said West line to the North line of said Northwest quarter of the Northeast quarter of said Section 29, also being the South line of Section 20, Township 23 North, Range 5 East, W.M.;

Thence Easterly along said South line of said Section 20 to the West line of the East 930.00 feet of the Southeast quarter of said Section 20;

Thence Northerly along said West line to the North line of the South 200.00 feet of said Southeast quarter;

Thence Easterly along said North line to the West line of the East 670.00 feet of said Southeast quarter;

Thence North 01°50' 38" East, a distance of 105.01 feet to the North line of the South 305 feet, more or less, of said Southeast quarter;

Thence South 88°46'15" East along said North line to the West line of the East 330 feet of said Southeast quarter;

Thence Northerly along said West line to the South line of the Plat of Parkwood South Division No. 3, as recorded in Volume 109 of Plats, pages 57 and 58, records of King County, Washington;

Thence Easterly along said South line to the East line of said Section 20, also being the West line of Section 21, Township 23 North, Range 5 East, W.M.;

Thence Northerly along said West line to the Westerly extension of the South line of the Plat of Ponderosa Estates Addition, as recorded in Volume 70 of Plats, pages 34 and 35, records of King County, Washington;

Thence Easterly along said extension and said South line to the Southerly margin of the Cedar River Pipeline right-of-way;

Thence Southeasterly and Easterly along said Southerly right-of-way margin to the West line of the East half of the Southeast quarter of said Section 21;

Thence Northerly along said West line to the North line of the Southeast quarter of the Southeast quarter of said Section 21;

Thence Easterly along said North line to the East line of said Section 21, said point being on the City of Renton City Limits, as established by City Ordinance 3723, and the terminus of this boundary description.

AMENDMENT TO INTERLOCAL AGREEMENT
BETWEEN THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON,
AND
SOOS CREEK WATER AND SEWER DISTRICT, KING COUNTY, WASHINGTON,
REGARDING CONVEYANCE OF BLACK DIAMOND WASTEWATER FLOWS

THIS AMENDMENT TO AGREEMENT is made and entered into by and between the City of Black Diamond, King County, Washington, a municipal corporation, herein referred to as the City, and Soos Creek Water and Sewer District, King County, Washington, a municipal corporation, herein referred to as the District.

WHEREAS, the City and the District entered into the following agreement by execution by the City on the 5th day of September, 1990:

INTERLOCAL AGREEMENT
BETWEEN THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON
AND
SOOS CREEK WATER AND SEWER DISTRICT, KING COUNTY, WASHINGTON,
REGARDING CONVEYANCE OF BLACK DIAMOND WASTEWATER FLOWS

herein referred to as the Agreement; and

WHEREAS, the Agreement provided that the City's relationship with the District would be as a customer of the District for the purpose of the District providing pumped conveyance of City wastewater flows through the District (Section 2.); and

WHEREAS, the Agreement provided that City payment for conveyance would be no later than 10 days after the last day of each month during the term of the Agreement (Section 7.); and

WHEREAS, over time it has been the City's and the District's experience that the City's receipts from its own customers do not coincide with the payment due date of the Agreement, preventing timely payment of charges to the District on several occasions; and

WHEREAS, the City and the District now desire to modify and clarify the Agreement as to the due date of payments for conveyance, and as to procedures and consequences in the event of late payments.

NOW, THEREFORE, it is mutually covenanted and agreed by and between the parties hereto as follows:

SECTION 1: That the first paragraph of Section 7. of the Agreement shall be amended to the following:

> SECTION 7. CITY PAYMENT FOR DISTRICT PUMPED CONVEYANCE CHARGES. Commencing with the first month in which sewage collected by the City is conveyed to the District, the City shall pay to the District, no later than thirty calendar days after the last day of each month during the term of this agreement, a sewage conveyance charge determined as provided in this section.

SECTION 2: That the City and the District herein confirm that in the event of late payment the District may provide that where such charges are delinquent, penalties and interest shall be added thereto in the same amounts as the District utilizes generally for its other customers, and may file liens and enforce collection, all in accordance with RCW 57.08.081.

SECTION 3: That except as amended hereby, the terms of the Agreement are hereby ratified and confirmed.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals.

CITY OF BLACK DIAMOND

ACCEPTED AND EXECUTED this 8TH day of APRIL, 1999.

By and for the City, signed

HOWARD BOTTS, Mayor

ATTEST:

, CITY CLERK

CITY OF BLACK DIAMOND

SOOS CREEK WATER AND SEWER DISTRICT

ACCEPTED AND EXECUTED this 21 day of April, 1999.

By and for the District, signed

Steve Sandelius, Commissioner

By and for the District, signed

Clement Quaprud, Commissioner

By and for the District, signed

Philip Sullivan, Commissioner

By and for the District, signed

Karen Webster, Commissioner

By and for the District, signed

Patrick Brazil, Commissioner

INTERLOCAL AGREEMENT

BETWEEN THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON AND SOOS CREEK WATER & SEWER DISTRICT, KING COUNTY, WASHINGTON

REGARDING CONVEYANCE OF BLACK DIAMOND WASTEWATER FLOWS

THIS AGREEMENT IS MADE AND ENTERED INTO BY AND BETWEEN THE CITY OF BLACK DIAMOND, KING COUNTY, WASHINGTON, A MUNICIPAL CORPORATION, HEREIN REFERRED TO AS THE CITY, AND THE SOOS CREEK WATER & SEWER DISTRICT, KING COUNTY, WASHINGTON, A MUNICIPAL CORPORATION, HEREIN REFERRED TO AS THE DISTRICT.

WHEREAS, THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, HEREINAFTER EPA, HAS DETERMINED THAT THE CITY'S INNOVATIVE AND ALTERNATIVE WASTEWATER TREATMENT FACILITY, HEREINAFTER I&A WWTF, IS A FAILED SYSTEM AND IS ELIGIBLE FOR AN EPA MODIFICATION AND/OR REPLACEMENT GRANT, HEREINAFTER M/R GRANT, TO MODIFY OR REPLACE THE EXISTING I&A WWTF.

WHEREAS, THE WASHINGTON STATE DEPARTMENT OF ECOLOGY, HEREINAFTER WDOE, AND EPA HAVE FORMALLY APPROVED THE CITY'S FACILITY PLAN STUDY CONCLUSION TO REPLACE THE CITY'S FAILED I&A WWTF WITH A CITY PUMP STATION AND PIPELINE SYSTEM TO THE DISTRICT, AND WITH CONVEYANCE PROVIDED THROUGH DISTRICT FACILITIES AND THROUGH KENT AND MILL CREEK FACILITIES UNDER THE DISTRICT'S JOINT USE AGREEMENTS, AND THROUGH THE METRO SYSTEM, TO CONVEY THE CITY'S WASTEWATER TO THE RENTON WASTEWATER TREATMENT FACILITY, WHICH IS OWNED AND OPERATED BY THE METROPOLITAN MUNICIPALITY OF SEATTLE, HEREINAFTER METRO.

WHEREAS, THE CITY AND THE DISTRICT DESIRE AN INTERLOCAL AGREEMENT WHEREIN THE DISTRICT WILL PROVIDE FOR CONVEYANCE OF BLACK DIAMOND WASTEWATER FLOWS THROUGH DISTRICT, KENT, AND MILL CREEK FACILITIES TO METRO.

WHEREAS, THE CITY DESIRES TO PROVIDE SEWER SERVICE ONLY TO CUSTOMERS WITHIN THE CITY.

WHEREAS, AN INTERLOCAL AGREEMENT BETWEEN THE CITY AND THE DISTRICT FOR CONVEYANCE OF CITY WASTEWATER FLOWS TO METRO MUST BE FORMALLY CONCLUDED BETWEEN THE CITY AND THE DISTRICT AND THEN APPROVED BY BOTH WDOE AND EPA, PRIOR TO THESE AGENCIES PROVIDING FUNDING FOR THE CONSTRUCTION OR PURCHASE OF ANY CITY WASTEWATER

CONVEYANCE FACILITIES OR CAPACITY WITHIN THE CITY, DISTRICT, KENT, OR MILL CREEK SYSTEMS.

WHEREAS, UNDER THE CITY'S EPA M/R GRANT TO REPLACE THE CITY'S FAILED I&A WWTF, THE EPA ELIGIBLE COSTS FOR DESIGN AND CONSTRUCTION OF ANY DISTRICT CONVEYANCE CAPACITY FOR CITY WASTEWATER FLOWS WITHIN THE DISTRICT, KENT, OR MILL CREEK SYSTEMS WOULD OCCUR WELL AFTER THE EPA FUNDING SUNSET DATE FOR THE CITY TO OBTAIN EPA GRANT FUNDING FOR THAT PURPOSE.

WHEREAS, CERTAIN MONIES MUST BE MADE AVAILABLE TO THE DISTRICT BY THE CITY TO ENABLE THE DISTRICT TO PROVIDE CONVEYANCE CAPACITY TO THE CITY.

WHEREAS, THE CITY WILL OBTAIN WDOE GRANT FUNDING, WHICH MUST BE CHARACTERIZED AS BUY-IN COST FUNDING TO COMPLY WITH WDOE GRANT REQUIREMENTS, TO BE PLACED INTO A BUY-IN INVESTMENT ACCOUNT WHICH SHALL BE JOINTLY CONTROLLED BY THE CITY AND THE DISTRICT. THIS BUY-IN FUNDING SHALL BE UTILIZED TO COMPENSATE THE DISTRICT FOR INCREASES IN DISTRICT PRESENT WORTH COSTS OF FUTURE CONVEYANCE CAPACITY UPGRADES, DUE TO CITY FLOW IMPACTS WHICH ACCELERATE THE DISTRICT'S SCHEDULE FOR THOSE FUTURE CAPACITY UPGRADES, AND TO ASSURE CITY FINANCING FOR THE CITY'S PROPORTIONAL COST SHARE IN FUTURE DISTRICT, KENT, AND MILL CREEK CAPITAL COST CONVEYANCE CAPACITY UPGRADES WHICH THE DISTRICT WILL PROVIDE FOR CITY CONVEYANCE CAPACITY.

NOW THEREFORE, IT IS HEREBY MUTUALLY COVENANTED AND AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

SECTION 1. ACCEPTANCE AND CONVEYANCE OF WASTEWATER. THE CITY SHALL DELIVER TO THE DISTRICT'S PUMP STATION NUMBER 11 ALL OF THE SEWAGE AND INDUSTRIAL WASTES COLLECTED BY THE CITY, AND THE DISTRICT SHALL ACCEPT AND PROVIDE FOR PUMPED CONVEYANCE OF THE CITY'S WASTEWATER FLOWS THROUGH EXISTING DISTRICT CONVEYANCE FACILITIES, BOTH THOSE FACILITIES SOLELY OF THE DISTRICT AND THOSE KENT AND MILL CREEK FACILITIES UNDER OTHER JOINT USE AGREEMENTS WITH THE DISTRICT, TO THE METRO SYSTEM, AND TO PROVIDE WASTEWATER CONVEYANCE THROUGH THESE EXISTING FACILITIES FOR A MAXIMUM CITY POPULATION EQUIVALENT OF 3600, EXCEPT AS MAY BE MODIFIED BY

SUBSEQUENT AGREEMENT BETWEEN THE PARTIES.

THE DISTRICT SHALL ALSO PROVIDE FOR PUMPED CONVEYANCE OF THE CITY'S WASTEWATER FLOWS THROUGH FUTURE DISTRICT CONSTRUCTED CAPACITY UPGRADES OF DISTRICT, KENT, AND MILL CREEK CONVEYANCE FACILITIES IN WHICH THE DISTRICT AND THE CITY HEREBY AGREE TO JOINTLY FUND DESIGN AND CONSTRUCTION AND TO DESIGN AND CONSTRUCT CONVEYANCE CAPACITY UPGRADES OF THE DISTRICT, KENT, AND MILL CREEK CONVEYANCE FACILITIES TO THE METRO SYSTEM, WITH CITY AND DISTRICT COST SHARING TO BE PROPORTIONALLY BASED ON A DESIGNED CONVEYANCE CAPACITY SHARE BASIS AND TO SUPPORT A MINIMUM CITY POPULATION OF 3600, OR GREATER, AS THE CITY MAY CHOOSE TO FUND.

THE CITY SHALL COMPENSATE THE DISTRICT FOR THE OPERATION AND MAINTENANCE COSTS OF PROVIDING PUMPED CONVEYANCE OF CITY WASTEWATER FLOWS, SHALL PROVIDE PROPORTIONAL CAPITAL COST FUNDING FOR FUTURE CONVEYANCE CAPACITY UPGRADES, AS NEW CONVEYANCE SYSTEMS, WITHIN THE DISTRICT, KENT, AND MILL CREEK SYSTEMS, AND SHALL LIMIT THE CITY'S LOCAL SEWER SERVICE AREA TO WITHIN CITY LIMITS, TO THE EXCLUSION OF SEWER SERVICE TO LAKE SAWYER (WATER DISTRICT 86) AND TO COVINGTON CREEK WATER DISTRICT.

SECTION 2. CITY RELATIONSHIP WITH THE DISTRICT. THE CITY SHALL BE AS A CUSTOMER OF THE DISTRICT SOLELY FOR THE PURPOSE OF THE DISTRICT PROVIDING PUMPED CONVEYANCE OF CITY WASTEWATER FLOWS THROUGH DISTRICT, KENT, AND MILL CREEK CONVEYANCE FACILITIES, TO THE METRO SYSTEM.

UNDER OTHER INTERLOCAL AGREEMENTS, THE DISTRICT JOINTLY UTILIZES CERTAIN FACILITIES WITH THE CITY OF KENT AND WITH KENT/METRO (MILL CREEK INTERCEPTOR) FOR PURPOSES OF CONVEYANCE OF THE DISTRICT'S WASTEWATER FLOWS TO THE METRO SYSTEM. WITH RESPECT TO THOSE INTERLOCAL AGREEMENTS, AND FOR THE USE OF THOSE EXISTING FACILITIES, CITY WASTEWATER FLOWS SHALL BE CONSIDERED AS INTEGRAL TO DISTRICT FLOWS WHERE WASTEWATER FLOW CAPACITY ALLOCATIONS ARE ADDRESSED IN THOSE OTHER INTERLOCAL AGREEMENTS.

FOR ANY NEW PUMPED CONVEYANCE FACILITIES CONSTRUCTED WITHIN THE DISTRICT, KENT, AND MILL CREEK SYSTEMS, WHERE THE CITY PARTICIPATES IN THE CAPITAL COST AND THEREBY RESERVES A PROPORTIONAL SHARE OF DESIGN FLOW CAPACITY IN THOSE CONVEYANCE

CAPACITY UPGRADES, THE DISTRICT SHALL REMAIN AS OWNER AND OPERATOR FOR PURPOSES OF THIS AGREEMENT AND IN THE DISTRICT'S RELATIONSHIP WITH THE CITY.

THE CITY'S LOCAL SEWER SERVICE AREA FACILITIES AND THE CITY'S PUMP STATION AND PIPELINE SYSTEM TO THE DISTRICT'S PUMP STATION NUMBER 11 SHALL REMAIN UNDER THE OWNERSHIP AND OPERATION OF THE CITY, SEPARATE AND APART FROM THE DISTRICT.

SHOULD METRO CONSTRUCT FUTURE CONVEYANCE CAPACITY WHICH REPLACES SEGMENTS OF THE DISTRICT, KENT, OR MILL CREEK SYSTEMS, THEN FOR THAT SEGMENT OF THE CONVEYANCE SYSTEM, THE CITY'S RELATIONSHIP WITH THE DISTRICT SHALL BE REPLACED WITH A DIRECT CITY/METRO RELATIONSHIP, INCLUDING FOR PURPOSES OF THE CITY PROVIDING CAPITAL COST FUNDING FROM THE CITY AND DISTRICT JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT, AND FOR THE PURPOSES OF CITY PAYING OPERATIONS AND MAINTENANCE COSTS DIRECTLY TO METRO. IT IS INTENDED THAT THE DISTRICT MAY ULTIMATELY BE ABLE TO DISPENSE WITH PROVIDING PUMPED CONVEYANCE FOR CITY WASTEWATER FLOWS WHEN THE METRO SYSTEM IS EXTENDED THROUGH MILL CREEK, KENT, AND DISTRICT SYSTEMS.

SECTION 3. SEPARATE AGREEMENT BETWEEN THE CITY AND METRO. THE CITY SHALL EXECUTE A SEPARATE INTERLOCAL AGREEMENT WITH METRO FOR METRO'S CONVEYANCE AND TREATMENT OF THE CITY'S WASTEWATER FLOWS WITHIN THE METRO SYSTEM.

METRO CHARGES FOR CITY WASTEWATER FLOWS SHALL BE PAID DIRECTLY FROM THE CITY TO METRO. THE CITY WILL COPY THE DISTRICT ON THE MONTHLY METRO SERVICE CHARGE TO THE CITY.

WHILE THE CITY SHALL REMAIN AS OWNER AND OPERATOR OF THE CITY'S PUMP STATION AND PIPELINE CONVEYANCE SYSTEM TO THE DISTRICT, METRO MAY PROVIDE ASSISTANCE TO THE CITY IN THE OPERATION AND MAINTENANCE OF THAT SYSTEM, UNDER A SEPARATE AGREEMENT BETWEEN THE CITY AND METRO.

SECTION 4. LIMITATIONS ON DISTRICT SERVICE PROVIDED FOR CITY WASTEWATER FLOWS. THE CITY AGREES TO LIMIT THE CITY'S LOCAL SERVICE AREA FOR SEWER CONNECTIONS TO WITHIN CITY LIMITS, AND AS THE CITY LIMITS MAY BE MODIFIED BY ANNEXATION. THE CITY FURTHER AGREES NOT TO PROVIDE SEWER SERVICE TO EITHER LAKE SAWYER (WATER

DISTRICT 86) OR COVINGTON CREEK WATER DISTRICT.

THE DISTRICT SHALL PROVIDE CONVEYANCE OF CITY WASTEWATER FLOWS THROUGH EXISTING DISTRICT, KENT, AND MILL CREEK FACILITIES UP TO A MAXIMUM CITY SEWER SERVICE POPULATION LIMIT OF 3600.

THE DISTRICT'S FLOW LIMITATION UPON THE CITY FOR A MAXIMUM SEWER SERVICE POPULATION OF 3600 MAY BE MODIFIED BY SUBSEQUENT AGREEMENT BETWEEN THE CITY AND THE DISTRICT FOR THE USE OF EXISTING DISTRICT, KENT, AND MILL CREEK CONVEYANCE FACILITIES; AND/OR, IN THE FUTURE, BY THE CITY INCREASING THE CITY'S DESIGN VOLUME OF FLOW AND CAPITAL COST FUNDING SHARE IN THE FUTURE CAPACITY UPGRADES FOR THE DISTRICT, KENT, AND MILL CREEK SYSTEMS ABOVE THAT REQUIRED TO SUPPORT A CITY SEWER SERVICE POPULATION OF 3600.

SECTION 5. OPERATIONAL & MAINTENANCE RELATIONSHIP. THE CITY'S LOCAL SEWER SERVICE AREA FACILITIES AND THE CITY'S PUMP STATION AND PIPELINE SYSTEM TO THE DISTRICT'S PUMP STATION NUMBER 11 SHALL REMAIN UNDER THE OWNERSHIP AND OPERATION OF THE CITY, SEPARATE AND APART FROM THE DISTRICT.

CITY WASTEWATER FLOWS SHALL BE MAINTAINED WITHIN EPA STANDARDS FOR VOLUME OF FLOW AS RECEIVED AT THE DISTRICT'S PUMP STATION NUMBER 11, AND THE CITY SHALL PROVIDE FOR FLOW MONITORING AT THAT POINT. WHERE CITY VOLUME OF FLOW EXCEEDS THOSE EPA STANDARDS, THE CITY SHALL:

1. MAKE ADDITIONAL MONTHLY OPERATIONS AND MAINTENANCE PAYMENTS TO THE DISTRICT IN ACCORDANCE WITH "SECTION 7. DISTRICT PUMPED CONVEYANCE CHARGES TO THE CITY".
2. TAKE IMMEDIATE CORRECTIVE ACTION TO REDUCE ANY EXCESSIVE WASTEWATER VOLUMES OF FLOW, AND/OR
3. IF AVAILABLE, RESTRICT THE REMAINING AVAILABLE CITY SEWER SERVICE CONNECTIONS, AS PROVIDED UNDER THE ALLOWABLE MAXIMUM TOTAL NUMBER OF POPULATION EQUIVALENTS FOR WHICH THE DISTRICT HAS COMMITTED TO PROVIDE CONVEYANCE, SUCH THAT THE THEN CALCULATED CITY ULTIMATE MAXIMUM TOTAL FLOW VOLUME WILL NOT EXCEED THAT WHICH WOULD RESULT FROM THE ORIGINAL MAXIMUM CITY SEWER SERVICE POPULATION COMMITMENT OF THE DISTRICT AT THE MAXIMUM ALLOWABLE EPA VOLUME OF FLOW STANDARD. UNDER THIS

ALTERNATIVE, THE CITY MAY RESTORE THE REMAINING CITY SEWER SERVICE CONNECTIONS WHEN THE EXCESSIVE FLOW CONDITION HAS BEEN CORRECTED.

THE CITY AGREES TO MINIMIZE SULFIDE GENERATION IN THE CITY'S WASTEWATER THROUGH THE DESIGN OF THE CITY'S PUMP STATION AND PIPELINE SYSTEM TO THE DISTRICT'S PUMP STATION NUMBER 11 AND BY PROVIDING FOR CHEMICAL ADDITION AT THE CITY'S PUMP STATION. THE CITY SHALL SPECIFY OPERATING PROCEDURES IN THE SYSTEM OPERATIONS AND MAINTENANCE MANUAL, AND SHALL MODIFY THOSE PROCEDURES AS NEEDED DURING THE ONE YEAR COMMISSIONING PERIOD, TO MAINTAIN THE LEVEL OF SOLUBLE HYDROGEN SULFIDE IN THE CITY'S WASTEWATER TO BELOW 1/2 PART PER MILLION ON A SIX HOUR AVERAGE. IN ADDITION, THE CITY SHALL REQUIRE PRE-TREATMENT OF INDUSTRIAL WASTES IN ACCORDANCE WITH METRO REQUIREMENTS AND SHALL REQUIRE GREASE TRAPS TO BE INSTALLED ON ALL RESTAURANTS.

FOR PURPOSES OF THIS AGREEMENT AND IN THE DISTRICT'S RELATIONSHIP WITH THE CITY, THE DISTRICT SHALL BE AS OWNER AND OPERATOR AND SHALL PROVIDE FOR OPERATION AND MAINTENANCE OF THE EXISTING DISTRICT, KENT, AND MILL CREEK SYSTEMS IN PROVIDING PUMPED CONVEYANCE SERVICES TO THE CITY.

FOR PURPOSES OF THIS AGREEMENT AND IN THE DISTRICT'S RELATIONSHIP WITH THE CITY, FOR ANY FUTURE CONVEYANCE CAPACITY UPGRADES CONSTRUCTED WITHIN THE DISTRICT, KENT, AND MILL CREEK SYSTEMS, WHERE THE CITY PARTICIPATES IN THE CAPITAL COST AND RESERVES A PROPORTIONAL SHARE OF DESIGN FLOW CAPACITY IN ANY DISTRICT CONVEYANCE CAPACITY UPGRADE, THE DISTRICT SHALL REMAIN AS OWNER AND OPERATOR AND SHALL PROVIDE FOR THE OPERATION AND MAINTENANCE OF THOSE SYSTEMS.

SECTION 6: RESPONSIBILITY FOR DAMAGES:

1. CONCERNING CITY USE OF DISTRICT FACILITIES:

ALL CITY FACILITIES AS DESCRIBED HEREIN SHALL BE CONSTRUCTED, OPERATED AND MAINTAINED BY THE CITY. WHERE THE CITY UTILIZES ANY DISTRICT FACILITIES, THE CITY SHALL BE RESPONSIBLE FOR ANY DAMAGE TO DISTRICT FACILITIES RESULTING FROM THE CITY'S USE, OR USE BY ITS CUSTOMERS. REPAIRS TO DISTRICT FACILITIES MADE NECESSARY BY SUCH DAMAGE SHALL BE PERFORMED BY THE DISTRICT. THE REASONABLE

COST FOR SUCH REPAIRS WILL BE BILLED TO THE CITY, AND SHALL BEAR INTEREST, AT THE THEN EXISTENT NINETY (90) DAY TREASURY BILL RATE, AFTER THIRTY (30) DAYS FROM THE DATE OF BILLING.

THE DISTRICT SHALL NOT BE LIABLE FOR ANY CLAIMS BY THIRD PARTIES ARISING FROM ACTS OR DAMAGES BY THE CITY OR ITS CUSTOMERS IN USING DISTRICT FACILITIES PURSUANT TO THIS AGREEMENT.

SECTION 7. CITY PAYMENT FOR DISTRICT PUMPED CONVEYANCE CHARGES. COMMENCING WITH THE FIRST MONTH IN WHICH SEWAGE COLLECTED BY THE CITY IS CONVEYED TO THE DISTRICT, THE CITY SHALL PAY TO THE DISTRICT, NO LATER THAN 10 CALENDAR DAYS AFTER THE LAST DAY OF EACH MONTH DURING THE TERM OF THIS AGREEMENT, A SEWAGE CONVEYANCE CHARGE DETERMINED AS PROVIDED IN THIS SECTION 7.

FOR EACH MONTHLY PERIOD, THE CITY SHALL SUBMIT A WRITTEN REPORT TO THE DISTRICT SETTING FORTH:

1. THE TOTAL NUMBER OF ALL CUSTOMERS BILLED FOR LOCAL SEWERAGE CHARGES BY THE CITY AS OF THE LAST DAY OF THE MONTH,
2. THE TOTAL NUMBER OF SINGLE FAMILY RESIDENTIAL CUSTOMERS BILLED BY THE CITY FOR SEWERAGE CHARGES AS OF THE LAST DAY OF THE MONTH, EACH OF WHICH SHALL COUNT AS ONE EQUIVALENT RESIDENTIAL USER,
3. THE ADJUSTED TOTAL WATER CONSUMPTION DURING SUCH MONTH FOR ALL CUSTOMERS BILLED FOR LOCAL SEWERAGE CHARGES BY THE CITY OTHER THAN SINGLE FAMILY RESIDENTIAL CUSTOMERS. SUCH WATER CONSUMPTION SHALL BE TAKEN FROM WATER METER RECORDS AND MAY BE ADJUSTED TO EXCLUDE WATER WHICH DOES NOT ENTER THE SANITARY FACILITIES OF THE CUSTOMER. WHERE ACTUAL SEWAGE FLOW FROM AN INDIVIDUAL CUSTOMER IS METERED, THE METERED SEWAGE FLOWS SHALL BE REPORTED IN LIEU OF ADJUSTED WATER CONSUMPTION. THE TOTAL MONTHLY ADJUSTED WATER CONSUMPTION REPORT IN CUBIC FEET SHALL BE DIVIDED BY 900 TO DETERMINE THE NUMBER OF EQUIVALENT RESIDENTIAL USERS REPRESENTED BY EACH CITY CUSTOMER OTHER THAN SINGLE FAMILY RESIDENCES,
4. THE CITY SHALL REPORT THE TOTAL CALCULATED NUMBER OF EQUIVALENT RESIDENTIAL USERS AGAINST WHICH THE DISTRICT'S EQUIVALENT RESIDENTIAL USER PUMPED CONVEYANCE CHARGE SHALL BE APPLIED TO DETERMINE THE MONTHLY AMOUNT DUE TO THE DISTRICT,

5. THIS METHOD FOR DETERMINING THE NUMBER OF EQUIVALENT RESIDENTIAL USERS SHALL BE MODIFIED AS REQUIRED OVER TIME TO REFLECT THE THEN IN-PLACE METRO METHODOLOGY.

THE DISTRICT'S PUMPED CONVEYANCE CHARGES TO THE CITY, WHICH SHALL COMMENCE IMMEDIATELY UPON THE CITY INITIATING CONVEYANCE OF WASTEWATER FLOW TO THE DISTRICT, SHALL NOT EXCEED ONE DOLLAR AND EIGHTY FIVE CENTS ($1.85) PER MONTH (1990 DOLLARS) PER EQUIVALENT RESIDENTIAL USER. THE DISTRICT AGREES THAT THIS CONVEYANCE CHARGE SHALL NOT INCREASE AT MORE THAN FOUR PERCENT (4%) PER YEAR FOR A PERIOD OF TWENTY (20) YEARS FOR USE OF EXISTING DISTRICT, KENT, AND MILL CREEK FACILITIES. THE DISTRICT FURTHER AGREES TO NOTIFY THE CITY SIXTY (60) CALENDAR DAYS IN ADVANCE OF ANY DISTRICT EQUIVALENT RESIDENTIAL USER CONVEYANCE CHARGE CHANGES TO ALLOW THE CITY TIME FOR ANY FORMAL MODIFICATION OF THE CITY'S SEWER ORDINANCE.

THE DISTRICT PUMPED CONVEYANCE CHARGES TO THE CITY, FOR CONVEYANCE OF CITY WASTEWATER FLOWS THROUGH THE DISTRICT, KENT, AND MILL CREEK SYSTEMS TO THE METRO SYSTEM, SHALL INCLUDE DISTRIC OPERATION AND MAINTENANCE COSTS, INCLUDING REPLACEMENT PARTS COSTS, ONLY FOR THE PUMPED CONVEYANCE FACILITIES UTILIZED BY THE CITY AND SHALL ALSO INCLUDE DISTRICT OVERHEAD COSTS APPROPRIATELY AND ONLY ASSOCIATED WITH PROVIDING PUMPED CONVEYANCE TO THE CITY.

AFTER TWENTY (20) YEARS HAVE EXPIRED FOR UTILIZATION OF EXISTING DISTRICT, KENT, AND MILL CREEK CONVEYANCE SYSTEMS FOR CITY FLOWS, OR IMMEDIATELY UPON COMMENCEMENT OF OPERATION FOR THOSE SEGMENTS OF THE DISTRICT, KENT, AND MILL CREEK SYSTEMS WHICH HAVE UNDERGONE A CONVEYANCE CAPACITY UPGRADE, THE CITY SHALL COMMENCE PAYING THE DISTRICT ON THE BASIS OF A STRICT APPROPRIATE SHARE OF DISTRICT OPERATION AND MAINTENANCE COSTS, INCLUDING REPLACEMENT PARTS COSTS, AND A STRICT APPROPRIATE SHARE OF DISTRICT OVERHEAD COSTS, RELATED ONLY TO THE DISTRICT'S PUMPED CONVEYANCE FACILITIES UTILIZED BY THE CITY.

SHOULD THE CITY'S VOLUME OF WASTEWATER FLOW RECEIVED AT THE DISTRICT'S PUMP STATION NUMBER 11 EXCEED THE EPA STANDARDS FOR NUMBER OF CONNECTIONS, INCLUDING EPA SERVICE AREA AND PIPELINE ALLOWANCES FOR INFILTRATION AND INFLOW (I&I), THEN THE CITY SHALL

PAY THE DISTRICT AN ADDITIONAL MONTHLY SERVICE CHARGE BASED ON THE ADDITIONAL MINIMUM NUMBER OF EQUIVALENT RESIDENTIAL USERS AS WOULD BE REQUIRED TO GENERATE THE EXCESSIVE FLOW MEASURED, IF THE CITY WERE MEETING THE EPA MAXIMUM VOLUME OF FLOW STANDARDS, AND AT THE EQUIVALENT RESIDENTIAL USER RATES AS DEFINED IN THIS SECTION 7.

FOR AS LONG AS THE EXISTING DISTRICT, KENT, AND MILL CREEK CONVEYANCE FACILITIES REMAIN OPERATIONAL, AND FOR AS LONG AS FUTURE CAPITAL COST CONVEYANCE CAPACITY UPGRADES REMAIN OPERATIONAL IN THE DISTRICT, KENT, AND MILL CREEK SYSTEMS, WHERE THE CITY PROVIDES CAPITAL COST FUNDING FOR THE CITY'S SHARE OF DESIGN AND CONSTRUCTION COSTS, THE DISTRICT SHALL NOT INCLUDE ANY CAPITAL COST OR BOND OR OTHER INDEBTEDNESS IN ITS CONVEYANCE CHARGES TO THE CITY. WHERE PORTIONS OF THE ABOVE CONVEYANCE CAPACITY UPGRADES MUST BE REPLACED, AT SOME TIME IN THE DISTANT FUTURE, THE CITY SHALL BE OBLIGATED TO PROVIDE FUNDING FOR SUCH REPLACEMENT BASED ON THE CITY'S PROPORTIONAL SHARE OF CONVEYANCE CAPACITY IN SUCH REPLACEMENT SYSTEMS.

THE DISTRICT SHALL NOT INVOICE THE CITY FOR ANY METRO CHARGES TO THE DISTRICT. THE CITY SHALL EXECUTE A SEPARATE AGREEMENT WITH METRO AND ALL METRO SERVICE CHARGES RELATED TO CITY WASTEWATER FLOWS SHALL BE PAID BY THE CITY DIRECTLY TO METRO. THE DISTRICT SHALL BE COPIED WITH THE CITY'S METRO INVOICES.

THE CITY SHALL TAKE SUCH STEPS AS NECESSARY AND AGREES TO MODIFY THE CITY'S SEWER RATE ORDINANCE AS REQUIRED TO INSURE THAT THE CITY FULFILLS ITS PAYMENT OBLIGATIONS TO THE DISTRICT IN A TIMELY MANNER, REGARDLESS OF THE STATUS OF PAYMENTS MADE TO THE CITY BY ITS CUSTOMERS.

SECTION 8. CAPITAL COST FUNDING FOR FUTURE DISTRICT, KENT, AND MILL CREEK CONVEYANCE CAPACITY UPGRADES. WHEN IT BECOMES NECESSARY FOR THE DISTRICT TO PROVIDE FOR CONVEYANCE CAPACITY UPGRADES, AS NEW CONSTRUCTED CONVEYANCE FACILITIES, IN THE DISTRICT, KENT, AND MILL CREEK SYSTEMS, THE CITY SHALL PARTICIPATE IN FUNDING THE DISTRICT'S CAPITAL COSTS OF DESIGN AND CONSTRUCTION OF THOSE NEW CONVEYANCE FACILITIES BASED ON THE RATIO OF THE DESIGNED PEAK CONVEYANCE CAPACITY RESERVED FOR CITY FLOWS TO THE TOTAL DESIGNED PEAK CONVEYANCE CAPACITY OF THE NEW

CONVEYANCE FACILITIES. THE CITY SHALL PROVIDE CAPITAL COST FUNDING FROM THE JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT FOR SUCH NEW DISTRICT CONVEYANCE FACILITIES TO PROVIDE CONVEYANCE FOR A MINIMUM CITY DESIGN POPULATION OF 3600; HOWEVER, THE CITY MAY UNILATERALLY DETERMINE TO INCREASE THE PEAK CONVEYANCE CAPACITY RESERVED FOR CITY FLOWS ON THE CONDITION THAT THE CITY PROVIDE ADDITIONAL CAPITAL COST FUNDING TO COMPLY WITH THE FUNDING RATIO REQUIREMENT.

IT HAS BEEN DETERMINED THAT WDOE WILL PROVIDE GRANT FUNDING IN THE AMOUNT OF $1,983,000 (1 SEP 90 DOLLARS) TO THE CITY TO SUPPORT FUTURE CONVEYANCE CAPACITY UPGRADES WITHIN THE DISTRICT, KENT, AND MILL CREEK SYSTEMS TO PROVIDE FOR CONVEYANCE OF CITY FLOWS OF 3600 POPULATION, UNDER THE WDOE/EPA REPLACEMENT GRANT PROCESS. IN ADDITION, INCREASES IN THE PRESENT WORTH COSTS OF THE DISTRICT'S FUTURE CONVEYANCE CAPACITY UPGRADES, DUE TO THE IMPACT OF CITY WASTEWATER FLOWS ACCELERATING IMPLEMENTATION OF THESE CONVEYANCE CAPACITY UPGRADES, IS ALSO IDENTIFIED AND FUNDED UNDER THIS WDOE GRANT. AS A RESULT OF WDOE REGULATIONS, THIS GRANT FUNDING MUST BE IDENTIFIED AND TRANSACTED BETWEEN THE DISTRICT AND CITY AS WDOE GRANT FUNDING REIMBURSEMENT PAYMENTS FOR A CITY CAPITAL COST BUY-IN TO THE DISTRICT FACILITIES.

THE $1,983,000 (1 SEP 90 DOLLARS) IN WDOE FUNDING RESULTS FROM A PRESENT WORTH CALCULATION OF THE CITY'S COST SHARE TO PROVIDE FOR CITY CONVEYANCE CAPACITY IN THE DISTRICT'S FUTURE CONVEYANCE CAPACITY UPGRADES CAPITAL COSTS AND HAS BEEN ESTIMATED BY REDUCING THE ESTIMATED FUTURE DISTRICT, KENT, AND MILL CREEK CONVEYANCE CAPACITY UPGRADES CAPITAL COSTS, AT THE ESTIMATED ACTUAL TIMES OF CONSTRUCTION, AT THE EPA MANDATED DISCOUNT RATE OF EIGHT AND FIVE EIGHTHS PERCENT (8.625%) PER YEAR TO 1 SEP 90. TO PROVIDE ADEQUATE MONIES FOR THE FUTURE CONSTRUCTION AND TO PROTECT THE INTERESTS OF BOTH PARTIES, THE WDOE $1,983,000 PRESENT WORTH BUY-IN GRANT REIMBURSEMENT PAYMENT SHALL BE MADE PAYABLE TO A CITY AND DISTRICT JOINTLY CONTROLLED INTEREST BEARING BUY-IN INVESTMENT ACCOUNT.

PRIOR TO ACTUAL RECEIPT OF THE WDOE BUY-IN GRANT PAYMENT, THE DISTRICT AND CITY GOVERNING BODIES SHALL ACT FORMALLY

TO SELECT AND ENACT A JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT. THESE JOINTLY CONTROLLED MONIES SHALL BE UTILIZED TO FUND BOTH THE DISTRICT'S INCREASED PRESENT WORTH COSTS AND THE CITY'S PROPORTIONAL SHARE OF THE CAPITAL COSTS OF DESIGN AND CONSTRUCTION OF FUTURE CONVEYANCE CAPACITY UPGRADES IN THE DISTRICT, KENT, AND MILL CREEK SYSTEMS. SUCH MONIES SHALL BE RELEASED FROM THE JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT ONLY UPON FORMAL AUTHORIZATION AND JOINT SIGNATURE BY BOTH DISTRICT AND CITY GOVERNING BODIES.

IN ANY CASE, AND REGARDLESS OF THE FISCAL STATUS OF THE JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT, THE CITY SHALL BE FULLY AND UNILATERALLY RESPONSIBLE FOR OBTAINING AND/OR PROVIDING ADEQUATE AND TIMELY CAPITAL COST FUNDING TO THAT JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT TO FULFILL THE CITY'S FINANCIAL OBLIGATIONS TO THE DISTRICT TO SUPPORT THE CITY'S PROPORTIONAL SHARE OF CAPITAL COSTS FOR FUTURE CONVEYANCE CAPACITY UPGRADES FOR THE CONVEYANCE OF CITY FLOWS THROUGH THE DISTRICT, KENT, AND MILL CREEK SYSTEMS. ANY MONIES REMAINING IN THIS JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT AFTER COMPLETION OF ALL CONVEYANCE CAPACITY UPGRADES SHALL BE RETURNED TO THE CITY UNDER JOINT SIGNATURE OF THE CITY AND DISTRICT.

IN LIEU OF NORMAL DISTRICT NEW SERVICE AREA CHARGES, AND IN RECOGNITION OF THE SPECIAL CASE OF THE CITY WHICH IS A SEPARATE LOCAL SEWER SERVICE AREA ENTITY WHICH ONLY REQUIRES WASTEWATER CONVEYANCE (NOT COLLECTION) THROUGH THE DISTRICT, KENT, AND MILL CREEK SYSTEMS TO THE METRO SYSTEM, THE DISTRICT SHALL INVOICE THE $1,983,000 (1 SEP 90 DOLLARS) BUY-IN AMOUNT TO THE CITY, TO BE MADE PAYABLE TO THE JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT; AND THE DISTRICT SHALL ACCEPT THE RECEIPT OF AND MAKE DEPOSIT OF A WDOE FUNDED BUY-IN GRANT REIMBURSEMENT PAYMENT OF $1,983,000 TO THE CITY AND DISTRICT JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT.

SHOULD THE CITY FAIL TO COMPLETE CONSTRUCTION AND COMMENCE OPERATION OF THE CITY'S PUMP STATION AND PIPELINE TO THE DISTRICT, THEN ALL WDOE GRANT FUNDED MONIES DEPOSITED TO THE JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT SHALL BE RETURNED TO THE CITY, UNDER DISTRICT AND CITY JOINT SIGNATURE, FOR THE CITY'S

RETURN TO WDOE.

SECTION 9. CITY FUNDING OF INCREASED PRESENT WORTH COSTS FOR FUTURE DISTRICT CONVEYANCE CAPACITY UPGRADES. THE CITY RECOGNIZES THAT THE INCLUSION OF CITY WASTEWATER FLOWS INTO THE DISTRICT'S EXISTING SYSTEM TO METRO WILL ACCELERATE THE NEED FOR THE DISTRICT TO EMBARK UPON FUTURE PLANNED CONVEYANCE CAPACITY UPGRADES. THE DISTRICT AND THE CITY AGREE THAT THIS ACCELERATION INCREASES THE PRESENT WORTH COSTS OF THE DISTRICT'S CONVEYANCE CAPACITY UPGRADES AS FOLLOWS:

DISTRICT CONVEYANCE CAPACITY UPGRADE	RESERVED FUNDS
1. DISTRICT PUMP STATION #11 PUMP REPLACEMENT	$ 12,977
2. DISTRICT CONVEYANCE PS #11 TO PS #10	$ 282,593
3. DISTRICT PUMP STATION #10 PUMP REPLACEMENT	$ 12,977
4. DISTRICT CONVEYANCE PS #10 TO KENT	$ 146,754
5. KENT PIPELINE (NEW PIPELINE) . . . . . (ESTIMATED AS SERVING ONLY CITY CAPACITY NEEDS)	$ 0
6. MILL CREEK INTERCEPTOR . . . . . (CONSTRUCTION NOT ACCELERATED BY CITY FLOWS)	$ 0
TOTAL	$ 455,301

THESE AMOUNTS ARE CALCULATED IN 1 SEP 90 DOLLARS, AND SHALL BE RESERVED IN THE JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT AND SHALL ACCRUE INTEREST, AS WILL ALL INVESTMENT FUNDS. THE INDIVIDUAL AMOUNTS ACCRUED, AT THE ACTUAL TIME OF CONSTRUCTION OF THE INDIVIDUAL CONVEYANCE CAPACITY UPGRADES INDICATED, SHALL BE APPLIED TO THE COST OF CONSTRUCTION FOR THAT INDIVIDUAL CONVEYANCE CAPACITY UPGRADE TO REDUCE THE RESULTING PROPORTIONAL COST SHARES OF THE DISTRICT AND THE CITY IN THAT INDIVIDUAL CONVEYANCE CAPACITY UPGRADE PROJECT COST. THESE MONIES SHALL BE RELEASED FROM THE JOINTLY CONTROLLED BUY-IN INVESTMENT ACCOUNT ONLY IN ACCORDANCE WITH "SECTION 8. CAPITAL COST FUNDING FOR FUTURE DISTRICT/KENT/MILL CREEK CONVEYANCE CAPACITY UPGRADES".

SECTION 10. WDOE/EPA GRANT CONDITIONS. THIS INTERLOCAL AGREEMENT IS SUBJECT TO WDOE/EPA APPROVAL, PRIOR TO WDOE/EPA AUTHORIZING CONSTRUCTION OF THE CITY'S PUMP STATION AND PIPELINE TO THE DISTRICT.

THE CITY/DISTRICT INTERLOCAL AGREEMENT SHALL COMPLY WITH WDOE/EPA GRANT CONDITIONS WHICH ARE HEREBY INCORPORATED INTO THIS AGREEMENT BY ATTACHMENT AS EXHIBIT A (EPA GRANT CONDITIONS) AND EXHIBIT B (WDOE GRANT CONDITIONS).

SECTION 11. INSURANCE AND LIABILITY FOR DAMAGES. BOTH PARTIES TO THIS AGREEMENT SHALL SECURE AND MAINTAIN WITH RESPONSIBLE INSURERS ALL SUCH INSURANCE AS IS CUSTOMARILY MAINTAINED WITH RESPECT TO SEWAGE SYSTEMS OF LIKE CHARACTER AGAINST LOSS OF OR DAMAGE TO THE SEWERAGE FACILITIES OF THE PARTIES AND AGAINST PUBLIC AND OTHER LIABILITY TO THE EXTENT THAT SUCH INSURANCE CAN BE SECURED AND MAINTAINED AT A REASONABLE COST. ANY LIABILITY INCURRED BY THE DISTRICT AS A RESULT OF THE OPERATION OF OR DESIGN AND CONSTRUCTION OF CONVEYANCE FACILITIES TO PROVIDE FOR CONVEYANCE OF CITY WASTEWATER FLOWS SHALL BE THE SOLE LIABILITY OF THE DISTRICT AND ANY LIABILITY INCURRED BY THE CITY AS A RESULT OF THE OPERATION OR DESIGN AND CONSTRUCTION OF LOCAL SEWERAGE COLLECTION AND CONVEYANCE FACILITIES OF THE CITY SHALL BE THE SOLE RESPONSIBILITY OF THE CITY.

SECTION 12. NOTICE. WHENEVER IN THIS AGREEMENT NOTICE IS REQUIRED TO BE GIVEN, THE SAME SHALL BE GIVEN BY REGISTERED MAIL ADDRESSED TO THE RESPECTIVE PARTIES AT THE FOLLOWING ADDRESSES:

CITY OF BLACK DIAMOND
25510 LAWSON STREET
BLACK DIAMOND, WASHINGTON 98010

SOOS CREEK WATER AND SEWER DISTRICT
14616 SE 192ND
RENTON, WASHINGTON 98058

UNLESS A DIFFERENT ADDRESS SHALL BE HEREAFTER DESIGNATED IN WRITING BY EITHER OF THE PARTIES. THE DATE OF GIVING SUCH NOTICE SHALL BE DEEMED TO BE THE DATE OF MAILING THEREOF. BILLINGS FOR AND PAYMENTS OF WASTEWATER CONVEYANCE CHARGES MAY BE MADE BY REGULAR MAIL.

SECTION 13. EFFECTIVE DATE. THIS AGREEMENT SHALL BE IN FULL FORCE AND EFFECT AND BINDING UPON THE PARTIES HERETO UPON EXECUTION OF THIS AGREEMENT.

SECTION 14. EXECUTION OF DOCUMENTS. THIS AGREEMENT SHALL BE EXECUTED IN TWO COUNTERPARTS, ANY OF WHICH SHALL BE REGARDED FOR ALL PURPOSES AS ONE ORIGINAL. EACH PARTY AGREES THAT IT WILL EXECUTE ANY AND ALL DEEDS, INSTRUMENTS, DOCUMENTS, AND RESOLUTIONS OR ORDINANCES NECESSARY TO GIVE EFFECT TO THE TERMS AND CONDITIONS OF THIS AGREEMENT.

SECTION 15. WAIVER. NO WAIVER BY EITHER PARTY OF ANY TERM OR CONDITION OF THIS AGREEMENT SHALL BE DEEMED OR CONSTRUED AS A WAIVER OF ANY OTHER TERM OR CONDITION, NOR SHALL A WAIVER OF ANY BREACH BE DEEMED TO CONSTITUTE A WAIVER OF ANY SUBSEQUENT BREACH WHETHER OF THE SAME OR A DIFFERENT PROVISION OF THIS AGREEMENT.

SECTION 16. SEVERABILITY. IF ANY PORTION OR PROVISION OF THIS AGREEMENT IS HELD INVALID, THE REMAINDER OF THE AGREEMENT SHALL NOT BE AFFECTED AND WILL CONTINUE IN FULL FORCE AND EFFECT.

SECTION 17. REMEDIES. IN ADDITION TO THE REMEDIES PROVIDED BY LAW, THIS AGREEMENT SHALL BE SPECIFICALLY ENFORCEABLE BY EITHER PARTY.

SECTION 18. ASSIGNMENT. THE PARTIES SHALL NOT HAVE THE RIGHT TO ASSIGN THIS AGREEMENT OR ANY OF ITS RIGHTS AND OBLIGATIONS HEREUNDER EITHER BY OPERATION OF LAW OR BY VOLUNTARY AGREEMENT WITHOUT THE WRITTEN CONSENT OF THE OTHER PARTY AND NEITHER MAY TERMINATE ITS OBLIGATIONS HEREUNDER BY DISSOLUTION OR OTHERWISE WITHOUT FIRST SECURING THE WRITTEN CONSENT OF THE OTHE PARTY AND THIS AGREEMENT SHALL BE BINDING UPON AND INURE TO THE BENEFIT OF THE RESPECTIVE SUCCESSORS AND ASSIGNS OF THE PARTIES THERETO.

IN THE EVENT THAT THE CITY SHOULD BE DISSOLVED OR SHOULD NO LONGER BE AUTHORIZED TO OPERATE SEWER FACILITIES, THE LOCAL SEWERAGE FACILITIES OWNED AND OPERATED BY THE CITY SHALL BE ASSIGNED AND TRANSFERRED TO METRO UNDER A SEPARATE AGREEMENT BETWEEN THE CITY AND METRO.

SECTION 19. ENTIRETY. THIS AGREEMENT MERGES AND SUPERSEDES ALL PRIOR NEGOTIATIONS, REPRESENTATIONS, AND AGREEMENTS BETWEEN THE PARTIES HERETO RELATING TO THE SUBJECT MATTER HEREOF AND CONSTITUTES THE ENTIRE AGREEMENT BETWEEN THE PARTIES. NO SUBSEQUENT MODIFICATION OR AMENDMENT OF THIS AGREEMENT SHALL BE OF ANY FORCE OR EFFECT UNLESS IN WRITING, FORMALLY ACTED UPON AND EXECUTED BY THE GOVERNING BODIES OF THE PARTIES THERETO.

IN WITNESS WHEREOF, THE PARTIES HERETO HAVE HEREUNTO SET THEIR HANDS AND SEALS.

CITY OF BLACK DIAMOND

ACCEPTED AND EXECUTED THIS 5TH DAY OF SEPTEMBER, 1990

BY AND FOR THE CITY, SIGNED: _____
HOWARD BOTTS, MAYOR

ATTEST:

_____
KAREN GIESEN, CITY CLERK
CITY OF BLACK DIAMOND

SOOS CREEK WATER & SEWER DISTRICT

ACCEPTED AND EXECUTED THIS 23 DAY OF August, 1990

BY AND FOR THE DISTRICT, SIGNED: _____

BY AND FOR THE DISTRICT, SIGNED: _____

BY AND FOR THE DISTRICT, SIGNED: _____

BY AND FOR THE DISTRICT, SIGNED: _____

BY AND FOR THE DISTRICT, SIGNED: Emilio Pierotti

ATTEST:

_____
SECRETARY, BOARD OF COMMISSIONERS
SOOS CREEK WATER & SEWER DISTRICT

EXHIBIT A

ENVIRONMENTAL PROTECTION AGENCY

GRANT CONDITIONS FOR A

BLACK DIAMOND WASTEWATER PIPELINE

TO THE METRO SYSTEM VIA

SOOS CREEK WATER & SEWER DISTRICT

2700/43

U.S. ENVIRONMENTAL PROTECTION AGENCY
EPA ASSISTANCE AGREEMENT/AMENDMENT
PART I - ASSISTANCE NOTIFICATION INFORMATION

1. ASSISTANCE ID NO.	2. LOG NUMBER
C-5. ,22-03-2	TEN-C-71
3. DATE OF AWARD: 09/28/89	4. MAILING DATE: 10/05/89

AGREEMENT TYPE		6. PAYMENT METHOD
rative Agreement		☐ Advance ☒ Reimbursement ☐ Letter of Credit
Grant Agreement		Send Payment Request To: See previous guidance
Assistance Amendment	X	7. TYPE OF ACTION: Increase

RECIPIENT ORGANIZATION

5. RECIPIENT
City of Black Diamond
P.O. Box 599
Black Diamond, Washington 98010

9. PAYEE
City of Black Diamond
P.O. Box 599
Black Diamond, Washington 98010

EIN NO.: 91-6016204
CONGRESSIONAL DISTRICT: 3
10. RECIPIENT TYPE: Municipal

11. PROJECT MANAGER AND TELEPHONE NO.
Howard Botts, Mayor
Bill Lee, Project Officer
(206) 643-4565

12. CONSULTANT (WWT Construction Grants Only)
Brown and Caldwell
100 West Harrison
Seattle, Washington 98119
(206) 281-4000

EPA CONTACT

13. ISSUING OFFICE (City/State)
Region 10
Seattle, Washington 98101

14. EPA PROJECT/STATE OFFICER AND TELEPHONE NO.
Doug Peters, Project Officer
Washington Department of Ecology
M/S PY-11
Olympia, Washington 98504-8711
(206) 459-6095

15. EPA CONGRESSIONAL LIAISON & TEL. NO.: Pat Gaskins (202) 382-5184
16. STATE APPL ID (Clearinghouse): 26750832
17. FIELD OF SCIENCE: 44
18. PROJECT STEP (WWT CG Only): 3

STATUTORY AUTHORITY: PL 92-500; PL 95-217; PL 97-117; PL 99-349

20. REGULATORY AUTHORITY: 40 CFR 30, 33, 35

21. STEP 2 + 3 & STEP 3 (WWT Construction Only)

a. Treatment Level	N/A	N/A
b. Project Type	N/A	N/A
c. Treatment Process	N/A	N/A
d. Sludge Design	N/A	N/A

22. PROJECT TITLE AND DESCRIPTION
Modification or replacement grant of an Innovative (I/A) failure. This project is a three segmented project for planning, design, and construction.

--100% Grant--

23. PROJECT LOCATION (Areas Impacted by Project)

City/Place	County	State	Congressional District
Black Diamond	King	WA	3

24. ASSISTANCE PROGRAM (CFDA Program No. & Title): 66.418 Construction
25. PROJECT PERIOD: N/A
26. BUDGET PERIOD: N/A
27. COMMUNITY POPULATION (WWT CG Only): 3,300
28. TOTAL BUDGET PERIOD COST: N/A
29. TOTAL PROJECT PERIOD COST: N/A

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
30. EPA Amount This Action	385,688	1,131,933	1,517,621
31. EPA In-Kind Amount	N/A	N/A	N/A
32. Unexpended Prior Year Balance	N/A	N/A	N/A
33. Other Federal Funds	N/A	N/A	N/A
34. Recipient Contribution	N/A	N/A	N/A
35. State Contribution	N/A	N/A	N/A
36. Local Contribution	N/A	N/A	N/A
37. Other Contribution	N/A	N/A	N/A
Allowable Project Cost	385,688	1,131,933	1,517,621

39. FISCA

Program Element	FY	Appropriation	Doc Control No.	Account Number	Object Class	Obligation/Deobligation Amount
GLAW80	84	68X0103.G	D84252	UGLA104004	41.11	1,131,933

EPA Form 5700-20A (Rev. 5-82) Replaces previous editions and EPA Forms 5700-1A, B, C, and D, all of which are obsolete

PART II—APPROVED BUDGET

ASSISTANCE IDENTIFICATION

TABLE A – OBJECT CLASS CATEGORY (Non-construction)	TOTAL APPROVED ALLOWABLE BUDGET PERIOD COST
1. PERSONNEL	
2. FRINGE BENEFITS	
3. TRAVEL	
4. EQUIPMENT	
5. SUPPLIES	
6. CONTRACTUAL	
7. CONSTRUCTION	
8. OTHER	
9. TOTAL DIRECT CHARGES	
10. INDIRECT COSTS: RATE % BASE	
11. TOTAL (Share: Recipient_____%. Federal_____%)	
12. TOTAL APPROVED ASSISTANCE AMOUNT	$
TABLE B – PROGRAM ELEMENT CLASSIFICATION (Non-construction)	
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12. TOTAL (Share: Recipient_____%. Federal_____%)	
13. TOTAL APPROVED ASSISTANCE AMOUNT	$
TABLE C – PROGRAM ELEMENT CLASSIFICATION (Construction)	
1. ADMINISTRATION EXPENSE	121,169
2. PRELIMINARY EXPENSE	
3. LAND STRUCTURES, RIGHT-OF-WAY	
4. ARCHITECTURAL ENGINEERING BASIC FEES	1,217,079
5. OTHER ARCHITECTURAL ENGINEERING FEES	179,373
6. PROJECT INSPECTION FEES	
7. LAND DEVELOPMENT	
8. RELOCATION EXPENSES	
9. RELOCATION PAYMENTS TO INDIVIDUALS AND BUSINESSES	
10. DEMOLITION AND REMOVAL	
11. CONSTRUCTION AND PROJECT IMPROVEMENT	
12. EQUIPMENT	
13. MISCELLANEOUS	
14. TOTAL (Lines 1 thru 13)	1,517,621
15. ESTIMATED INCOME (If applicable)	
16. NET PROJECT AMOUNT (Line 14 minus 15)	
17. LESS: INELIGIBLE EXCLUSIONS	
18. ADD: CONTINGENCIES	
19. TOTAL (Share: Recipient_____%. Federal 100 %)	1,517,621
20. TOTAL APPROVED ASSISTANCE AMOUNT	$ 1,517,621

PART III—AWARD CONDITIONS

a. GENERAL CONDITIONS

The recipient covenants and agrees that it will expeditiously initiate and timely complete the project work for which assistance has been awarded under this agreement, in accordance with all applicable provisions of 40 CFR Chapter I, Subpart B. The recipient warrants, represents, and agrees that it, and its contractors, subcontractors, employees and representatives, will comply with: (1) all applicable provisions of 40 CFR Chapter I, Subchapter B, INCLUDING BUT NOT LIMITED TO the provisions of Appendix A to 40 CFR Part 30, and (2) any special conditions set forth in this assistance agreement or any assistance amendment pursuant to 40 CFR 30.425.

b. SPECIAL CONDITIONS:

(For cooperative agreements include identification or summarization of EPA responsibilities that reflect or contribute to substantial involvement.)

Additional Special Conditions

10. A finding of no significant impact (FONSI) was issued on this grant project in lieu of an environmental impact statement (EIS) with the understanding that the interceptor built with these grant funds would not create significant development pressure along the corridor between Black Diamond's current service area boundary and the connection to pump station #10 at Timberlane in the Soos Creek sewer system. To that end, the city hereby agrees that no entity will be allowed to utilize any capacity in this federally funded interceptor except the users within the Black Diamond sewer service area as it is defined in the May 1989 facility plan, to the saturation density of the current zoning. The interceptor with access so limited will hereinafter be referred to as "tight" or a "tight line."

11. Since it is conceivable that EPA may want to support exceptions to the "tight line" provision for the purpose of protecting water quality or public health, and since EPA does not wish to remain directly involved in future decisions regarding such exceptions, the conditions under which future exceptions to Condition No. 10 above are specified below:

    A. The city of Black Diamond may allow an entity to connect to the "tight line" and utilize capacity in the "tight line" only if all of the following criteria are met:

        (1) There is sufficient capacity in the line to accommodate the entity's flows and maintain proper operation of the line.

        (2) A public health emergency or a severe public health hazard exists, as defined in Paragraph C(1) of Chapters 12, 13, or 14 of the Washington Centennial Clean Water Fund Program Guidelines, April 1989, Publication WDOE 89-14; or the state (or King County) has formally certified that a severe water quality problem exists, and that the problem cannot be corrected through more efficient O&M of the existing wastewater disposal system(s);

a. GENERAL CONDITIONS

The recipient covenants and agrees that it will expeditiously initiate and timely complete the project work for which assistance has been awarded under this agreement, in accordance with all applicable provisions of 40 CFR Chapter 1, Subpart B. The recipient warrants, represents, and agrees that it, and its contractors, subcontractors, employees and representatives, will comply with: (1) all applicable provisions of 40 CFR Chapter 1, Subchapter B, INCLUDING BUT NOT LIMITED TO the provisions of Appendix A to 40 CFR Part 30, and (2) any special conditions set forth in this assistance agreement or any assistance amendment pursuant to 40 CFR 30.425.

b. SPECIAL CONDITIONS

(For cooperative agreements include identification or summarization of EPA responsibilities that reflect or contribute to substantial involvement.)

(3) The entity shall gain only that capacity needed to serve the area experiencing the problem under paragraph A2 above, and only to the population in that area that would be allowed under applicable land use plans, zoning requirements and the Sewerage General Plans in existence at the time the problem in paragraph A2 developed.

(4) An environmental impact statement or an environment checklist must be prepared on providing the capacity to the entity, according the the rules set forth in the state environmental review process for the state revolving fund developed under Title VI of the Clean Water Act. (Note: There may be state requirements for facility planning and design which the entity must also meet.)

(5) The entity must pay the city of Black Diamond for the capacity gained in the line according to paragraph C below.

B. The City of Black Diamond is not obligated by this condition No. 11 to grant access to any entity.

C. Payment shall be collected and distributed by the Black Diamond according to the following rules:

(1) For connections, or increases of allotted capacity, made up through the year 2009:

(a) Each entity must make payment to the city according to the formulas in Attachment I prior to the connection or increase of capacity.

(b) The city must distribute the collected payment according to the formulas in Attachment I within three months of collection.

(2) For connections, or increases of allotted capacity, made after the year 2009, no payment is required; however, if the city elects to collect payment, the payment and distributions must be made in accordance with C1 above.

(3) Black Diamond shall not collect more than the payment amounts established in B1 above for capacity in the federally funded line. The city is free to negotiate other cost sharing on other additional facilities, or on changes to the federally funded line made without any federal participation.

A. GENERAL CONDITIONS

The recipient covenants and agrees that it will expeditiously initiate and timely complete the project work for which assistance has been awarded under this agreement, in accordance with all applicable provisions of 40 CFR Chapter I, Subpart B. The recipient warrants, represents, and agrees that it, and its contractors, subcontractors, employees and representatives, will comply with: (1) all applicable provisions of 40 CFR Chapter I, Subchapter B, INCLUDING BUT NOT LIMITED TO the provisions of Appendix A to 40 CFP Part 30, and (2) any special conditions set forth in this assistance agreement or any assistance amendment pursuant to 40 CFR 30.425.

L. SPECIAL CONDITIONS

(For cooperative agreements include identification or summarization of EPA responsibilities that reflect or contribute to substantial involvement.)

D. The following entities are not subject to the restrictions or the payments provisions above:

(1) Through the year 2003, the saturation population at the 1989 zoning within Black Diamond's 1989 sewer service area boundaries = 5770 population equivalents (PEs); and additions to the Black Diamond sewer service area (where the city owns and operates collection systems), providing the additional PEs are included under the 5770 PE ceiling.

(2) Any Black Diamond sewer service area (where the city owns and operates collection systems) after the year 2003.

E. The following entities are subject to the restrictions and payment provisions above:

(1) Black Diamond sewer service area population beyond 5770 PEs, unless they are added after the year 2003.

(2) Additions to the Black Diamond sewer service area which are not counted under the 5770 PE ceiling, unless they are added after the year 2003.

(3) Any other municipality, for both new and increased service capacity.

12. If the City of Black Diamond transfers ownership and/or authority for approving connections to the federally funded sewer line, these conditions 10, 11, and 12 continue to apply, and responsibility for carrying out the Black Diamond role in these conditions must be either retained by the city or legally assigned to appropriate parties to carry out.

13. Four abandoned frame structures flank the first 400 feet of the right-of-way extending to the northwest from the new Black Diamond pumping station. They have been identified as being of historic value. If design or construction plans call for their removal, this impact must be mitigated. This would likely entail a photographic record and completion of historic forms. The City of Black Diamond agrees to coordinate exact requirements for such data collection with the Washington Office of Archeaology and Historic Preservation, and to notiy EPA Region 10 (WD-136) that such coordination is being undertaken.

PART III - AWARD CONDITIONS

a. GENERAL CONDITIONS

The recipient covenants and agrees that it will expeditiously initiate and timely complete the project work for which assistance has been awarded under this agreement, in accordance with all applicable provisions of 40 CFR Chapter I, Subpart B. The recipient warrants, represents, and agrees that it, and its contractors, subcontractors, employees and representatives, will comply with: (1) all applicable provisions of 40 CFR Chapter I, Subchapter B, INCLUDING BUT NOT LIMITED TO the provisions of Appendix A to 40 CFP Part 30, and (2) any special conditions set forth in this assistance agreement or any assistance amendment pursuant to 40 CFR 30.425.

b. SPECIAL CONDITIONS:

(For cooperative agreements include identification or summarization of EPA responsibilities that reflect or contribute to substantial involvement.)

14. The City shall comply with all mitigation measures identified in the Federal Environmental Assessment and facility plan.

15. The City shall not proceed with design until funding sources and affordability criteria have been finalized with the exception of aerial photography which was given prior approval.

Please submit a revised payment schedule.

ATTACHMENT I: BLACK DIAMOND GRANT CONDITION FORMULAS

DEFINITIONS

Black Diamond population equivalents for which this project was built = 3600

Entity i = an entity requesting a new connection, or an entity requesting increased capacity for previous connection(s).

Ni = Entity population equivalents for the capacity requested by entity i

TC = Total collar cost of the project funded with this grant, including any local or state costs, and including costs for planning, design, and construction (determined at administrative completion of the grant)

TL = Total length of the line funded by this grant (determined when design is complete)

Li = Length of the line from the downstream end where it connects to the Soos Creek sewer system to the point at which the upstream connection for entity i is made, to a maximum of TL

$F\% = \frac{\text{Total grant amount}}{TC}$ (determine at administrative completion of grant)

PAYMENT FORMULA

Pi = Amount of payment to be made by entity i to Black Diamond
= Cost * Proportion of length of line used * Proportion of capacity requested to capacity allotted to all entities

$$= TC * \frac{Li}{TL} * \frac{Ni}{3600 + \sum_{j=1}^{j=i} Nj}$$

DISTRIBUTION FORMULAS

Ii = The portion of Pi which represents the incremental amount in which EPA participated
= Theoretical payment amount as if all entities gained access as one entity - Sum of all increments to date

$$= \left(TC * \frac{\sum_{j=1}^{j=i} LjNj}{TL * \left(3600 + \sum_{j=1}^{j=i} Nj \right)} \right) - \sum_{j=1}^{j=i-1} Ij$$

DEFINITIONS (continued)

Fi = Payment to EPA = Ii * F%

BDi = Amount Black Diamond retains (or shares with state, according to arrangements between city and state)

= Ii * (1.0 - F%)

Ri = Amount to be distributed among all previous entities who have paid such that each entity has paid a proportionate share of the currently allotted capacity

= Pi - Ii

ASSISTANCE IDENTIFICATION NO.

5. SPECIAL CONDITIONS (Continued)

PART IV

NOTE: The Agreement must be completed in duplicate and the Original returned to the Grants Administration Division for Headquarters awards and to the appropriate Grants Administrations Office for State and local awards within 3 calendar weeks after receipt or within any extension of time as may be granted by EPA.

Receipt of a written refusal or failure to return the properly executed document within the prescribed time, may result in the withdrawal of the offer by the Agency. Any change to the Agreement by the recipient subsequent to the document being signed by the EPA Award Official which the Award Official determines to materially alter the Agreement shall void the Agreement.

OFFER AND ACCEPTANCE

The United States of America, acting by and through the U.S. Environmental Protection Agency (EPA), hereby offers assistance/amendment to the City of Black Diamond (RECIPIENT ORGANIZATION) for 100 % of all approved costs incurred up to and not exceeding $ 1,517,621 (ASSISTANCE AMOUNT) for the support of approved budget period effort described in application *(including all application modifications)* 66.418 Construction 9/4/87 (DATE AND TITLE) included herein by reference.

ISSUING OFFICE (Grants Administration Office)	AWARD APPROVAL OFFICE
ORGANIZATION/ADDRESS Management Division Grants Administration Section Environmental Protection Agency, MD-100 1200 Sixth Avenue, Seattle, WA. 98101	ORGANIZATION/ADDRESS Regional Administrator Environmental Protection Agency 1200 Sixth Avenue Seattle, Washington 98101

THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY

SIGNATURE OF AWARD OFFICIAL	TYPED NAME AND TITLE	DATE
	Robie G. Russell, Regional Administrator	SEP 28 1989

This Agreement is subject to applicable U.S. Environmental Protection Agency statutory provisions and assistance regulations. In accepting this award or amendment and any payments made pursuant thereto, (1) the undersigned represents that he is duly authorized to act on behalf of the recipient organization, and (2, the recipient agrees (a) that the award is subject to the applicable provisions of 40 CFR Chapter I, Subchapter B and of the provisions of this agreement (Parts I thru IV), and (b) that acceptance of any payments constitutes an agreement by the payee the amounts, if any found by EPA to have been overpaid will be refunded or credited in full to EPA.

BY AND ON BEHALF OF THE DESIGNATED RECIPIENT ORGANIZATION

SIGNATURE	TYPED NAME AND TITLE	DATE
		10-19-89

EXHIBIT B

WASHINGTON STATE

DEPARTMENT OF ECOLOGY

GRANT CONDITIONS FOR A

BLACK DIAMOND BUY-IN GRANT TO

SOOS CREEK WATER & SEWER DISTRICT

WASTEWATER CONVEYANCE FACILITIES

Grant No. WFG 90-017
Water Pollution Control Grant
Grant Agreement with the City of Black Diamond

Referendum 39/26 Fund
Grant Agreement
between
State of Washington Department of Ecology
and
City of Black Diamond

THIS is a binding agreement entered into by and between the State of Washington, Department of Ecology, (Mailstop PV-11, Olympia, Washington 98504), hereinafter referred to as the "DEPARTMENT" and the City of Black Diamond, hereinafter referred to as the "GRANTEE." The purpose of this agreement is to provide funds to the GRANTEE to carry out the activities described herein.

GRANTEE ADDRESS	City of Black Diamond 25510 Lawson Street P. O. Box 599 Black Diamond, Washington 98010
GRANTEE REPRESENTATIVE	Howard Botts
GRANTEE TELEPHONE NUMBER	(206) 886-2560
DEPARTMENT PROJECT OFFICER	Jon K. Peterson
PROJECT OFFICER TELEPHONE NUMBER	(206) 459-6105
FUNDING SOURCE	75 percent Referendum 39 25 percent Referendum 26
TOTAL PROJECT COST	$1,983,000.00 (September 1, 1990)
TOTAL ELIGIBLE COST	$1,983,000.00
STATE MAXIMUM GRANT PERCENT	100 percent
STATE GRANT SHARE	$1,983,000.00
GRANTEE SHARE	$0

The effective date of this agreement shall be the date this agreement is signed by the Water Quality Financial Assistance Program Manager of the DEPARTMENT. Any work performed prior to the effective date of this agreement without prior written authorization will be at the sole expense and risk of the GRANTEE.

The project described herein must be completed on or before November 30, 1992.

This agreement shall expire no later than December 31, 1992.

Grant No. WFG 90-017
Water Pollution Control Grant
Agreement with City of Black Diamond

PROJECT DESCRIPTION

GRANTEE NAME: City of Black Diamond

PROJECT TITLE: Black Diamond Capacity Buy-In

PROJECT COMPLETION DATE: November 30, 1992

PROJECT EXPIRATION DATE: December 31, 1992

PROJECT DESCRIPTION: This grant is intended to be in conjunction with the GRANTEE'S U.S. Environmental Protection Agency's modification/replacement pipeline project to solve their sewage problem created by their existing failed innovative/alternative wastewater treatment facility. The pipeline will convey the GRANTEE'S wastewater flows to Soos Creek Water and Sewer District pipeline to City of Kent pipeline to the Mill Creek interceptor and finally to the Municipality of Metropolitan Seattle (Metro) for treatment and disposal at Metro's Renton Treatment Plant.

The Scope of Work for this project is: the GRANTEE shall use the funds received from the DEPARTMENT under this agreement to purchase wastewater conveyance capacity rights from Soos Creek Water and Sewer District to convey wastewater flows from the GRANTEE'S system eventually to the Metro system for disposal.

Grant No. WFG 90-017
Water Pollution Control Grant
Agreement with City of Black Diamond

BUDGET

Major Project Elements	Total Project Cost	*Total Eligible Cost
I. Capacity Buy-In to Soos Creek Water & Sewer District	$1,983,000.00	$1,983,000.00
Total	$1,983,000.00	$1,983,000.00

Total Project Cost	$1,983,000.00
Total Eligible Cost (TEC)	$1,983,000.00
GRANTEE Share	$0
DEPARTMENT Share	$1,983,000.00

* This project is 100 percent eligible utilizing 75 percent Referendum 39 grant funds for a total of $1,487,250.00 and 25% Referendum 26 grant funds for a total of $495,750.00

SPECIAL TERMS AND CONDITIONS

A. Payment Limits. The total eligible cost for the capacity buy-in of this project is $1,983,000.00.

B. Time for Performance. In the event the GRANTEE fails to commence construction of their pipeline project to Soos Creek Water and Sewer District within 24 months after the effective date of this agreement the DEPARTMENT reserves the right to terminate this agreement. In the event of such termination, all grant money including interest accrued shall be returned to the DEPARTMENT.

C. Interlocal Agreements. The GRANTEE shall submit, prior to grant reimbursement, copies of the final interlocal agreements between:
1) City of Black Diamond and Soos Creek Water and Sewer District, and;
2) City of Black Diamond and the Municipality of Metropolitan Metropolitan Seattle (Metro), for review and approval by the DEPARTMENT.

D. All Writings Contained Herein. This agreement, consisting of the Coversheet, Scope of Work, Special Terms and Conditions, appended "General Terms and Conditions," and the DEPARTMENT's current edition of "Financial Guideline for Grants Management," contain the entire understanding between the parties, and there are no other understandings or representations set forth or incorporated by reference herein. No subsequent modification(s) or amendment(s) of this agreement shall be of any force or effect unless in writing, signed by authorized representatives of the GRANTEE and DEPARTMENT, and made a part of this agreement; EXCEPT, this in relation to change of the DEPARTMENT's Project Officer or the GRANTEE's Project Coordinator as set forth on the grant coversheet, either party may make such change by sending a letter to that effect without the signature of the other party.

Grant No. WFG 90-017
Water Pollution Control Grant
Agreement with City of Black Diamond

IN WITNESS WHEREOF, the parties hereby execute Grant:

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Jon K Peterson 1/29/90
JON K. PETERSON DATE
PROJECT OFFICER

for Joseph R. Williams 1/30/90
JOSEPH R. WILLIAMS DATE
PROGRAM MANAGER
WATER QUALITY FINANCIAL ASSISTANCE
PROGRAM

Approved as to form only
ASSISTANT ATTORNEY GENERAL

CITY OF BLACK DIAMOND

Howard Botts 1-25-90
HOWARD BOTTS DATE
MAYOR, CITY OF BLACK
DIAMOND

Approved as to form this
25 day of JAN, 1990

Michael R. Gruen
CITY ATTORNEY

GENERAL TERMS AND CONDITIONS

Pertaining to Grant Agreements of
the Department of Ecology

GRANTEE PERFORMANCE

All activities for which grant funds are to be used shall be accomplished by the GRANTEE and GRANTEE's employees. The GRANTEE shall not assign or subcontract performance to others unless specifically authorized in writing by the DEPARTMENT.

B. SUBGRANTEE COMPLIANCE

The GRANTEE must ensure that all subgrantees and contractors comply with the terms and conditions of this agreement.

C. THIRD PARTY BENEFICIARY

The GRANTEE shall ensure that in all subcontracts entered into by the GRANTEE pursuant to this agreement, the state of Washington is named as an express third-party beneficiary of such subcontracts with full rights as such.

D. CONTRACTING FOR SERVICES (BIDDING)

Contracts for construction, purchase of equipment and professional architectural and engineering services shall be awarded through a competitive process, if required by State law. The GRANTEE shall not advertise for bids for construction until receipt of written approval from the DEPARTMENT. No contract shall be awarded or rejected until approved in writing by the DEPARTMENT. GRANTEE shall retain copies of all bids received and contracts awarded, for inspection and use by the DEPARTMENT.

E. ASSIGNMENTS

No right or claim of the GRANTEE arising under this agreement shall be transferred or assigned by the GRANTEE.

F. COMPLIANCE WITH ALL LAWS

1. The GRANTEE shall comply fully with all applicable Federal, State and local laws, orders, regulations and permits.

   Prior to commencement of any construction, the GRANTEE shall secure the necessary approvals and permits required by authorities having jurisdiction over the project, provide assurance to the DEPARTMENT that all approvals and permits have been secured, and make copies available to the DEPARTMENT upon request.

2. Discrimination. The DEPARTMENT and the GRANTEE agree to be bound by all Federal and State laws, regulations, and policies against discrimination. The GRANTEE further agrees to affirmatively support the DEPARTMENT's minority contract procurement program to ensure, to the maximum extent possible, the participation of women and minority owned businesses in all subcontracts awarded under this agreement. The GRANTEE shall report to the DEPARTMENT the percent of grant funds available to women or minority owned businesses.

3. Wages And Job Safety. The GRANTEE agrees to comply with all applicable laws, regulations, and policies of the United States and the State of Washington which affect wages and job safety.

4. Industrial Insurance. The GRANTEE certifies full compliance with all applicable state industrial insurance requirements. If the GRANTEE fails to comply with such laws, the DEPARTMENT shall have the right to immediately terminate this agreement for cause as provided in Section K.1, herein.

G. KICKBACKS

The GRANTEE is prohibited from inducing by any means any person employed or otherwise involved in this project to give up any part of the compensation to which he/she is otherwise entitled or, receive any fee, commission or gift in return for award of a subcontract hereunder.

H. AUDITS AND INSPECTIONS

1. The GRANTEE shall maintain complete program and financial records relating to this agreement. All grant records shall be kept in a manner which provides an audit trail for all expenditures. All records shall be kept in a common file to facilitate audits and inspections.

   Engineering documentation and field inspection reports of all construction work accomplished under this agreement shall be maintained by the GRANTEE. Such records shall clearly indicate total receipts and expenditures by fund source and object classification.

2. All grant records shall be open for audit or inspection by the DEPARTMENT or by any duly authorized audit representative of the State of Washington for a period of at least three years after the final grant payment or any dispute resolution hereunder. If any such audits identify discrepancies in the financial records, the GRANTEE shall provide clarification and/or make adjustments accordingly.

3. All work performed under this agreement and any equipment purchased shall be made available to the DEPARTMENT and to any authorized state, federal or local representative for inspection at any time during the course of this agreement and for at least three years following grant termination or dispute resolution hereunder.

4. GRANTEE shall meet the provisio[illegible], OMB Circular A-128 (Audit of State and Local [illegible]vernments) or OMB Circular A-110 (Uniform Requirements for Grants to Universities, Hospitals and Other Non-Profit Organizations) if the GRANTEE receives federal funds in excess of $25,000. The GRANTEE must forward a copy of the state auditor's audit along with the GRANTEE response and the final corrective action plan as approved by the SAO to the DEPARTMENT within ninety (90) days of the date of the audit report.

PERFORMANCE REPORTING

The GRANTEE shall submit progress reports to the DEPARTMENT on a quarterly basis or such other schedule as set forth in the Special Conditions. The GRANTEE shall also report in writing to the DEPARTMENT any problems, delays or adverse conditions which will materially affect their ability to meet project objectives, time schedules or project tasks within the established time periods. This disclosure shall be accompanied by a statement of the action taken or proposed and any assistance needed from the DEPARTMENT to resolve the situation.

Quarterly reports shall cover the periods January 1 through March 31, April 1 through June 30, July 1 through September 30, and October 1 through December 31. Reports shall be due within twenty (20) days following the end of the quarter being reported.

J. COMPENSATION

1. Method of compensation. Payment shall be made on a reimbursable basis at least quarterly and no more often than once per month. Each voucher shall be submitted to the DEPARTMENT along with documentation of the work performed, expenses incurred and the progress of the project. Payments shall be made for each task/phase of the project, or portion thereof, as set out in the Scope of Work when completed by the GRANTEE and certified as satisfactory by the DEPARTMENT. Requests for payment will be submitted by the GRANTEE on State voucher request forms provided by the DEPARTMENT.

   The voucher request form and supportive documents must itemize all allowable costs by major elements as described in the Scope of Work. Instructions for submitting the State voucher request form are found in "Financial Guidelines for Grants Management," chapter 6, published by the DEPARTMENT. A copy of this guideline shall be furnished to the GRANTEE. When voucher requests are approved by the DEPARTMENT, payments will be made to the mutually agreed upon designee.

   Payment requests shall be submitted to the DEPARTMENT and directed to the Project Officer assigned to administer this agreement.

2. Budget deviation. Deviations in budget amounts may be allowed, with prior approval from the DEPARTMENT. Payment by the DEPARTMENT for project tasks described in the Scope of Work will be disallowed when the GRANTEE's request for reimbursement exceeds the State maximum cost share amount for that task by more than ten percent (10%) when multiplied by the appropriate cost share rate. Despite the foregoing, in no event will the DEPARTMENT provide reimbursement in excess of the DEPARTMENT's grant share of the total eligible cost without a written amendment to this agreement.

3. Period of Compensation. Grant payments shall only be made for action of the GRANTEE pursuant to the grant agreement and performed within the effective dates of this agreement unless those dates are specifically modified in writing as provided herein.

4. Final Request(s) for Payment. The GRANTEE must submit final requests for compensation within forty-five (45) days after satisfactory completion of this agreement and within fifteen (15) days after the end of a fiscal biennium. Failure to comply may result in delayed reimbursement.

5. Performance Guarantee. The DEPARTMENT shall withhold an amount not to exceed ten percent (10%) of each reimbursement payment as security for the GRANTEE's performance. Monies withheld by the DEPARTMENT may be paid to the GRANTEE when the project(s) described herein, or a portion thereof, have been completed if in the DEPARTMENT's sole discretion such payment is reasonable and approved according to this agreement and, as appropriate, upon completion of an audit as specified under section J herein.

6. Unauthorized Expenditures. All payments to the GRANTEE shall be subject to final audit by the DEPARTMENT and any unauthorized expenditure(s) charged to this grant shall be refunded to the DEPARTMENT by the GRANTEE.

7. Mileage and Per Diem. If mileage and per diem are paid to the employees of the GRANTEE or other public entities, it shall not exceed the amount allowed under state regulation.

8. Indirect Costs. No reimbursement for indirect costs will be allowed unless provided for and defined in the Scope of Work hereunder.

K. TERMINATION

1. For Cause. The obligation of the DEPARTMENT to the GRANTEE is contingent upon satisfactory performance by the GRANTEE of all of its obligations under this agreement. In the event the GRANTEE unjustifiably fails, in the opinion of the DEPARTMENT, to perform any obligation required of it by this agreement, the DEPARTMENT may refuse to pay any further funds thereunder and/or terminate this agreement by giving written notice of termination.

   A written notice of termination shall be given at least five working days prior to the effective date of termination. In that event, all finished or unfinished documents, data studies, surveys, drawings, maps, models, photographs, and reports or other materials prepared by the GRANTEE under this agreement, at the option of the DEPARTMENT, shall become its property

and the GRANTEE shall be entitled to receive just and equitable compensation for any satisfactory work completed on such documents and other materials.

Despite the above, the GRANTEE shall not be relieved of any liability to the DEPARTMENT for damages sustained by the DEPARTMENT and/or the State of Washington because of any breach of agreement by the GRANTEE. The DEPARTMENT may withhold payments for the purpose of setoff until such time as the exact amount of damages due the DEPARTMENT from the GRANTEE is determined.

2. Insufficient Funds. The obligation of the DEPARTMENT to make payments is contingent on the availability of state and federal funds through legislative appropriation and state allotment. When this agreement crosses over state fiscal years the obligation of the DEPARTMENT is contingent upon the appropriation of funds during the next fiscal year. The failure to appropriate or allot such funds shall be good cause to terminate this agreement as provided in paragraph K.1 above.

3. Failure to Commence Work. In the event the GRANTEE fails to commence work on the project funded herein within four months after the effective date of this agreement, or by any date mutually agreed upon in writing for commencement of work, the DEPARTMENT reserves the right to terminate this agreement.

4. Waiver. Waiver of any GRANTEE default is not a waiver of any subsequent default. Waiver of a breach of any provision of this agreement is not a waiver of any subsequent breach and will not be construed as a modification of the terms of this agreement unless stated as such in writing by the authorized representative of the DEPARTMENT.

L. PROPERTY RIGHTS

1. Copyrights and Patents. When the GRANTEE creates any copyrightable materials or invents any patentable property, the GRANTEE may copyright or patent the same but the DEPARTMENT retains a royalty-free, nonexclusive and irrevocable license to reproduce, publish, recover or otherwise use the material(s) or property and to authorize others to use the same for federal, state or local government purposes.

Where federal funding is involved, the federal government has a proprietary interest in patent rights to any inventions that may be developed by the GRANTEE. As such, the federal grantor agency, in the absence of legislation otherwise, will allocate patent rights in accordance with the memorandum and statement of government patent policy (36 F.R. 16887-16892) issued by the President on August 23, 1971.

2. Publications. When the GRANTEE or persons employed by the GRANTEE use or publish information of the DEPARTMENT; present papers, lectures, or seminars involving information supplied by the DEPARTMENT; use logos, reports, maps or other data, in printed reports, signs, brochures, pamphlets, etc., appropriate credit shall be given to the DEPARTMENT.

3. Tangible Property Rights. The DEPARTMENT's current edition of "Financial Guidelines for Grants Management," chapter 4, shall control the use and disposition of all real and personal property purchased wholly or in part with funds furnished by the DEPARTMENT in the absence of state, federal statute(s), regulation(s), or policy(s) to the contrary or upon specific instructions with respect thereto in the Scope of Work.

4. Personal Property Furnished by the DEPARTMENT. When the DEPARTMENT provides personal property with an acquisition cost of $300.00 or more per unit and a useful life of more than three years, directly to the GRANTEE for use in performance of the project, it shall be returned to the DEPARTMENT prior to final payment by the DEPARTMENT. The GRANTEE shall make payment in cash or by setoff to the DEPARTMENT for use of such property. If said property is lost, stolen or damaged while in the GRANTEE's possession, the DEPARTMENT shall be reimbursed in cash or by setoff by the GRANTEE for the fair market value of such property.

5. Acquisition Projects. The following provisions shall apply if the project covered by this agreement includes funds for the acquisition of land or facilities:

   a. Prior to disbursement of funds provided for in this agreement, the GRANTEE shall establish that the cost of land/or facilities is fair and reasonable.

   b. The GRANTEE shall provide satisfactory evidence of title or ability to acquire title for each parcel prior to disbursement of funds provided by this agreement. Such evidence may include title insurance policies, Torrens certificates, or abstracts, and attorney's opinions establishing that the land is free from any impediment, lien, or claim which would impair the uses contemplated by this agreement.

6. Conversions. Regardless of the contract termination date shown on the cover sheet, the GRANTEE shall not at any time convert any equipment, property or facility acquired or developed pursuant to this agreement to uses other than those for which assistance was originally approved without prior written approval of the DEPARTMENT. Such approval may be conditioned upon payment to the DEPARTMENT of that portion of the proceeds of the sale, lease or other conversion or encumbrance which monies granted pursuant to this agreement bear to the total acquisition, purchase or construction costs of such property.

M. RECOVERY OF PAYMENTS TO GRANTEE

The right of the GRANTEE to retain monies paid to it as reimbursement payments is contingent upon satisfactory performance of this agreement including the satisfactory completion of the project described in the Scope of Work. In the event the GRANTEE fails, for any reason, to perform obligations required of it by this agreement, the GRANTEE may, at the DEPARTMENT's sole discretion, be required to repay to the DEPARTMENT all grant funds disbursed to the GRANTEE for those parts of the project that are rendered worthless in the opinion of the DEPARTMENT by such failure to perform.

interest shall accrue at the rate of twelve percent (12%) per annum from the time the DEPARTMENT demands repayment of funds. If payments have been discontinued by the DEPARTMENT due to insufficient funds as in Section K.2 above, the GRANTEE shall not be obligated to repay monies which had been paid to the GRANTEE prior to such termination. Any property acquired under this agreement, at the option of the DEPARTMENT, may become the DEPARTMENT'S property and the GRANTEE'S liability to repay monies shall be reduced by an amount reflecting the fair value of such property.

N. PROJECT APPROVAL

The extent and character of all work and services to be performed under this agreement by the GRANTEE shall be subject to the review and approval of the DEPARTMENT through the Project Officer or other designated official to whom the GRANTEE shall report and be responsible. In the event there is a dispute with regard to the extent and character of the work to be done, the determination of the Project Officer or other designated official as to the extent and character of the work to be done shall govern. The GRANTEE shall have the right to appeal decisions as provided for below.

O. DISPUTES

Except as otherwise provided in this agreement, any dispute concerning a question of fact arising under this agreement which is not disposed of in writing shall be decided by the Project Officer or other designated official who shall provide a written statement of decision to the GRANTEE. The decision of the Project Officer or other designated official shall be final and conclusive unless, within thirty days from the date of receipt of such statement, the GRANTEE mails or otherwise furnishes to the Director of the DEPARTMENT a written appeal.

In connection with appeal of any proceeding under this clause, the GRANTEE shall have the opportunity to be heard and to offer evidence in support of this appeal. The decision of the Director or duly authorized representative for the determination of such appeals shall be final and conclusive. Appeals from the Director's determination shall be brought in the Superior Court of Thurston County. Review of the decision of the Director will not be sought before either the Pollution Control Hearings Board or the Shoreline Hearings Board. Pending final decision of dispute hereunder, the GRANTEE shall proceed diligently with the performance of this agreement and in accordance with the decision rendered.

P. CONFLICT OF INTEREST

No officer, member, agent, or employee of either party to this agreement who exercises any function or responsibility in the review, approval, or carrying out of this agreement, shall participate in any decision which affects his/her personal interest or the interest of any corporation, partnership or association in which he/she is, directly or indirectly interested; nor shall he/she have any personal or pecuniary interest, direct or indirect, in this agreement or the proceeds thereof.

Q. INDEMNIFICATION

1. The DEPARTMENT shall in no way be held responsible for payment of salaries, consultant's fees, and other costs related to the project described herein, except as provided in the Scope of Work.
2. To the extent that the Constitution and laws of the State of Washington permit, the GRANTEE shall indemnify and hold the DEPARTMENT harmless from and against any liability for any or all injuries to persons or property arising from the negligent act or omission of the GRANTEE arising out of this agreement, except for such damage, claim, or liability resulting from the negligent act or omission of the DEPARTMENT.

R. GOVERNING LAW

This agreement shall be governed by the laws of the State of Washington.

S. SEVERABILITY

If any provision of this agreement or any provision of any document incorporated by reference shall be held invalid, such invalidity shall not affect the other provisions of this agreement which can be given effect without the invalid provision, and to this end the provisions of this agreement are declared to be severable.

T. PRECEDENCE

In the event of inconsistency in this agreement, unless otherwise provided herein, the inconsistency shall be resolved by giving precedence in the following order: (a) applicable Federal and State statutes and regulations; (b) Scope of Work; (c) Special Terms and Conditions, and any terms incorporated therein by reference; and (d) the General Terms and Conditions.

SOOS CREEK WATER AND SEWER DI STRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 1920-S

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, formally accepting King County Franchise Ordinance No. 13583; public sewer franchise.

WHEREAS, Metropolitan King County has adopted its Ordinance No. 13583, which authorizes the Executive to execute with the District a public sewer franchise to construct, operate and maintain a sewer system in Council Districts 6, 9, 12 and 13; and

WHEREAS, the Board of Commissioners finds it to be in the best interests of the District to accept the terms of the Franchise Ordinance.

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Soos Creek Water and Sewer District, as follows:

SECTION 1: That Soos Creek Water and Sewer District hereby accepts the terms of Franchise Ordinance No. 13583 as authorized by Metropolitan King County.

SECTION 2: That the District Manager is authorized to sign copies of the franchise agreement on behalf of the District.

ADOPTED by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular, open public meeting thereof on the 4th day of August, 1999.

STEVE SANDELIUS, President

PHILIP SULLIVAN, Secretary

- excused -

KAREN WEBSTER, Commissioner

CLEMENT QUANRUD, Commissioner

PATRICK BRAZIL, Commissioner

13583

03/25/99
soos creek ord
BT:ts

Introduced By: Rob McKenna
Kent Pullen

Clerk 03/31/99

Proposed No.: 1999-0194

ORDINANCE NO. 13583

AN ORDINANCE approving a franchise for Soos Creek Water and Sewer District to construct, operate and maintain a sewer system in Council Districts 6, 9, 12 and 13 and authorizing the executive to execute the franchise agreement.

STATEMENT OF FACTS:

1. The Soos Creek Water and Sewer District has filed an application for a franchise in council districts 6, 9, 12 and 13 to construct, operate and maintain a sewer system to serve single family, multifamily and commercial properties in accordance with RCW 36.55.010 and K.C.C. chapter 6.27.

2. The district's comprehensive plan was approved on January 12, 1998, by Ordinance 12972.

3. The application has been referred to the relevant county departments for review.

4. The King County executive has recommended approval of the franchise.

5. The utilities technical review committee reviewed and approved the district's franchise, legal description and map on August 13, 1997.

BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

SECTION 1. The granting of a franchise to the Soos Creek Water and Sewer District to construct, operate and maintain a sewer system within King County is hereby approved. The King County executive is authorized to enter into and execute the sewer

system franchise, which by this reference is fully incorporated herein. Said franchise shall include all of the general and special conditions required by the county.

SECTION 2. If within thirty days after the granting of this franchise, the applicant shall have failed to sign the written acceptance incorporated herein, then the rights and privileges granted herein shall be forfeited and the franchise shall be null and void.

INTRODUCED AND READ for the first time this 26th day of April, 1999.

PASSED by a vote of 10 to 0 this 19th day of July, 1999.

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Louise Miller
Chair

ATTEST:

Anne Noris
Clerk of the Council

APPROVED this 22 day of July, 1999.

Ron Sims
King County Executive

Attachments: a. Franchise Agreement
b. Letter of Application
c. Vicinity Map
d. Map of Franchise Area

13583

FRANCHISE NO.____

In the matter of the application for a franchise to operate, maintain, repair, and construct sewer mains and service lines, and appurtenances in, over, along, and under County roads and rights-of-way in King County, Washington.

The application of the Soos Creek Water and Sewer District for a franchise to operate, maintain, repair and construct sewer mains and service lines, and appurtenances in, over, along, and under County roads and rights-of-way located within the area described in attached Exhibit "A" has been heard on this 19th day of July, 1999. All of the property described in Exhibit "A" lies outside the limits of any incorporated Town or City.

Legal notice of the franchise application and of the hearing has been given as is required by law.

The King County Council, having considered the interests proposed and advanced, and finding that the granting of this franchise is in the public interest, ORDERS that a franchise be granted to the Soos Creek Water and Sewer District, the Grantee, subject to the conditions set forth in Exhibit "B" attached hereto, this franchise and Ordinance No. 13583. This franchise grants the right, privilege, authority and franchise to operate, maintain, repair and construct mains and service lines and appurtenances as a part of its distribution system in, over, along, and under County roads and rights-of-way located within the area described in Exhibit "A".

13583

This franchise is granted subject to all of the terms and conditions contained herein, within Ordinance No.____ and Exhibit "B", and shall expire in twenty-five years on 7/19, 2024

Dated this 22 day of July, 1999

KING COUNTY, WASHINGTON

BY _____

TITLE King County Executive

The undersigned accepts all the rights, privileges, and duties of this franchise subject to all terms, conditions, stipulations, and obligations contained herein, within Ordinance _____ and Exhibit "B".

SOOS CREEK WATER AND SEWER DISTRICT
GRANTEE

BY _____

TITLE District Mgr

Dated this 16 day of August, 1999.

Exhibit "A"

BEGINNING at the Northwest corner of Tract 1, Spring Brook Acre Tracts, as recorded in Volume 12 of Plats, page 60, records of King County, Washington, in Section 6, Township 22 North, Range 5 East, W.M. in King County, Washington, said point being on the existing franchise boundary of Soos Creek Water & Sewer District;

Thence Easterly, Northerly, and Easterly along the North line of said Tract 1 to the Westerly margin of 96th Avenue South, also known as John Langston Road or Springbrook Road or Talbot Road;

Thence Southerly along said Westerly margin, a distance of 320 feet± to the Westerly extension of the most Northerly line of Tract 8, of said Plat of Spring Brook Acre Tracts;

Thence South 74°50'00" East along said extension to the Easterly margin of said 96th Avenue South and continuing South 74°50'00" East along said most Northerly line, a distance of 189.00 feet;

Thence South 00°44'00" East, a distance of 188.40 feet;

Thence South 58°38'00" East, a distance of 89.35 feet along the line common to Tracts 8 and 9, said Plat of Spring Brook Acre Tracts;

Thence North 41°22'00" East, a distance of 128.10 feet;

Thence South 64°22'00" East, a distance of 275.60 feet;

Thence South 16°58'00" West, a distance of 239.80 feet;

Thence South 31°43'00" East, a distance of 210.90 feet;

Thence South 68°25'00" East, a distance of 99.50 feet;

Thence South 60°35'30" East, a distance of 28.17 feet to the most Northerly corner of Tract 7, said Plat of Spring Brook Acre Tracts;

Thence South 00°12'30" East, a distance of 396.04 feet;

Thence South 39°31'00" East, a distance of 383.85 feet;

Thence North 89°32'00" East, a distance of 340.00 feet to the East line of the Northeast quarter of said Section 6, said East line also being the West line of Section 5, Township 22 North,

Range 5 East, W.M.;

Thence North along a line common to said Sections 5 and 6, a distance of 21.50 feet to a point that lies North 00°12'30" West, a distance of 241.50 feet from the Southwest corner of the Southwest quarter of the Northwest quarter of said Section 5;

Thence North 40°41'00" East, a distance of 230.30 feet;

Thence South 84°12'00" East, a distance of 245.90 feet;

Thence South 34°26'00" East, a distance of 147.30 feet;

Thence South 14°49'00" East, a distance of 257.44 feet to a line 30.00 feet North of, as measured at right angles to, and lying parallel with the South line of the Northwest quarter of said Section 5, said line also being the North margin of Southeast 200th Street;

Thence Easterly along said parallel line to the West line of the East one-half of the Southwest quarter of the Northwest quarter of said Section 5;

Thence North 00°31'17" East along said West line, a distance of 190.00 feet;

Thence South 88°38'33" East, to the East line of the West 115.00 feet of the East half of said Southwest quarter of the Northwest quarter;

Thence South 00°31'17" West along said East line, a distance of 190.00 feet to the North margin of said Southeast 200th Street;

Thence South 88°38'33" East along said North margin, a distance of 377.82 feet to the West line of the East 156.00 feet of said Southwest quarter of the Northwest quarter;

Thence North 00°39'11" East along said West line, also being the West line of the Plat of Parkridge East 1, as recorded in Volume 132 of Plats, pages 45 and 46, records of King County, Washington, a distance of 918.18 feet to the South line of Lot 2, King County Short Plat No. R877058, recorded under Auditor's File No.'s 7803010983 and 7808100855, records of King County, Washington;

Thence North 89°20'49" West, a distance of 59.00 feet;

Thence South 85°17'46" West, a distance of 80.30 feet;

Thence North 89°24'30" West, a distance of 96.01 feet;

Thence North 05°09'11" West, a distance of 111.45 feet;

Thence North 53°49'07" East, a distance of 198.22 feet;

Thence South 48°37'32" East, a distance of 118.20 feet to the Northeast corner of said

Lot 2;

Thence North 69°21'46" East, a distance of 165.28 feet to the East line of the Southwest quarter of the Northwest quarter of said Section 5;

Thence North 00°39'11" East along said East line, a distance of 147.85 feet to the North line of said Southwest quarter;

Thence Westerly along said North line to the West line of said Section 5, also being the East line of said Tract 9, said Plat of Spring Brook Acre Tracts;

Thence Northerly along said East line to a point that lies 271.50 feet South, as measured along said East line from the Northeast corner of said Tract 9;

Thence North 78°21'42" West, a distance of 336.34 feet;

Thence North 26°09'56" West, a distance of 106.78 feet;

Thence North 83°20'02" West, a distance of 289.79 feet;

Thence North 70°34'46" West to an intersection with the Southerly extension of the West line of the Plat of Springbrook Terrace, Amended, as recorded in Volume 131 of Plats, pages 55 through 58 as amended, records of King County, Washington;

Thence Northerly along said Southerly extension to the Southwest corner of said Plat of Springbrook Terrace,.Amended;

Thence North 86°00'00" West a distance of 509.65 feet to the East line of the old right-of-way margin of 96th Avenue South, as established October 5, 1931, also known as John Langston Road or Springbrook Road or Talbot Road;

Thence Northwesterly and Northerly along said Easterly right-of-way margin to the South line of the North 425 feet of the Northwest quarter of the Northeast quarter of the Northeast quarter of said Section 6;

Thence South 88°27'05" East along said South line to the West line of said Plat of Springbrook Terrace, Amended;

Thence Northerly along said West line and its Northerly extension to the North line of said Section 6, also being the South line of Section 31, Township 23 North, Range 5 East, W.M.;

Thence Easterly along said South line to the Southeast corner of the Southeast quarter of said Section 31;

Thence Northerly along the East line of said Southeast quarter to the Northeast corner thereof, also being the Southwest corner of the Northwest quarter of Section 32, Township 23 North, Range 5 East, W.M.;

Thence Easterly along the South line of said Northwest quarter to the Southeast corner of the Southwest quarter of said Northwest quarter;

Thence Northerly along the East line of said Southwest quarter to the South line of the North 200.00 feet thereof;

Thence Westerly along said South line to the East line of the West half of said Southwest quarter;

Thence Northerly along said East line to the North line of said Southwest quarter;

Thence Westerly along said North line to the West line of said Northwest quarter of said Section 32, also being the East line of the Northeast quarter of said Section 31;

Thence Northerly along said East line to its intersection with the north margin of South 179th Street, also known as Carr Road, est. 11-27-17 (former Carr Road No. 1147);

Thence Southwesterly along said center line of Carr Road to its intersection with the west margin of 96th Avenue South, also known as Talbot Road or Springbrook Road;

Thence Northeasterly and Northerly along said west margin of Talbot Road to the North line of said Section 31, also being the south line of Section 30, Township 23 North, Range 5 East, W.M.;

Thence continuing Northerly along said west margin of Talbot Road to the South line of North 100.00 feet of the South half of the Northeast quarter of the Southeast quarter of said Section 30;

Thence Easterly along said South line to the East line of said Southeast quarter of said Section 30, also being the West line of Southwest quarter of Section 29, Township 23 North, Range 5 East, W.M.;

Thence Northerly along said West line to the North line of the South half of the Northwest quarter of the Southwest quarter of said Section 29;

Thence North 88°39'49" East along said North line to the Easterly right-of-way margin of State Route 515;

Thence Northerly along said Easterly margin to the North line of the Southwest quarter of said Section 29, also being the South line of the Northwest quarter of said Section 29;

Thence Easterly along said South line to the West line of the Southeast quarter of the Northwest quarter of said Section 29;

Thence Northerly along said West line to the Westerly extension of the South line of Lot 4, Block 2, Plat of Akers Farms No. 5, as recorded in Volume 40 of Plats, page 27, records of King County, Washington;

Thence Easterly along the South line of said Lot 4 to the East line of the West half of said lot;

Thence Northerly along said East line, and the Northerly extension thereof to the South line of Lot 1, Block 2, of said Plat of Aker's Farms No. 5;

Thence Easterly along said South line to the West line of the East 62.50 feet of said Lot 1;

Thence Northerly along said West line to the Northerly line of said Lot 1, also being the Southerly margin of Southeast 166th Street;

Thence Northeasterly to a point on the Northerly margin of said Southeast 166th Street, which lies 237.41 feet East of said West line of the Southeast quarter of the Northwest quarter of said Section 29, said point also described as the Southwest corner of Lot 4 of Tract A, said Plat of Aker's Farms No. 5;

Thence North 24°02'04" East, 182.23 feet along the Westerly line of said Lot 4;

Thence Southeasterly along the Southerly line of the North half of said Lot 4 to the Easterly line thereof;

Thence North 24°02'04" East along said Easterly line, also being the Northwesterly line of Lot 5, Block A of said Plat, to a point 107 feet Southwesterly from the most Northerly corner of said Lot 5;

Thence Southeasterly to a point on the Easterly line of said Lot 5 lying 107 feet Southerly from the Northeast corner thereof, said point also being on the West right-of-way margin of 106th Avenue Southeast;

Thence Southeasterly to the intersection of the West line of Lot 1, Block 4 of said Plat and the North line of the South 273 feet of said Lot 1, said point also being on the East right-of-way margin of 106th Avenue Southeast;

Thence Easterly along said North line to the East line of said Lot 1, also being the West line of Lot 2, Block 4 of said Plat;

Thence Southerly along said West line to the North line of the South 120 feet of said Lot 2;

Thence Easterly along said North line to the West line of the East 20 feet of said Lot 2;

Thence Northerly along said West line and its Northerly extension thereof to the Westerly extension of the South right-of-way margin of South 29th Street, also known as Southeast 166th Street;

Thence Easterly along said Westerly extension and said South margin of South 29th Street to the Southerly extension of the Easterly right-of-way margin of 106th Place Southeast;

Thence Northerly along said Southerly extension and continuing Northerly along said

Easterly margin and its Northerly extension to the south margin of Southeast 164th Street, also known as South 27th Street;

Thence Easterly along said south margin to the East line of said Northwest quarter of Section 29, also being the West of the Northeast quarter of said Section 29;

Thence Northerly along said West line to the North line of the South 430.00 feet of the Northwest quarter of said Northeast quarter of Section 29;

Thence Easterly along said North line to the East line of the West 450.00 feet of said Northwest quarter of the Northeast quarter;

Thence Northerly along said East line to its intersection with the Westerly extension of the South right-of-way margin of Southeast 162nd Street;

Thence Easterly along said Westerly extension and said South margin to the West line of the East 330.00 feet of said Northwest quarter of the Northeast quarter;

Thence North along said West line to the North line of said Northwest quarter of the Northeast quarter of said Section 29, also being the South line of Section 20, Township 23 North, Range 5 East, W.M.;

Thence Easterly along said South line of said Section 20 to the West line of the East 930.00 feet of the Southeast quarter of said Section 20;

Thence Northerly along said West line to the North line of the South 200.00 feet of said Southeast quarter;

Thence Easterly along said North line to the West line of the East 670.00 feet of said Southeast quarter;

Thence Southerly along said West line to the South line of said Section 20;

Thence Easterly along said South line to the West line of the East 330.00 feet of said Southeast quarter;

Thence Northerly along said West line to the South line of the Plat of Parkwood South Division No. 3, as recorded in Volume 109 of Plats, pages 57 and 58, records of King County, Washington;

Thence Easterly along said South line to the East line of said Section 20, also being the West line of Section 21, Township 23 North, Range 5 East, W.M.;

Thence Northerly along said West line to the Westerly extension of the South line of the Plat of Ponderosa Estates Addition, as recorded in Volume 70 of Plats, pages 34 and 35, records of King County, Washington;

Thence Easterly along said extension and said South line to the Southerly margin of the Cedar River Pipeline right-of-way;

Thence Southeasterly and Easterly along said Southerly right-of-way margin to the West line of the East half of the Southeast quarter of said Section 21;

Thence Northerly along said West line to the North line of the Southeast quarter of the Southeast quarter of said Section 21;

Thence Easterly along said North line to the East line of said Section 21;

Thence Southerly along said East line and the East line of Section 28, Township 23 North, Range 5 East, W.M. to the Southeast corner thereof, also being the Northwest corner of Section 34, Township 23 North, Range 5 East, W.M.;

Thence Easterly along the North line of said Section 34 to an intersection with the East line of the West half of the West half of the Northeast quarter of said Section 34;

Thence Southerly along said East line to an intersection with the North line of the South 1918.125 feet of said Northeast quarter;

Thence Easterly along said North line to an intersection with the East line of said Section 34, also being the West line of Section 35, Township 23 North, Range 5 East, W.M.;

Thence Northerly along said West line to the Northwest corner of said Section 35;

Thence South 88°22'32" East along the North line of said Section 35 a distance of 1035.00 feet;

Thence South 01°37'28" West a distance of 70.00 feet to a curve to the right having a radius of 600.00 feet, through a central angle of 12°24'32", an arc distance of 129.95 feet;

Thence South 14°02'00" West a distance of 100.00 feet to a curve to the left having a radius of 500.00 feet through a central angle of 29°31'00", an arc distance of 257.58 feet;

Thence South 15°29'00" East a distance of 100.00 feet to a curve to the right having a radius of 450.00 feet, through a central angle of 38°46'00", an arc distance of 304.47 feet;

Thence South 23°17'00" West a distance of 195 feet, more or less, to the Northerly right-of-way line of the Petrovitsky Road;

Thence Southeasterly and Easterly along said Northerly right-of-way line to the East line of the West half of the Northeast quarter of said Section 35;

Thence Northerly along said East line to the South line of the Northeast quarter of said Northeast quarter;

Thence Easterly along said South line to the East line of said Section 35;

Thence Northerly along said East line to the Northeast corner of said Section 35, also being the Northwest corner of Section 36, Township 23 North, Range 5 East, W.M.;

Thence Easterly along the North line of said Section 36, also being the South line of Section 25, Township 23 North, Range 5 East, W.M. to the Southwest corner of the Southeast quarter of said Section 25;

Thence Northerly along the West line of said Southeast quarter to the North line of the South half thereof;

Thence Easterly along said North line to the East line of said Southeast quarter;

Thence Southerly along said East line and along the East line of Section 36, Township 23 North, Range 5 East, W.M., to the East quarter corner of said Section 36;

Thence South 00°37'31" West, along the East line of said Section 36, a distance of 949 feet;

Thence South 89°21'13" West, a distance of 830 feet;

Thence North 55°38'47" West, a distance of 792.78 feet;

Thence North 00°37'31" East, a distance of 482.55 feet to the Southwesterly margin of Lake Desire Drive South;

Thence Northwesterly along said Southwesterly margin to the North line of the Southeast quarter of said Section 36;

Thence Westerly along said North line to the West line of said Southeast quarter;

Thence Southerly along said West line to the South line of the Northeast quarter of the Southwest quarter of said Section 36;

Thence Westerly along said South line to the West line of said Northeast quarter of the Southwest quarter;

Thence Northerly along said West line to an intersection with a line 150 feet Southwesterly of and parallel with the centerline of Petrovitsky Road, revised (Survey 29-23-5-11);

Thence Northwesterly along said parallel line to an intersection with the South line of the North half of said Section 36;

Thence Westerly along said South line and along the South line of the North half of Section 35, Township 23 North, Range 5 East, W.M., to an intersection with the West line of said Section 35, also being the East line of Section 34, Township 23 North, Range 5 East, W.M.;

Thence Southerly along the East line of said Section 34 to the Southeast corner thereof which is also the Northeast corner of Section 3, Township 22 North, Range 5 East, W.M.;

Thence continuing Southerly along the East line of said Section 3 to the Southeast corner thereof which is also the Northeast corner of Section 10, Township 22 North, Range 5 East, W.M.;

Thence continuing Southerly along the East line of said Section 10 which is also the West line of Section 11, Township 22 North, Range 5 East, W.M., to the Northwest corner of the Southwest quarter of said Section 11;

Thence Easterly along the North line of said Southwest quarter of Section 11 to the Northeast corner thereof;

Thence Southerly along the East line of said Southwest quarter to the Northwest corner of the Southwest quarter of the Southeast quarter of said Section 11;

Thence Easterly along the North line of said Southwest quarter of the Southeast quarter of Section 11 to the East line of said Southwest quarter of the Southeast quarter of said Section 11;

Thence Southerly along said East line of the Southwest quarter of the Southeast quarter of said Section 11 to the South line of said Section 11 which is also the North line of Section 14, Township 22 North, Range 5 East W.M.;

Thence Easterly along said North line of said Section 14 to the Northeast corner thereof which is also the Southwest corner of Section 12, Township 22 North, Range 5 East, W.M.;

Thence Easterly along the South line of Section 12, Township 22 North, Range 5 East, W.M. to the East line of the Southwest quarter of the Southwest quarter of said Section 12;

Thence Northerly along said East line to the South line of the North half of said Southwest quarter of Section 12;

Thence Easterly along said South line to the North-South center line of said Section 12;

Thence Northerly along said North-South center line to the South line of the North half of the Northeast quarter of said Section 12;

Thence Easterly along said South line to the East line of said Section 12, also being the West line of Section 7, Township 22 North, Range 6 East, W.M.;

Thence continuing Easterly along the South line of Government Lot 1 of said Section 7 to the East line thereof, also being the west margin of 184th Avenue Southeast;

Thence Northerly along said west margin to the North line of said Section 7;

Thence Easterly along said North line and along the North line of Section 8, Township 22 North, Range 6 East, W.M. to the North quarter corner of said Section 8;

Thence Southeasterly to a point 1,050 feet South of said North line and 1,190 feet West of the East line of said Section 8;

Thence Easterly to a point 1,000 feet South of said North line and 840 feet West of said East line;

Thence Southeasterly to a point 1,070 feet South of said North line and 570 feet West of said East line;

Thence Southeasterly to a point on said East line of Section 8, also being the West line of Section 9, Township 22 North, Range 6 East, W.M. lying 1,420 feet South of the North line of said Section 8;

Thence continuing Southeasterly to a point 1,800 feet North of the South line of said Section 9 and 1,600 feet East of said West line;

Thence Easterly to a point 1,800 feet North of said South line and 1,900 feet East of said West line;

Thence Southerly to a point 1,190 feet North of said South line and 1,970 feet East of said West line;

Thence Southeasterly to a point 1,050 feet North of said South line and 2,060 feet East of said West line;

Thence Northeasterly to a point on the Northeast margin of the City of Seattle Cedar River Pipeline right-of-way lying 1,330 feet North of said South line;

Thence Southeasterly along said Northeast margin to the center line of S.R. 18 (P.S.H. No. 2);

Thence Southerly along said center line of S.R. 18 (P.S.H. No. 2) to its intersection with the center line of the City of Seattle Cedar River Pipeline right-of-way;

Thence Southeasterly along said north margin of the City of Seattle Cedar River Pipeline right-of-way to the East line of Section 22, Township 22 North, Range 6 East, W.M.;

Thence Southerly along said East line of Section 22 and along the East line of Section 27, Township 22 North, Range 6 East, W.M. to its intersection with the Northerly margin of SE Summit-Landsburg Road (Lake Wilderness-Danville Road);

Thence Northeasterly, Northerly and Northeasterly along said Northerly margin to the following described point:

Commencing at the Northeast corner of Section 26, Township 22 North, Range 6 East, W.M.;

Thence North 89o 09'14" West along the North line of said Section 26 a distance of 859.60 feet to the Northerly margin of S E Summit-Landsburg Road, said margin being 30.00 feet Northerly, as measured at right angles, of the as built centerline location of said road;

Thence South 58°51'02" West along said Northerly margin a distance of 993.58 feet to a point of curvature, the radial center of which bears North 31°08'58" West;

Thence along a curve to the right, concave Northwesterly, having a radius of 788.51 feet, through a central angle of 29°37'09", an arc distance of 407.52 feet to the point of tangency of said curve;

Thence South 88°28'11" West continuing along said Northerly margin a distance of 1311.31 feet to a point of curvature, the radial center of which bears South 01°31'49" East;

Thence along a curve to the left, concave Southerly, having a radius of 746.20 feet, through a central angle of 01°31'07", an arc distance of 19.78 feet;

Thence North 00°49'56" East, a distance of 439.48 feet;

Thence North 39°33'19" East, a distance of 1,288.93 feet;

Thence North 24°01'44" East, a distance of 335.03 feet;

Thence South 89°08'40" East, a distance of 1,460.19 feet;

Thence South 30°36'50" East, a distance of 976.83 feet to the Northerly margin of said S E Summit-Landsburg Road;

Thence Southeasterly 60.00 feet, perpendicular to said Northerly margin to the Southerly margin of said S E Summit-Landsburg Road;

Thence Southwesterly, Westerly, Southwesterly, Southerly and Southwesterly along said Southerly margin to its intersection with the East line of Section 27, Township 22 North, Range 6 East, W.M.;

Thence Southerly along the east line of said Section 27 to the Southeast corner thereof, also being the Northwest corner of Section 35, Township 22 North, Range 6 East, W.M.;

Thence South 89°03'57" East a distance of 422.27 feet along the North line of said Section 35;

Thence South 13°55'33" East a distance of 485.49 feet;

Thence South 40°54'55" East a distance of 86.70 feet to a point of curvature;

Thence Southeasterly along the arc of a curve to the right having a radius of 175.00 feet, through a central angle of 18°02'25" and an arc length of 55.10 feet;

Thence South 22°52'30" East a distance of 197.95 feet to a point of curvature;

Thence Southeasterly, Easterly and Northeasterly along the arc of a curve to the left having a radius of 145.00 feet through a central angle of 99°49'57" and an arc length of 252.65 feet;

Thence North 57°17'33" East a distance of 175.93 feet;

Thence South 37°46'15" East a distance of 612.19 feet;

Thence South 31°25'22" East a distance of 455.85 feet;

Thence South 28°18'08" East a distance of 362.46 feet;

Thence South 60°48'26" East a distance of 536.67 feet;

Thence North 72°53'20" East a distance of 558.52 feet;

Thence North 56°34'18" East a distance of 294.77 feet;

Thence North 44°25'18" West a distance of 519.98 feet;

Thence North 28°05'00" West a distance of 246.42 feet;

Thence North 28°12'33" East a distance of 433.73 feet;

Thence North 16°46'42" West a distance of 211.41 feet;

Thence North 32°06'05" East a distance of 65.90 feet;

Thence North 15°21'33" East a distance of 164.20 feet;

Thence North 64°37'04" East a distance of 228.39 feet;

Thence South 49°22'51" East a distance of 541.82 feet;

Thence South 81°07'58" East a distance of 320.37 feet;

Thence North 86°35'32" East a distance of 553.79 feet;

Thence South 03°30'58" West a distance of 675.52 feet;

Thence South 06°18'41" East a distance of 910.97 feet;

Thence South 55°39'49" West a distance of 527.41 feet;

Thence South 86°59'51" West a distance of 771.73 feet;

Thence South 52°29'50" West a distance of 649.91 feet;

Thence North 53°18'11" West a distance of 955.04 feet;

Thence South 85°04'07" West a distance of 313.29 feet;

Thence North 58°00'32" West a distance of 525.45 feet;

Thence North 80°54'12" West a distance of 417.81 feet;

Thence South.63°53'09" West a distance of 189.23 feet;

Thence North 69°19'43" West a distance of 653.37 feet to the West line of said Section 35, also being the East line of Section 34, Township 22 North, Range 6 East, W.M.;

Thence Southerly along said East line to the Southeast corner thereof and the South line of said Section 34;

Thence Westerly along said South line of said Section 34 to its intersection with the North margin of Southeast 288th Street (241st Avenue Southeast);

Thence Southwesterly perpendicular to said North margin to the South margin of said Southeast 288th Street;

Thence Westerly along said South margin to the North-South center line of Section 3, Township 21 North, Range 6 East, W.M.;

Thence Southerly along said North-South center line of said Section 3 to the South quarter corner of said Section 3, also being the North quarter corner of Section 10, Township 21 North, Range 6 East, W.M.;

Thence continuing Southerly along said North-South center line of said Section 10 to the center of said Section 10;

Thence Westerly along the East-West center line of said Section 10 to its intersection with the East right-of-way margin of Southeast 312th Street;

Thence Southerly along said East margin to the South right-of-way margin of Southeast 312th Street;

Thence Westerly along said South margin and its Westerly extension thereof to the West line of said Section 10, also being the East line of Section 9, Township 21 North, Range 6 East, W.M.;

Thence continuing Westerly along said extension to the West margin of 228th Avenue Southeast;

Thence Northwesterly along said West margin to the Southerly extension of the West margin of 224th Avenue Southeast;

Thence Northerly along said extension and said West margin to the North line of said Section 9, also being the South line of Section 4, Township 21 North, Range 6 East, W.M.;

Thence continuing Northerly along said West margin to its intersection with the South line of the North 150.00 feet of the Southeast quarter of said Section 4;

Thence continuing Northerly and Westerly along said West margin of 224th Avenue Southeast and the South margin of Southeast 296th Street, to the West line of the East half of the East half of the East half of the Southwest quarter of said Section 4;

Thence South 02°43'48" West, a distance of 653.95 feet, to the beginning of a curve to the right having a radius of 685.27 feet;

Thence Southwesterly along said curve through a central angle of 87°19'14" an arc distance of 1,044.37 feet;

Thence Westerly to the Northeast corner of the Southwest quarter of said Southwest quarter of Section 4;

Thence Southerly along the East line of said Southwest quarter of the Southwest quarter to the South line thereof;

Thence Westerly along said South line to the Southwest corner thereof and the West line of said Section 4;

Thence Northerly along said West line of Section 4, also being the East line of Section 5, Township 21 North, Range 6 East, W.M., to the Southeast right-of-way margin of Vantage-Covington No. 2, 1964 (Bonneville Transmission Line Easement);

Thence Northwesterly to a point 830 feet South of the North line of said Section 5 and 300 feet West of said East line of Section 5;

Thence Westerly along a line 830' South of and parallel with the North line of said Section 5 to the North-South center line of said Section 5;

Thence Northwesterly to a point 740 feet South of the North line of said Section 5 and 1900 feet East of the West line of said Section 5;

Thence Southwesterly to a point 1,480 feet South of the North line of said Section 5 and 1,120 feet East of said West line;

Thence continuing Southwesterly to a point on the East-West center line of said Section 5 lying 510 feet East of said West line;

Thence continuing Southwesterly to the intersection of the West line of said Section 5, also being the East line of Section 6, Township 21 North, Range 6 East, W.M. and the Northwest right-of-way margin of Vantage-Covington No. 1, 1960 (Bonneville Transmission Line Easement);

Thence continuing Southwesterly to a point on the Southeast right-of-way margin of Vantage-Covington No. 2, 1964 (Bonneville Transmission Line Easement) lying 140 feet West of the East line of said Section 6;

Thence Southerly to a point on the South line of said Section 6, also being the North line of Section 7, Township 21 North, Range 6 East, W.M. lying 240 feet West of the East line of said Section 7;

Thence continuing Southerly to a point 390 feet South of said North line of Section 7 and 240 feet West of said East line;

Thence Southeasterly to a point on said East line of Section 7, also being the West line of Section 8, Township 21 North, Range 6 East, W.M. lying 550 feet South of the North line of said Section 8;

Thence continuing Southeasterly to a point 890 feet South of said North line and 440 feet East of said West line of Section 8;

Thence continuing Southeasterly to a point 1,890 feet South of said North line and 1,050 feet East of said West line;

Thence Southerly to a point 2,210 feet South of said North line and 1,130 feet East of said West line;

Thence Southwesterly to a point on the East-West center line of said Section 8 lying 1,040 feet East of said West line;

Thence continuing Southwesterly to a point 2,020 feet North of the South line of said Section 8 and 830 feet East of said West line;

Thence Southerly to a point 1,550 feet North of said South line and 780 feet East of said West line;

Thence continuing Southerly to a point 270 feet North of said South line and 830 feet East of said West line;

Thence Westerly to a point on said West line of Section 8, also being the East line of Section 7, Township 21 North, Range 6 East, W.M. lying 280 feet North of the South line of said Section 7;

Thence Northwesterly to a point 420 feet North of said South line and 620 feet West of said East line of Section 7;

Thence continuing Northwesterly to a point 620 feet North of said South line and 1,010 feet West of said East line;

Thence continuing Northwesterly to a point 1,010 feet North of said South line and 1,380 feet West of said East line;

Thence continuing Northwesterly to a point 1,720 feet North of said South line and 1,600 feet West of said East line;

Thence continuing Northwesterly to a point 2,250 feet North of said South line and 1,810 feet West of said East line;

Thence continuing Northwesterly to a point on the East-West center line of said Section 7 lying 2,170 feet West of said East line;

Thence continuing Northwesterly to a point 2,290 feet South of the North line of said Section 7 and 2,380 feet West of said East line;

Thence continuing Northwesterly to a point 1,800 feet South of said North line and 2,510 feet West of said East line;

Thence continuing Northwesterly to a point on the North-South center line of said Section 7 lying 1,400 feet South of said North line;

Thence continuing Northwesterly to a point 1,070 feet South of said North line and 2,530 feet East of the West line of said Section 7;

Thence Northerly to a point on said North line of Section 7, also being the South line of Section 6, Township 21 North, Range 6 East, W.M. lying 2,560 feet East of the West line of said Section 6;

Thence continuing Northerly to a point 80 feet North of said South line and 2,560 feet East of said West line;

Thence Northwesterly to a point on the East-West center line of said Section 6 lying 1,140 feet East of said West line;

Thence continuing Northwesterly to a point 2,080 feet South of the North line of said Section 6 and 850 feet East of said West line;

Thence continuing Northwesterly to a point 1,800 feet South of said North line and 780 feet East of said West line.

Thence Northerly to a point 1,030 feet South of said North line and 770 feet East of said West line;

Thence Northwesterly to a point 230 feet South of said North line and 450 feet East of said West line;

Thence Westerly along a line 230 feet South of and parallel with said North line to said West line of Section 6, also being the East line of Section 1, Township 21 North, Range 5 East, W.M.;

Thence continuing Westerly along a line 230 feet South of and parallel with the North line of said Section 1 to a point 130 feet West of said East line;

Thence Northwesterly to a point on said North line of Section 1, also being the South line of Section 36, Township 22 North, Range 5 East, W.M. lying 540 feet West of said East line;

Thence continuing Northwesterly to a point 550 feet North of said South line and 1,100 feet West of the East line of said Section 36;

Thence continuing Northwesterly to a point on the North line of the Covington-Grand Coulee Line, 1940 (Bonneville Transmission Line Easement) lying 1,480 feet West of said East line;

Thence Westerly along said North line to a point 1,750 feet West of said East line;

Thence Southwesterly to a point 560 feet North of the South line of said Section 36 and 2,200 feet West of said East line;

Thence continuing Southwesterly to a point on said South line of Section 36 lying 2,530 feet West of said East line;

Thence Westerly along said South line to the center line of Tacoma-Grand Coulee No. 1, 1958 (Bonneville Transmission Line Easement);

Thence Northwesterly along said center line of Tacoma-Grand Coulee No. 1, 1958 (Bonneville Power Transmission Line Easement) to the West line of the East half of the East half of Section 35, Township 22 North, Range 5 East, W.M.;

Thence Northwesterly to the center of said Section 35;

Thence Westerly along the East-West center line of said Section 35 to the east margin of S.R. 18 (P.S.H. No. 2);

Thence Southwesterly along said east margin of S.R. 18 (P.S.H. No. 2) to the center line of Tacoma-Grand Coulee No. 1, 1958 (Bonneville Transmission Line Easement) in the Northeast quarter of Section 3, Township 21 North, Range 5 East, W.M.;

Thence continuing Southwesterly along said center line of Tacoma-Grand Coulee No. 1, 1958 (Bonneville Transmission Line Easement) to the East-West center line of said Section 3;

Thence Westerly along said East-West center line to the West line of said Section 3, also being the East line of Section 4, Township 21 North, Range 5 East, W.M.;

Thence continuing Westerly along the East-West center line of said Section 4 to the East line of the West half of the East half of said Section 4;

Thence Northwesterly to a point 880 feet South of the North line of said Section 4 and 1,740 feet West of the East line of said Section 4;

Thence Westerly along a line 880 feet South of and parallel with said North line to a point 2,480 feet East of the West line of said Section 4;

Thence Northerly along a line 2,480 feet East of and parallel with said West line to a point 200 feet South of said North line;

Thence Westerly along a line 200 feet South of and parallel with said North line to the West line of the East half of the West half of said Section 4;

Thence Northerly along said West line to said North line of Section 4, also being the South line of Section 33, Township 22 North, Range 5 East, W.M.;

Thence continuing Northerly along the West line of the East half of the West half of said Section 33, also being the center line of 120th Avenue Southeast to the center line of Southeast 286th Street;

Thence Northwesterly to a point on the center line of the Southeast 284th Street lying 1,000 feet East of the West line of said Section 33;

Thence Northerly to a point 2,130 feet North of the South line of said Section 33 and 890 feet East of said West line;

Thence Easterly along a line 2,130 feet North of and parallel with said South line to a point 2,140 feet East of said West line;

Thence Northeasterly to a point on the East-West center line of said Section 33 lying 2,430 feet East of said West line;

Thence Easterly along said East-West centerline to a point 2,300 feet West of the East line of said Section 33;

Thence Southeasterly to a point 2,130 feet North of the South line of said Section 33 and 1,820 feet West of said East line;

Thence Easterly along a line 2,130 feet North of and parallel with said South line to said East line of Section 33, also being the West line of Section 34, Township 22 North, Range 5 East, W.M., and also being the center line of 132nd Avenue Southeast;

Thence Northerly along said West line to the Southwest corner of the Northwest quarter of said Section 34;

Thence Easterly along the South line of said Northwest quarter to the Southerly extension of the West line of Lot 4, Block 3, Pine Tree Farms Addition, as recorded in Volume 43 of Plats, Page 30, records of King County, Washington;

Thence Northerly along said extension and West line of said Lot 4 to the Northwest corner thereof;

Thence continuing Northerly to the Southwest corner of Lot 24, Block 1, of said Plat of Pine Tree Farms Addition;

Thence continuing Northerly along the West line of said Lot 24 and the West line of Lot 19, Block 1 of said Plat to the Northwest corner thereof, said point also being the Southwest

corner of Lot 9, Bolt Addition, as recorded in Volume 101 of Plats, pages 18 and 19, records of King County, Washington;

Thence Easterly along the South line of said Plat to the Southeast corner thereof, also being the Southwest corner of Lot 18, Block 1, of said Plat of Pine Tree Farms Addition;

Thence Northerly along the East line of said Plat of Bolt Addition to the Northeast corner thereof, also being the Southwest corner of Lot 14, Block 1, of said Plat of Pine Tree Farms Addition;

Thence continuing Northerly along the West line of said Lot 14 and the West line of Lot 13, Block 1 of said Plat to the Northwest corner thereof, also being the South line of Lot 11, Block 1 of said Plat;

Thence Westerly along said South line to the Southwest corner of said Lot 11, also being the Southeast corner of Lot 12, Block 1 of said Plat;

Thence Northerly along the East line of said Lot 12 and along the East lines of Lots 9, 8, and 3, Block 1 of said Plat and their Northerly extension to the North line of said Section 34, also being the South line of Section 27, Township 22 North, Range 5 East, W.M.;

Thence Easterly along said South line to the West line of the East 330 feet of the Southwest quarter of the Southwest quarter of said Section 27;

Thence Northerly along said West line to the South line of the Northeast quarter of said Southwest quarter of the Southwest quarter;

Thence Westerly along said South line to the West line of the West half of the West half of said Northeast quarter of the Southwest quarter of the Southwest quarter;

Thence Northerly along said West line to the North line of said Southwest quarter of the Southwest quarter, also being the South line of Government Lot 4 of said Section 27;

Thence Westerly along said South line to the East line of the West 480 feet of the South quarter of said Government Lot 4;

Thence Northerly along said East line to the North line of said South quarter of Government Lot 4;

Thence Easterly along said North line to the East line of the West 180 feet of the East half of the North half of the South half of the West 660 feet of said Government Lot 4;

Thence Northerly along said East line to the North line of the South 150 feet of said East half of the North half of the South half of the West 660 feet of said Government Lot 4;

Thence Easterly along said North line to the West line of the East 140 feet of said East half of the North half of the South half of the West 660 feet of said Government Lot 4;

Thence Northerly along said West line to the North line of said East half of the North half of the South half of the West 660 feet of said Government Lot 4;

Thence Westerly along said North line to the West line of the East half of the South half of the North half of the West 660 feet of said Government Lot 4;

Thence Northerly along said West line and its Northerly extension thereof to the North line of said Government Lot 4;

Thence Westerly along said North line to the West line of said Section 27, also being the East line of Section 28, Township 22 North, Range 5 East, W.M. and the center line of 132nd Ave. S E;

Thence Northerly along said East line to an intersection with the South line of the North half of the Southeast quarter of the Northeast quarter of Section 28, Township 22 North, Range 5 East, W.M.;

Thence Westerly along said South line to a point 630 feet West of the East line of said Section 28;

Thence Northerly along a line 630 feet West of and parallel with the East line of said Section 28, to the South line of the North half of the South half of the North half of the Southeast quarter of the Northeast quarter of said Section 28;

Thence Westerly along said South line to its intersection with the West line of the East half of the Northeast quarter of said Section 28;

Thence Northerly along said West line to its intersection with the North line of said Section 28, also being the center line of S E 256th St.;

Thence Westerly along said North line, also being the South line of Section 21, Township 22 North, Range 5 East, W.M. to the intersection of said S E 256th St. and the center line of 124th Ave. S E;

Thence Northerly along said center line of 124th Ave. S E to the intersection of the center line of S E 248th St. and 124th Ave. S E;

Thence Westerly along said center line of S E 248th St. to the West line of the East half of the East half of the Northwest quarter of said Section 21;

Thence Northerly along said West line to the North line of said Section 21, also being the South line of Section 16, Township 22 North, Range 5 East, W.M.;

Thence continuing Northerly along the West line of the East half of the Southeast quarter of the Southwest quarter of said Section 16 to the North line of said Southeast quarter of the Southwest quarter;

Thence Westerly along said North line to the West line of said Southeast quarter of the Southwest quarter, also being the center line of 120th Avenue Southeast;

Thence Northerly along said center line to the Northeast corner of the West half of the Southwest quarter of said Section 16;

Thence continuing Northerly along said center line to the Northeast corner of Terra Heights, as recorded in Volume 125 of Plats, pages 7-9, records of King County, Washington;

Thence Westerly along the North line of said Plat 275 feet;

Thence Northerly to the Southeast corner of Lot 38, Hunter's Run Too, as recorded in Volume 151 of Plats, pages 54-56, records of King County, Washington;

Thence Westerly along the South line of said Plat to the Southwest corner of Lot 36 of said Plat;

Thence Northerly and Northeasterly along the West line of said Lot 36 and its Northerly extension thereof to the center line of Southeast 229th Place;

Thence Westerly along said center line to its intersection with the Southerly extension of the West line of Lot 10 of said Plat;

Thence Northerly along said Southerly extension and West line to the Northwest corner thereof, also being the Southeast corner of Lot 12, Hunter's Run, as recorded in Volume 144 of Plats, pages 26-27, records of King County, Washington;

Thence Westerly along the South line of said Lot 12 to the Southwest corner thereof;

Thence Northerly along the West line of said Lot 12 and its Northerly extension thereof to the center line of Southeast 228th Place;

Thence Westerly along said center line to the Southwesterly extension of the West line of Lot 34 of said Plat;

Thence Northeasterly along said Southwesterly extension and West line to the Northwest corner thereof, also being the most Westerly Southwest corner of Lot 33 of said Plat;

Thence Northerly along the West line of said Lot 33 to the Northwest corner thereof, also being the South line of Lot 15, Sunny Hill Addition No. 2, as recorded in Volume 79 of Plats, page 26, records of King County, Washington;

Thence Westerly along said South line to the Southwest corner of said Lot 15, also being the Southeast corner of Lot 14, Sunny Hill Addition, as recorded in Volume 70 of Plats, page 41, records of King County, Washington;

Thence continuing Westerly along the South line of said Lot 14 to the Southwest corner thereof, also being the Southeast corner of Lot 13 of said Plat;

Thence Northerly along the East line of said Lot 13 and its Northerly extension thereof and along the Southerly extension of the East line of Lot 6 of said Plat and the East line thereof to the Northeast corner of said Lot 6;

Thence Westerly along the North line of said Plat to the East line of the West 150 feet of the Northwest quarter of said Section 16;

Thence Northerly along said East line to the North line of the South 406.84 feet of the North half of the Northwest quarter of said Section 16;

Thence Westerly along said North line to the West line of said Section 16;

Thence Northerly along said West line and along the East line of Section 8, Township 22 North, Range 5 East, W.M. to the North line of the South half of the South half of the Southeast quarter of the Southeast quarter of said Section 8;

Thence Westerly along said North line to the West line of the East half of said Southeast quarter of the Southeast quarter;

Thence Northerly along said West line to the South line of the North half of said Southeast quarter of the Southeast quarter;

Thence Westerly along said South line to the West line of said Southeast quarter of the Southeast quarter;

Thence Northerly along said West line to the South line of the North half of the North half of said Southeast quarter of the Southeast quarter;

Thence Easterly along said South line to the East line of the West 420 feet of said North half of the North half of the Southeast quarter of the Southeast quarter;

Thence Northerly along said East line to the North line of said Southeast quarter of the Southeast quarter;

Thence Westerly along said North line to the West line of said Southeast quarter of the Southeast quarter, also being the West line of the Northeast quarter of said Southeast quarter;

Thence Northerly along said West line to the South line of Alder Heights Division II, as recorded in Volume 151 of Plats, pages 68 and 69 records of King County, Washington;

Thence Westerly along said South line of the Plat of Alder Heights Division II to the Southwest corner of Lot 8 of said Plat;

Thence Northerly along the West line of said Lot 8 to the Southeast corner of Lot 9 of said Plat;

Thence Westerly along the South line of said Lot 9 and its Westerly extension thereof to the center line of 110th Avenue Southeast;

Thence continuing Westerly along the Easterly extension and South line of Lot 12 of said Plat to the Southwest corner thereof;

Thence Northerly along the West line of said Lot 12 and its Northerly extension thereof to the North line of said Plat;

Thence Westerly along said North line to the intersection of the East line of the West half of said Section 8, also being the center line of 108th Avenue Southeast;

Thence Northerly along said East line to its intersection with the South line of the North half of said Section 8, also being the center line of SE 216th Street;

Thence Westerly along said centerline of SE 216th Street to the West line of the Southeast quarter of the Southeast quarter of the Northwest quarter of said Section 8;

Thence Northerly along said West line to the North line of the South half of the Southwest quarter of the Southeast quarter of the Northwest quarter of said Section 8, also being the South line of Stonepine East, as recorded in Volume 165 of Plats, pages 27-32, records of King County, Washington;

Thence Westerly along said South line to the Southwest corner of Lot 15 of said Plat;

Thence Northerly along the West line of said Lot 15 and its Northerly extension thereof to the center line of S E 214th Pl.;

Thence continuing Northerly along the Southerly extension and West line of Lot 40 of said Plat to the Northwest corner thereof, also being the South line of Lot 39 of said Plat;

Thence Westerly along said South line and the South line of Lot 38 of said Plat to the Southwest corner of said Lot 38;

Thence Northerly along the West line of said Lot 38 and the West line of Lot 37 of said Plat to the Northwest corner thereof, also being the most Easterly Northeast corner of Lot 46 of said Plat;

Thence Northwesterly and Westerly along the Northeast and North lines of said Lot 46 to its intersection with a line which lies 174.00 feet East of and parallel with the West line of the Southeast quarter of the Northwest quarter of said Section 8;

Thence Northerly along said parallel line to its intersection with the North line of the Southeast quarter of the Northwest quarter of said Section 8, also being the center line of S E 212th St.;

Thence Westerly along said North line to its intersection with the West line of the Northeast quarter of the Northwest quarter of said Section 8;

Thence Northerly along said West line to its intersection with the center line of S E 209th Pl.;

Thence Easterly along said center line to the East line of Stonepine, as recorded in Volume 143 of Plats, pages 3-7, records of King County, Washington;

Thence Northerly along said East line to the Northeast corner of Lot 70 of said Plat;

Thence Westerly along the North line of said Lot 70 to its intersection with the West line of the Northeast quarter of the Northwest quarter of said Section 8;

Thence Northerly along said West line to its intersection with the North line of said Section 8, also being the center line of S E 208th St.;

Thence Westerly along said North line and the North line of Section 7, Township 22 North, Range 5 East, W.M. to a point where the center line of said S E 208th St. diverges to the South of said North line;

Thence continuing Westerly along said center line of S E 208th St. to the West line of the Northeast quarter of said Section 7;

Thence Northerly along said West line to the North line of said Section 7, also being the South line of Section 6, Township 22 North, Range 5 East, W.M.;

Thence continuing Northerly along the North-South center line of said Section 6 to the Northwest corner of Tract 1, Spring Brook Acre Tracts, as recorded in Volume 12 of Plats, page 60, records of King County, Washington and the POINT OF BEGINNING of this description.

EXHIBIT "B"

TERMS AND CONDITIONS APPLICABLE TO UTILITIES FRANCHISES GRANTED BY KING COUNTY

THIS FRANCHISE is subject to the following terms and conditions:

1. DEFINITIONS

References to any County official or office also refers to any office that succeeds to any or all of the responsibilities of the named office or official. References to laws or "applicable laws" include federal, state, and local laws and regulations adopted pursuant to those laws; unless otherwise stated, references to laws include laws now in effect, as the same may be amended from time to time during the operation of this franchise. In addition, the following definitions shall apply:

Cable Services. The term "Cable Services" is used as defined in 47 United States Code 522 (5), as amended.

Cable System. The term "Cable System" is used as defined in 47 United States Code 522 (6), and King County Code 6.a.010 (J) as amended.

County Road Rights-of-Way. The term "County Road Rights-of-Way" includes any road, street, avenue, or alley located within the area described in the attached Exhibit "A", it does not include recreational or nature trails except where the trails intersect or are within roads, streets, avenues or alleys.

Director. The term "Director" refers to the chief executive of the King County Department of Transportation.

Grantee. The term "Grantee" refers to the Soos Creek Water and Sewer District its successors and those assignees approved pursuant to paragraph 16 herein.

Utility. The term "utility" refers either to the Grantee or, depending on the context, to any other person, firm, or corporation, public or private, which may hold a franchise to maintain and operate similar facilities in, under, over, across, and along any of the County property described in Exhibit "A".

Council. The term "Council" refers to the King County Council, acting in its official capacity.

Other Governing Body. The term "Other Governing Body" refers to any public official or other public board or body as may have the power and jurisdiction to permit or regulate the installation and maintenance of utilities and other facilities in, under, over, across, and along any of the county property described in Exhibit "A".

2. ACCEPTANCE BY GRANTEES OF TERMS AND CONDITIONS

The full acceptance of this franchise and all of its terms and conditions shall be filed with the Clerk of the Council within thirty (30) days from _____, 19____, by the Grantee. Full acceptance of this franchise is a condition precedent to its taking effect, and unless this franchise is accepted within the time specified, this grant will be null and void and have no force or effect.

3. NON-EXCLUSIVE FRANCHISE

This franchise is not exclusive. It does not prohibit King County from granting franchises for other public or private utilities, in, under, over, across, and along any County property, including County road rights-of-way.

This franchise does not prevent or prohibit King County from constructing, altering, maintaining or using any County road rights-of-way covered by this franchise. King County retains full power to make all changes, relocations, repair, maintenance, etc. as it may deem fit.

4. JURISDICTION

This franchise is intended to convey limited rights and interest only as to those roads and rights- of-way in which King County has an actual interest. It is not a warranty of title or of interest in County road rights-of-way.

Whenever any of the County road rights-of-way as designated in this franchise, by reason of the subsequent incorporation of any Town or City or extension of the limits of any Town or City, shall later fall within the City or Town limits, this franchise shall continue in force and effect until such time as the incorporation and/or annexation is complete according to applicable State law, after which time the County will no longer have any responsibility for maintenance of any County roads, rights-of-way or other County property within the area of annexation/incorporation.

None of the rights granted to the Grantee shall affect the jurisdiction of King County over County road rights-of-way or the County's power to perform work upon its roadways, rights-of-way or appurtenant drainage facilities including by constructing, altering, renewing, paving, widening, grading, blasting or excavating.
All of the rights herein granted shall be subject to and governed by this franchise; provided, however, that nothing in this franchise may be construed in any way as limiting King County's rights to adopt ordinances which are necessary to protect the health, safety and welfare of the general public.

5. REGULATION OF USE AND CONTROL

This franchise does not deprive King County of any powers, rights, or privileges it now has or may later acquire in the future to regulate the use of and to control the County road rights-of-way covered by this franchise.

This franchise authorizes the use of County rights-of-way solely for the delivery by the Grantee of sewer to it customers. Additional uses of County rights-of-way by the Grantee, including for cable communication services, shall first require a separate franchise from King County which conforms to the requirements of K.C.C. 6.27 as amended, or K.C.C. 6.27A as amended, and other applicable law.

Any use of the Grantee's equipment of facilities in County rights-of-way by others, including for telecommunication or cable communication services, is prohibited unless separately authorized and approved in writing by King County. The Grantee agrees that prior to authorizing any person to use

the Grantee's equipment or facilities located in County rights-of-way, the Grantee will require the user to provide the Grantee with an affidavit that it has obtained the necessary franchise or other approval from the County to operate and provide the proposed service in County rights-of-way. At least thirty (30) day prior to executing any agreement with a potential user for the use of the Grantee's equipment or facilities, the Grantee shall fax the affidavit to the King County Office of Cable Communication at 206-296-0842.

6. EMINENT DOMAIN

This franchise and the limited rights and interests for the operation, maintenance, repair, and construction of Grantee's transmission and service lines and appurtenances are subject to the exercise of eminent domain. In the event of an exercise of eminent domain by King County, the value to be attributed to all the rights and interests granted under this franchise shall not exceed the actual amount the Grantee paid to King County in obtaining this franchise.

7. ENFORCEMENT

Failure of King County, on one or more occasions to exercise a right or to require compliance or performance under this franchise or any applicable law, shall not be deemed to constitute a waiver of such right or a waiver of compliance or performance, unless such right has been specifically waived in writing. Failure of King County to enforce or exercise its rights under any provision of this franchise or applicable law does not constitute a waiver of its rights to enforce or exercise a right in any other provision of this franchise or applicable law.

8. INDEMNITY AND HOLD HARMLESS

The Grantee agrees to indemnify and hold harmless King County as provided herein to the maximum extent possible under law. Accordingly, the Grantee agrees for itself, its successors, and assigns to defend, indemnify and hold harmless King County, its appointed and elected officials, and employees from and against liability for all claims, demands, suits, and judgments, including costs of defense thereof, for injury to persons, death, or property damage which is caused by, arises out of, or is incidental to Grantee's exercise of rights and privileges granted by this franchise. The Grantee's obligations under this section shall include:

(a) Indemnification for such claims whether or not they arise from the sole negligence of the Grantee, the concurrent negligence of both parties, or the negligence of one or more third parties.

(b) The duty to promptly accept tender of defense and provide defense to the County at the Grantee's own expense.

(c) Indemnification of claims made by the Grantee's own employees or agents.

(d) Waiver of the Grantee's immunity under the industrial insurance provisions of Title 51 RCW, which waiver has been mutually negotiated by the parties.

In the event it is necessary for the County to incur attorney's fees, legal expenses, or other costs to enforce the provisions of this section, all such fees, expenses and costs shall be recoverable from the Grantee.

In the event it is determined that RCW 4.24.115 applies to this franchise agreement, the Grantee agrees to defend, hold harmless and indemnify King County to the maximum extent permitted thereunder, and specifically for its negligence concurrent with that of King County to the full extent of Grantee's negligence. Grantee agrees to defend, indemnify and hold harmless the County for claims by Grantee's employees and agrees to waiver of its immunity under Title 51 RCW, which waiver has been mutually negotiated by the parties.

King County shall give the Grantee timely written notice of the making of any claim or of the commencement of any such action, suit, or other proceeding covered by the indemnity in this section. In the event any such claim arises, the County or any other indemnified party shall tender the defense thereof to the Grantee and the Grantee shall have the duty to defend, settle, or compromise any claims arising hereunder and the County shall cooperate fully therein.

Notwithstanding the above, the County shall have no obligation to tender a defense as a condition of the indemnity where there is a material conflict between the interests of the Grantee and King County.

9. VACATION

If at any time King County vacates any County road rights-of-way covered by this franchise, King County will not be held liable for any damages or loss to the Grantee by reason of such vacation. King County may, after giving thirty (30) days written notice to the Grantee, terminate this franchise with respect to any County road rights-of-way vacated.

10. REPAIR, REMOVAL OR RELOCATION

The Grantee hereby covenants, at its own expense, to repair, remove, or relocate existing facilities including all appurtenant facilities and service lines connecting its system to users, within King County road rights-of-way if such repair, removal, or relocation is required by King County for any County road purpose. Such repair, removal, or relocation shall not be unreasonably required.

The grantee shall, at no expense to the County, adjust, remove or relocate existing facilities within County road rights-of-way, including all appurtenant facilities and service lines connecting its system to users, if the County determines such adjustment, removal or relocation is reasonably necessary to allow for an improvement or alteration planned by the County in such road right-of-way. The County shall give the Grantee written notice of such requirement as soon as practicable, at the beginning of the pre-design stage for projects that are part of the County's capital improvement program, including such available information as is reasonably necessary for the Grantee to plan for such adjustment, removal or relocation.

For projects that are a part of the County's capital improvement program, in addition to any other notice given to the Grantee, the County shall provide a vertical and horizontal profile of the roadway and drainage facilities within it, both existing and as proposed by the County, and the proposed construction schedule; notwithstanding any permit conditions that may later be applied to the County project, this initial design information shall be given at least 180 days before construction is scheduled to begin, except in cases of urgent construction or emergencies. The Grantee shall respond to this notice, and to any later notices of revised designs based on permit conditions, within no more than thirty (30) days by providing to the County the best available information as to the location of all of the Grantee's facilities, including all appurtenant facilities and service lines connecting its system to users and all facilities that it has abandoned, within the area proposed for the public works project.

The County shall offer the Grantee the opportunity to participate in the preparation of bid documents for the selection of a contractor to perform the public works project as well as all required adjustments, removals or relocations of the Grantee's facilities. Such bid documents shall provide for an appropriate cost allocation between the parties. The County shall have sole authority to choose the contractor to perform such work. The Grantee and the County may negotiate an agreement for the Grantee to pay the County for its allocation of costs, but neither party shall be bound to enter into such an agreement. Under such an agreement, in addition to the Grantee's allocation of contractor costs, the Grantee shall reimburse the County for cost, such as for inspections or soils testing, related to the Grantee's work and reasonably incurred by the County in the administration of such joint construction contracts. Such costs shall be calculated as the direct salary cost of the time of County professional and technical personnel spent productively engaged in such work, plus overhead costs at the standard rate charged by the County on other similar projects, including joint projects with other County agencies.

11. REQUIREMENT OF CONSTRUCTION PERMITS

The Grantee, its successors or assigns, has the right, privilege, and authority to enter the County road rights-of-way for the purpose of operating, maintaining, repairing or construction its transmission and service lines and appurtenances on the condition that it obtains permits approved by the Director and Property Services Division and, when applicable, by the Department of Development and Environmental Services. Applications for work permits shall be presented to the Property Services Division which may require copies of plans, blueprints, cross-sections, or further detailing of work to be done. In the event of an emergency, the Grantee may immediately commence the necessary work and shall apply the next business day for the work permit. Any work done, whether by Grantee, its contractors, or third parties will include necessary paving, patching, grading and any other reasonably necessary repair or restoration to the County road rights-of-way. All work shall be done to the satisfaction of the Director.

All equipment, lines and appurtenances which are used in the operation, maintenance, repair or construction of the Grantee's service and which are located within the County road rights-of-way shall be considered to be part of the Grantee's system and shall be the responsibility of the Grantee. All permits for the operation, maintenance, repair or construction of said system shall be applied for and given in the name of the Grantee, who will be responsible for all work done under the permit. The Grantee remains responsible whether the work is done by the Grantee, its contractors, or by third parties.

The Grantee shall, at no expense to the County, assume the following obligations with respect to the facilities connected to its system that are within County road rights-of-way and which it does not own, including appurtenant facilities and service lines connecting its system to users:

(a) The Grantee shall apply for, upon request and on behalf of the owner of the facilities, a County right-of-way construction permit for any repairs required for such facilities; provided such owner agrees to reimburse the Grantee for all costs incurred by the Grantee and any other reasonable conditions the Grantee requires as a precondition to applying for the permit. All work to be performed in the County right-of-way shall comply with all conditions of the County permit and all applicable County requirements. The Grantee may at its option perform any part of the repair with its own forces or require the owner to employ a contractor for that purpose, provided such contractor is approved by the County;

(b) In the event that the County determines emergency repair of such facilities is necessary

to halt or prevent significant damage to County road rights-of-way or significant threats to the health, safety and welfare of parties other than the owner or the occupants of the building served by such facilities, the Grantee shall take prompt remedial action to correct the emergency to the County's approval, which the County shall not unreasonably withhold;

(c) When the County or its contractor provides notice to the Grantee, pursuant to RCW 19.122, of its intent to excavate within County road rights-of-way, the Grantee shall provide to the County or its contractor the best information available from the Grantee's records or, where reasonable, from the use of locating equipment as to the location of such facilities, including surface markings where these would reasonably be of use in the excavation. If the Grantee fails to make good faith efforts to provide the above information within the deadlines provided by RCW 19.122, the Grantee shall hold the County harmless for all reasonable costs that result from damage to such facilities if such damage occurs as a result of the failure to provide such information. Nothing in this subsection is intended or shall be construed to create any rights in any third party or to form the basis for any obligation or liability on the part of the County or the Grantee toward any third party, nor is anything in this subsection intended to be construed to alter the rights and responsibilities of the parties under RCW 19.122, as amended.

12. RESTORATION OF COUNTY ROAD RIGHTS-OF-WAY

After work on, under or adjacent to County road rights-of-way, the Grantee is responsible for and will leave all County road rights-of-way in as good a condition as they were in before any work was done. In the event that the Grantee, its contractors, or third parties working under permit should fail to restore County road rights-of-way to the satisfaction of the Director, King County may make such repairs or restorations as are necessary to return the County road rights-of-way to its pre-work condition. Upon presentation of an itemized bill for repairs or restorations, including the costs of labor and equipment, the Grantee will pay the bill within thirty (30) days. If suit is brought upon the Grantee's failure to pay for repair and restoration, and if judgment in such a suit is entered in favor of King County, then the Grantee shall pay all of the actual costs, including interest from the date the bill was presented, disbursements, and attorney's fees and litigation related costs incurred.

13. PERFORMANCE OF WORK

The Grantee covenants that in consideration for the rights and privileges granted by this franchise, all work performed by the Grantee on County road rights-of-way shall conform to all County requirements including, but not limited to, the requirements of the current edition of the County Road Standards in force when the work is performed and all traffic control shall also conform to the current edition of the Manual of Uniform Traffic Control Devices in force when the work is performed.

14. BLASTING REQUIREMENTS

The right to operate, maintain, repair and construct Grantee's distribution and service lines and appurtenances granted by this franchise does not preclude King County, its agents or contractors from blasting, grading, or doing other road work to the Grantee's lines and appurtenances. Except in the case of an emergency, the Grantee will be given ten (10) business days written notice of any blasting so that the Grantee may protect its lines and appurtenances. If the Grantee notifies the County within ten (10) business days that the facilities will have to be relocated to protect them from blasting, the

County will defer the blasting for up to ninety (90) days from the date of the original notice. In no event will the Grantee be given less than two (2) business days written notice of any blasting. Notification of any excavation shall be provided through the One-Call System as provided by RCW 19.122, as hereinafter amended.

15. SURVEY MARKERS AND MONUMENTS

It shall be the responsibility of the Grantee performing any construction work in the County road rights-of-way to restore any survey markers or monuments disturbed by such construction in accordance with RCW 58.09.130, and as hereinafter amended.

16. ASSIGNMENT

The Grantee shall not have the right to assign this franchise without the consent of the Metropolitan King County Council given by Ordinance. No assignment shall be effective unless an acceptance by the assignee of all rights, conditions, terms, provisions, and responsibilities contained within the franchise, as well as surety bonds which the Council deems necessary to be posted are received. Council approval of the assignment may be made subject to the assignee's acceptance of new or modified terms of the franchise.

17. EXPIRATION AND RENEWAL

To the extent described in Exhibit "A", all rights granted by this franchise to County road rights-of-way outside incorporated Towns and Cities apply to all existing County road rights-of-Way improved and unimproved and to all County road rights-of-way acquired by King County during the term of this franchise.

If the Grantee has initiated a renewal of this franchise before it expires, the County may, at its sole discretion, extend the term of the franchise on a month to month basis for up to one year. Should the County elect to extend the franchise, written notice shall be provided to the Grantee before the franchise expiration date.

If the Grantee has not applied for a renewal of this franchise before it expires, King County has the right to remove or relocate any lines and appurtenances of the Grantee as is reasonably necessary for the public's health, welfare, safety, or convenience including, but not limited to, the safe operation of County roads, franchise holders, or for the construction, renewing, altering, or improving of any County road right-of-way, or for the installation of lines and/or facilities of other franchise holders. Grantee shall be liable for the costs incurred in any removal or relocation of its lines and appurtenances under this section. Costs include the expense of labor and equipment.

Upon expiration of this franchise, the Grantee shall continue to be responsible for the operation and maintenance of existing facilities in the County road rights-of-way until removed, assigned to another franchised utility or abandoned; however, the Grantee shall not have the right to provide additional services or construct new facilities. King County will issue permits required for the repair and maintenance of the existing facilities in accordance with K.C.C. 14.44.055 as amended and Section 11 of this franchise. This section and sections 8, 10-13 and 15 of this franchise shall continue in force until such time as the lines are removed from County road rights-of-way, assigned to another franchised utility, or abandoned in place with the approval of the Manager of the Department of Transportation, Road Services Division.

18. RESERVATION OF RIGHTS

King County specifically reserves for itself the right to impose a utility tax on the Grantee if such taxing authority is granted by State of Washington and the local option is exercised by the King County Council.

King County also specifically reserves the right to exercise authority it has or may acquire in the future to secure and receive fair market compensation for the use of its property, pursuant to an ordinance. If King County elects to exercise such authority, the fair market compensation requirement for Grantee shall be imposed by ordinance not less than one hundred eighty (180) days after written notice ("Compensation Notice") is delivered to the Grantee, said Compensation Notice identifying with specificity the definition, terms and/or formula to be used in determining such fair market compensation. Acceptance of King County's definition terms and/or formula identified in the Compensation Notice will occur if the Grantee accepts in writing within thirty (30) days of receipt of the Compensation Notice; or, if Grantee takes no action in writing within thirty (30) days of receipt of the Compensation Notice; in which case the applicable ordinance that the King County Council passes will be determinative.

Nothing in this section shall be construed as an agreement by the Grantee of King County's right to exercise authority it has or may acquire in the future to secure and receive fair market compensation for the use of property. Nothing in this section shall be construed to prohibit the Grantee from challenging, in King County Superior Court or a court of competent jurisdiction, the legality of such right.

Grantee's rejection of the definition, terms, and/or formula identified in the Compensation Notice will only occur if such rejection is in written form, identifying with specificity the grounds for such rejection, and delivered to King County within thirty (30) days after receipt of the Compensation Notice, in which case the below identified arbitration terms will apply:

(a) The Grantee and King County will select one arbitrator each, and the two selected arbitrators will select a third arbitrator. If the two arbitrators have not selected a third arbitrator within thirty (30) days after the selection of the last selection of the two, either the Grantee or King County may apply to the presiding judge of the King County Superior Court for the appointment of a third arbitrator. The three arbitrators will determine the method for determining the fair market compensation for the County property used by the Grantee. The arbitration procedure employed shall be consistent with the rules and procedures of the American Arbitration Association. The decision of a majority of the arbitrators will bind both the Grantee and King County. At the conclusion of the arbitration, the arbitrators will submit written reports to the Grantee and King County which shall contain all pertinent evidence that led to their conclusion together with an explanation of their reasoning for such conclusion.

(b) The fees of the arbitrators selected by each party shall be paid by that party, and the fees of the third arbitrator shall be paid one-half by the County and the Grantee. The other costs of the proceeding shall be shared equally by the County and the Grantee.

(c) In event that the question of fair market compensation is not resolved prior to the effective date specified by the ordinance authorizing said compensation, the arbitration decision will be applied retroactively to the effective date in the ordinance. The Grantee will pay the retroactive sum plus interest in the amount of twelve percent

(12%) per annum.

Nothing in this franchise may be construed to limit the exercise of authority now or later possessed by the County or any other governing body having competent jurisdiction to fix just, reasonable and compensatory rates or other requirements for services under this franchise. Nothing in this section shall be construed to prohibit the Grantee from challenging, in King County Superior Court or a court of competent jurisdiction, the authority of the County or any other governing body to fix rates or other requirements for services.

19. COMPLIANCE WITH LAWS

Grantee shall conform to all applicable federal, state and local laws and regulations including, but not limited to, the State Environmental Policy Act and King County environmental standards and ordinances.

20. NON-DISCRIMINATION CLAUSE

In all hiring or employment made possible or resulting from this franchise agreement, there shall be no discrimination against any employee or applicant for employment because of sex, sexual orientation, age, race, color, creed, national origin, marital status or the presence of any sensory, mental, or physical handicap, unless based upon a bona fide occupational qualification, and this requirement shall apply to but not be limited to the following: employment, advertising, lay-off or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

No person shall be denied, or subjected to discrimination in receipt of the benefit of any services or activities made possible by or resulting from this agreement on the grounds of sex, sexual orientation, race, color, creed, national origin, age except minimum age and retirement provisions, marital status, or the presence of any sensory, mental or physical handicap.

Any violation of this provision shall be considered a violation of a material provision of this agreement and shall be grounds for cancellation, termination or suspension in whole or in part, of the agreement by the County and may result in ineligibility for further County agreements.

The Grantee shall make the best efforts to make opportunities for employment and/or contracting services available to women and minority persons. The Grantee recognizes that King County has a policy of promoting affirmative action, equal opportunity and has resources available to assist Grantee in these efforts.

21. PENALTY FOR VIOLATION OF CONDITIONS

If the Grantee shall violate or fail to comply with any of the material terms, conditions, or responsibilities of this franchise through neglect or failure to obey or comply with any notice given the Grantee under the provisions of this franchise or if the Grantee abandons its franchise, the Council may revoke this franchise. King County shall give written notice of its intent to revoke this franchise. A public hearing shall be scheduled within forty-five (45) days following the notification. The decision to revoke this franchise will become effective ninety (90) days following the public hearing if the County, by ordinance, finds:

A. That the Grantee has not substantially cured the violation or failure to comply which was the basis of the notice; or

B. that the violation or failure to comply which was the basis of the notice is incapable of cure; or

C. that the Grantee has repeatedly violated or failed to comply with any of the material terms, conditions, or responsibilities of the franchise, even though the individual violations have been cured; and

D. that the revocation of the franchise is in the public interest.

During the forty-five (45) days following the notification, the Grantee shall have the opportunity to remedy the failure to comply.

22. RIGHT OF APPEAL

Decisions, requirements, or approvals of the Director are binding on the parties to this document. Appeals from the Director's determinations will be made by filing a complaint with the King County Superior Court.

23. SEVERANCE

This franchise gives effect to purposes and uses which are consistent with economical and efficient services rendered in the public interest. If any provision of this franchise, or its application is determined to be invalid by a court of law, then the remaining provisions of this franchise shall continue and remain valid unless the dominant purpose of the franchise would be prevented or the public interest is no longer served.

Revised 07/25/96

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 2124 - C

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, authorizing amendment to Joint Sewer Service Agreement with Cedar River Water and Sewer District.

WHEREAS, the District and Cedar River Water and Sewer District previously entered into a Joint Sewer Service Agreement dated January 9, 1980, and approved by Resolution 1876 of King County Water District No. 58; and

WHEREAS, the Districts now desire to amend the Agreement regarding use of capacity and annual charges; and

WHEREAS, Amendment No. 2 to the Agreement has been negotiated between the Districts, and approved by the Board of Commissioners of Cedar River Water and Sewer District; and

WHEREAS, the execution of this Agreement is within the authority of the District as a matter of cooperation between public agencies; and

WHEREAS, the Board of Commissioners hereby finds it to be in the interest of the public welfare to execute the Agreement.

NOW, THEREFORE, BE IT RESOLVED by the Commissioners of Soos Creek Water and Sewer District, King County, Washington, as follows:

SECTION 1: That the Board hereby authorizes the District Manager to execute the following:

AMENDMENT NO.2 TO JOINT SEWER SERVICE AGREEMENT

SECTION 2: That the District shall take all such actions and do all things as are necessary and appropriate to perform the Agreement, as amended, in accordance with the terms thereof.

Adopted by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 17th day of January, 2001.

KAREN WEBSTER, President

PHILIP SULLIVAN, Secretary

RANDY REECE, Commissioner

STEVE SANDELIUS, Commissioner

CLEMENT QUANRUD, Commissioner

RESOLUTION NO. 2124-C
SUBJECT: Authorizing Execution of Amendment No. 2 to Joint Sewer Service Agreement with Cedar River Water and Sewer District

ORIGINAL

AMENDMENT NO. 2 TO JOINT SEWER SERVICE AGREEMENT

THIS AMENDMENT is made this 17 day of JANUARY, 2001, between CEDAR RIVER WATER AND SEWER DISTRICT ("Cedar River"), a Washington municipal corporation and SOOS CREEK WATER AND SEWER DISTRICT ("Soos Creek") a Washington municipal corporation.

RECITALS

A. Soos Creek is the successor to Cascade Sewer District and Water District No. 58 of King County, Washington. Cedar River was previously known as Water District No. 108 of King County, Washington.

B. Soos Creek's predecessor and Cedar River entered into that certain Joint Sewer Service Agreement dated January 9, 1980 ("Agreement") for the purpose of allowing joint use of certain sewer facilities and establishing charges for such use. Amendment No. 1 to the Agreement related to the establishment of special connection charges for a King County Park.

C. Pursuant to the Agreement, Cedar River utilizes a portion of a Soos Creek sewer main ("Petrovitsky Park Interceptor") located from the intersection of West Lake Desire Road SE and SE 184th Street running northerly and westerly to the intersection of 163 Place SE and SE 174th Street. Cedar River proposes to utilize the remaining excess future capacity in the Petrovitsky Park Interceptor as identified in the study done by Roth Hill Engineers, " McGarvey Park/Shady Lake Flow Impacts" dated July 14, 1999 by providing sewer service to a portion of a development known as McGarvey Park ("McGarvey Park") which is a proposed approximate 560 lot residential development, located in Section 25, T 23 N, R 5E, W.M., King County, Washington. 164 lots in McGarvey Park will connect to the Petrovitsky Park Interceptor. Based on the July 14, 1999 study with the addition of 164 lots from McGarvey Park the remaining capacity of the Petrovitsky Park Interceptor will be entirely committed.

D. Pursuant to the Agreement, Cedar River also utilizes a portion of Soos Creek's sewer collection system ("Soos Creek Collection System") between manholes 608-1 and 608-3 as shown on Sewer Plan and Profile, Cambridge Off-site, prepared by Hedges & Roth Engineering, Inc., job no. 04-608, dated April 17, 1996, in the area of Shady Lake This system will likely become fully utilized upon the ultimate build-out of Cedar River's Shady Lake area.

E. Pursuant to the Agreement, Soos Creek is authorized to use a portion of Cedar River's Madsen Creek Interceptor, Molasses Creek Interceptor and collection system as conveyance

systems to King County/Metro. These interceptors will be significantly modified based on plans by the King County Wastewater Treatment Division to abandon a portion of the Madsen Creek sewer trunk system and to construct a new interceptor on 140th Avenue SE. These projects will change the costs of owning and maintaining the Madsen Creek and Molasses Creek Interceptors and therefore reduce the allocation of such costs to Soos Creek.

F. In accordance with Section 3 of the Agreement, Soos Creek presently pays Cedar River the sum of $ 0.42/month/residential equivalent, which presently is approximately $7,0000.00/ year, for the use of portions of Cedar River's Madsen Creek Interceptor, Molasses Creek Interceptor, and collection system. Such payment is based on the "Cedar River Water & Sewer District - Soos Creek Water & Sewer District, 1990 Updating and Review of Charges and Costs in accordance with the Joint Service Agreement" study done by Hugh G. Goldsmith & Associates, Inc. dated October 30, 1990. Now, therefore,

IN CONSIDERATION of the mutual covenants herein contained, the parties agree as follows:

1. Use of Capacity. Soos Creek hereby authorizes Cedar River to utilize, without charge, the following facilities:

a. The remaining excess future capacity in the Petrovitsky Park Interceptor by Cedar River providing sewer service to 164 lots in McGarvey Park; and

b. The Soos Creek Collection System by Cedar River providing sewer service to serve the ultimate build-out of Cedar River's Shady Lake area.

2. Relief from Annual Charge. The annual charge payable by Soos Creek to Cedar River for the use of the Madsen Creek & Molasses Creek Interceptors is hereby reduced to zero in exchange for the use of future capacity authorized in Section 1 above.

3. Future Capacity Studies. When the Petrovitsky Park Interceptor, Madsen Creek Interceptor, Molasses Creek Interceptor, or Soos Creek Collection System reach, through actual use, 85% of their of their design capacity, Cedar River and Soos Creek shall jointly engage a qualified engineering consultant to study the need for upgrades or replacement to the applicable facility. The study will be issued jointly to both Districts and the cost thereof shall be shared equally by both Districts.

4. Additional Capacity. If the foregoing study results in a recommendation for the construction of additional improvements, then the owner of the applicable facility shall design

ADDENDUM NO.1 TO JOINT SEWER SERVICE AGREEMENT OF

January 9, 1980

(Including Revision to the
RECIPROCAL SEWER MAINLINE USE AGREEMENT OF
November 7, 1968)

THIS AGREEMENT, made and entered into this 25TH day of SEPT., 1984, by and between WATER DISTRICT NO. 108 of KING COUNTY, WASHINGTON, hereinafter referred to as "W.D. 108," and CASCADE SEWER DISTRICT, hereinafter referred to as "Cascade," and WATER DISTRICT NO. 58 of KING COUNTY, WASHINGTON, hereinafter referred to as "W. D. 58," all being Special Purpose Districts and Washington municipal corporations, existing under and by virtue of the laws of the State of Washington,

W I T N E S S E T H:

WHEREAS, the parties heretofore entered into a Joint Sewer Service Agreement dated January 9, 1980, recorded under King County Records File No. 8003130671 (hereinafter referred to as "1980 Agreement"), the principal purpose of which was to provide for joint use of certain sewer trunk lines by W.D.108 and Cascade and W.D.58 within the Molasses Creek Basin, the Madsen Creek Gravity Basin, the area (Lake Desire Basin) including Lake Desire draining by gravity and pump to Unit D of the Madsen Creek interceptor, and the area (Spring-Shady Lake Basin) to the south and east of Lake Desire which would be served through Unit D by pumping through the Lake Desire Basin, the trunk lines of each District now and/or as may hereafter be constructed in accordance with the Comprehensive Plans of each District; and

WHEREAS, W.D.108 and Cascade heretofore entered into an agreement dated November 7, 1968, (hereinafter referred to as "1968 agreement") the principal purpose of which was to provide for a portion of the plat of Fairwood Division No. 9, consisting of 35 lots, to be served by sewer system installed by Cascade and connected to the W.D.108 collection system tributary to the W.D.108 Molasses Creek sewer trunk line, and which agreement does not provide for the payment of monthly service charges for the Fairwood Division No. 9 lots to W. D. 108, and which agreement does not authorize or provide for the connection by Cascade of any other sewer lines to the W.D.108 sewer trunk line; and

WHEREAS, Cascade has connected its sewer system constructed in the area known as "Fairlane Woods," a subdivision containing 108 lots with a sewer system consisting of approximately 3,500 feet of 8-inch sewer line and 22 manholes lying within the boundaries of Cascade, to the Cascade sewer collection main at the north boundary of Fairwood Division No. 9,

which sewer line drains into the W.D. 108 collection system tributary to the W.D.108 Molasses Creek trunk sewer; and

WHEREAS, W.D. 108 requires connection charges and sewer service charges to be paid by owners of property utilizing the W.D. 108 sewer system, and provision is made in the 1980 agreement for such charges to be paid by Cascade in respect to the property serving through W.D. 108 sewer system under said agreement; and W.D. 108 is entitled to connection charges, monthly service charges, interest and penalties by reason of aforesaid connection by Cascade; and the parties have agreed to such charges; and

WHEREAS, Cascade has requested that the 1980 agreement be amended by addendum to permit the continued connection of the Fairlane Woods sewer system to the sewer lines served by the W.D. 108 Molasses Creek trunk line; and

WHEREAS, W.D.108 has requested that the 1980 agreement be amended by addendum to allow for the collection of monthly service charges for those lots in Fairwood Division No. 9 which are covered in the 1968 agreement, to allow for the equitable treatment of all lots which lie in the drainage basins specified in the 1980 agreement;

IN CONSIDERATION of the foregoing recitals and the mutual promises and agreements herein contained and set forth, it is agreed by and between the parties as follows:

1. The connection of the Cascade sewer system serving the Fairlane Woods area may remain and the service to the Molasses Creek sewer trunk line of W.D. 108 now being utilized for disposal of sewage from the Fairlane Woods area may continue. W.D. 108 acknowledges receipt of payment by Cascade of the sum of $23,659.95 in full payment of connection charges, delinquent service charges, interest and penalties, as agreed to between the parties, said charges being based upon the rates established in the 1980 agreement. Cascade agrees to continue to pay monthly service charges for service for the Fairlane Woods area and also agrees to pay monthly service charges for the Fairwood Division No. 9 area described in the 1968 agreement (35 lots only), commencing April 1, 1983.

2. The 1980 agreement is amended to provide for such use by Cascade of the W.D. 108 Molasses Creek trunk line as to Fairlane Woods; and is further amended to provide for payment by Cascade to W.D. 108 of the monthly service charges for the Fairlane Woods area and for the Fairwood Division No. 9 (35 lots only) area.

3. It is understood that all other provisions of the 1980 and 1968 agreements not herein amended or modified, shall be applicable to the properties described herein.

DATED AT Renton, Washington this 25TH day of SEPT., 1984.

Approved by Resolution No. 2026 of the Board of Commissioners of Water District No. 108 of King County, Washington, at its regular meeting held on September 25, 1984.

WATER DISTRICT NO. 108
OF KING COUNTY, WASHINGTON
BOARD OF COMMISSIONERS

By: _____
President

By: _____
Secretary

By: _____
Commissioner

Approved by Resolution No. 3135 of the Board of Commissioners of Cascade Sewer District of King County, Washington, adopted at its regular meeting held on October 1, 1984.

CASCADE SEWER DISTRICT
OF KING COUNTY, WASHINGTON
BOARD OF COMMISSIONERS

By: _____
President

By: _____
Secretary

By: _____
Commissioner

Approved by Resolution No. 2417 of the Board of Commissioners of Water District No. 58 of King County, Washington, adopted at its regular meeting held on October 18, 1984.

WATER DISTRICT NO. 58
OF KING COUNTY, WASHINGTON
BOARD OF COMMISSIONERS

By: _____
President

By: _____
Secretary

By: _____
Commissioner

JOINT SEWER SERVICE AGREEMENT

THIS AGREEMENT made and entered into this 9th day of January, 1980, by and between CASCADE SEWER DISTRICT, a Washington municipal corporation, hereinafter referred to as "Cascade", and WATER DISTRICT NO. 108 OF KING COUNTY, WASHINGTON, hereinafter referred to as "District 108", and WATER DISTRICT NO. 58 of KING COUNTY, WASHINGTON, hereinafter referred to as "District 58", all Districts duly organized and existing under and by virtue of the laws of the State of Washington,

W I T N E S S E T H :

WHEREAS, District 108 is qualified to provide both water and sewer service within its prescribed area; and

WHEREAS CASCADE is qualified to provide sewer service within its prescribed area; and

WHEREAS District 58 is qualified to provide water service within its boundaries; and

WHEREAS portions of these Districts are contiguous to each other; and

WHEREAS District 108 is providing sewer service to an area within District 58's boundaries; and

WHEREAS existing trunk sewer facilities of District 108 and the topographical features of the areas in the Molasses Creek basin (upper portion in Cascade Service area and lower portion in District), Madsen Creek gravity basin (upper portion in C scade service area and lower portion in District 108's service area, the area in the Lake Desire basin, including Lake Desire draining by gravity and pump to Unit D of the Madsen Creek Interceptor (within Cascade service area), and the area to the south and east of Lake Desire basin which would be served by Unit D by pumping through Lake Desire (within District 108's service area in the Spring-Shady Lakes basins) are such that the joint use by Cascade and District 108 of the sewer trunk lines now and/or hereafter installed by Cascade and District 108 through a joint sewer service contract will result in a more efficient and economical means of providing sewer service to the service areas of each District; and the boundaries of each District and the above-described service areas are shown on the attached area map marked Exhibit "A" and by this reference made a part hereof as though set forth herein in full; and

WHEREAS it is in the public interest for the parties herein to enter into an agreement which will allow each District to utilize the available trunk sewer lines

of the other to achieve the best efficient and economical means of providing sewer service to the service areas of each District; and

WHEREAS there is a need of equitable allocation of charges to be paid for general facilities connection charges and maintenance and operation charges of each District by the District using the trunk sewer facilities of the other District; and

WHEREAS District 58 and Cascade have agreed to joint use of personnel and facilities; and an agreement of joint use between Cascade and District 108 is beneficial to District 58 because of the aforementioned joint operation agreement between Cascade and District 58, now, therefore,

IT IS HEREBY AGREED by and between the parties hereto as follows:

1. Joint Use of Sewer Trunk Lines. Cascade and District 108 agree that each District shall have the right to use certain trunk sewer lines of the other within the areas in the Molasses Creek basin, Madsen Creek Gravity Basin, the area (Lake Desire basin), including Lake Desire draining by gravity and pump to Unit D of the Madsen Creek interceptor, and the area (Spring-Shady Lake basin), to the south and east of Lake Desire which would be served through Unit D by pumping through Lake Desire, the trunk sewer lines of each District now existing and/or as may hereafter be constructed in accordance with the Comprehensive Plans of each District, said trunk lines being set forth on Exhibit "A".

2. General Facilities Connection Charge. Each District utilizing the trunk sewer of the other District shall pay to such District a general facilities connection charge computed as hereafter provided.

A. Computation. The Engineers of Cascade and District 108 have prepared and approved a formula for computation of the general facilities connection charge of each District, which formula is set forth in Subpara. B. hereof. Based upon such formula, each District shall compute the general facilities connection charge to be charged to the other District for utilization of trunk sewer lines by such other District. Such formula is hereby accepted and approved by each District. The Board of Commissioners of each District shall adopt the general facilities connection charge for its District by resolution prior to or upon receipt of a request from the other District to connect sewer system facilities to the general facility trunk sewer line of the District receiving such request. Such general facility connection charges shall be subject to bi-annual review as hereafter provided.

B. Factors. In the calculation of the general facilities connection charge, the following factors shall be determined for each District and shall be the

sole factors used for such calculations:

i. All existing and future general facilities required to serve the benefitted areas within each drainage basin; and

ii. The value, based upon cost, which may include administrative cost not to exceed fifteen (15%) percent, of existing general facilities and future general facilities to be constructed by each District to serve the benefitted areas within each drainage basin as described on Exhibit A; and

iii. Computation of the value based upon costs of all general facilities acquired to date by each District, excluding therefrom developer contributions received and grants from federal and state agencies and any and all other costs of general facilities not paid for by the District; and

iv. The acreage area to be served and the projected count of dwelling units based upon current county zoning ordinances for each drainage basin shown on Exhibit A for such area which would be benefitted by the construction of future general facilities by each District still to be constructed in any such drainage basin.

The general facilities charge for each District would then be the cost of the existing general facilities and, when constructed, the cost of the remaining general facilities, distributed over the acreage to be benefitted, based upon the existing and/or projected dwelling units to be benefitted.

3. Maintenance and Operation Charges. Each District utilizing the sewer trunk line of the other District shall pay a monthly service charge from the date of connection (maintenance and operation charge) in the amount and in the manner hereafter provided. The maintenance and operation costs of each District shall be based upon the costs per lineal foot of the sewer trunk line utilized by the other District per customer equivalent served. The current financial statements of each District shall be used to determine:

A. Operating costs, including all administrative and general costs and depreciation costs at two (2%) percent per year;

B. Length of sewer system, including collection system and all trunk lines, as of date of statement;

C. Number of customer equivalents serviced as of date of statements based upon reports of each District to Metro.

The cost per lineal foot of the sewer system per customer equivalent served shall then be calculated. The monthly service charge would then be the unit cost thus obtained multiplied by the average length of sewer utilized in District 108 by Cascade, or conversely in Cascade by District 108.

4. Review of Charges and Costs. The foregoing general facilities connection charge and monthly service charge shall be reviewed every two (2) years by each District and revised as necessary to reflect current and future costs; current costs shall be based upon the financial statements of each District for the preceding two years and necessary adjustments made on or before April 1 of the second year of each two-year period. Future costs shall be adjusted based upon ENR reference tables adjusted to the locality and/or amounts of bids and contracts pending. Proposed adjustment by either District shall be communicated to the other District on or before March 1 of each two-year period for review and comment. The revised amounts accepted by each District shall be in force and used for the purposes of this agreement by each District until March 31 of the second year of each two-year period.

5. Request for Utilization of Trunk Sewer Line. A District requesting the use of the trunk sewer line of the other District shall make written request for connection, which request shall contain the following information:

A. The point at which connection is desired; and

B. A map showing the area for which sewer service is to be furnished by the requesting District; and

C. Statement of the manner in which the sewer collection system for the proposed area to be served is to be installed (i.e., by developer extension, U.L.I.D., or otherwise); and

D. The number of projected single family residences or equivalents to be served in such proposed area; and

E. The approximate time when such connection is to be made; and

F. The current predetermined general facility charge to be paid by the requesting District; and

G. The current predetermined maintenance and operation charge to be paid by the requesting District; and

within ninety (90) days of the date of the request, the Board of Commissioners of the District receiving the request shall act upon same by resolution, said action to be based upon the provisions of this agreement and shall furnish a copy of such resolution to the requesting District, together with the schedule of connection charges and monthly service charges then in force, together with a copy of the resolution adopting the same.

6. Connection to Trunk Lines. The requesting District shall give at least ten (10) days notice of the time actual connection is desired, which shall be on a business day within business hours. The requesting District shall supply all labor

and material required for the connection. The District owning the trunk line to be utilized shall inspect and approve the connection.

7. Payment of Charges by Requesting District.

A. General Facilities. General facilities connection charges shall be paid by the requesting District in cash at least ten (10) days prior to the time of connection and shall be accompanied by the notice of the time actual connection is requested, provided the collecting District shall add an administrative charge of fifteen (15%) percent to such connection charges to be collected from the property owners seeking sewer service and retained by the collecting District.

B. Maintenance and Operation Charges. The requesting District shall submit a list of customers connected to its collection system which utilizes the trunk system of the other District as of the end of each month following the month in which the connection is made, which list shall include the name and address of the customer. The District owning the trunk line to which connection is made shall bill the requesting District for monthly service charges on a bi-monthly basis, the first billing to made in sixty (60) days from the date connection is made. Payment will be due and payable thirty (30) days from the billing date. If not paid when due, such charges shall bear a ten (10%) percent penalty and interest at the rate of ten (10%) percent per annum until paid.

C. Legal action may be commenced to enforce collection as to any charges delinquent for sixty (60) days, and the debtor District shall pay all court costs and a reasonable attorneys fees not less than fifteen (15%) percent of the delinquent amount, including interest and penalties, fixed by the court in any such action.

8. Approval of Permanent Service by District 108. District 58 hereby grants the right and privilege to District 108 to provide a sewer collection service trunk lines and appurtenances as required to that certain area described on attached Exhibit A and identified as "Candlewood Ridge" so long as this agreement remains in full force and effect; and provided further, that if at any time District 108 fails to serve said area for any reason, including but not limited to a merger with King County, then this provision of this agreement shall terminate.

9. This agreement constitutes the entire agreement of the parties, and

there are no representations or oral agreements which vary the terms of this agreement.

Dated this 3rd day of January, 1980.

Approved by Resolution No. 1183 of Board of Commissioners of Cascade Sewer District adopted at its regular meeting held January 22, 1980.

CASCADE SEWER DISTRICT
BOARD OF COMMISSIONERS

By: _____
President

By: _____
Secretary

_____
Commissioner

Approved by Resolution No. 1876 of Board of Commissioners of Water District No. 58 of King County, Washington at its regular meeting held January 22, 1980.

WATER DISTRICT NO. 58 OF KING COUNTY WASHINGTON BOARD OF COMMISSIONER

By: _____
President

By: _____
Secretary

_____
Commissioner

Approved by Resolution No. 1470 of Board of Commissioners of Water District No. 108 of King County, Washington at its regular meeting held JAN. 23, 1980.

WATER DISTRICT NO. 108 OF KING COUNTY WASHINGTON BOARD OF COMMISSIONERS

By: _____
President

By: _____
Secretary

_____
Commissioner

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

On this 22nd day of January, 1980, before me, the undersigned, a notary public in and for the State of Washington, duly commissioned and sworn, personally appeared SAM PAFFILE and BEN BERGSMA, to me known to be the President and Commissioner, respectively, of Cascade Sewer District of King County, Washington, a municipal corporation, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute the said instrument and that the seal affixed is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.

NOTARY SEAL

Notary Public in and for the State of Washington, residing at Auburn

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

On this 22nd day of January, 1980, before me, the undersigned, a notary public in and for the State of Washington, duly commissioned and sworn, personally appeared SAM PAFFILE and BEN BERGSMA and PATRICK J. BRAZIL, to me known to be the President and Secretary and Commissioner, respectively, of Water District No. 58 of King County, Washington, a municipal corporation, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute the said instrument and that the seal affixed is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.

NOTARY SEAL

Notary Public in and for the State of Washington, residing at Auburn

Hugh G. Goldsmith
& Associates, Inc.

October 30, 1990

Cedar River Water & Sewer District
18300 S.E. Lake Youngs Road
Renton, WA 98058

Attention: Rosemary Allison, Manager

Re: Cedar River Water & Sewer District -
Soos Creek Water & Sewer District
1990 Updating and "Review of Charges and Costs"
in accordance with the Joint Service Agreement.

Dear Rosemary:

Submitted herewith are four (4) copies of our report covering the above referenced "Review of Charges and Costs". The summary of required charges as indicated on Page 1 of the report indicates the following:

A. REQUIRED GENERAL FACILITIES CHARGES

= $3,000.48/Ac. or 6.89¢/s.f.

B. REQUIRED MONTHLY SERVICE CHARGE (per customer equivalent)

= $4.98/year or 42¢/month.

We are available to discuss this information further at your convenience.

Very truly yours,

HUGH G. GOLDSMITH & ASSOCIATES, INC.

James D. Goldsmith, Associate

cc: Jonson & Jonson w/encl.

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Page 1 of 1

SUMMARY OF REQUIRED CHARGES

A. REQUIRED GENERAL FACILITIES CHARGE

Total Gravity Area Assessible
Balance Required/Area Assessible
= $1,1661,785.65/387.2 ac. = $3,000.48/ac = 6.89¢/sf

B. REQUIRED MONTHLY SERVICE CHARGE

Service Charge per Customer Equivalent = $4.98/year = $0.42/month

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I. COST OF EXISTING AND PLANNED SEWER SYSTEM GENERAL FACILITIES

A. MOLASSES CREEK BASIN GENERAL FACILITIES

		Prior 1986/1988	Current 1990
1. Molasses Creek Trunk, Section 1			
a. 12",18", 21" sewer[1, 3]	3,600 lf	$162,348.00	$162,348.00
b. Replace 8" FM w/18" sewer & Crossing to Metro (1989)	880 lf	$219,558.51	$281,243.00
Subtotal, Section 1	4,480 lf	$381,905.51	$443,591.00
2. Molasses Creek Trunk, Section 2			
a. Fairwood Trunk A oversize[4]	5,847 lf	$61,901.00	$61,901.00
Subtotal, Section 2	5,847 lf	$61,901.00	$61,901.00
3. Molasses Creek Trunk, Section 3			
a. Fairwood Trunk F & C oversize	9,041 lf	$42,784.00	$42,784.00
Subtotal, Section 3	9,041 lf	$42,784.00	$42,784.00
4. Molasses Creek Trunk, Section 4			
a. Elliot Trunk oversize 10/8" [2]	3,300 lf	$18,789.37	will be local
Subtotal, Section 4	3,300 lf	$18,789.37	n/a
Total, Molasses Creek Basin		**$505,380.88**	**$548,276.00**

B. MADSEN CREEK BASIN GENERAL FACILITIES

			Prior 1986/1988	Current 1990
1. Madsen Creek Trunk, 1976 EPA Project[5]				
a. Unit B sewer	12/18/21"	5,110 lf	$257,352.00	$257,352.00
b. Unit C1 sewer	8"	1,040 lf	$ 56,875.00	$ 56,875.00
Subtotal 1		6,150 lf	$314,227.00	$314,227.00
2. Madsen Trunk C2 Continued through Fairwood				
a. Div. 19 oversize,	18/8" @ 9.05[6]	540 lf	$ 4,887.00	$ 4,887.00
b. *Golf Course Conn.*	*12"*	*1,100 lf*	*$ 93,949.84*	*$125,093.00*[7]
c. Bluff Apts. oversize,	12/8" @ 4.00	950 lf	$ 3,800.00	$ 3,800.00
d. Candlewd Multiple	12/8" @ 6.00	1,300 lf	$ 7,800.00	$ 7,800.00
e. Petrovitsky Crossing			$ 26,000.00	$ 26,000.00
Subtotal 2		3,890 lf	$136,436.84	$167,580.00
3. Madsen Trunk D				
a. Canyon Unit D-1				
Phase 1 (1989)	12"	1,887 lf	*$256,227.64*	$383,123.00
Phase II & III	*12"*	*2,400 lf*	*incl above*	*$600,000.00*[8]
b. Unit D-2 thru Fairwood				
Division 15 oversize		1,194 lf	$ 15,600.00	$ 15,600.00
Division 18 oversize		2,479 lf	$ 41,318.00	$ 41,318.00
Subtotal 3		7,960 lf	$313,145.64	$1,040,041.00
Total, Madsen Creek Basin			**$763,809.48**	**$1,521,848.00**

Notes:

1. Plain text denotes completed facilities.
2. *Italics* denote planned facilities remaining to be completed
3. Established in Fairwood reimbursement agreement for Molasses Creek Trunk, April 9, 1969
4. Fairwood trunk system oversize constructed by Developer, in consideration for reduced connection charge of $35/ac. over Contract area. Estimate of actual cost at time of construction
5. Richard C. T. Li, Inc., "Madsen Creek Interceptor Final Report", November 24, 1976.
6. Goldsmith and Associates, "Reimbursement Report to Water District No. 108", June 12, 1978
7. Goldsmith and Associates, "1990-2000 Capital Improvement Program Cost Projections", December 19, 1989
8. Ibid, Cost adjustment per actual constructed cost of Unit D-1 Phase 1, 1990

II. GENERAL FACILITIES FUNDS COLLECTED

A. MOLASSES CREEK BASIN GENERAL FACILITIES FUNDS COLLECTED

1. Fairwood Properties

a. Contract Area	@ $35/ac	491 ac.	$17,185.00	
b. Division 9 (portion),	@ $0.015/sf	9 ac.	$ 5,880.60	
c. Division 14	@ $0.015/sf	6 ac.	$ 3,920.40	
Subtotal, Fairwood Properties				$26,986.00

2. Other Properties

a Fairwood Plaza		$ 8,364.00	
b Fairlane Woods	108 lots	$15,164.00	
c. ULID 49-1	1 lots	$ 216.00	
d. Shadowood	113 lots	$164,257.80	
Subtotal, Other Properties	222 lots		$188,001.80

Total Funds Collected, Molasses Creek Basin **$214,987.80**

B. MADSEN CREEK BASIN GENERAL FACILITIES FUNDS COLLECTED

1. Fairwood Properties

Contract Area	@ 200	120 lots	$24,000.00	
Division 16	@ 200	87 lots	$17,400.00	
Division 17	@ 200	18 lots	$ 3,600.00	
Division 18	@ 200	119 lots	$23,800.00	
Division 22	@ 200	79 lots	$15,800.00	
Subtotal, Fairwood Properties				$84,600.00

2. Other Properties

George Bell	@ 200	1 house	$ 200.00	
Morningtown	@ 200	100 lots	$20,000.00	
Candlewood 1	@ 200	25 lots	$ 5,000.00	
Candlewood 2	@ 200	84 lots	$16,800.00	
Candlewood 3	@ 200	111 lots	$22,200.00	
Candlewood 4	@ 200	89 lots	$17,800.00	
Candlewood 5	@ 200	76 lots	$15,200.00	
Candlewood 6	@ 200	21 lots	$ 4,200.00	
Candlewood PUD in SC		245 eru	$20,520.07	
Candlewood PUD in CR		76 eru	$57,030.00	
Carriagewood 1		74 lots	$12,753.00	
Carriagewood 2		27 lots	$ 7,756.00	
Carriagewood 3		30 lots	$ 8,922.00	
Carriagewood 4		48 lots	$12,686.00	
Carriagewood 5		55 lots	$14,059.10	
Carriagewood 6		39 lots	$10,384.68	
Carriagewood 7		41 lots	$ 9,977.30	
Carriagewood 8		30 lots	$ 7,812.00	
Clubhouse Apartments		89 eru	$ 3,051.00	
Fairwood Firs		73 eru	$27,918.47	
Whitney Place		22 lots	$ 6,152.93	
Subtotal, Other Properties				$300,422.55

3. Grants

a. Madsen, Unit B, EPA/DOE			$214,965.00	
b. Madsen, Unit B, Metro			$ 33,714.00	
c. Madsen, Unit C, EPA/DOE			$ 42,993.00	
Subtotal, Grants				$291,672.00

Total Funds Collected, Madsen Creek Basin **$693,350.55**

III. CALCULATION OF REQUIRED GENERAL FACILITY CHARGE

A. GENERAL FACILITIES FUNDS, BALANCE REQUIRED

1. Cost of Existing and Planned Sewer System General Facilities

a. Molasses Creek Basin	$ 548,276.00	
b. Madsen Creek Basin	$1,521,848.00	
Subtotal 1		$2,070,124.00

2. General Facilities Funds Collected

a. Molasses Creek Basin	$214,987.80	
b. Madsen Creek Basin	$693,350.55	
Subtotal 2		$908,338.35
Total, General Facilities Funds Balance Required		**$1,161,785.65**

B. ASSESSIBLE AREA REMAINING

1. Molasses Creek Gravity Drainage Basin

a. Ruth	13.4 ac.		
b. Veenhuizen	30.0 ac.		
Subtotal, Cedar River District		43.4 ac.	
c. Soos Creek Sewer District	316.8 ac.		
Less 25% for R/W's	(79.2 ac.)		
Subtotal, Soos Creek District.		237.6 ac.	
Subtotal 1, Molasses Area Assessible			281.0 ac.

2. Madsen Creek Gravity Drainage Basin

a. Remaining area	141.6 ac.		
Less 25% for RW's	(35.4 ac)		
Subtotal 2, Madsen Area Assessible		106.2 ac	
Total Gravity Area Assessible			**387.2 ac**

C. REQUIRED CHARGE

Balance Required/Area Assessible
= $1,161,785.65/387.2ac. **= $3,000.48/ac = 6.89¢/sf**

IV. CALCULATION OF REQUIRED MONTHLY SERVICE CHARGE

A. OPERATING EXPENSES

Acct	Descrlptlon	1988	1989	Average
1. Collection and Maintenance				
623.2	Pump Station Power	210.00	17.00	113.50
633.2	Pump Station Maintenance	0.00	0.00	0.00
645.0	Metro, not included	0.00	0.00	0.00
660.0	Superintendent @ 50%	6,000.00	4,725.00	5,362.50
662.2	Sewer Inspection	3,300.00	5,380.00	4,340.00
664.0	Side Sewer Inspection	1,100.00	1,265.00	1,182.50
665.0	Misc. Small expense @ 50%	2,600.00	2,329.00	2,464.50
673.2	Sewer System Maintenance	24,700.00	29,409.00	27,054.50
932.2	Equipment Repair @ 50%	550.00	522.00	536.00
932.3	Truck Fuel & Maint. @ 50%	4,875.00	5,543.00	5,209.00
932.4	Backhoe, Fuel & Maintenance @ 50%	895.00	322.50	608.75
Subtotal 1, Collection & Maintenance		$44,230.00	$49,512.50	$46,871.25
2. Administration and Taxes				
903.0	Billing Charges	8,200.00	11,839.00	10,019.50
920.1	Manager	13,700.00	10,606.00	12,153.00
920.2	Office Labor	47,500.00	45,447.00	46,473.50
920.3	Commissioners Fees	7,550.00	7,550.00	7,550.00
921.1	Office Supplies	5,000.00	9,104.00	7,052.00
921.2	Telephone	3,200.00	4,350.00	3,775.00
921.3	Office Power	2,200.00	2,545.00	2,372.50
923.1	Engineering	25,200.00	10,999.00	18,099.50
923.2	Attorney	18,300.00	20,382.00	19,341.00
923.3	Accountant	8,000.00	10,128.00	9,064.00
924.0	Insurance	40,000.00	34,699.00	37,349.50
925.0	Maint. Agreement, Computers	4,200.00	8,445.00	6,322.50
926.1	Vacation & Sick Leave	23,300.00	51,272.00	37,286.00
926.2	Health & Life Insurance	9,900.00	12,225.00	11,062.50
926.3	Retirement Benefits	15,000.00	31,330.00	23,165.00
928.0	State Auditor	1,160.00	3,127.00	2,143.50
930.1	Seminars	6,400.00	7,064.00	6,732.00
930.2	Investment Service Charge	1,600.00	2,095.00	1,847.50
930.3	Conventions	7,000.00	7,886.00	7,443.00
930.4	Association Dues	3,650.00	5,580.00	4,615.00
932.1	Office Maintenance	3,800.00	5,450.00	4,625.00
932.5	Radio	50.00	0.00	25.00
508.1	Excise and Business Tax	49,000.00	54,556.00	51,778.00
508.2	Payroll Tax	20,000.00	20,735.00	20,367.50
Subtotal 2, Administration & Taxes		$323,910.00	$377,414.00	$350,662.00
Total A, Operating Expenses Charged to Sewer @ 50%				**$175,331.00**

B. DEPRECIATION

Acct.	Description	1989 Value
321.2	Lift Station, Sewage	$18,345.00
343.2	Collection System, Sewer	$4,051,193.00
345.2	Services, Sewer	$150,104.00
390.0	Office Building @ 50%	$154,818.50
391.0	Office Equipment @ 50%	$83,782.00
392.1	Trucks @ 50%	$45,408.50
392.2	Backhoe @ 50%	$26,226.50
394.0	Ditch Pump, misc. @ 50%	$40,717.00
397.0	Communications @ 50%	$8,508.00
	Subtotal, Sewerage System Value	$4,579,103
	Total B, Depreciation @ 2%	**$91,582**

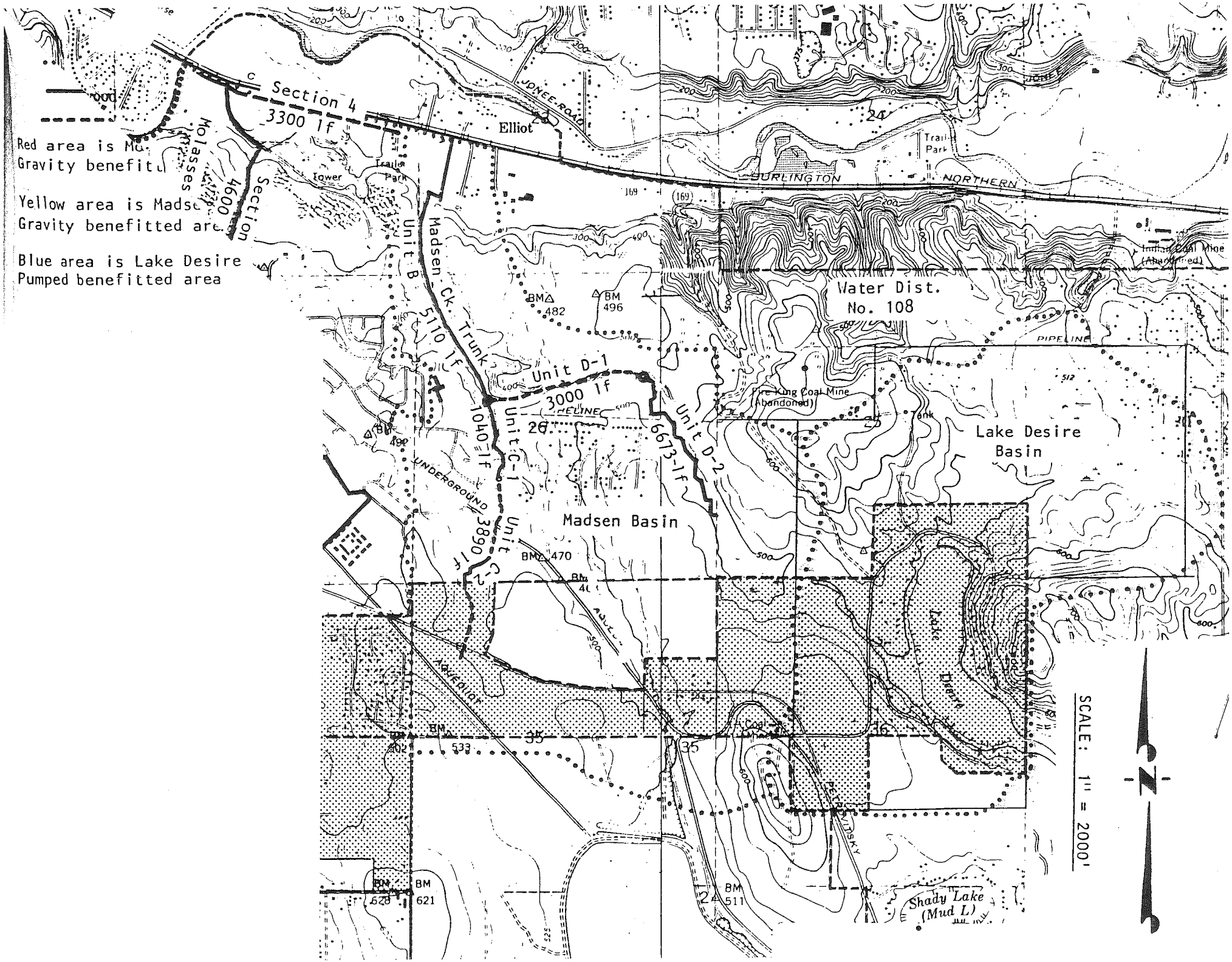
C. SERVICE CHARGE CALCULATION

Collection and Maintenance Expense		$46,871.25
Administration and Taxes Expense		$175,331.00
Depreciation		$91,582.05
1988-1989, Average Expenses & Depreciation		$313,784.30
Sewer System Length in thousand feet (tf)		200 tf
Cost/thousand feet ($/tf)		$1,569
Number of Customer Equivalents, 12/31/89		3,674
Cost/thousand feet/customer equivalent		$0.43
Average length of sewer to be used by Soos Creek customers		
Molasses, Section 1 & 2	10,327	
Molasses, Section 1 & 3	13,521	
Madsen, Unit B & C	10,040	
Madsen Unit B, Fwd 20, D2	12,804	
Average Length	11,673	11.673 tf

Service Charge per customer equivalent

($0.43/tf/cust. equiv.) x 11.673 tf

per year = $4.98
per month = $0.42


Red area is Mu
Gravity benefit
Yellow area is Madse
Gravity benefitted are
Blue area is Lake Desire
Pumped benefitted area
Section 4
3300 lf
Molasses
4600
Section
Elliot
JONES ROAD
Trail
Park
Tower
Trailer
Park
BURLINGTON NORTHERN
Unit B
5110 lf
Madsen Ck. Trunk
1040 lf
Unit D-1
3000 lf
Unit C-1
3890 lf
Unit D-2
6673 lf
Water Dist.
No. 108
PIPELINE
Fire King Coal Mine
(Abandoned)
Tank
Lake Desire
Basin
Madsen Basin
UNDERGROUND
Aqueduct
Lake Desire
PETROVITSKY
Shady Lake
(Mud L)
BM 482
BM 496
BM 490
BM 470
BM 533
BM 502
BM 628
BM 621
BM 511
SCALE: 1" = 2000'
N

SOOS CREEK WATER AND SEWER DISTRICT and CITY OF AUBURN INTERLOCAL AGREEMENT FOR THE ESTABLISHMENT OF SANITARY SEWER SERVICE BOUNDARIES

THIS AGREEMENT, made and entered into this 21st day of March, 2001, by and between the **SOOS CREEK WATER AND SEWER DISTRICT**, a Washington municipal corporation (hereinafter referred to as "Soos Creek"), and the **CITY OF AUBURN**, a Washington municipal corporation, (hereinafter referred to as "Auburn"), both being duly organized and existing under and by virtue of the laws of the State of Washington,

WITNESSETH:

WHEREAS, pursuant to RCW 35A.11.040, Auburn has the legal authority to exercise its powers and perform any of its functions as set forth in RCW 39.34; and

WHEREAS, pursuant to RCW 39.34, the Interlocal Cooperation Act, Auburn has the legal authority to cooperate with other localities on the basis of mutual advantage and provision of services; and

WHEREAS, pursuant to RCW 35A.21.150 Auburn has the legal authority to maintain a sewerage system; and

WHEREAS, pursuant to RCW 57.08.044, Soos Creek has the legal authority to provide sewer service to property owners in areas outside existing district boundaries; and

WHEREAS, pursuant to RCW 57.08.044, Soos Creek has the legal authority to enter into contracts with any municipal corporation for the purpose of providing sewer service to those property owners outside the existing district boundaries, and

WHEREAS, the parties recognize the responsibility of public sanitary sewer utilities to provide efficient and reliable service to their customers at reasonable cost; and

WHEREAS, Auburn desires new development within it's Potential Annexation Area to complete a Pre-annexation agreement with Auburn prior to receiving a certificate of sanitary sewer availability; and

WHEREAS, portions of the Soos Creek sanitary sewer system have been sized and are situated so as to be capable of affording sewer service to a portion of Auburn's Potential Annexation Area; and

WHEREAS, Auburn has evaluated and determined it is not cost feasible to provide sewer service to those properties located within Auburn's Potential Annexation Area adjacent to Soos Creek's sanitary sewer infrastructure; and

WHEREAS, the parties desire to allow Soos Creek to construct, reconstruct, repair and maintain sewer facilities as necessary, and to authorize connections for service to noted areas, or portions thereof; and

WHEREAS, Soos Creek's sewer service to these areas will provide for maximum efficient use of existing and future facilities together with orderly and efficient sanitary sewer planning.

NOW, THEREFORE:

IT IS HEREBY AGREED by and between the parties hereto as follows:

1. **Sewer Service Area.** The parties have agreed to a permanent sewer service area boundary between them. The boundary is graphically depicted on the map attached hereto as Exhibit "A", which is by this reference incorporated herein. Both parties further agree that Soos Creek in providing sewer service to the area shown on Exhibit "A", as "Area To Be Served By Soos Creek", shall be furnishing sewer service to properties within Auburn's Potential Annexation Area. Soos Creek shall provide service in accordance with and subject to the terms and conditions of this Agreement.

2. **Service Area Responsibility.** Auburn shall have responsibility to provide sanitary sewer service to the area(s) on Auburn's side of the respective service area boundaries as delineated by this agreement, whether or not annexed to Auburn, and subject to such reasonable conditions and terms of service as Auburn deems appropriate. Soos Creek shall have responsibility to provide sanitary sewer service to the area(s) on Soos Creek's side of the respective service area boundaries as delineated by this agreement, whether or not annexed to Auburn, and subject to such reasonable conditions and terms of service as Soos Creek deems appropriate. Auburn hereby gives consent to Soos Creek for such service within Soos Creek's corporate boundaries as they presently exist, or as they may be modified in the future by annexation. Soos Creek shall be responsible for obtaining all necessary governmental franchises, approvals, easements and permits for the installation of said sewerage system within their delineated boundary.

3. **Sewer Availability Certificates.** Both parties acknowledge that Auburn may exercise planning jurisdiction over territory to which it will not provide sanitary sewer service in accordance with this agreement. Auburn hereby agrees that its planning shall be for sanitary sewer service to be provided by Soos Creek in those areas shown in Exhibit "A" as Soos Creek's service area; provided, however, that commencing on March 1, 2001, Soos Creek sewer availability certificates for all

service areas to be served by Soos Creek within Auburn and/or Auburn's Potential Annexation Area (PAA) in accordance herewith, shall be issued to applicants for sewer service only through Auburn.

4. **Soos Creek Comprehensive Sewer Planning Area.** The terms of this agreement will be included as an element of Soos Creek's Comprehensive Sewerage Plan. Soos Creek will submit to Auburn all Comprehensive Sewerage Plans thereto involving area and/or system improvements within Auburn's planning area. The Comprehensive Sewerage Plans and amendments shall be in compliance with Auburn's Standards for sanitary sewer service within Auburn and/or Auburn's PAA, except where preexisting facilities may differ from Auburn's standards. As facilities are replaced or as new facilities are planned and constructed within Auburn and/or Auburn's PAA, they shall conform to Auburn's service and facility standards for sanitary sewer service then in effect.

5. **Auburn Comprehensive Plan.** The terms of this agreement will be included as an element of the sewerage portion of Auburn's Comprehensive Plan, and Soos Creek's Comprehensive Plan.

6. **Future Annexations.** Each of the parties agree that Soos Creek shall provide sanitary sewer service to the areas shown in Exhibit "A" without regard to the present corporate limits of the parties, and without regard to future corporate limits as they may be amended by annexation to either party.

7. **Reliance.** Each party hereto acknowledges that the terms hereof will be relied upon by the other in its comprehensive planning to meet the needs of the service area designated herein.

8. **Liability.** Neither party to this agreement shall be liable for any failure or interruption of service in the service area of the other party, as designated herein, except as may be specifically caused by the other party.

9. **Government Approvals.** The parties will give notice of the adoption of this Agreement to Metropolitan/King County, to the Department of Ecology, to the Department of Health, and to any other agency with jurisdiction or mission relevant to the terms hereof, and shall cooperate and assist in all reasonable manner in procuring any necessary approvals hereof by those agencies.

10. **Boundary Review Board.** In the event that implementation of the terms hereof results in permanent sewer service to areas that will be outside the respective service boundaries of Soos Creek or Auburn, the parties will at the time of such service jointly seek approval of the King County Boundary Review Board in accordance with R.C.W. 36.93.090.

11. **Service Amendments.** Any changes to the service areas described herein shall be by mutual agreement. Each party may give permission to the other on a case-by-case basis to provide service by one party into the other party's adjacent or nearby service area based upon considerations of economic efficiency for providing the service with mutual consent of Auburn's Director of Public Works and Soos Creek's District Manager.

12. **Alteration, Amendment, Modification, or Termination.** Soos Creek and Auburn hereby reserve the right to alter, amend modify or terminate the terms and conditions of this Agreement upon consent of both Parties given in writing.

13. **Indemnification and Hold Harmless.** Each Party hereto agrees to protect, defend, and indemnify the other Party, its officers, officials, employees and agents from any and all cost, claims judgements and/or awards of damages, arising out of or in any way resulting from the Party's default, failure of performance, or negligent conduct associated with this agreement, by the Party, its employees, subcontractors or agents. Each Party agrees that its obligations under this provision extend to any claim, demand, and/or cause of action brought by or on behalf of any of its employees, or agents. The foregoing indemnity is specifically and expressly intended to constitute a waiver of each Party's immunity under Washington's Industrial Insurance Act, RCW Title 51, as respects the other Party only, and only to the extent necessary to provide each Party with a full and complete indemnity of claims made by the other Party's employees. The Parties acknowledge that these provisions were specifically negotiated and agreed upon by them.

In the event either Party incurs any costs including attorney fees to enforce the provisions of this article and prevails in such enforcement action, all such costs and fees shall be recoverable from the losing Party.

The provisions of this section shall survive the expiration or earlier termination of this agreement with regard to any event that occurred prior to or on the date of such expiration or earlier termination.

14. **Dispute Resolution.** In the event that any dispute arises between the Parties, either Party may request in writing that the issue in dispute be resolved by Mediation and, if necessary, binding Arbitration. In the event the matter cannot be resolved by the mediation process then it shall go promptly to binding Arbitration with no right of appeal. Arbitration shall be by the American Arbitration Association, or by such other entity as the Parties agree.

15. **Sanctity of Agreement.** This agreement constitutes the entire agreement of the parties regarding the subject matter hereof, and there are no other representations or oral agreements other than those listed herein, which vary the

terms of this agreement. Future agreements may occur between the parties to transfer additional or future service areas by mutual agreement.

16. Obligation Intact. Nothing herein shall be construed to alter the rights, responsibilities, liabilities, or obligations of either Soos Creek or Auburn regarding provision of sewer service, except as specifically set forth herein.

SOOS CREEK WATER AND SEWER DISTRICT

Approved by Resolution No. 2141-S of the Soos Creek Water and Sewer District, Washington, at its regular meeting held on the 21st day of March, 2001.

By:

~~Ron Speer,~~ President of Board
Karen L. Webster

Attest:

Secretary of Board
Philip W. Sullivan

Approved as to form:

Soos Creek Attorney
Michael M. Harris

CITY OF AUBURN

Approved by Resolution No. 3321 of the City of Auburn, Washington, at its regular meeting held on the 20th day of February, 2001.

By:

Charles A. Booth

Charles A. Booth, Mayor

Attest:

Danielle Daskam

Danielle Daskam, City Clerk

Approved as to form:

Michael Reynolds, City Attorney

JUNE 2000

EXHIBIT "A"

CITY OF AUBURN / SOOS CREEK WATER & SEWER DISTRICT INTERLOCAL AGREEMENT

PROPOSED SEWER SERVICE PLANNING AREAS

LEGEND

- SCWSD CORPORATE BOUNDARY
- SCWSD SEWER PLANNING AREA BOUNDARY
- CITY OF KENT CORPORATE BOUNDARY
- CITY OF AUBURN SEWER SERVICE AREA BOUNDARY
- SEWER SERVICE DIVISION LINE

APPROVAL

SOOS CREEK W & S DISTRICT

CITY OF AUBURN

CITY OF KENT SEWER SERVICE AREA

CITY OF KENT & SOOS CREEK WATER & SEWER DISTRICT MUTUAL SEWER SERVICE AREA

SOOS CREEK W & S DISTRICT SEWER SERVICE AREA

SOOS CREEK W & S DISTRICT SEWER SERVICE AREA

CITY OF AUBURN SEWER SERVICE AREA

Lake Meridian

KENT-KANGLEY ROAD

BONNEVILLE TRANS. LN

SR 18

F:\04\040\DWGS\AUB-EXA.DWG - JANUARY 2001

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 2545-C

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, approving First Addendum to Agreement for the Transfer of Facilities and for the Establishment of Service Boundaries: City of Renton.

WHEREAS, the District has entered into an AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SEWER BOUNDARIES with the City of Renton; and

WHEREAS, by Addendum the District and the City desire to amend the Agreement regarding its establishment of sewer and water service areas.

NOW, THEREFORE, BE IT RESOLVED by the Commissioners of Soos Creek Water and Sewer District, King County, Washington, as follows:

SECTION 1: That Soos Creek Water and Sewer District hereby agrees to amendment of the Interlocal Agreement with the City of Renton by execution of the following, a copy of which is attached hereto as Exhibit A:

FIRST ADDENDUM TO AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SERVICE BOUNDARIES

SECTION 2: That the District take such action as is appropriate to accomplish the terms hereof.

Adopted by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 21st day of January, 2004.

STEVE SANDELIUS, President

RANDY REECE, Secretary

PHILIP SULLIVAN, Commissioner

KAREN WEBSTER, Commissioner

CLEMENT QUANRUD, Commissioner

ORIGINAL

CAG-91-083 Addendum 1-04

FIRST ADDENDUM TO CITY OF RENTON & SOOS CREEK WATER AND SEWER DISTRICT AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SERVICE BOUNDARIES

THIS ADDENDUM, made and entered into this 26th day of January, 2004, by and between the **CITY OF RENTON**, a Washington municipal corporation, hereinafter referred to as "the City", and **SOOS CREEK WATER AND SEWER DISTRICT**, a Washington municipal corporation, hereinafter referred to as "the District", both being duly organized and existing under and by virtue of the laws of the State of Washington.

WITNESSETH:

WHEREAS, with effective date of the 6th day of August, 1991, the City and the District entered into the following agreement:

CITY OF RENTON & SOOS CREEK WATER AND SEWER DISTRICT
AGREEMENT FOR THE TRANSFER OF FACILITIES
AND FOR
THE ESTABLISHMENT OF SERVICE BOUNDARIES

(1991 AGREEMENT); and

WHEREAS, by mutual agreement, in 1997 the City and the District amended the boundaries as contained in the Agreement by the execution of the following agreement

CITY OF RENTON and SOOS CREEK WATER AND SEWER DISTRICT
INTERLOCAL AGREEMENT FOR THE
ESTABLISHMENT OF SERVICE BOUNDARIES

(1997 AGREEMENT); and

WHEREAS, the 1997 AGREEMENT left all obligations of the 1991 AGREEMENT intact, changing only the service area descriptions of the 1991 AGREEMENT; and

WHEREAS, the parties now desire to modify the 1991 AGREEMENT as to both terms and service area; and

WHEREAS, the 1991 AGREEMENT as modified by the 1997 AGREEMENT, and by this Addendum, will continue to provide for maximum efficient use of existing and future facilities, and orderly and efficient water and sanitary sewer system planning.

NOW, THEREFORE:

IT IS HEREBY AGREED by and between the parties hereto as follows:

1. **Sale of Springbrook Area Sewer System to Renton.** The parties have agreed that in consideration of the mutual agreements contained herein, that all payment obligations contained in Section 6. and Section 7. of the 1991 AGREEMENT regarding the sale of the Springbrook Sewer System to Renton shall be deemed to have been satisfied in full and Renton shall have no further payment or accounting obligation there for.

2. **Amended Terms for Service and Payment by District for Stonehaven Area.** The parties agree that as an alternative the District may connect the Stonehaven and adjacent area, as shown on Exhibit "A" which is by reference incorporated herein, to the South 47th Street sewer line of Renton, generally in the manner shown on said Exhibit. In the event of such alternate connection, and in consideration thereof, the District shall pay one half of the General Facilities Charges it collects from such area to Renton, after the property owner has made such payment to the District. Total payment will be dependent upon the number of units utilizing such alternate connection, when the charge is paid, the rate at the time of connection, and the number of units developed.

3. **Termination on Build-out.** The terms hereof with regard to the Stonehaven and adjacent area shall terminate and be of no further force or effect upon completion of build-out within that area.

4. **Remaining Obligations Intact.** Nothing herein shall be construed to alter the rights, responsibilities, liabilities, or obligations of either the City or the District pursuant to either the 1991 AGREEMENT or the 1997 AGREEMENT, previously executed by the parties, except as specifically set forth herein.

Approved by Resolution No. 3681 of the City Council of the **CITY OF RENTON**, Washington, at its regular meeting held on the 22nd day of December, ~~2004~~ 2003

CITY OF RENTON

By: Kathy Keolker-Wheeler

Title: Kathy Keolker-Wheeler, Mayor

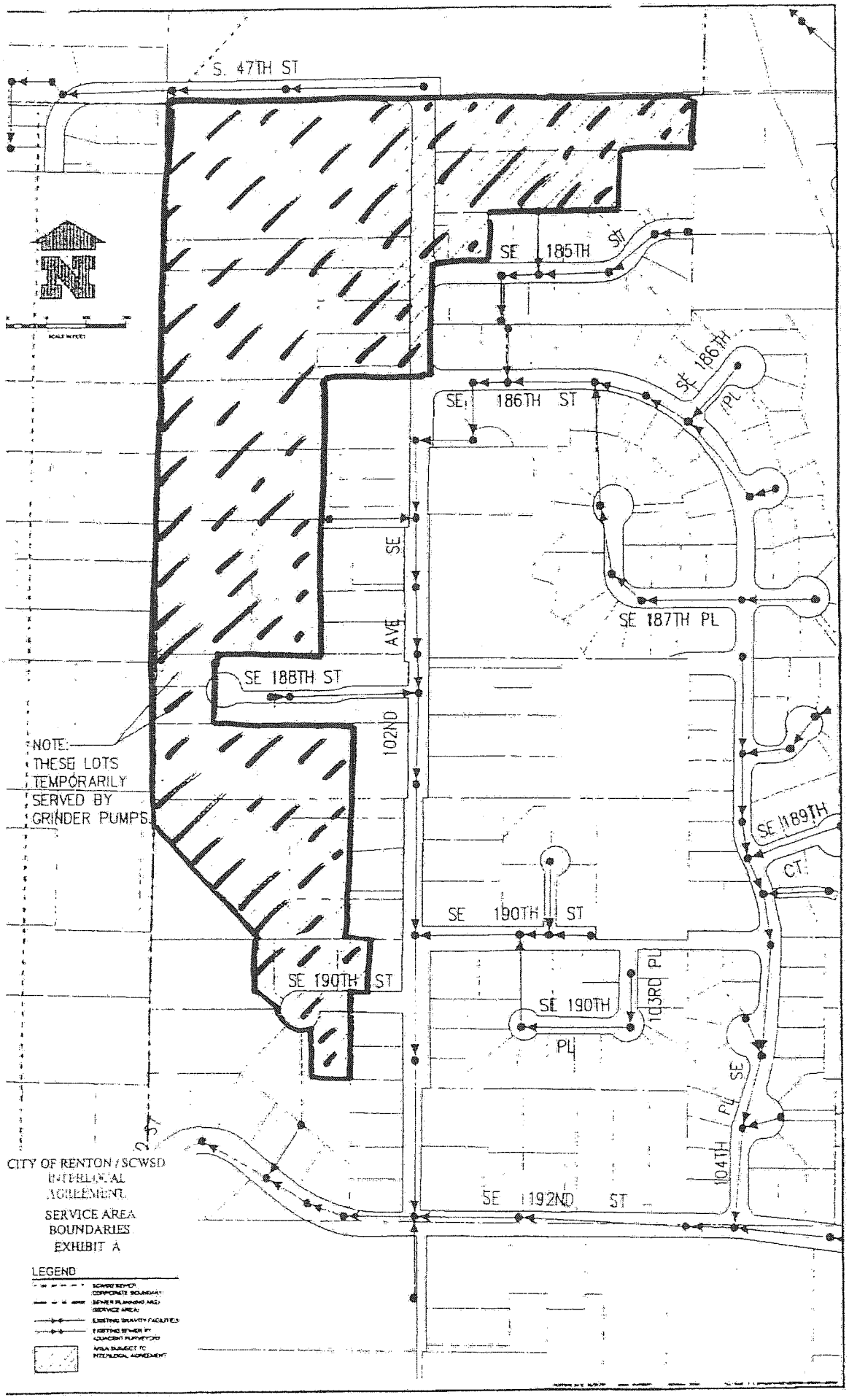
Attest: Bonnie I. Walton
City Clerk - Bonnie I. Walton

Approved by Resolution No. 2545-S of the Board of Commissioners of **SOOS CREEK WATER AND SEWER DISTRICT** of King County, Washington, at its regular meeting held on the 7th day of January, ~~2003~~ 2004.

SOOS CREEK WATER AND SEWER DISTRICT

By: Philip (L.) Sullivan
Philip Sullivan, President of Board

By: Randy Reece
~~Clement Quamrud~~, Secretary of Board
Randy Reece Acting


S. 47TH ST
SE 185TH ST
SE 186TH ST
SE 186TH PL
SE 187TH PL
SE 188TH ST
102ND AVE SE
NOTE:
THESE LOTS
TEMPORARILY
SERVED BY
GRINDER PUMPS.
SE 189TH CT
SE 190TH ST
SE 190TH ST
SE 190TH PL
103RD PL SE
104TH PL SE
SE 192ND ST
CITY OF RENTON / SCWSD
INTERLOCAL
AGREEMENT
SERVICE AREA
BOUNDARIES
EXHIBIT A
LEGEND

RECEIVED
SEP 24 1987
SOOS CREEK
WATER & SEWER DISTRICT

Executed in 6 counterparts of which this is counterpart No. 5

AGREEMENT FOR SEWAGE DISPOSAL

THIS AGREEMENT made as of this 1st day of August, 1963, between CASCADE SEWER DISTRICT, a municipal corporation of the State of Washington, hereinafter referred to as the "District", and the MUNICIPALITY OF METROPOLITAN SEATTLE, a municipal corporation of the State of Washington, hereinafter referred to as "Metro",

W I T N E S S E T H:

WHEREAS, the public health, welfare and safety of the residents of the District and the residents of Metro require the development of adequate systems of sewage collection and disposal, the elimination of water pollution and the preservation of the fresh and salt water resources of the area; and

WHEREAS, Metro is engaged in developing and operating a Metropolitan Sewage Disposal System and the District is engaged in developing and operating a sewage collection system for the District; and

WHEREAS, the District desires to deliver sewage collected by the District to Metro for disposal; and

WHEREAS, a portion of the District is located within the present boundaries of Metro and a portion of the District is located outside of but adjacent to the boundaries of Metro; and

WHEREAS, to provide for the disposal by Metro of sewage collected by the District it is necessary that a contract be now entered into establishing certain rights and duties of the parties incident thereto;

NOW, THEREFORE, in consideration of the mutual covenants contained herein, it is hereby agreed as follows:

Section 1. Definition of Terms. The following words and phrases used in this contract shall have the meanings hereinafter set forth in this section:

a) The words "Comprehensive Plan" shall mean the Comprehensive Sewage Disposal Plan adopted in Resolution No. 23 of the Municipality of Metropolitan Seattle and all amendments thereof heretofore or hereafter adopted.

b) The words "Metropolitan Sewerage System" shall mean all of the facilities to be constructed, acquired or used by Metro as a part of the Comprehensive Plan. The Metropolitan Sewerage System shall generally include sewage disposal facilities with capacity to receive sewage from natural drainage areas of approximately one thousand acres or more. The Metropolitan Sewerage System shall thus include trunk or interceptor sewer facilities extending to a point within each tributary, and natural drainage area, where not more than one thousand acres remain to be served beyond the upper terminus of such trunk or interceptor sewer.

c) The word "Participant" shall mean each city, town, county, sewer district, municipal corporation, person, firm or private corporation which shall dispose of any portion of its sanitary sewage into the Metropolitan Sewerage System and shall have entered into a contract with Metro providing for such disposal.

d) The words "Local Sewerage Facilities" shall mean all facilities owned or operated by a Participant for the local collection of sewage to be delivered to the Metropolitan Sewerage System.

e) The words "Metropolitan Area" shall mean the area contained within the boundaries of the Municipality of Metropolitan Seattle as now or hereafter constituted.

f) The words "Residential Customer" shall mean a single family residence billed by a Participant for sewerage charges.

Section 2. Delivery and Acceptance of Sewage. Effective August 1 , 1963, the District shall deliver to Metro all of the sewage and industrial waste collected by the District and Metro shall accept the sewage and waste delivered for treatment and disposal as hereinafter provided subject to such reasonable rules and regulations as may be adopted from time to time by the Metropolitan Council.

Metro shall not directly accept sewage or wastes from any person, firm, corporation or governmental agency which is located within the boundaries of the District without the written consent of the District.

Section 3. Construction of Metro Facilities. Metro shall construct, acquire or otherwise secure the right to use all facilities of the Metropolitan Sewerage System required for the disposal of sewage delivered to Metro pursuant to this Agreement and shall perform all services required for the maintenance, operation, repair, replacement or improvement of the Metropolitan Sewerage System, including any additions and betterments thereto.

Section 4. Connection of Local Sewerage Facilities to Permanent Facilities of the Metropolitan Sewerage System. Local Sewerage Facilities of the District shall be connected to the Metropolitan Sewerage System at such time as any of the permanent facilities of such Metropolitan Sewerage System shall be available to receive sewage collected by such local facilities. Such connection shall be accomplished at the expense of the District and in accordance with the rules and regulations of Metro at such point or points of connection as shall be determined by Metro.

Section 5. Payment for Sewage Disposal. For the disposal of sewage collected by the District and delivered to Metro the District shall pay to Metro on or before the last day of each month during the term of this agreement, commencing with the month in which sewage is first delivered to Metro by the District, a sewage disposal charge determined as provided in this Section 5.

1. For the quarterly periods ending March 31, June 30, September 30 and December 31 of each year every Participant shall submit a written report to Metro setting forth (a) the number of Residential Customers billed by such Participant for local sewerage charges as of the last day of the quarter, (b) the total number of all customers billed by such Participant as of such day and (c) the total water consumption during such quarter for all customers billed by such Participant other than Residential Customers. The quarterly water consumption report shall be taken from water meter records and may be adjusted to exclude water which does not enter the sanitary facilities of a customer. Where actual sewage flow from an individual customer is metered, the metered sewage flows shall be reported in lieu of adjusted water consumption. The total quarterly water consumption report in cubic feet shall be divided by 2,700 to determine the number of Residential Customer equivalents represented by each Participant's customers other than single family residences. Metro shall maintain a permanent record of the quarterly customer reports from each Participant.

The District's first quarterly report shall cover the first quarterly period following the date when sewage is first delivered to Metro and shall be submitted within thirty days following the end of the quarter. Succeeding reports shall be

made for each quarterly period thereafter and shall be submitted within thirty (30) days following the end of the quarter. For so long as any part of the District shall remain outside of the metropolitan area the District shall separately report the number of Residential Customers and Residential Customer equivalents located within the Metropolitan Area and the number thereof located outside the Metropolitan Area.

2. a) To form a basis for determining the monthly sewage disposal charge to be paid by each Participant during any particular quarterly period, Metro shall ascertain the number of Residential Customers and Residential Customer equivalents of each Participant. This determination shall be made by taking the sum of the actual number of Residential Customers reported as of the last day of the next to the last preceding quarter and the average number of Residential Customer equivalents per quarter reported for the four quarters ending with said next to the last preceding quarter, adjusted for each Participant to eliminate any Residential Customers or Residential Customer equivalents whose sewage is delivered to a governmental agency other than Metro or other than a Participant for disposal outside of the Metropolitan Area. The number thus determined is hereinafter called the "basic reported number."

b) For the initial period until the District shall have submitted six consecutive quarterly reports, the basic reported number of Residential Customers and Residential Customer equivalents of the District shall be determined as provided in this subparagraph (b). On or before the tenth day of each month beginning with the month prior to the month in which sewage from the District is first delivered to Metro, the District shall submit a written statement of the number of Residential Customers and Residential

Customer equivalents estimated to be billed by the District during the next succeeding month. For the purpose of determining the basic reported number of Residential Customers or Residential Customer equivalents of the District for such next succeeding month, Metro may at its discretion adopt either such estimate or the actual number of Residential Customers and Residential Customer equivalents reported by the District as of the last day of the next to the last preceding reported quarter. After the District shall have furnished six consecutive quarterly reports the basic reported number of Residential Customers and Residential Customer equivalents of the District shall be determined as provided in the immediately preceding subparagraph (a).

c) If the District shall fail to submit the required monthly and/or quarterly reports when due, Metro may make its own estimate of the number of Residential Customers and Residential Customer equivalents of the District and such estimate shall constitute the basic reported number for the purpose of determini sewage disposal charges.

d) The basic reported number of Residential Customers and Residential Customer equivalents of the District shall be further adjusted by adding thereto twenty-five per cent (25%) of the number of Residential Customers or Residential Customer equivalents of the District located outside the present boundaries of Metro. The sum thus determined is hereinafter called the "adjusted reported number." If any portion of the District shall be annexed to Metro after the date of this agreement the twenty-five per cent additive adjustment shall be eliminated as to the number of Residential Customers or Residential Customer equivalents located within such annexed area, if and when a period of 13 months shall have elapsed since the effective date for the delivery of sewage under this Agreement. The adjusted reported

number of Residential Customers and Residential Customer equivalents of the District shall be the number of Residential Customers and Residential Customer equivalents reported by the District for the purpose of determining sewage disposal charges pursuant to Paragraphs 3 and 4 of this section.

3. Prior to December 31, 1963, the monthly disposal charge to be paid by the District to Metro shall be obtained by multiplying the number of Residential Customers and Residential Customer equivalents of the District as determined in subparagraph 2 of this section by the monthly rate of Two Dollars.

4. For each calendar year after the year 1963, the monthly sewage disposal charge payable to Metro shall be determined as follows:

a) Prior to July 1st of each year Metro shall determine its total monetary requirements for the disposal of sewage during the next succeeding calendar year. Such requirements shall include the cost of administration, operation, maintenance, repair and replacement of the Metropolitan Sewerage System, establishment and maintenance of necessary working capital and reserves, the requirements of any resolution providing for the issuance of revenue bonds of Metro to finance the acquisition, construction or use of sewerage facilities, plus not to exceed 1% of the foregoing requirements for general administrative overhead costs.

b) To determine the monthly rate per Residential Customer or Residential Customer equivalent to be used during said next succeeding calendar year, the total monetary requirements for disposal of sewage as determined in subparagraph 4(a) of this section shall be divided by twelve and the resulting quotient shall be divided by the total number of Residential Customers and Residential Customer equivalents of all Participants

for the October-December quarter preceding said July 1st; provided, however, that the monthly rate shall not be less than Two Dollars ($2.00) per month per Residential Customer or Residential Customer equivalent at any time during the period ending July 31, 1972.

c) The monthly sewage disposal charge paid by each Participant to Metro shall be obtained by multiplying the monthly rate by the number of Residential Customers and Residential Customer equivalents of the Participant. An additional charge may be made for sewage or wastes of unusual quality or composition requiring special treatment, or Metro may require pretreatment of such sewage or wastes. An additional charge may be made for quantities of storm or ground waters entering those Local Sewerage Facilities which are constructed after January 1, 1961, in excess of the minimum standard established by the general rules and regulations of Metro.

5. A statement of the amount of the monthly sewage disposal charge shall be submitted by Metro to each Participant on or before the first day of each month and payment of such charge shall be due on the last day of such month. If any charge or portion thereof due to Metro shall remain unpaid for fifteen days following its due date, the Participant shall be charged with and pay to Metro interest on the amount unpaid from its due date until paid at the rate of 6% per annum, and Metro may, upon failure to pay such amount, enforce payment by any remedy available at law or equity.

6. The District irrevocably obligates and binds itself to pay its sewage disposal charge out of the gross revenues of the sewer system of the District. The District further binds itself to establish, maintain and collect charges for sewer service which will at all times be sufficient to pay all costs of

maintenance and operation of the sewer system of the District, including the sewage disposal charge payable to Metro hereunder and sufficient to pay the principal of and interest on any revenue bonds of the District which shall constitute a charge upon such gross revenues. It is recognized by Metro and the District that the sewage disposal charge paid by the District to Metro shall constitute an expense of maintenance and operation of the sewer system of the District. The District shall provide in the issuance of future sewer revenue bonds of the District that expenses of maintenance and operation of the sewer system of the District shall be paid before payment of principal and interest of such bonds. The District shall have the right to fix its own schedule of rates and charges for sewer service provided that same shall produce revenue sufficient to meet the covenants contained in this Agreement and provided that the customers of the District located within the Metropolitan Area shall be separately classified from those located outside the Metropolitan Area for rate making purposes and the rates for sewer service to customers located within the Metropolitan Area shall fully reflect any lower Metro sewage disposal charge for sewage from customers within the Metropolitan Area

Section 6. Responsibility of District. The District shall be responsible for the delivery to the Metropolitan Sewerage System of sewage collected by the District, for the construction, maintenance and operation of Local Sewerage Facilities, and for the payment of all costs incident to the collection of such sewage and its delivery to the Metropolitan Sewerage System.

Section 7. Records. Permanent books and records shall be kept by Metro of the rates established, the volumes of sewage delivered and discharged into the Metropolitan Sewerage System wherever such volumes are measured and the number of Residential

Customers and Residential Customer equivalents reported by each Participant for the purpose of determining sewage disposal charges, in addition to complete books of account showing all costs incurred in connection with the Metropolitan Sewerage System.

Section 8. Development of Metropolitan Sewerage System. It is contemplated that the Metropolitan Sewerage System will be developed in stages and the nature of facilities to be constructed acquired or used and the time of such construction, acquisition or use shall be determined by Metro, it being contemplated that Metro shall ultimately provide sewage disposal service for the entire Metropolitan Area and such adjacent areas as may be feasibly served into the Metropolitan Sewerage System.

Section 9. Temporary Sewage Disposal. Effective August 1 , 1963, Metro shall operate and maintain the temporary sewage disposal facilities constructed by Cascade Utilities, Inc. as described in Exhibit A attached hereto. The District shall acquire said facilities and Metro shall pay to the District the actual cost of such acquisition not exceeding the sum of $120,804.69. Metro shall have the right without additional cost or rental to use all of said facilities, including all lands used in connection therewith, for as long as Metro shall deem the operation of such facilities to be necessary. When Metro shall no longer require the use of such facilities it shall own and may remove the irrigation system piping and equipment and shall have no ownership of and shall abandon the remainder of the temporary sewage disposal facilities. Metro shall have no obligation to dismantle, remove or otherwise perform any service in connection with such temporary sewage disposal facilities. The parties recognize that the number of Residential Customers or Residential Customer equivalents which can be served into such

temporary facilities is limited and Metro reserves the right to limit connections to such facilities during the period of their use and shall be under no obligation to provide additional or enlarged temporary facilities for the District.

Section 10. Insurance and Liability for Damages. The District shall secure and maintain with responsible insurers all such insurance as is customarily maintained with respect to sewage systems of like character against loss of or damage to the sewerage facilities of the District and against public and other liability to the extent that such insurance can be secured and maintained at reasonable cost. Any liability incurred by Metro as a result of the operation of the Metropolitan Sewerage System shall be the sole liability of Metro and any liability incurred by the District as a result of the operation of the Local Sewerage Facilities of the District shall be the sole liability of the District. Any liability stemming from the establishment or existence of the temporary sewerage disposal facilities and any liability stemming from the method or manner of operation of such facilities for damage occurring prior to the operation thereof by Metro shall be the sole responsibility and liability of the District and the District shall defend same and hold Metro harmless therefrom. Any liability stemming from the method or manner of operation by Metro of the temporary sewage disposal facilities for damage occurring subsequent to the operation of such facilities by Metro shall be the sole responsibility and liability of Metro and Metro shall defend same and hold the District harmless therefrom.

Section 11. Assignment. The District shall not have the right to assign this Agreement or any of its rights and obligations hereunder either by operation of law or by voluntary

agreement without the written consent of Metro and neither party may terminate its obligations hereunder by dissolution or otherwise without first securing the written consent of the other party and this Agreement shall be binding upon and inure to the benefit of the respective successors and assigns of the parties hereto. In the event that the District should be dissolved, the local sewer facilities owned and operated by the District within the Metropolitan Area shall by such act of dissolution be assigned and transferred to Metro subject to any outstanding debts of the District incurred for the construction or acquisition of such facilities and subject to the obligation of Metro to continue to provide sewer service to the residents served by such local facilities upon payment of the reasonable costs thereof by the users thereof.

Section 12. Effective Date and Term of Contract. This Agreement shall be in full force and effect and binding upon the parties hereto upon the execution of the Agreement and shall continue in full force and effect for a period of fifty years.

Section 13. Notice. Whenever in this Agreement notice is required to be given, the same shall be given by Registered Mail addressed to the respective parties at the following addresses:

Municipality of Metropolitan Seattle
410 West Harrison Street
Seattle 99, Washington

Cascade Sewer District
c/o Donald G. Holm
232 Main Street
Renton, Washington

unless a different address shall be hereafter designated in writing by either of the parties.

The date of giving such notice shall be deemed to be the date of mailing thereof. Billings for and payments of sewage

disposal costs may be made by regular mail.

Section 14. Execution of Documents. This Agreement shall be executed in six counterparts, any of which shall be regarded for all purposes as one original. Each party agrees that it will execute any and all deeds, leases, instruments, documents and resolutions or ordinances necessary to give effect to the terms of this Agreement.

Section 15. Waiver. No waiver by either party of any term or condition of this Agreement shall be deemed or construed as a waiver of any other term or condition, nor shall a waiver of any breach be deemed to constitute a waiver of any subsequent breach whether of the same or a different provision of this Agreement.

Section 16. Remedies. In addition to the remedies provided by law, this Agreement shall be specifically enforceable by either party.

Section 17. Entirety. This Agreement merges and supersedes all prior negotiations, representations and agreements between the parties hereto relating to the subject matter hereof and constitutes the entire contract between the parties.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

CASCADE SEWER DISTRICT

By _____
Commissioner

_____
Commissioner

_____
Commissioner

ATTEST:

_____
Secretary of the Board of Commissioners

MUNICIPALITY OF METROPOLITAN SEATTLE

BY _____
C. Carey Donworth
Chairman of the Council

ATTEST:

_____
Marilyn Sullivan
Clerk of the Council

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

On this 18th day of July, 1963, before me personally appeared LOWELL V. LECKENBY, CHARLES BAYLESS and GEORGE McCAMMON to me known to be the Commissioners of CASCADE SEWER DISTRICT, a municipal corporation, and acknowledged the within and foregoing instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they were authorized to execute said instrument and that the seal affixed is the corporate seal of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

Notary Public in and for the State of Washington, residing at Renton

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

On this 19th day of July, 1963, before me personally appeared C. CAREY DONWORTH and MARALYN SULLIVAN, to me known to be the Chairman of the Council and Clerk of the Council, respectively, of the Municipality of Metropolitan Seattle, a municipal corporation, and acknowledged the within and foregoing instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they were authorized to execute said instrument and that the seal affixed is the corporate seal of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

Notary Public in and for the State of Washington, residing at Seattle

EXHIBIT A

The treatment plant facilities in Cascade Sewer District consist of:

Two spiragester settling and digestion tanks;

Effluent wet well with pumphouse, 4 pumps, motors and electrical starters and controls;

Inlet Parshall flume, flow recorder and flow dividing structure;

Control house with chlorinator, and laboratory;

Miscellaneous operating equipment and supplies;

All located on a 4-acre tract described as the North 300 feet of the West 316.80 feet of the SW 1/4 of the NE 1/4 of Section 28, and the South 250 feet of the West 316.80 feet of the NW 1/4 of the NE 1/4 of said Section 28, in Township 23 North, Range 5 East W.M.

The sewage sprayfields in Cascade Sewer District consist of:

Force main from treatment plant to spray areas with necessary valves;

Aluminum irrigation type distribution piping, couplings, fittings, etc.

Spray nozzles and riser piping;

All located on the following described tracts:

A 12.87-acre Tract: The East 500 feet of the North 1121 feet of the SE 1/4 of NE 1/4 of Section 28, Township 23 North, Range 5 East W.M.;

An 8-acre Tract: That portion of NE 1/4 of NE 1/4 of Section 28, Township 23 North, Range 5 East W.M., lying North and East of City of Seattle Cedar River pipeline R/W, EXCEPT the North 130 feet of the Westerly 214.02 feet of above described portion (owned by Fire District 140, lying adjacent to the Cedar River pipeline R/W) and EXCEPT County Road lying adjacent to Cedar River pipeline and subject to Easement for gas line over the North 40 feet of said Subdivision.

TOGETHER WITH the following reserve sprayfield areas:

A 13-acre Tract: Described as the West 680 feet of the East 1180 feet of the North 830 feet of the SE 1/4 of NE 1/4 of Section 28, Township 23 North, Range 5 East W.M.

A 10-acre Tract: Described as Beginning at a point on the Easterly line of the SE 1/4 of NE 1/4 of Section 28, Township 23 North, Range 5 East W.M., which is 1121 feet South of the North line of said SE 1/4 of NE 1/4; thence West at right angles to said East line 330 feet; thence South parallel to East line of Section 28 a distance of 1320 feet; thence at right angles East to the East line of said Sec. 28; thence North along the East line of Section 28, a distance of 1320 feet to Point of Beginning.

SOOS CREEK WATER AND SEWER DISTRICT

MUNICIPALITY OF METROPOLITAN SEATTLE

AMENDMENT TO AGREEMENT
FOR SEWAGE DISPOSAL

THIS AMENDMENT made as of the ~~19th~~ 2nd day of ~~APRIL~~ October, ~~1990~~ 1997 between the Soos Creek Water and Sewer District, formerly Cascade Sewer District a municipal corporation of the State of Washington (hereinafter referred to as the "District") and the Municipality of Metropolitan Seattle, a metropolitan municipal corporation of the State of Washington (hereinafter referred to as "Metro");

WITNESSETH:

WHEREAS, the parties have entered into a long term Agreement for Sewage Disposal dated August 1, 1963 , as amended (hereinafter referred to as the "Basic Agreement"); and

WHEREAS, an advisory committee composed of elected and appointed officials in the metropolitan area was appointed by the Metropolitan Council to examine the structure of Metro's charges to its participants; and

WHEREAS, said advisory committee, following extensive research, study and deliberations, has recommended certain changes in the structure of Metro's charges to its participants and implementation of said changes requires amendment of the Basic Agreement; and

WHEREAS, the parties have determined that the recommendations are in the best public interest and therefore desire to amend said Basic Agreement to implement said recommendations;

NOW, THEREFORE, it is hereby agreed as follows:

Section 1. Amendment of Section 5 of the Basic Agreement. Section 5 of the Basic Agreement is hereby amended to read as follows:

"Section 5. Payment for Sewage Disposal. For the disposal of sewage hereafter collected by the District and delivered to Metro the District shall pay to Metro on or before the last day of each month during the term of this Agreement, a sewage disposal charge determined as provided in this Section 5.

1. For the quarterly periods ending March 31, June 30, September 30 and December 31 of each year every Participant shall submit a written report to Metro setting forth:

(a) the number of Residential Customers billed by such Participant for local sewerage charges as of the last day of the quarter,

(b) the total number of all customers billed for local sewerage charges by such Participant as of such day, and

(c) the total water consumption during such quarter for all customers billed for local sewerage charges by such Participant other than Residential Customers.

The quarterly water consumption report shall be taken from water meter records and may be adjusted to exclude water which does not enter the sanitary facilities of the customer. Where actual sewage flow from an individual customer is metered, the metered sewage flows shall be reported in lieu of adjusted water consumption. The total quarterly water consumption report in cubic feet shall be divided by 2,250 to determine the number of Residential Customer equivalents represented by each Participant's customers other than single family residences.

Metro shall maintain a permanent record of the quarterly customer reports from each Participant.

The District's first quarterly report shall cover the first quarterly period following the date when sewage is first delivered to Metro and shall be submitted within thirty days following the end of the quarter. Succeeding reports shall be made for each quarterly period thereafter and shall be submitted within thirty (30) days following the end of the quarter.

2. (a) To form a basis for determining the monthly sewage disposal charge to be paid by each Participant during any particular quarterly period, Metro shall ascertain the number of Residential Customers and Residential Customer equivalents of each Participant. This determination shall be made by taking the sum of the actual number of Residential customers reported as of the last day of the next to the last preceding quarter and the average number of Residential Customer Equivalents per quarter reported for the four quarters ending with said next to the last preceding quarter, adjusted for each Participant to eliminate any Residential Customers or Residential Customer equivalents whose sewage is delivered to a governmental agency other than Metro or other than a Participant for disposal outside of the Metropolitan Area.

(b) For the initial period until the District shall have submitted six consecutive quarterly reports, the reported number of Residential Customers and Residential Customer equivalents of the District shall be determined as provided in this subparagraph (b). On or before the tenth day of each month beginning with the month prior to the month in which sewage from the District is first delivered to Metro, the District shall submit a written statement of the number of Residential Customers and Residential Customer equivalents estimated to be billed by the District during

the next succeeding month. For the purpose of determining the basic reported number of Residential Customers and Residential Customer equivalents of the District for such next succeeding month, Metro may at its discretion adopt either such estimate or the actual number of Residential Customers and Residential Customer equivalents reported by the District as of the last day of the next to the last preceding reported quarter. After the District shall have furnished six consecutive quarterly reports the reported number of Residential Customers and Residential Customer equivalents of the District shall be determined as provided in the immediately preceding subparagraph (a).

(c) If the District shall fail to submit the required monthly and/or quarterly reports when due, Metro may make its own estimate of the number of Residential Customers and Residential Customer equivalents of the District and such estimate shall constitute the reported number for the purpose of determining sewage disposal charges.

3. The monthly sewage disposal charge payable to Metro shall be determined as follows:

(a) Prior to July 1st of each year Metro shall determine its total monetary requirements for the disposal of sewage during the next succeeding calendar year. Such requirements shall include the cost of administration, operation, maintenance, repair and replacement of the Metropolitan Sewerage System, establishment and maintenance of necessary working capital and reserves, the requirements of any resolution providing for the issuance of revenue bonds of Metro to finance the acquisition, construction or use of sewerage facilities, plus not to exceed 1% of the foregoing requirements for general administrative overhead costs.

(b) To determine the monthly rate per Residential Customer or Residential Customer equivalent to be used during said next succeeding calendar year, the total monetary requirements for disposal of sewage as determined in subparagraph 3(a) of this section shall be divided by twelve and the resulting quotient shall be divided by the total number of Residential Customers and Residential Customer equivalents of all Participants for the October-December quarter preceding said July 1st; provided, however, that the monthly rate shall not be less than Two Dollars ($2.00) per month per Residential Customer or Residential Customer equivalent at any time during the period ending July 31, 1972.

(c) The monthly sewage disposal charge paid by each Participant to Metro shall be obtained by multiplying the monthly rate by the number of Residential Customers and Residential Customer equivalents of the Participant. An additional charge may be made for sewage or wastes of unusual quality or composition requiring special treatment, or Metro may require pretreatment of such sewage or wastes. An additional charge may be made for quantities of storm or ground waters entering those Local Sewerage Facilities which are constructed after January 1, 1961 in excess of the minimum standard established by the general rules and regulations of Metro.

4. The parties acknowledge that, by resolution of the Metropolitan Council, Metro may impose a charge or charges directly on the future customers of a Participant for purposes of paying for capacity in Metropolitan Sewage Facilities and that such charges shall not constitute a breach of this agreement or any part thereof. The proceeds of said charge or charges, if imposed, shall be used only for capital expenditures or defeasance of outstanding revenue bonds prior to maturity.

In the event such a charge or charges are imposed, the District shall, at Metro's request, provide such information regarding new residential customers and residential customer equivalents as may be reasonable and appropriate for purposes of implementing such a charge or charges.

5. A statement of the amount of the monthly sewage disposal charge shall be submitted by Metro to each Participant on or before the first day of each month and payment of such charge shall be due on the last day of such month. If any charge or portion thereof due to Metro shall remain unpaid for fifteen days following its due date, the Participant shall be charged with and pay to Metro interest on the amount unpaid from its due date until paid at the rate of 6% per annum, and Metro may, upon failure to pay such amount, enforce payment by any remedy available at law or equity.

6. The District irrevocably obligates and binds itself to pay its sewage disposal charge out of the gross revenues of the sewer system of the District. The District further binds itself to establish, maintain and collect charges for sewer service which will at all times be sufficient to pay all costs of maintenance and operation of the sewer system of the District, including the sewage disposal charge payable to Metro hereunder and sufficient to pay the principal of and interest on any revenue bonds of the District which shall constitute a charge upon such gross revenues. It is recognized by Metro and the District that the sewage disposal charge paid by the District to Metro shall constitute an expense of the maintenance and operation of the sewer system of the District. The District shall provide in the issuance of future sewer revenue bonds of the District that expenses of maintenance and operations of the sewer system of the District shall be paid before payment of

principal and interest of such bonds. The District shall have the right to fix its own schedule of rates and charges for sewer service provided that same shall produce revenue sufficient to meet the covenants contained in this Agreement.

Section 2. Effective Date of Amendment. This amendment shall take effect at the beginning of the first quarter following the date first written above with quarters beginning January 1, April 1, July 1, and October 1.

Section 3. Basic Agreement Unchanged. Except as otherwise provided in this amendment, all provisions of the basic agreement shall remain in full force and effect as written therein.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first written above.

SOOS CREEK WATER AND SEWER DISTRICT

President
Board of Commissioners

ATTEST:

Secretary
Board of Commissioners

MUNICIPALITY OF METROPOLITAN SEATTLE

~~Gary Zimmerman~~
Chair of the Council

ATTEST:

MAY 2 8 1992

CASCADE SEWER DISTRICT

MUNICIPALITY OF METROPOLITAN SEATTLE

EXTENSION OF AGREEMENT FOR SEWAGE DISPOSAL

WHEREAS, Cascade Sewer District (the "District") and the Municipality of Metropolitan Seattle (the "Municipality") are parties to a certain Agreement for Sewage Disposal (the "Agreement") dated August 1, 1963, as amended, pursuant to which the District delivers to the Municipality for treatment and disposal all the sewage and industrial wastes it collects from its service area; and

WHEREAS, the Agreement expires by its terms on July 1, 2016; and

WHEREAS, it is in the best interests of the District and the Municipality that the expiration date of the Agreement be extended in order to allow the Municipality to sell and issue its sewer revenue bonds with maturities extending beyond 2016;

NOW, THEREFORE, in consideration of the mutual covenants contained herein and in the Agreement, it is hereby agreed as follows:

The Agreement for Sewage Disposal between Cascade Sewer District and the Municipality of Metropolitan Seattle dated August 1, 1963, as amended, is hereby extended for a period of twenty years and shall continue in full force and effect until July 1, 2036.

It is further agreed that all other provisions of said Agreement shall remain unchanged, and the Agreement dated August 1, 1963, as amended, as extended herein shall constitute the entire Agreement for Sewage Disposal between the parties.

DATED: This 19th day of September, 1985

CASCADE SEWER DISTRICT

ATTEST:

MUNICIPALITY OF METROPOLITAN SEATTLE

Gary Zimmerman
Chairman of the Council

ATTEST:

Bonnie Mattson
Clerk of the Council

FRANCHISE NO. 14916

In the matter of the application for a franchise to operate, maintain, repair, and construct and sewer mains, service lines, and appurtenances in, over, along, and under County roads and rights-of-way in King County, Washington.

The application of the Soos Creek Water and Sewer District for a franchise to operate, maintain, repair and construct sewer mains, service lines, and appurtenances in, over, along, and under County roads and rights-of-way located within the area described in attached Exhibit "A" has been heard on this 24th day of May, 2004. All of the property described in Exhibit "A" lies outside the limits of any incorporated Town or City.

Legal notice of the franchise application and of the hearing has been given as is required by law.

The King County Council, having considered the interests proposed and advanced, and finding that the granting of this franchise is in the public interest, ORDERS that a franchise be granted to the Soos Creek Water and Sewer District, the Grantee, subject to the conditions set forth in Exhibit "B" attached hereto, this franchise and Ordinance No.14916. This franchise grants the right, privilege, authority and franchise to operate, maintain, repair and construct mains and service lines and appurtenances as a part of its distribution system in, over, along, and under County roads and rights-of-way located within the area described in Exhibit "A".

This franchise is granted subject to all of the terms and conditions contained herein, within Ordinance No. 14916 and Exhibit "B", and shall expire in twenty-five years on May 24, 2029.

Dated this 3 day of June, 2004.

KING COUNTY, WASHINGTON

BY _____

TITLE King County Executive

The undersigned accepts all the rights, privileges, and duties of this franchise subject to all terms, conditions, stipulations, and obligations contained herein, within Ordinance 14916 and Exhibit "B".

SOOS CREEK WATER AND SEWER DISTRICT
GRANTEE

BY _____

TITLE District

Dated this 28 day of June, 2004.

EXHIBIT " A"

BEGINNING at the intersection of the center line of the City of Seattle Cedar River Pipeline right-of-way and the west line of the Southeast quarter of the Southwest quarter of Section 15, Township 22 North, Range 6 East, W.M., in King County, Washington, said point being on the existing franchise boundary of Soos Creek Water & Sewer District;

Thence North 00°38'35" East, along said west line to its intersection with the Southeast corner of the Northwest quarter of said Southwest quarter of Section 15;

Thence continuing North 00°38'35" East, along the East line of said Northwest quarter of the Southwest quarter to its intersection with the Northeasterly line of said City of Seattle Cedar River Pipeline right-of-way, said point also being a point on a curve, concave southwesterly and having a radius of 1,752.10 feet, to which point a radial line bears North 41°33'58" East;

Thence Southeasterly along said curve to the right through a central angle of 01°47'26", an arc distance of 54.76 feet to its intersection with the South line of the North half of said Southwest quarter of Section 15;

Thence South 89°56'06" East, 14.54 feet along said South line to the beginning of a non-tangent curve, concave southeasterly and having a radius of 50.00 feet, to which point a radial line bears South 43°52'48" West;

Thence Northwesterly, Northeasterly and Southeasterly along said curve to the right through a central angle of 232°54'51", an arc distance of 203.26 feet to the end of said non-tangent curve, to which a radial line bears South 83°12'21" East;

Thence North 74°48'13" East, 197.41 feet;

Thence South 23°02'04" East, 39.52 feet;

Thence South 32°13'23" East, 54.22 feet, more or less, to the North line of the South half of said Southwest quarter of Section 15;

Thence South 89°56'06" East, 921.68 feet, more or less, along said North line to its intersection with the East line of said Southwest quarter of Section 15;

Thence South 00°08'55" West, 715.44 feet along said East line;

Thence South 66°03'50" East, 6.92 feet;

Thence South 50°45'24" East, 26.40 feet;

Thence South 26°11'32" East, 20.05 feet

Thence continuing South 26°11'32" East, 1.45 feet;

Thence South 53°34'40" East, 61.46 feet;

Thence South 48°18'01" West, 12.97 feet;

Thence South 42°19'53" East, 25.77 feet;

Thence North 82°03'21" East, 18.00 feet;

Thence North 46°26'41" East, 24.85 feet;

Thence North 85°57'38" East, 16.15 feet;

Thence South 08°04'13" East, 34.52 feet;

Thence South 18°38'45" East, 27.22 feet;

Thence South 10°08'02" East, 23.06 feet;

Thence South 38°21'52" East, 5.43 feet;

Thence continuing South 38°21'52" East, 17.76 feet;

Thence South 38°54'27" East, 29.71 feet;

Thence South 26°15'39" East, 28.55 feet;

Thence South 18°01'41" East, 25.64 feet;

Thence South 32°49'54" East, 26.96 feet;

Thence South 27°24'49" East, 25.60 feet;

Thence South 46°10'08" West, 113.58 feet;

Thence North 43°49'52" West, 204.70 feet to the beginning of a curve, tangent, concave northeasterly and having a radius of 25.00 feet;

Thence Northwesterly along said curve to the right through a central angle of 42°50', an arc distance of 18.69 feet to a point of reverse curvature, said point being the beginning of a curve, tangent, concave southeasterly and having a radius of 50.00 feet;

Thence continuing Northwesterly, Southwesterly and Southeasterly along said curve to the left through a central angle of 219°01'02", an arc distance of 191.13 feet to a point of cusp;

Thence South 49°58'53" West, 212.42 feet, more or less, to the centerline of the City of Seattle Cedar River Pipeline right-of-way in the Southeast quarter of the Southwest quarter of Section 15, Township 22 North, Range 6 East, W.M., in King County, Washington, said point being on the existing franchise boundary of Soos Creek Water & Sewer District;

Thence Northwesterly along said centerline to its intersection with the west line of said Southeast quarter of the Southwest quarter of Section 15 and the POINT OF BEGINNING of this description.

EXHIBIT "B"

TERMS AND CONDITIONS APPLICABLE TO UTILITIES FRANCHISES GRANTED BY KING COUNTY

THIS FRANCHISE is subject to the following terms and conditions:

1. DEFINITIONS

References to any County official or office also refers to any office that succeeds to any or all of the responsibilities of the named office or official. References to laws or "applicable laws" include federal, state, and local laws and regulations adopted pursuant to those laws; unless otherwise stated, references to laws include laws now in effect, as the same may be amended from time to time during the operation of this franchise. In addition, the following definitions shall apply:

Cable Services. The term "Cable Services" is used as defined in 47 United States Code 522 (5), as amended.

Cable System. The term "Cable System" is used as defined in 47 United States Code 522 (6), and King County Code 6.a.010 (J) as amended.

County Road Rights-of-Way. The term "County Road Rights-of-Way" includes any road, street, avenue, or alley located within the area described in the attached Exhibit "A", it does not include recreational or nature trails except where the trails intersect or are within roads, streets, avenues or alleys.

Director. The term "Director" refers to the chief executive of the King County Department of Transportation.

Grantee. The term "Grantee" refers to the Soos Creek Water and Sewer District, its successors and those assignees approved pursuant to paragraph 16 herein.

Utility. The term "utility" refers either to the Grantee or, depending on the context, to any other person, firm, or corporation, public or private, which may hold a franchise to maintain and operate similar facilities in, under, over, across, and along any of the County property described in Exhibit "A".

Council. The term "Council" refers to the King County Council, acting in its official capacity.

Other Governing Body. The term "Other Governing Body" refers to any public official or other public board or body as may have the power and jurisdiction to permit or regulate the installation and maintenance of utilities and other facilities in, under, over, across, and along any of the county

property described in Exhibit "A".

2. ACCEPTANCE BY GRANTEES OF TERMS AND CONDITIONS

The full acceptance of this franchise and all of its terms and conditions shall be filed with the Clerk of the Council within thirty (30) days from _____, 20____, by the Grantee. Full acceptance of this franchise is a condition precedent to its taking effect, and unless this franchise is accepted within the time specified, this grant will be null and void and have no force or effect.

3. NON-EXCLUSIVE FRANCHISE

This franchise is not exclusive. It does not prohibit King County from granting franchises for other public or private utilities, in, under, over, across, and along any County property, including County road rights-of-way.

This franchise does not prevent or prohibit King County from constructing, altering, maintaining or using any County road rights-of-way covered by this franchise. King County retains full power to make all changes, relocations, repair, maintenance, etc. as it may deem fit.

4. JURISDICTION

This franchise is intended to convey limited rights and interest only as to those roads and rights-of-way in which King County has an actual interest. It is not a warranty of title or of interest in County road rights-of-way.

Whenever any of the County road rights-of-way as designated in this franchise, by reason of the subsequent incorporation of any Town or City or extension of the limits of any Town or City, shall later fall within the City or Town limits, this franchise shall continue in force and effect until such time as the incorporation and/or annexation is complete according to applicable State law, after which time the County will no longer have any responsibility for maintenance of any County roads, rights-of-way or other County property within the area of annexation/incorporation.

None of the rights granted to the Grantee shall affect the jurisdiction of King County over County road rights-of-way or the County's power to perform work upon its roadways, rights-of-way or appurtenant drainage facilities including by constructing, altering, renewing, paving, widening, grading, blasting or excavating.

All of the rights herein granted shall be subject to and governed by this franchise; provided, however, that nothing in this franchise may be construed in any way as limiting King County's rights to adopt ordinances which are necessary to protect the health, safety and welfare of the general public.

5. REGULATION OF USE AND CONTROL

This franchise does not deprive King County of any powers, rights, or privileges it now has or may later acquire in the future to regulate the use of and to control the County road rights-of-way covered by this franchise.

This franchise authorizes the use of County rights-of-way solely for the delivery by the Grantee of sewer to it customers. Additional uses of County rights-of-way by the Grantee, including for cable communication services, shall first require a separate franchise from King County, which conforms to the requirements of K.C.C. 6.27 as amended, or K.C.C. 6.27A as amended, and other applicable law.

Any use of the Grantee's equipment of facilities in County rights-of-way by others, including for telecommunication or cable communication services, is prohibited unless separately authorized and approved in writing by King County. The Grantee agrees that prior to authorizing any person to use the Grantee's equipment or facilities located in County rights-of-way, the Grantee will require the user to provide the Grantee with an affidavit that it has obtained the necessary franchise or other approval from the County to operate and provide the proposed service in County rights-of-way. At least thirty (30) days prior to executing any agreement with a potential user for the use of the Grantee's equipment or facilities, the Grantee shall fax the affidavit to the King County Office of Cable Communication at 206-296-0842.

6. EMINENT DOMAIN

This franchise and the limited rights and interests for the operation, maintenance, repair, and construction of Grantee's transmission and service lines and appurtenances are subject to the exercise of eminent domain. In the event of an exercise of eminent domain by King County, the value to be attributed to all the rights and interests granted under this franchise shall not exceed the actual amount the Grantee paid to King County in obtaining this franchise.

7. ENFORCEMENT

Failure of King County, on one or more occasions to exercise a right or to require compliance or performance under this franchise or any applicable law, shall not be deemed to constitute a waiver of such right or a waiver of compliance or performance, unless such right has been specifically waived in writing. Failure of King County to enforce or exercise its rights under any provision of this franchise or applicable law does not constitute a waiver of its rights to enforce or exercise a right in any other provision of this franchise or applicable law.

8. INDEMNITY AND HOLD HARMLESS

The Grantee agrees to indemnify and hold harmless King County as provided herein to the

maximum extent possible under law. Accordingly, the Grantee agrees for itself, its successors, and assigns to defend, indemnify and hold harmless King County, its appointed and elected officials, and employees from and against liability for all claims, demands, suits, and judgments, including costs of defense thereof, for injury to persons, death, or property damage which is caused by, arises out of, or is incidental to Grantee's exercise of rights and privileges granted by this franchise. The Grantee's obligations under this section shall include:

(a) Indemnification for such claims whether or not they arise from the sole negligence of the Grantee, the concurrent negligence of both parties, or the negligence of one or more third parties.

(b) The duty to promptly accept tender of defense and provide defense to the County at the Grantee's own expense.

(c) Indemnification of claims made by the Grantee's own employees or agents.

(d) Waiver of the Grantee's immunity under the industrial insurance provisions of Title 51 RCW, which waiver has been mutually negotiated by the parties.

In the event it is necessary for the County to incur attorney's fees, legal expenses, or other costs to enforce the provisions of this section, all such fees, expenses and costs shall be recoverable from the Grantee.

In the event it is determined that RCW 4.24.115 applies to this franchise agreement, the Grantee agrees to defend, hold harmless and indemnify King County to the maximum extent permitted thereunder, and specifically for its negligence concurrent with that of King County to the full extent of Grantee's negligence. Grantee agrees to defend, indemnify and hold harmless the County for claims by Grantee's employees and agrees to waiver of its immunity under Title 51 RCW, which waiver has been mutually negotiated by the parties.

King County shall give the Grantee timely written notice of the making of any claim or of the commencement of any such action, suit, or other proceeding covered by the indemnity in this section. In the event any such claim arises, the County or any other indemnified party shall tender the defense thereof to the Grantee and the Grantee shall have the duty to defend, settle, or compromise any claims arising hereunder and the County shall cooperate fully therein.

Notwithstanding the above, the County shall have no obligation to tender a defense as a condition of the indemnity where there is a material conflict between the interests of the Grantee and King County.

9. VACATION

If at any time King County vacates any County road rights-of-way covered by this franchise, King

County will not be held liable for any damages or loss to the Grantee by reason of such vacation. King County may, after giving thirty (30) days written notice to the Grantee, terminate this franchise with respect to any County road rights-of-way vacated.

10. REPAIR, REMOVAL OR RELOCATION

The Grantee hereby covenants, at its own expense, to repair, remove, or relocate existing facilities including all appurtenant facilities and service lines connecting its system to users, within King County road rights-of-way if such repair, removal, or relocation is required by King County for any County road purpose. Such repair, removal, or relocation shall not be unreasonably required.

The grantee shall, at no expense to the County, adjust, remove or relocate existing facilities within County road rights-of-way, including all appurtenant facilities and service lines connecting its system to users, if the County determines such adjustment, removal or relocation is reasonably necessary to allow for an improvement or alteration planned by the County in such road right-of-way. The County shall give the Grantee written notice of such requirement as soon as practicable, at the beginning of the pre-design stage for projects that are part of the County's capital improvement program, including such available information as is reasonably necessary for the Grantee to plan for such adjustment, removal or relocation.

For projects that are a part of the County's capital improvement program, in addition to any other notice given to the Grantee, the County shall provide a vertical and horizontal profile of the roadway and drainage facilities within it, both existing and as proposed by the County, and the proposed construction schedule; notwithstanding any permit conditions that may later be applied to the County project, this initial design information shall be given at least 180 days before construction is scheduled to begin, except in cases of urgent construction or emergencies. The Grantee shall respond to this notice, and to any later notices of revised designs based on permit conditions, within no more than thirty (30) days by providing to the County the best available information as to the location of all of the Grantee's facilities, including all appurtenant facilities and service lines connecting its system to users and all facilities that it has abandoned, within the area proposed for the public works project.

The County shall offer the Grantee the opportunity to participate in the preparation of bid documents for the selection of a contractor to perform the public works project as well as all required adjustments, removals or relocations of the Grantee's facilities. Such bid documents shall provide for an appropriate cost allocation between the parties. The County shall have sole authority to choose the contractor to perform such work. The Grantee and the County may negotiate an agreement for the Grantee to pay the County for its allocation of costs, but neither party shall be bound to enter into such an agreement. Under such an agreement, in addition to the Grantee's allocation of contractor costs, the Grantee shall reimburse the County for cost, such as for inspections or soils testing, related to the Grantee's work and reasonably incurred by the County in the administration of such joint construction contracts. Such costs shall be calculated as the direct salary cost of the time of County professional and technical personnel spent productively engaged in such work, plus overhead costs at the standard rate charged by the County on other similar projects,

including joint projects with other County agencies.

11. REQUIREMENT OF CONSTRUCTION PERMITS

The Grantee, its successors or assigns, has the right, privilege, and authority to enter the County road rights-of-way for the purpose of operating, maintaining, repairing or construction its transmission and service lines and appurtenances on the condition that it obtains permits approved by the Director and Property Services Division and, when applicable, by the Department of Development and Environmental Services. Applications for work permits shall be presented to the Property Services Division, which may require copies of plans, blueprints, cross-sections, or further detailing of work to be done. In the event of an emergency, the Grantee may immediately commence the necessary work and shall apply the next business day for the work permit. Any work done, whether by Grantee, its contractors, or third parties will include necessary paving, patching, grading and any other reasonably necessary repair or restoration to the County road rights-of-way. All work shall be done to the satisfaction of the Director.

All equipment, lines and appurtenances which are used in the operation, maintenance, repair or construction of the Grantee's service and which are located within the County road rights-of-way shall be considered to be part of the Grantee's system and shall be the responsibility of the Grantee. All permits for the operation, maintenance, repair or construction of said system shall be applied for and given in the name of the Grantee, who will be responsible for all work done under the permit. The Grantee remains responsible whether the work is done by the Grantee, its contractors, or by third parties.

The Grantee shall post a bond to King County in the amount necessary for road restoration. The amount of the bond shall be set by the Department of Transportation, Roads Services Division and shall be filed with the Property Services Division before the issuance of any permit.

The Grantee shall, at no expense to the County, assume the following obligations with respect to the facilities connected to its system that are within County road rights-of-way and which it does not own, including appurtenant facilities and service lines connecting its system to users:

(a) The Grantee shall apply for, upon request and on behalf of the owner of the facilities, a County right-of-way construction permit for any repairs required for such facilities; provided such owner agrees to reimburse the Grantee for all costs incurred by the Grantee and any other reasonable conditions the Grantee requires as a precondition to applying for the permit. All work to be performed in the County right-of-way shall comply with all conditions of the County permit and all applicable County requirements. The Grantee may at its option perform any part of the repair with its own forces or require the owner to employ a contractor for that purpose, provided such contractor is approved by the County;

(b) In the event that the County determines emergency repair of such facilities is

necessary to halt or prevent significant damage to County road rights-of-way or significant threats to the health, safety and welfare of parties other than the owner or the occupants of the building served by such facilities, the Grantee shall take prompt remedial action to correct the emergency to the County's approval, which the County shall not unreasonably withhold;

(c) When the County or its contractor provides notice to the Grantee, pursuant to RCW 19.122, of its intent to excavate within County road rights-of-way, the Grantee shall provide to the County or its contractor the best information available from the Grantee's records or, where reasonable, from the use of locating equipment as to the location of such facilities, including surface markings where these would reasonably be of use in the excavation. If the Grantee fails to make good faith efforts to provide the above information within the deadlines provided by RCW 19.122, the Grantee shall hold the County harmless for all reasonable costs that result from damage to such facilities if such damage occurs as a result of the failure to provide such information. Nothing in this subsection is intended or shall be construed to create any rights in any third party or to form the basis for any obligation or liability on the part of the County or the Grantee toward any third party, nor is anything in this subsection intended to be construed to alter the rights and responsibilities of the parties under RCW 19.122, as amended.

12. RESTORATION OF COUNTY ROAD RIGHTS-OF-WAY

After work on, under or adjacent to County road rights-of-way, the Grantee is responsible for and will leave all County road rights-of-way in as good a condition as they were in before any work was done. In the event that the Grantee, its contractors, or third parties working under permit should fail to restore County road rights-of-way to the satisfaction of the Director, King County may make such repairs or restorations as are necessary to return the County road rights-of-way to its pre-work condition. Upon presentation of an itemized bill for repairs or restorations, including the costs of labor and equipment, the Grantee will pay the bill within thirty (30) days. If suit is brought upon the Grantee's failure to pay for repair and restoration, and if judgment in such a suit is entered in favor of King County, then the Grantee shall pay all of the actual costs, including interest from the date the bill was presented, disbursements, and attorney's fees and litigation related costs incurred.

13. PERFORMANCE OF WORK

The Grantee covenants that in consideration for the rights and privileges granted by this franchise, all work performed by the Grantee on County road rights-of-way shall conform to all County requirements including, but not limited to, the requirements of the current edition of the County Road Standards in force when the work is performed and all traffic control shall also conform to the current edition of the Manual of Uniform Traffic Control Devices in force when the work is performed.

14. BLASTING REQUIREMENTS

The right to operate, maintain, repair and construct Grantee's distribution and service lines and appurtenances granted by this franchise does not preclude King County, its agents or contractors from blasting, grading, or doing other road work to the Grantee's lines and appurtenances. Except in the case of an emergency, the Grantee will be given ten (10) business days written notice of any blasting so that the Grantee may protect its lines and appurtenances. If the Grantee notifies the County within ten (10) business days that the facilities will have to be relocated to protect them from blasting, the County will defer the blasting for up to ninety (90) days from the date of the original notice. In no event will the Grantee be given less than two (2) business days written notice of any blasting. Notification of any excavation shall be provided through the One-Call System as provided by RCW 19.122, as hereinafter amended.

15. SURVEY MARKERS AND MONUMENTS

It shall be the responsibility of the Grantee performing any construction work in the County road rights-of-way to restore any survey markers or monuments disturbed by such construction in accordance with RCW 58.09.130, and as hereinafter amended.

16. ASSIGNMENT

The Grantee shall not have the right to assign this franchise without the consent of the Metropolitan King County Council given by Ordinance. No assignment shall be effective unless an acceptance by the assignee of all rights, conditions, terms, provisions, and responsibilities contained within the franchise, as well as surety bonds, which the Council deems necessary to be posted, are received. Council approval of the assignment may be made subject to the assignee's acceptance of new or modified terms of the franchise.

17. EXPIRATION AND RENEWAL

To the extent described in Exhibit "A", all rights granted by this franchise to County road rights-of-way outside incorporated Towns and Cities apply to all existing County road rights-of-Way improved and unimproved and to all County road rights-of-way acquired by King County during the term of this franchise.

If the Grantee has initiated a renewal of this franchise before it expires, the County may, at its sole discretion, extend the term of the franchise on a month to month basis for up to one year. Should the County elect to extend the franchise, written notice shall be provided to the Grantee before the franchise expiration date.

If the Grantee has not applied for a renewal of this franchise before it expires, King County has the right to remove or relocate any lines and appurtenances of the Grantee as is reasonably necessary for the public's health, welfare, safety, or convenience including, but not limited to, the safe operation of County roads, franchise holders, or for the construction, renewing, altering, or improving of any

County road right-of-way, or for the installation of lines and/or facilities of other franchise holders. Grantee shall be liable for the costs incurred in any removal or relocation of its lines and appurtenances under this section. Costs include the expense of labor and equipment.

Upon expiration of this franchise, the Grantee shall continue to be responsible for the operation and maintenance of existing facilities in the County road rights-of-way until removed, assigned to another franchised utility or abandoned; however, the Grantee shall not have the right to provide additional services or construct new facilities. King County will issue permits required for the repair and maintenance of the existing facilities in accordance with K.C.C. 14.44.055 as amended and Section 11 of this franchise. This section and sections 8, 10-13 and 15 of this franchise shall continue in force until such time as the lines are removed from County road rights-of-way, assigned to another franchised utility, or abandoned in place with the approval of the Manager of the Department of Transportation, Road Services Division.

18. RESERVATION OF RIGHTS

King County specifically reserves for itself the right to impose a utility tax on the Grantee if State of Washington grants such taxing authority and the local option is exercised by the King County Council.

King County also specifically reserves the right to exercise authority it has or may acquire in the future to secure and receive fair market compensation for the use of its property, pursuant to an ordinance. If King County elects to exercise such authority, the fair market compensation requirement for Grantee shall be imposed by ordinance not less than one hundred eighty (180) days after written notice ("Compensation Notice") is delivered to the Grantee, said Compensation Notice identifying with specificity the definition, terms and/or formula to be used in determining such fair market compensation. Acceptance of King County's definition terms and/or formula identified in the Compensation Notice will occur if the Grantee accepts in writing within thirty (30) days of receipt of the Compensation Notice; or, if Grantee takes no action in writing within thirty (30) days of receipt of the Compensation Notice; in which case the applicable ordinance that the King County Council passes will be determinative.

Nothing in this section shall be construed as an agreement by the Grantee of King County's right to exercise authority it has or may acquire in the future to secure and receive fair market compensation for the use of property. Nothing in this section shall be construed to prohibit the Grantee from challenging, in King County Superior Court or a court of competent jurisdiction, the legality of such right.

Grantee's rejection of the definition, terms, and/or formula identified in the Compensation Notice will only occur if such rejection is in written form, identifying with specificity the grounds for such rejection, and delivered to King County within thirty (30) days after receipt of the Compensation Notice, in which case the below identified arbitration terms will apply:

(a) The Grantee and King County will select one arbitrator each, and the two selected

arbitrators will select a third arbitrator. If the two arbitrators have not selected a third arbitrator within thirty (30) days after the selection of the last selection of the two, either the Grantee or King County may apply to the presiding judge of the King County Superior Court for the appointment of a third arbitrator. The three arbitrators will determine the method for determining the fair market compensation for the County property used by the Grantee. The arbitration procedure employed shall be consistent with the rules and procedures of the American Arbitration Association. The decision of a majority of the arbitrators will bind both the Grantee and King County. At the conclusion of the arbitration, the arbitrators will submit written reports to the Grantee and King County, which shall contain all pertinent evidence that, led to their conclusion together with an explanation of their reasoning for such conclusion.

(b) The fees of the arbitrators selected by each party shall be paid by that party and the fees of the third arbitrator shall be paid one-half by the County and the Grantee. The County and the Grantee shall share the other costs of the proceeding equally.

(c) In event that the question of fair market compensation is not resolved prior to the effective date specified by the ordinance authorizing said compensation; the arbitration decision will be applied retroactively to the effective date in the ordinance. The Grantee will pay the retroactive sum plus interest in the amount of twelve percent (12%) per annum.

Nothing in this franchise may be construed to limit the exercise of authority now or later possessed by the County or any other governing body having competent jurisdiction to fix just, reasonable and compensatory rates or other requirements for services under this franchise. Nothing in this section shall be construed to prohibit the Grantee from challenging, in King County Superior Court or a court of competent jurisdiction, the authority of the County or any other governing body to fix rates or other requirements for services.

19. COMPLIANCE WITH LAWS

Grantee shall conform to all applicable federal, state and local laws and regulations including, but not limited to, the State Environmental Policy Act and King County environmental standards and ordinances.

20. NON-DISCRIMINATION CLAUSE

In all hiring or employment made possible or resulting from this franchise agreement, there shall be no discrimination against any employee or applicant for employment because of sex, sexual orientation, age, race, color, creed, national origin, marital status or the presence of any sensory, mental, or physical handicap, unless based upon a bona fide occupational qualification, and this requirement shall apply to but not be limited to the following: employment, advertising, lay-off or termination, rates of pay or other forms of compensation, and selection for training, including ap-

prenticeship.

No person shall be denied, or subjected to discrimination in receipt of the benefit of any services or activities made possible by or resulting from this agreement on the grounds of sex, sexual orientation, race, color, creed, national origin, age except minimum age and retirement provisions, marital status, or the presence of any sensory, mental or physical handicap.

Any violation of this provision shall be considered a violation of a material provision of this agreement and shall be grounds for cancellation, termination or suspension in whole or in part, of the agreement by the County and may result in ineligibility for further County agreements.

The Grantee shall make the best efforts to make opportunities for employment and/or contracting services available to women and minority persons. The Grantee recognizes that King County has a policy of promoting affirmative action, equal opportunity and has resources available to assist Grantee in these efforts.

21. PENALTY FOR VIOLATION OF CONDITIONS

If the Grantee shall violate or fail to comply with any of the material terms, conditions, or responsibilities of this franchise through neglect or failure to obey or comply with any notice given the Grantee under the provisions of this franchise or if the Grantee abandons its franchise, the Council may revoke this franchise. King County shall give written notice of its intent to revoke this franchise. A public hearing shall be scheduled within forty-five (45) days following the notification. The decision to revoke this franchise will become effective ninety (90) days following the public hearing if the County, by ordinance, finds:

A. That the Grantee has not substantially cured the violation or failure to comply which was the basis of the notice; or

B. that the violation or failure to comply which was the basis of the notice is incapable of cure; or

C. that the Grantee has repeatedly violated or failed to comply with any of the material terms, conditions, or responsibilities of the franchise, even though the individual violations have been cured; and

D. that the revocation of the franchise is in the public interest.

During the forty-five (45) days following the notification, the Grantee shall have the opportunity to remedy the failure to comply.

22. RIGHT OF APPEAL

Decisions, requirements, or approvals of the Director are binding on the parties to this document. Appeals from the Director's determinations will be made by filing a complaint with the King County Superior Court.

23. SEVERANCE

This franchise gives effect to purposes and uses, which are consistent with economical and efficient services rendered in the public interest. If any provision of this franchise, or its application is determined to be invalid by a court of law, then the remaining provisions of this franchise shall continue and remain valid unless the dominant purpose of the franchise would be prevented or the public interest is no longer served.

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 2832-S

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, approving Interlocal Agreement for Provision of Sewer Service; City of Maple Valley.

WHEREAS, the District's franchise term with the City of Maple Valley ended on August 31, 2004; and

WHEREAS, the District and the City have reached agreement regarding the terms of an interlocal agreement for authorization to the District for use of the City's streets, bridges and other public ways for sanitary sewer facilities; and

WHEREAS, the City Council of the City of Maple Valley has considered and approved the terms of the proposed interlocal agreement; and

WHEREAS, the Board of Commissioners of the District has considered and approved the terms of the proposed interlocal agreement;

NOW, THEREFORE, BE IT RESOLVED by the Commissioners of Soos Creek Water and Sewer District, King County, Washington, as follows:

SECTION 1: That the Board of Commissioners of Soos Creek Water and Sewer District hereby authorizes execution of the following:

CITY OF MAPLE VALLEY and SOOS CREEK WATER AND SEWER DISTRICT INTERLOCAL AGREEMENT FOR PROVISION OF SEWER SERVICE BY DISTRICT WITHIN CITY

SECTION 2: That the President and Secretary of the Board, and the District Manager are authorized to execute the Interlocal Agreement on behalf of the District.

SECTION 3: That the District shall take such action as is appropriate to accomplish the terms and purposes hereof.

Adopted by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 7th day of June, 2006.

KAREN WEBSTER, President

PHILIP SULLIVAN, Secretary

- excused -

CLEMENT QUANRUD, Commissioner

RANDY REECE, Commissioner

STEVE SANDELIUS, Commissioner

CITY OF MAPLE VALLEY AND SOOS CREEK WATER AND SEWER DISTRICT INTERLOCAL AGREEMENT FOR PROVISION OF SEWER SERVICE BY DISTRICT WITHIN CITY

THIS AGREEMENT, made and entered into this 21st day of June, 2006, by and between the **CITY OF MAPLE VALLEY**, a Washington municipal corporation, hereinafter referred to as "the City," and **SOOS CREEK WATER AND SEWER DISTRICT**, a Washington municipal corporation, hereinafter referred to as "the District," both being duly organized and existing under and by virtue of the laws of the State of Washington,

WITNESSETH:

WHEREAS, the District is a public agency authorized by law to engage in furnishing sanitary sewer service, and this Agreement will not limit that statutory authorization; and

WHEREAS, the City may, through the City Council, enter into interlocal agreements with respect to the rights, powers, duties, and obligations of municipal parties regarding the use of public rights-of-way and other public property, the provision of services, the maintenance and operation of facilities, the performance of contractual obligations and any other matters arising out of the provision of District service to areas within the City, all pursuant to and in accordance with state law, including RCW 39.34.080, RCW 35.92.010, RCW 35A.47.040, and Chapter 57.08 RCW; and

WHEREAS, the District has the ability and authority to provide sanitary sewer service to the areas described in **Exhibit A**;

NOW, THEREFORE:

other agreements or franchises of a like nature or franchises for other public or private utilities, in, over, along, across, under, and upon any of the streets, avenues, highways, alleys, or public places, or ways as herein described, and shall in no way prevent or prohibit the City from using any of said streets, avenues, etc., or limit its jurisdiction over them or any part of them with full power to make all necessary changes, relocations, repairs, or maintenance of same as it deems fit.

SECTION 5. *Approval of Plans.* Prior to construction, repair, or maintenance of any of the pipes, conduits, mains, facilities, and appurtenances in the area described in Section 1 and Exhibit A herein, the District shall submit to the Director of Public Works or his designee ("Director") for review and approval, the requested number of plan sets drawn to an accurate scale, showing the exact location, character, position, dimension, depth, and height of the work to be done. The plans shall accurately depict the relative position and location of all pipes, conduits, mains, manholes, facilities, and appurtenances to be constructed, laid, re-laid, installed, replaced, repaired, connected or disconnected, and the existing street, avenue, alley, highway, right-of-way or property lines. All streets, avenues, highways, alleys, lanes, or ways denoted thereon shall be designated by their names and number and the local improvements therein such as roadway pavement, shoulders, sidewalks, curbs, gutters, ditches, driveways, parking strips, telephone or electric distribution poles, conduits, storm, gas, or water pipe lines as may exist on the ground or area sought to be occupied shall be outlined.

In the construction proposed by the District, all materials and equipment shall be as specified in the District's general conditions and standards and as approved by the City. The exact class and type to be used shall be shown on the plans, as will the equipment to be used and the mode of safeguarding and facilitating the public traffic during construction. The manner of excavation, construction installation, backfill, and temporary traffic control measures (such as traffic turnouts, road barricades, etc.) shall meet with the approval of, pass all requirements of, and be constructed in conformance with approved plans, permit conditions, and specifications under the inspection supervision of the Director. Prior to approval of any work under this Agreement, the Director may require such modifications or changes, as he/she deems necessary

District shall repair and restore any damaged or injured streets, avenues, highways, public places, City facilities, or affected portions of same, to their original condition. The Director shall have final approval of the condition of such streets and public places after completion of construction.

SECTION 8. *Indemnification.* The District hereby releases, covenants not to bring suit against, and agrees to indemnify, defend, and hold harmless the City, its officers, officials, employees, agents, and representatives, from any and all claims, costs, judgments, awards, or liability to any person, including claims by the District's own employees to which the District might otherwise be immune under Title 51 RCW, arising from injury or death of any person or damage to property of which the negligent acts or omissions of the District, its agents, servants, officers, or employees in performing this Agreement are the proximate cause. The District further releases, covenants not to bring suit and agrees to indemnify, defend and hold harmless the City, its officers, officials, employees, agents and representatives from any and all claims, costs, judgments, awards or liability to any person including claims by the District's own employees to which the District might otherwise be immune under Title 51 RCW, arising against the City solely by virtue of the City's ownership or control of the rights-of-way or other public property by virtue of the District's exercise of the rights granted herein, or by virtue of the City's permitting the District's use of the City's rights-of-way or other public property, based upon the inspection or lack of inspection of work performed by the District, its agents, and servants, officers, or employees in connection with work authorized on the City's property or property over which the City has control, pursuant to this Agreement or pursuant to any other permit or approval issued in connection hereto.

This covenant of indemnification shall include, but not be limited by this reference to, claims against the City arising as a result of the negligent acts or omissions of the District, its agents, servants, officers, or employees in performance of work or services permitted under this Agreement. Inspection or acceptance by the City of any work performed by the District at the time of completion shall not be grounds for avoidance of any of these covenants of indemnification. Said indemnification obligations shall extend to claims which are not reduced to a suit and any claims which may be compromised prior to the culmination of any litigation or the

(1) Automobile Liability insurance covering all owned, non-owned, hired, and leased vehicles. Coverage shall be written on Insurance Services Office (ISO) form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage.

(2) Commercial General Liability insurance shall be written on ISO occurrence form CG 00 01 and shall cover liability arising from premises, operations, independent contractors, products-completed operations, stop gap liability, and personal injury and advertising injury and liability assumed under an insured contract. The Commercial General Liability insurance shall be endorsed to provide the Aggregate Per Project Endorsement ISO form CG 25 03 11 85. There shall be no endorsement or modification of the Commercial General Liability insurance for liability arising from explosion, collapse, or underground property damage. The City shall be named as an additional insured under the District's Commercial General Liability insurance policy with respect to work performed for the City using ISO Additional Insured Endorsement CG 20 10 10 01 and Additional Insured-Completed Operations endorsement CG 20 37 10 01 or substitute endorsements providing equivalent coverage.

(3) Professional Liability insurance appropriate to the District's profession.

(4) Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.

b. Minimum Amounts of Insurance. The District shall maintain the following insurance limits:

(1) Automobile Liability insurance with a minimum combined single limit for bodily injury and property damage of $1,000,000 per accident.

(2) Commercial General Liability insurance shall be written with limits no less than $1,000,000 each occurrence, $2,000,000 general aggregate, and a $2,000,000 products-completed operations aggregate limit.

the District is required to comply with certain notice and bid procedures prior to commencement of any construction project. Whenever practical, given the circumstances surrounding the City's project, the City shall provide the District with sufficient notice to enable the District to comply fully with RCW 57.08.050 without resorting to emergency powers granted therein. Upon the District's failure to complete relocation of its installations and facilities as directed by the City, the City may remove same at the District's expense.

If, after reviewing the as-built maps and plans submitted by the District, the City determines that the District's pipe or facilities will not be affected by a proposed City project, no notice shall be given to the District. The City may then commence construction and if the City finds that the District's as-built maps and plans are inaccurate through the actual discovery of pipe and facilities in the construction area, the City shall notify the District and allow the District twenty-four (24) hours, when reasonable, to remove and/or relocate its pipe and facilities. However, should the District be unable to remove and/or relocate its pipe and facilities within this twenty-four (24) hour period after notification, the City may remove and dispose of same at the District's cost.

SECTION 11. *Abandonment of Sanitary Sewer Pipe, and System Facilities.* No pipe, conduit, main, appurtenances, appendages or sanitary sewer system facilities may be abandoned by the District without the express written consent of the City. Abandonment procedures may be initiated by application of the District to the City, which application shall detail, to the City's satisfaction, the location of all pipe or facilities to be abandoned by providing to the City with the abandonment application current as-built drawings showing the exact location of all pipes or facilities to be abandoned, and the procedures the District plans to implement in order to comply with all local, state, and federal regulations as well as pertaining to abandonment of sanitary sewer pipe and facilities constructed of asbestos cement or other materials containing asbestos. The District shall, at its sole cost and expense, and pursuant to all local, state, and federal regulations, remove and properly dispose of all abandoned pipes and sanitary sewer facilities when so directed by the City for any reason, with cause. The District will commence the removal and disposal of the abandoned facilities within thirty (30) calendar days,

District shall not unnecessarily obstruct the passage or proper use of the right-or-way, and shall file maps or plans with the City (as described in Section 5 herein) showing the proposed and final location of the sanitary sewer facilities.

If either the City or the District shall at any time plan to make excavations in any area covered by this Agreement and as described in this section, the party planning such excavation shall afford the other, upon receipt of a written request to do so, an opportunity to share such excavation, PROVIDED THAT: (1) such joint use shall not unreasonably delay the work of the party causing the excavation to be made; (2) such joint use shall be arranged and accomplished on terms and conditions satisfactory to both parties; and (3) either party may deny such request for safety reasons.

Prior to commencement of any construction authorized by this Agreement, the District shall reference all monuments and markers of every nature relating to subdivision plats, highways and all other surveys for review and inspection by the City. The reference points shall be so located that they will not be disturbed during the District's operations under this Agreement. The method of referencing these monuments or other points to be referenced shall be approved by the Director before placement. The replacement of all such monuments or markers disturbed during construction shall be made as expeditiously as conditions permit and as directed by the Director. The costs of monuments or other markers lost, destroyed, or disturbed and the expense of replacement by approved monuments shall be borne by the District.

SECTION 13. *Permits Required.* This Agreement does not release the District from any of its obligations to obtain applicable local, state, and federal permits necessary to install, construct, operate, maintain, remove, repair, reconstruct, replace, use and inspect its sanitary sewer system.

SECTION 14. *Compliance With Laws.* The District shall indemnify the City, its officers, officials, agents, employees or representatives against any claim or liability arising from or based upon the violation by the District of any laws, ordinances or regulations.

regulations, unless compliance would cause the District to violate other requirements of law. The District further agrees to adhere to City Ordinance No. O-04-260 prohibiting excavations in City street within 5 years of paving.

SECTION 20. *Cost Of Publication.* The cost of publication of any ordinance adopting this Agreement shall be borne by the District.

SECTION 21. *Assignment.* The District may not assign the rights, duties, and obligations under this Agreement without the prior written consent of the City, which consent shall not be unreasonably withheld. If such consent is given for assignment, acceptance of the assignment shall be filed by the District's successor with the City.

SECTION 22. *Successors And Assigns.* All the provisions, conditions, regulations, and requirements contained in this Agreement shall be binding upon the successors and assigns of the District, and all privileges, as well as all obligations and liabilities, of the District shall inure to its successors and assigns equally as if they were specifically mentioned herein.

SECTION 23. *Notice.* Any notice or information required or permitted to be given to the parties under this Agreement may be sent to the following addresses unless otherwise specified:

CITY OF MAPLE VALLEY	SOOS CREEK WATER & SEWER DISTRICT
ATTN: Public Works Director	ATTN: District Manager
P.O. Box 320	P.O. Box 58039
Maple Valley, Washington 98038	Renton, Washington 98058
(425) 413-8800	(253) 630-9900
(FAX) (425) 413-4282	(FAX) (253) 630-5289

SECTION 24. *Dispute Resolution.* In the event any dispute arises between the Parties, either Party may request in writing that the issue in dispute be resolved by mediation

Approved by ~~Ordinance~~ Resolution No. R-06-476 of the City Council of the **CITY OF MAPLE VALLEY**, Washington, at its regular meeting held on the 22 day of May, 2006.

CITY OF MAPLE VALLEY

Laure Iddings, Mayor

ATTEST:

Irvalene Moni, City Clerk

APPROVED AS TO FORM:

Bruce Disend, City Attorney
Joseph Levan, Assistant City Attorney

ORIGINAL COPY

CITY OF MAPLE VALLEY, WASHINGTON

RESOLUTION NO. R-06-476

A RESOLUTION OF THE CITY OF MAPLE VALLEY, WASHINGTON, AUTHORIZING THE CITY MANAGER TO SIGN AN INTERLOCAL AGREEMENT WITH SOOS CREEK WATER AND SEWER DISTRICT

WHEREAS, Maple Valley incorporated in August of 1997 as an optional code city; and

WHEREAS, RCW 35A.47.040 authorizes cities to grant non-exclusive franchises for the use of public streets, bridges or other public ways to install conduits, pipes and other appurtenances for transmission and distribution of utilities such as electrical energy, natural gas, water and sewer; and

WHEREAS, the Soos Creek Water and Sewer District is the public agency authorized to furnish sanitary sewer service to the property located within Maple Valley's corporate limits; and

WHEREAS, on August 11, 1997 the Maple Valley City Council approved Ordinance O-97-29 granting Soos Creek Water and Sewer District a franchise under the same terms and conditions set forth in King County Franchise No. 9351; and

WHEREAS, the Soos Creek Water and Sewer District franchise term ended on August 31, 2004; and

WHEREAS, the Soos Creek Water and Sewer District has proposed that Maple Valley authorize the District to use the City's streets, bridges and other public ways for sanitary sewer facilities under conditions set forth in an interlocal agreement rather than a franchise; and

WHEREAS, the City Council has considered the proposed interlocal agreement and finds its terms appropriate.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF MAPLE VALLEY, WASHINGTON, AS FOLLOWS:

Authorization: The City Manager is hereby authorized to execute an interlocal agreement with Soos Creek Water and Sewer District, defining mutual obligations for provision of sanitary sewer service within Maple Valley. The Agreement shall be filed with the City Clerk and identified with Clerk's Receiving Number 505.

EXHIBIT "A"

CITY OF MAPLE VALLEY / SOOS CREEK WATER & SEWER DISTRICT INTERLOCAL AGREEMENT

PROPOSED SEWER SERVICE PLANNING AREA

MAY 2006

SCWSD CORPORATE BOUNDARY

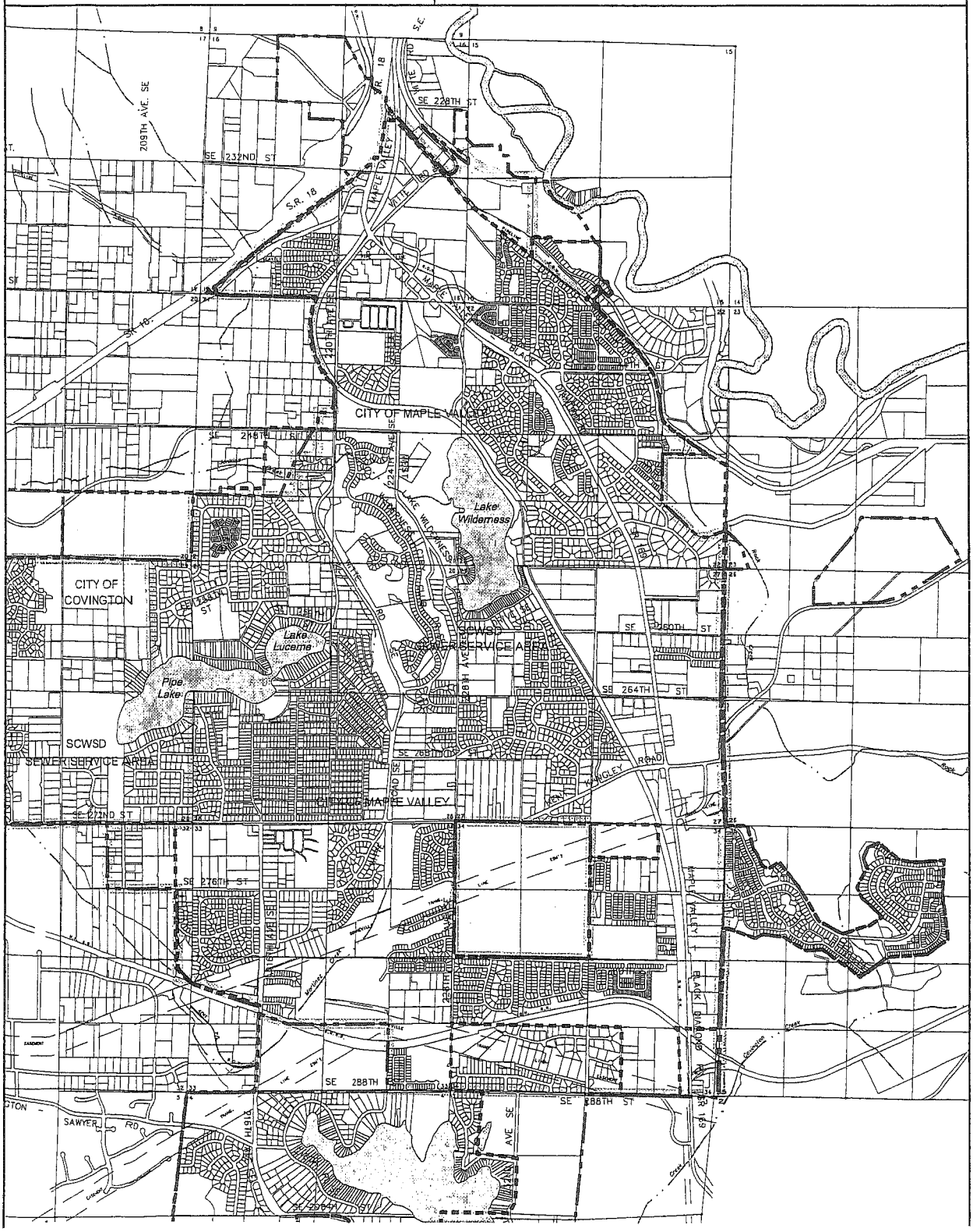
SCWSD PLANNING AREA BOUNDARY

CITY CORPORATE BOUNDARIES

APPROVAL

SOOS CREEK W & S DISTRICT

CITY OF MAPLE VALLEY



King County

Wastewater Treatment Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street
Seattle, WA 98104-3855

November 29, 2010

Ron Speer, District Manager
Soos Creek Water & Sewer District
14616 Southeast 192nd Street
P.O. Box 58039
Renton, WA 98058-1039

Dear Mr. Speer:

As you are aware, the Soos Creek Water & Sewer District (district) and King County (county) entered in an agreement (agreement) on January 17, 2006, regarding the conveyance of sewage delivered via the county's Black Diamond Trunk from the district's Lift Station 11 to the county's Southeast 277th Street Interceptor. The agreement details a methodology for calculating the amount that King County will pay the district for wheeling these flows and took effect on July 1, 2010. However, the City of Black Diamond inadvertently paid the district to wheel these flows for a period of time after the effective date of the agreement. The city now seeks a refund of those monies.

This letter confirms district and county staffs' discussion on the implementation of the agreement and the refund owed the city. The county requests the district refund the city any monies paid by the city to the district for wheeling flows that county is responsible for, under the terms of the agreement, beginning on July 1, 2010.

King County receives a quarterly consumption report from the City of Black Diamond as it does from each local sewer utility that it serves. Based on these quarterly reports, the County will confirm the amount owed with district staff following receipt of the city's report and pay the district quarterly for conveyance of those flows as required under the agreement.

Sincerely,

Steve Tull
Accounting Supervisor

cc: Seth Boettcher, Public Works Director, City of Black Diamond
Sharman Herrin, Government Relations Administrator, Wastewater Treatment Division, Department of Natural Resources and Parks

SOOS CREEK WATER AND SEWER DISTRICT

AGREEMENT FOR THE CONVEYANCE OF SEWAGE

THIS AGREEMENT made as of this 17th day of JANUARY 2006, between the Soos Creek Water and Sewer District, a Washington municipal corporation herein after referred to as the "District" and King County, a political subdivision of the State of Washington, herein after referred to as the "County";

WITNESSETH:

WHEREAS, the parties have entered into a long term agreement for sewage disposal dated August 1, 1963, as amended, herein after referred to as the "Basic Agreement"; and

WHEREAS, the King County Council adopted the Regional Wastewater Services Plan (RWSP) on November 30, 1999 and the County has undertaken its Conveyance System Improvement Project (CSIP) to identify and implement trunk sewer system improvements as provided in the RWSP; and

WHEREAS, the CSIP addresses the Mill Creek/Green River Subregional Planning Area which, in turn, includes the Soos Creek Planning Zone and the County identified sewage conveyance facility alternatives in the Soos Creek Planning Zone consisting of trunk and interceptor sewers, and pumping stations that was also referred to as the CSI Soos Creek Plan; and

WHEREAS, the County and the District entered into an agreement on May 20, 2002 that provided for the construction of certain conveyance facilities referred to as Alternative 3A(3) of the CSI Soos Creek Plan; and,

WHEREAS, in March, 2005, the County distributed a Draft Predesign Report for the conveyance facilities identified in the CSI Soos Creek Plan for review and comment; and

WHEREAS, following review of the Draft Predesign Report, comments by the District and a value engineering effort by the County, the County and the District identified other alternatives that could either delay or reduce the need to construct the conveyance facilities identified in the Predesign Report while still maintaining adequate capacity to convey sewage from the Soos Creek Planning Zone; and

WHEREAS, the District and the City of Black Diamond are parties to an agreement dated September 5, 1990 whereby the District conveys sewage from County operated facilities that serve the City through District facilities to a point of connection with downstream County facilities; and

WHEREAS, the County plans to assume responsibility for the conveyance of the City of Black Diamond's sewage by entering into this agreement with the Soos Creek Water and Sewer District to have District convey the City's flows through District facilities beginning at the Districts' Lift Station 11 and culminating at the District's point of discharge to the County's S.E. 277th Street Interceptor;

NOW, THEREFORE, in consideration of the mutual covenants contained herein, it is hereby agreed as follows:

Section 1. Definition of Terms: The defined words and phrases in this agreement shall have the meanings set forth in the Basic Agreement. In addition, the words "Average Wet Weather Flow" shall mean the average flow during the wet season that recurs between November 1 and April 30 throughout the duration of this Agreement.

Section 2. Responsibilities of District. The District shall continue to be responsible for the construction, maintenance, and operation of all District-owned sewerage facilities. From July 1, 2010, or the actual on-line date of the Black Diamond Storage Facility described in Section 3 of this Agreement, and continuing until June 30, 2013, or three years after the actual on-line date of the Black Diamond Storage Facility, the District shall convey all sewage delivered via the County's Black Diamond Trunk from the District's Lift Station 11 to the County's S.E. 277th Street Interceptor using its own conveyance facilities. Beginning July 1, 2010, or the actual on-line date of the Black Diamond Storage Facility, the District will transfer and the County will assume any and all obligations the City of Black Diamond may have to the District under the agreement entered into September 5, 1990. Provided, however, that those portions of the agreement between the City of Black Diamond and the District pertaining to the District's service area within Black Diamond's current or future corporate boundaries shall remain in effect. The District shall also be responsible for participating in the flow-monitoring plan identified in Section 6 of this Agreement.

Section 3. Development of County Facilities in the Soos Creek Planning Zone. To manage peak flows from Black Diamond, the County intends to design, construct, own, and operate an approximate 0.6 million-gallon storage facility upstream of the Black Diamond Pump Station. The storage facility shall be constructed and operational by no later than December 31, 2010.

Section 4. Responsibilities of the County. The County shall be responsible for delivering wastewater flows from the City of Black Diamond to the District at its Lift Station 11. For conveying wastewater flows as described in Section 2 above, the County will pay the District $4.55 per ERU in November 2005 dollars to cover its share of the District's expenses associated

with operating and maintaining its sewerage system as well as depreciation of the District's facilities. This rate is determined by averaging the previous year's five highest peak day flows and then dividing that average by the maximum pumping capacity at Lift Station 10 and 11 respectively. This ratio is then applied to the District operations, maintenance, power, and depreciation costs for those facilities and their downstream conveyance systems. The District shall recompute the rate, according to the formula contained in this Section, when the storage at Black Diamond comes online and then annually thereafter. The District shall inform the County of all recomputed rates at least 90 calendar days prior to the recomputed rate taking affect; and shall simultaneously provide the County with documentation used by the District to recompute the rate. The County shall review the recomputed rate and documentation, and then inform the District of its review findings at least 30 calendar days before the recomputed rate is scheduled to take effect. Any disputes that arise from the County's review of the recomputed rate shall be resolved according to the provisions contained in Section 14 of this Agreement.

The rate calculation is summarized by the following formulas:

$$Rate = C_{BD} \div ERU$$

$$C_{BD} = C_{10} * (Q_{BD} \div Q_{10}) + C_{11} * (Q_{BD} \div Q_{11})$$

Where:

- Rate is the cost per ERU to be paid to the District by King County for flow from the City of Black Diamond:
- C_{BD} is the City of Black Diamond's share of the District's operations, maintenance, power, and depreciation costs for the District's facilities that convey flow from the City of Black Diamond.
- ERU is the highest number of ERU in the City of Black Diamond for the previous year.
- C_{10} is the District's total costs for operations, maintenance, power, and depreciation at Lift Station 10B and any conveyance systems downstream of Lift Station 10B.

- C_{11} is the District's total costs for operations, maintenance, power, and depreciation at Lift Station 11 and any conveyance systems downstream of Lift Station 11.
- Q_{BD} is the average of the five highest peak flows from the City of Black Diamond for the previous year.
- Q_{10} is the maximum capacity at Lift Station 10B.
- Q_{11} is the maximum capacity at Lift Station 11.

Section 5. Capacity Standard and Exceedance of Standard. It is the County's intent to continue to have the District convey flows as described in Section 2 of this Agreement beyond June 30, 2013, provided that the average wet-weather flow at the District's Lift Station 11 does not exceed 1/3 of the District's stated design capacity for the Lift Station (currently 4.6 MGD) between November 1st and April 30th of any given year. If the County in its sole discretion determines that the average wet-weather flow at the District's Lift Station 11 exceeds 1/3 of the Districts' stated design capacity for Lift Station 11, the County shall notify the District of such and shall begin planning, design, and construction work to develop additional conveyance capacity for the Soos Creek Planning Zone. The District shall be obligated to continue accepting flows under the terms of this Agreement until such time as these new County facilities have been constructed and are operational; or, for a period of five years from the date the capacity standard is exceeded – which ever time period is shorter. If during the five-year period the County chooses to exercise its right not to renew this Agreement under the terms of Section 10 of this Agreement, then the District will no longer be obligated to continue accepting flows under the terms of this Agreement.

3200 GPM

Section 6. Flow Monitoring. The District and the County shall begin to perform flow monitoring jointly within six months of the execution date of this Agreement and shall continue according to the provisions of this Section throughout the term of this Agreement.

The District shall install and maintain the following:

1. A magnetic flow meter or other such flow measuring device at Lift Station 10B on the station's force main to measure and record pressurized flows from Lift Station 10B;
2. Two Doppler flow meters or other such flow measuring devices on the force mains from Lift Stations 11 and 15B (meters will share a common vault on SE 256th Street, approximately 520 feet east of that street's intersection with 170th Place SE) to measure and record pressurized flows from each station respectively;
3. An area velocity flow meter with an ultrasonic, echo ranging type open channel flow monitor or equivalent measuring device to measure and record flows from the Black Diamond Trunk where it discharges sewage into the District's conveyance system at Manhole 791-A.

The County shall install and maintain the following:

1. An area velocity flow meter with either a digital Doppler radar velocity or a Doppler ultra sonic velocity sensor with ultrasonic pulse echo and pressure transducer. Either meter type will measure open channel flows at Lift Station 14;
2. Wet-well level sensors that are capable of measuring water levels up to each over flow point at Lift Stations 11, 14, 15B, and 10B;
3. Pump on/off meters capable of monitoring pump activity at one-minute intervals at Lift Stations 11, 14, 15B, and 10B in conjunction with wet-well level sensors; and,
4. One self-calibrating pressure sensor at the first upstream manhole to Lift Station 15B.

All monitors and sensors installed by the District and the County shall be capable of providing weekly data downloads.

The District and the County shall maintain their respective monitors and sensors in good working order continuously for the duration of this Agreement. The County shall coordinate with the District at least 24 hours prior to accessing any District facilities to install and maintain the County's monitors and sensors or to retrieve data from those monitors and sensors as needed.

The District and the County will generate and share flow-monitoring reports that include data from every flow monitor or sensor for which each party is responsible. These reports shall, at a minimum, be generated and shared on a monthly basis from November 1st through April 30th, of each year that this agreement is in force. The County and the District can also request monthly reports for any other month in a given year that this Agreement is in force.

Section 7. Changed Conditions. The Capacity Standard and Exceedance of Standard detailed in Section 5 of this Agreement are based on current system conditions that are subject to change over time. The County and District agree that changes to either the Capacity Standard or Exceedance Standard can be negotiated as a part of the Agreement renewal process contained in Section 10 of this Agreement.

Section 8. Implementation Considerations. Exceedance of the Capacity Standard contained in Section 5 of this Agreement may be due to an anomaly, such as a system breakdown by either the District or County, or a major flow event triggered by a 100-year storm or other such unusual occurrence. The County and the District may review the conditions that lead to the exceedance of the capacity standard and mutually agree that its occurrence does not warrant the County initiating planning, design, and construction work to develop additional conveyance capacity for the Soos Creek Planning Zone. Nothing in this Section is intended to limit the County's authority under Section 5 of this Agreement.

Section 9. Effective Date and Term of Agreement. This Agreement shall be in full force, and effect and binding upon the parties hereto upon the execution of the Agreement and shall continue in full force and effect until the Basic Agreement terminates; except for the sewage conveyance arrangement described in Section 2, which shall be subject to regular three (3) year renewals the initial term of which begins July 1, 2010, or the actual on-line date of the Black Diamond Storage Facility described in Section 3 of this Agreement.

Section 10. Renewal of Conveyance Arrangement. Renewal of the conveyance arrangement in Section 2 of this Agreement shall be at the sole discretion of the County and consist of a written notice by the County to the District notifying it of the County's intention to either renew or terminate said arrangement. The written notice shall be sent to the District at least ninety (90) calendar days before the expiration date of each three-year renewal period. The District shall then have thirty (30) calendar days to notify the County in writing that it concurs with the County's intent. If the County fails to provide such notice, then the agreement shall remain in effect. Failure by the District to respond to the County's notice shall represent agreement with the County's notice.

Section 11. Notice. Whenever in this Agreement notice is required to be given, the same shall be given by registered mail to both parties at the following addresses:

King County
201 S. Jackson Street
Seattle, Washington 98104

Soos Creek Water and Sewer District
14616 S.E. 192nd Street
PO Box 58039
Renton, Washington 98058-1039

unless a different address shall be hereafter designated in writing by either of the parties. The date of giving such notice shall be deemed to be the date of mailing thereof.

Section 12. Waiver. No waiver by either party of any term or condition of this Agreement shall be deemed or construed as a waiver of any other term or condition, nor shall a waiver of any breach be deemed to constitute a waiver of any subsequent breach whether of the same or a different provision of this Agreement.

Section 13. Remedies. In addition to the remedies provide by law, this Agreement shall be specifically enforceable by either party.

Section 14. Dispute Resolution. In the event disputes arise over the interpretation, administration, or effect of this agreement, either party may refer the matter to a committee composed of the Manager and Assistant Manager of King County's Wastewater Treatment Division (or their respective designees), and the General Manager and District Engineer of the Soos Creek Water and Sewer District (or their respective designees). The consideration of the dispute or claim by this committee, in an effort to reach a solution, which reflects the best public interest, shall be a prerequisite to any legal action by either party.

Section 15. Basic Agreement Unchanged. The District and the County shall comply with all provisions of the basic agreement without qualification or condition by reason of this agreement, it being the intention of the parties that the basic agreement shall not be affected or modified by this agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

KING COUNTY

By _____
Pam Bissonnette, Director
Department of Natural Resources

ATTEST:

_____

SOOS CREEK WATER AND SEWER DISTRICT

By _____
Ron Speer, District Manager

ATTEST:

_____
NOTARY, RENTON, WA

LINDA K. SWANSON
NOTARY PUBLIC
STATE OF WASHINGTON
COMMISSION EXPIRES
6-22-06

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 3004-S

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, approving Interlocal Agreement with City of Covington.

WHEREAS, the District and the City of Covington have reached agreement regarding the terms of an interlocal agreement for authorization to the District for use of the City's streets, bridges and other public ways for sanitary sewer facilities; and

WHEREAS, the City Council of the City of Covington has considered and approved the terms of the proposed interlocal agreement; and

WHEREAS, the Board of Commissioners of the District has considered and approved the terms of the proposed interlocal agreement;

NOW, THEREFORE, BE IT RESOLVED by the Commissioners of Soos Creek Water and Sewer District, King County, Washington, as follows:

SECTION 1: That the Board of Commissioners of Soos Creek Water and Sewer District hereby authorizes execution of the following:

CITY OF COVINGTON and SOOS CREEK WATER AND SEWER DISTRICT INTERLOCAL AGREEMENT FOR PROVISION OF SEWER SERVICE BY DISTRICT WITHIN CITY

SECTION 2: That the President and Secretary of the Board, and the District Manager are authorized to execute the Interlocal Agreement on behalf of the District.

SECTION 3: That the District shall take such action as is appropriate to accomplish the terms and purposes hereof.

Adopted by the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, at a regular open public meeting thereof on the 26th day of September, 2007.

RANDY REECE, President

KAREN WEBSTER, Secretary

CLEMENT QUANRUD, Commissioner

CONNIE SULLIVAN, Commissioner

STEVE SANDELIUS, Commissioner

INTERLOCAL AGREEMENT
BETWEEN
THE CITY OF COVINGTON AND SOOS CREEK WATER AND SEWER DISTRICT

THIS AGREEMENT is made and entered into by and between the City of Covington, a municipal corporation (City), and the Soos Creek Water and Sewer District; a municipal corporation (District), for the purposes set forth below.

WHEREAS, the City annually proposes to improve various streets, (Projects); and

WHEREAS, the District annually proposes improvements to various sewer facilities; and

WHEREAS, the District provides water service in a portion of the City in accord with applicable Washington State and City of Covington laws, regulations and franchises; and

WHEREAS, the City and the District can achieve cost savings and benefits in the public's interest by each performing certain work for the other during construction of the Projects, (Project Work); and

WHEREAS, the Scopes of Work and Cost Estimates for the Project Work are to be completed at a future date, and approved for inclusion by addenda as a part of this Agreement by separate actions by the City and District; and

WHEREAS, The City and the District intend that this agreement will be supplemented by job specific agreements or by other agreements for the joint participation in the construction of municipal facilities to be agreed upon in the future; and

WHEREAS, actual costs will be determined as a result of approved contract bids and actual construction and construction administration costs approved by both parties;

NOW, THEREFORE in consideration of the following terms and conditions, the parties agree as follows:

1. PROJECTS

The City shall annually supply to the District the following:

a. A copy of its current 6 year Transportation Improvement Plan (TIP) and its 20-year Street Capital Improvement Plan as adopted by the City.
b. A schedule of the projects planned for each calendar year as soon as it is available.
c. Notice to the District of each project upon commencement of design.

The District shall annually supply the City the following:

a. A copy of its current 6 and 20-year Capital Improvement Plan as adopted each year by the District.
b. A schedule of the projects, located within the City of Covington and its Areas of Interest (as defined in the City Comprehensive Plan), planned for each calendar year as soon as it is available.
c. Notice to the City of each project located within the City of Covington and its Areas of Interest, upon commencement of design.

In the event either party desires to partner with the other in a Project, notice shall be given to the other in writing and the parties shall negotiate a proportional allocation of cost for the Schedule of Shared Bid Items described in Section 3. below for each Project.

Each Project approved by the City and District for inclusion in this Agreement shall be attached, from time to time, as an addendum hereto and shall contain the proportional allocation of cost for the Schedule of Shared Bid Items described above. For each such project the parties will negotiate and mutually agree on one of the parties to act as the "Lead Agency". The other party is referred to herein as the "Other Party". Any designation of the District as "Lead Agency" pursuant to this section does not alter lead agency status for purposes of SEPA, nor does it shift responsibility and control over City Rights-of-Way or the authority to issue permits for any work referenced herein.

2. DESIGN

The Lead Agency shall prepare plans, specifications and contract forms and other necessary documents, suitable for public works Projects, based upon and in accordance with the current edition of the Washing State Department of Transportation and American Public Works Association Standard Specifications for Road, Bridge and Municipal Construction, (Contract Documents), in a manner suitable for including Other Party Work.

The Lead Agency shall supply to the Other Party the following: (1) Copies of progress and final base maps and construction plans, in mutually acceptable digital format as, requested by the Other Party. (2) Copies of Project specifications and other contract documents, in digital format, as requested by the Other Party.

The Other Party shall, in a timely manner, furnish construction drawings, special contract provisions, and other necessary documents in mutually acceptable digital format for the Other Party Work to become a part of the City's Contract Documents for the Projects. The Lead Agency shall notify the Other Party of any changes, which must be made to these documents to bring them into conformance with Lead Agency requirements, which changes shall be promptly made by the Other Party. Engineering design costs for plan modifications to integrate into a bid package will be borne by each agency for their engineering work or as mutually agreed to.

The Lead Agency shall incorporate the Other Party plans and specifications into the Contract Documents and shall separate the bid items into separate bid schedules: One bid schedule for Lead Agency and shared bid items and one bid schedule for each utility included in the project. The utility bid schedules will include items exclusively for that utility. The Other Parties may elect to have their work incorporated into the bid documents as part of the base bid or as either additive or deductive schedules. The parties can mutually agree to share in the cost of design for any part of, or for all of, any project. Cost sharing on design work shall be proportionate to the time and complexity of the design work for each party's share. The cost of construction of each party's work may be a factor but shall not be determinative of that party's share of the design work.

3. ALLOCATION OF COSTS FOR SHARED BID ITEMS

To protect the District and the City from having a bidder shift disproportionate costs of shared items onto the District's or the City's bid schedule, bid items such as, but not limited to, Mobilization, Clean-up, Demobilization, Temporary Erosion Control, and various items related to Traffic Control will all be contained within a separate Schedule of Shared Bid Items. The cost of said bid items will be proportioned between the City and the District based on either (1) Identification of bid items subject to cost sharing and item by item proportional allocation of cost as agreed between the parties prior to bid advertisement, or (2) Identification of bid items subject to cost sharing as agreed between the parties prior to bid advertisement and proportional allocation of their cost based solely upon the costs of the City and District Bid Schedules relative to the sum of the two. The parties shall agree to the method for cost sharing separately for each Project. The derived allocation percentages shall be applied to the engineer's estimate to determine each party's estimated dollar share prior to bids. The derived allocation percentages shall be applied to the contract bid to estimate each party's contract share and shall be applied to the final contract cost for these items to determine each party's final contract share.

4. BIDDING

The Lead Agency shall furnish the Other Party with the bid, bid prices, and the list of contractors and subcontractors for the Other Party Work for the Other Party's approval. The Other Party shall review the bid documents and notify the Lead Agency in writing whether the Other Party approves or rejects the bids for the Other Party's work. The Lead Agency shall not proceed with the Other Party Work if the Lead Agency has found or received written notification from the Other Party that the Other Party has found supportable grounds for rejecting the bid(s) for Other Party's work. Bid awards shall be made to the lowest responsible bidder for the Project, subject to applicable laws and regulations.

In the event the Other Party rejects the lowest responsible bid, and the Other Party Bid Schedule is additive or deductive, the Other Party may elect to have its own contractor do the Other Party Work. Timing of work issues shall be determined in each project specific supplemental agreement. The Other Party shall complete its work prior to the scheduled

beginning of the Lead Agency's work, provided that the Lead Agency may, in its sole discretion, allow the Other Party's Contractor to perform work concurrently with the Lead Agency's Contractor. In such event, the Other Party shall require its contractor to coordinate all Other Party Work located at the Project site with the Lead Agency Contractor and with any contractors or work crews from other utilities and to not unreasonably interfere with or delay the Lead Agency's Contractor or the work by other utilities. The Other Party shall notify its Contractor of such requirement and shall provide written notice to the Lead Agency and the Lead Agency's Contractor 10 days prior to beginning Other Party Work on the Project site.

5. CONTRACT ADMINISTRATION

a. The Lead Agency shall provide the necessary engineering, administration, inspection and clerical services necessary for the construction management of the Project. In providing such services, the Lead Agency may exercise all the powers and perform all the duties as authorized by law and this agreement, including, but not limited to, enforcement and interpretation of the contract documents, plans and specifications. The Lead Agency may enter into a contract with a consulting firm and hire limited term contract employees to perform many of these construction management services. The Lead Agency shall prepare the agreements and the Other Party shall participate in determination of contract scope of work and terms for such services. The Other Party will pay to the Lead Agency its share of such services. The Other Party share percentage shall equal the ratio of the final bid amount of the Other Party bid schedule divided by the final bid amount of the sum of Lead Agency and Other Party bid schedules, as described in Section 2. above.

b. The Other Party may furnish, and the Lead Agency will allow, an inspector to be on the Project site to verify proper compliance with requirements set forth in the Contract Documents while the Contractor is doing the Other Party Work. The Other Party's inspector shall advise the Lead Agency of any deficiencies noted in the Other Party Work. The Lead Agency may designate the Other Party's inspector as the Lead Agency's agent to communicate directly with the Contractor's field personnel regarding compliance with the contract specifications for the Other Party Work. The Other Party's inspector shall maintain a daily record pertaining to the project , and shall assist the Lead Agency's contract management personnel in preparing reports of daily quantities of Other Party work. The District and the City mutually recognize that special circumstances may create the need to allow the Contractor to work on weekends, holidays or at times outside the normal workday hours established in the Contract. Both the City and the District will provide personnel they each determine is needed to be on site and/or on call during these work times and each will be responsible to provide regular and overtime compensation to their own employees as each determines is needed. Payment from the Contractor to compensate for such overtime work by City or District employees, shall be shared by the City and the District in proportion to their direct costs for the work performed under such conditions.

c. During construction, the Other Party shall notify the Lead Agency as soon as practicable, in writing, of any changes it wishes to make in the plans and specifications that affect the Other Party Work. Such changes shall be made, if feasible. Similarly, the Lead Agency will notify the Other Party as soon as practicable of any changes required by the Lead Agency in the scope of the Project, or of any changes that substantially change the nature of the Other Party Work and will obtain the Other Party's approval of such changes to the Other Party Work. Notification by a party shall be given prior to commencement of the changes. The cost of the change shall be borne by the party initiating the changes, and any cost savings shall benefit the party initiating the changes provided that those cost savings are applicable to expenses that party would otherwise have been subject to pay. When calculating the cost of changes, such calculation shall include costs to other items of work impacted by the change and/or claims arising from the change. The Lead Agency shall act as the Other Party's agent in negotiating change orders and/or force account work with the Contractor, provided that the Other Party should be given notice and an opportunity to have input and the right to reject any change order relating solely to Other Party's work.

d. The Lead Agency shall provide the Other Party with written notice of substantial completion of the Project Work. The Other Party shall perform final inspection of the Other Party Work. The Other Party shall, within 30 calendar days of its final inspection, provide to the Lead Agency final acceptance of the Other Party Work, or alternatively, provide an itemized and detailed response as to why final acceptance by the Other Party Work cannot be given. If the Other Party fails to respond to the Lead Agency within said 30 calendar days of the Other Party's receipt of the notice of completion from the Lead Agency, the Other Party will be deemed to have given final acceptance of the Other Party Work. Upon final acceptance of the Other Party Work, the Lead Agency shall be relieved of any and all responsibility and/or liability for the Other Party Work and the condition of the Other Party facilities, provided that, the Lead Agency shall assign its rights under the Project contract relating to the Other Party Work to the Other Party, including warranty and maintenance obligations by the Contractor relating to the Other Party Work. The Lead Agency shall require the Contractor, according to the provisions enforceable in the Project contract, to maintain the maintenance bond in effect for a period of not less than 2 years following the Lead Agency's final acceptance of the Contractor's work to cover the cost of repairing or replacing faulty materials or workmanship and shall join with the Other Party in any action taken by the Other Party to enforce the conditions of said maintenance bond. In the event enforcement action is taken by the Lead Agency, the Other Party, or jointly, the costs of such enforcement action shall be borne by each in proportion to the relative value of the claim/claims awarded. No legal action may be commenced by either party without the express written consent of the other party, unless the legal action does not involve the claim of the remaining party.

e. The Lead Agency shall provide the Other Party with record drawings (as builts), in mutually acceptable digital format, of the Other Party Work within 10 days of the notice to the Other Party of project completion. The revisions to the contract plans shall be

incorporated onto the record drawings digitally. The record drawings for water facilities and roadway/stormwater facilities shall conform to the District and City standard details for record drawings. The work described in this sub-section 5.e. shall be included in the consultant construction management services contract/s described in Subsection 5.a. above.

f. The agency that will ultimately own and operate the particular facility will have the option to take the lead in negotiating and shall have the full and sole authority, after consultation with the Other Party, to directly negotiate the contract, any change orders, force account work, design changes and contractor claims relating to such facilities.

6. TERM

The term of this agreement shall be indefinite. Either party may terminate this agreement on 60 days notice provided that the terms of this and any supplemental agreement shall continue through the completion of any pending project.

7. PAYMENT

The Other Party shall reimburse the Lead Agency for all costs reasonably incurred by the Lead Agency in performing the Other Party Work, which costs shall include:

a. The cost of all work pursuant to the Other Party Bid Schedule.
b. The Other Party's proportionate share of the cost of all work performed pursuant to the Schedule of Shared Bid Items. To the extent that other parties contribute toward the cost of these Shared Bid Items, the payments received from those parties will be credited to the City and the District in accordance with their proportionate share.
c. The cost of all change orders initiated by the Other Party as described in sub-section 5.c.
d. The Other Party's proportionate share of the Lead Agency's contract administration services in the amount of 5% of the sum of the costs of 7.a., 7.b., and 7.c. above.
e. The Other Party's proportionate share of consultant construction management services as described in sub-section 5.a.

The Lead Agency shall provide monthly progress payment estimates for the Other Party Bid Schedule and the Schedule of Shared Bid Items to the Other Party for Other Party review and written approval. The Other Party shall return said progress payment estimates as revised and approved to the Lead Agency within 10 calendar days of their receipt. The Lead Agency shall make payment to the Contractor pursuant to said progress payment estimates, only as approved by the Other Party. The Other Party shall reimburse the Lead Agency within 30 calendar days of Other Party approval for the progress payment estimates as approved by the Other Party. Past due undisputed payments shall accrue simple interest at the rate of one percent (1 %) per month until paid.

8. INDEMNIFICATION AND HOLD HARMLESS

Each party to this Agreement hereto agrees to protect, defend, and indemnify the other party, its elected and appointed officers, officials, employees, volunteers and agents from any and all costs, claims, judgments and/or awards of damages arising out of or in any way resulting from the Party's default, failure of performance, or negligent conduct associated with this Agreement, by the Party, its employees, subcontractors or agents. Each Party agrees that its obligations under this provision extend to any claim, demand, and/or cause of action brought by or on behalf of any of its employees or agents. The foregoing indemnity is specifically and expressly intended to constitute a waiver of each Party's immunity under Washington's Industrial Insurance Act, RCW Title 51, as respects the Other Party only, and only to the extent necessary to provide each Party with a full and complete indemnity of claims made by the Other Party's employees. The parties acknowledge that these provisions were specifically negotiated and agreed upon by them.

Claims shall include, but not be limited to, defects or mistakes in plans, specifications and or drawings, assertions that the use or transfer or any software, book, document, report, film, tape, or sound reproduction of any kind, delivered hereunder, constitutes an infringement of any copyright patent, trademark, trade name, and/or otherwise results in unfair trade practice.

In the event either Party incurs any costs, including attorney fees or expert witness fees, to enforce this provision and substantially prevails in such enforcement action, all such costs and fees shall be recoverable from the losing Party.

The provisions of this section shall survive the expiration or earlier termination of the Agreement with regard to any event that occurred prior to or on the date of such expiration or earlier termination. .

9. OTHER PROVISIONS

a. The City shall retain ownership and usual maintenance responsibility for the road and stormwater facilities, landscaping, signs, signals and sidewalks. The ownership and control of any District facilities shall be as specified in the job specific supplemental contracts.

b. This agreement contains the entire agreement of the parties and supersedes all prior discussions. This Agreement may be amended only in writing, signed by both parties.

c. Nothing contained herein is intended to, nor shall be construed to create any *rig* in any third party, or to form the basis for any liability on the part of the parties to this Agreement, or their officials, officers, employees, agents or representative, to any third party.

d. Waiver of any default or breach of terms Agreement shall not be deemed to be a waiver of any other prior or subsequent default or breach and shall not be construed to be a modification of the terms of this Agreement unless stated to be such through written agreement of both parties.

e. If any provision of this Agreement is held invalid or unenforceable by a court competent jurisdiction, the remainder of the Agreement shall not be affected thereby and shall continue in full force and effect if such remainder would then continue to serve the purposes and objectives of the parties.

f. Resolution of Claims and Disputes

i. Mediation. Any claim or dispute arising out of or related to this Agreement or the Project Contract, Plans and Specifications shall be subject to mediation as a condition precedent to arbitration or the institution of legal or equitable proceedings by either party.
The parties shall endeavor to resolve their disputes by mediation which, unless the parties mutually agree otherwise, shall be conducted by JAMS, WAMS, JDR or any other mutually agreeable mediator.

The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

ii. Arbitration. Any claim arising out of or related to this Agreement or the Project Contract Plans and Specifications shall be subject to arbitration. Prior to arbitration, the parties shall endeavor to resolve disputes by mediation in accordance with the provisions set forth above,

Claims not resolved by mediation shall be decided by arbitration which, unless the parties mutually agree otherwise, shall be conducted by one of the entities identified in section f(i) above. The parties shall mutually agree upon an arbitration entity and arbitrator. In the event the parties are unable to select an entity or arbitrator then the choice shall be made by the Renton City Attorney. The demand for arbitration shall be filed in writing with the other party to the Contract. A demand for arbitration shall be made within a reasonable time after the claim has arisen, and in no event shall it be made after the date when institution of legal or equitable proceedings based on such claim would be barred by the applicable statute of limitations.

iii. Timely Assertion of Claims and Disputes. The party filing a notice of demand for arbitration must assert in the demand all claims and disputes then known to that party on which arbitration is permitted to be demanded

iv. Judgment on Final Award. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction

10. CONTRACTOR'S INDEMNIFICATION OF OTHER PARTY AND INSURANCE

The Lead Agency shall require the contractor building the Project to indemnify, defend, and save harmless the Other Party and its officers, agents, volunteers or employees from any claim damage, action, liability of proceeding brought or filed against the Other Party or its officers, agents or employees alleging damage or injury arising out of the contractor's participation in the Project. The Contractor shall also be required to waive the Contractor's immunity under Washington's Industrial Insurance Act, RCW Title 51, as to the Other Party solely for the purposes of the indemnification.

The Other Party, its elected and appointed officers, agents, volunteers and employees shall be named as also insured on all insurance policies to be maintained by contractor(s) under the terms of all Project contracts, with the Lead Agency contractor building the Project required to maintain Commercial General Liability Insurance, Commercial Automobile Insurance and Workers Compensation. The Contractor shall provide the Lead Agency with a certified copy of all policies with endorsements attached as are necessary to comply with the contract specifications. The Lead Agency shall provide the Other Party with copies of all such policies and documents upon receipt of same by the Lead Agency.

The Lead Agency shall require the contractor building the Project to be solely and completely responsible for safety and safety conditions at the job site, including the safety of all persons and property during performance of the work. The contractor shall comply with all applicable City and State regulations, ordinances, orders and codes regarding safety. The Other Party shall have no responsibility as to safety and safety conditions at the job site.

IN CONSIDERATION of the mutual benefit accruing herein, the parties hereto agree that the work as set forth herein will be performed by the City under the terms of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement effective as of the date last written below.

CITY OF COVINGTON

Derek Matheson, City Manager

9/6/07
DATE

SOOS CREEK WATER AND SEWER DISTRICT

Ron Speer, General Manager

9/12/06
DATE

APPROVED AS TO FORM:

Amy Jo Pearsall, City Attorney

APPROVED AS TO FORM:

Michael M. Harris, District Attorney

2008 ADDENDUM TO CITY OF RENTON & SOOS CREEK WATER AND SEWER DISTRICT AGREEMENT FOR THE TRANSFER OF FACILITIES AND FOR THE ESTABLISHMENT OF SERVICE BOUNDARIES

THIS ADDENDUM, made and entered into this 18th day of July, 2008, by and between the **CITY OF RENTON**, a Washington municipal corporation, hereinafter referred to as "the City", and **SOOS CREEK WATER AND SEWER DISTRICT**, a Washington municipal corporation, hereinafter referred to as "the District", both being duly organized and existing under and by virtue of the laws of the State of Washington,

WITNESSETH:

WHEREAS, with effective date of the 6th day of August, 1991, the City and the District entered into the following agreement:

CITY OF RENTON & SOOS CREEK WATER AND SEWER DISTRICT
AGREEMENT FOR THE TRANSFER OF FACILITIES
AND FOR
THE ESTABLISHMENT OF SERVICE BOUNDARIES

(1991 AGREEMENT); and

WHEREAS, by mutual agreement, the Agreement has been modified from time to time as to the boundaries of the City and District service areas to reflect service issues regarding the timing of various developments by the City and the District; and

WHEREAS, the parties now desire to again modify the AGREEMENT as to service area; and

WHEREAS, the 1991 AGREEMENT, as modified by this Addendum, will continue to provide for maximum efficient use of existing and future facilities, and the orderly and efficient water and sanitary sewer system planning.

NOW, THEREFORE:

IT IS HEREBY AGREED by and between the parties hereto as follows:

1. **Service Area Boundaries.** The parties have agreed that in consideration of the mutual agreements contained herein, the service area boundaries between the City and the District shall be modified as shown in Exhibit A hereto, which is incorporated herein by this reference.

2. **Amended Terms for Service by District.** The parties agree that the District may install a mainline sewer line in South 28th Street, which may serve into the City's sewer collection system.

3. **Amended Terms of Payment by District.** In consideration of the foregoing, the District will pay 50% of the collected General Facility Charges collected for the lots that connect to a mainline sewer line to be installed in South 28th Street to the City; such lots are identified in Exhibit B hereto, which is incorporated herein by this reference.

3. **Remaining Obligations Intact.** Nothing herein shall be construed to alter the rights, responsibilities, liabilities, or obligations of either the City or the District pursuant to either the 1991 AGREEMENT, or any amendments thereto, except as specifically set forth herein.

Approved by Resolution No. 3957 of the City Council of the **CITY OF RENTON**, Washington, at its regular meeting held on the 14th day of July, 2008.

CITY OF RENTON

By: Denis Law

Title: Denis Law, Mayor

Attest: Bonnie I. Walton
City Clerk - Bonnie I. Walton

Approved by Motion of the Board of Commissioners of **SOOS CREEK WATER AND SEWER DISTRICT** of King County, Washington, at its regular meeting held on the 5 day of MAY, 2008.

SOOS CREEK WATER AND SEWER DISTRICT

By: _____
Ron Speer, District Manager

EXHIBIT "A"

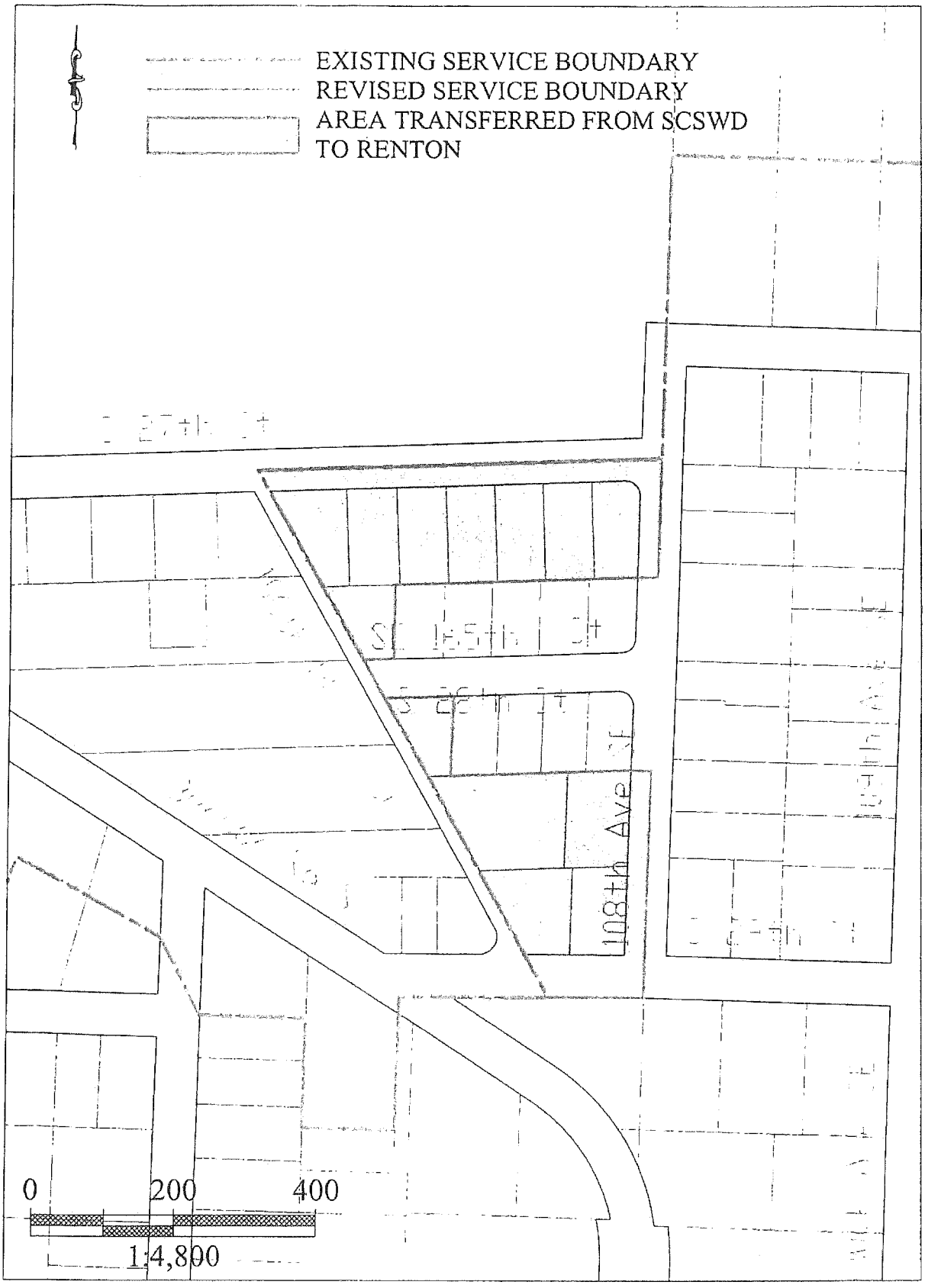
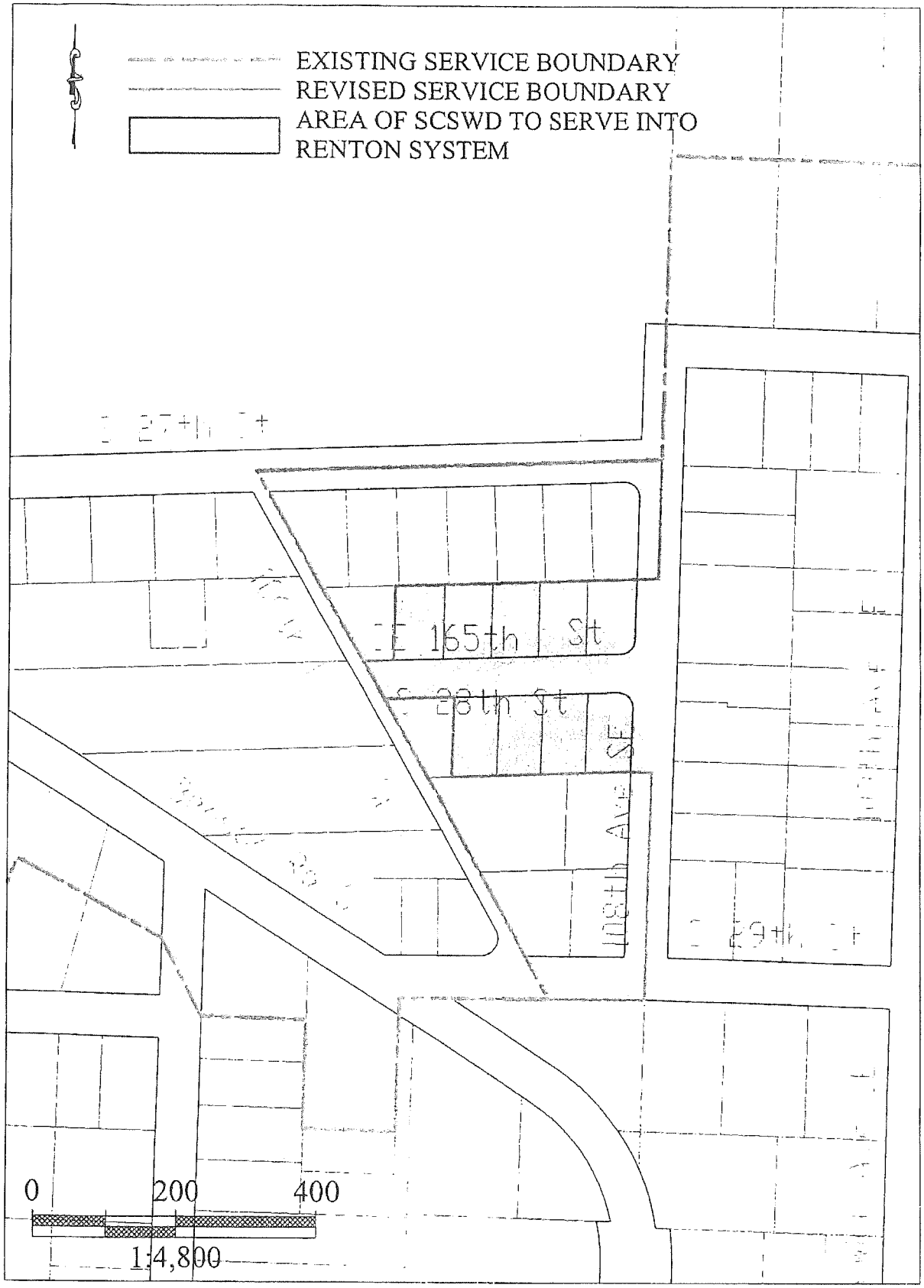

EXISTING SERVICE BOUNDARY
REVISED SERVICE BOUNDARY
AREA TRANSFERRED FROM SCSWD
TO RENTON
108th Ave
0
200
400
1:4,800

EXHIBIT "B"


EXISTING SERVICE BOUNDARY
REVISED SERVICE BOUNDARY
AREA OF SCSWD TO SERVE INTO RENTON SYSTEM
E 165th St
108th Ave SE
0
200
400
1:4,800

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

RESOLUTION NO. 3271-S

A RESOLUTION of the Board of Commissioners of Soos Creek Water and Sewer District, King County, Washington, authorizing Addendum to Cascade Interceptor Agreement with the City of Renton for Rehabilitation and Maintenance.

WHEREAS, the District and the City of Renton entered into an Agreement dated March 27, 1964, pertaining to the construction, operation and maintenance of the Cascade Interceptor; and

WHEREAS, it is now in the best interests of the City and the District to adopt an Addendum to the Agreement regarding immediate and future rehabilitation, maintenance and repair; and

WHEREAS, an Addendum has been prepared incorporating the terms of agreement between the City and the District.

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Soos Creek Water and Sewer District, as follows:

SECTION 1: That the following is hereby approved, and the President and Secretary of the Board of Commissioners are hereby authorized to execute on behalf of the District:

ADDENDUM TO THE MARCH 27, 1964 CASCADE INTERCEPTOR AGREEMENT

SUBJECT: REHABILITATION AND MAINTENANCE OF THE CASCADE INTERCEPTOR

SECTION 2: That a copy of the Addendum shall be maintained on file at the District, and shall be available for review.

SECTION 3: That the District shall perform said Agreement, as amended by the Addendum, in accordance with the terms thereof.

ADOPTED by the Board of Commissioners of Soos Creek Water and Sewer District, King

County, Washington, at a regular open public meeting thereof on the 5th day of January, 2011.

ALICE MARSHALL, President

EXCUSED
KAREN WEBSTER, Secretary

CLEMENT QUANRUD, Commissioner

RANDY REECE, Commissioner

GARY CLINE, Commissioner

APPENDIX E

DEVELOPER EXTENSION CHECKLIST AND AGREEMENT

SOOS CREEK WATER AND SEWER DISTRICT

DEVELOPER EXTENSION CHECKLIST AND AGREEMENT

PROJECT NAME _____

TYPE

☐ WATER EXTENSION

- ☐ District Special Facilities
- ☐ Latecomer
- ☐ Oversize/Overdepth

☐ SEWER EXTENSION

- ☐ District Special Facilities
- ☐ Latecomer
- ☐ Oversize/Overdepth

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

Commissioners

Gary Cline
Alice Marshall
Clement Quanrud
Darold Stroud
Karen Webster

Sewer and Water District Office

14616 S.E. 192nd Street
P.O. Box 58039
Renton, Washington 98058-1039

Ron Speer, District Manager
Telephone: 253-630-9900
FAX: 253-630-5289
email: rspeer@sooscreek.com

Attorney

Hanis Irvine Prothero, PLLC
6703 South 234th Street, #300
Kent, Washington 98032-2900
Telephone: 253-520-5000
FAX: 253-893-5007
email: mhanis@hiplawfirm.com

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SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

DEVELOPER EXTENSION CHECKLIST

NAME OF PLAT/PROJECT _____

PARCEL NO. _____

PROJECT ADDRESS _____

DEVELOPER _____

MAILING ADDRESS _____

_____

PHONE _____ FAX _____

EMAIL _____

ADDITIONAL OWNER(S)/CONTACTS _____

DEVELOPER'S ENGINEER _____

REGISTRATON NUMBER _____

MAILING ADDRESS _____

_____

PHONE _____ FAX _____

EMAIL _____

OTHER JURISDICTIONS

☐	King County	☐	City of Maple Valley
☐	City of Covington	☐	City of Renton
☐	City of Kent	☐	Cedar River Water & Sewer District
☐	Water District #111	☐	Covington Water District
☐	City of Black Diamond	☐	City of Auburn PAA

DOCUMENTS

In addition to this Developer Extension Agreement, the following materials may be required for performance of a Developer Extension Project:

- Pre-Construction Conference Items
- Contractor's Release
- Engineer's Release
- Performance Bond
- Bill of Sale
- Easement Template
- Easement Relinquishment Template
- Developer Extension Renewal Agreement
- Assignment and Covenant to Perform Developer Extension Agreement
- Performance and Indemnification Bond
- Certification of Assignment in Lieu of Performance Bond
- Value of Systems
- Memorandum of Developer Extension Reimbursement Agreement (Latecomer)
- Resolution of Fees and Charges for Developer Extensions
- Resolution regarding Maintaining Grades and Television Inspection
- Notice of Execution of Developer Extension Agreement
- Notice of Completion of Developer Extension Agreement

The District's Specifications and Standards, and other materials that may be necessary to this project are available at the District office; or at www.sooscreek.com. Signing of this Agreement will constitute a representation that you have been offered all such materials.

A. PRELIMINARY

☐	1.	Legal Description of property and any encumbrances	(DEVELOPER)
☐	2.	Required facilities or design modifications (e.g., oversizing and/or overdepth), determined by District	(DISTRICT)
☐	3.	Easements and temporary construction permits, as necessary, properly executed and delivered to the District	(DEVELOPER)
☐	4.	Provide preliminary plat	(DEVELOPER)
☐	5.	Fire flow requirements and hydrant locations from Fire Marshall (Water Extensions)	(DEVELOPER)
☐	6.	Cost estimate of special facilities	(DEVELOPER)
☐	7.	Calculation of Main Extension Fee(s)	(DISTRICT)
☐	8.	Application form completed	(DEVELOPER)
☐	9.	Application approved	(DISTRICT)
☐	10.	Payment of Plan Review Fee, or Design Fee if District Special Facilities	(DEVELOPER)[1]
☐	11.	Issue design and construction standards	(DISTRICT)

[1] See Section 11.08. ADDITIONAL FEES AND CHARGES – District pays for first cycle of plan review; Developer pays for subsequent plan review cycles, if necessary.

B. REQUIRED BEFORE PRE-CONSTRUCTION CONFERENCE
Note: Final site plans must be completed prior to pre-construction meeting.

☐	1.	Plans and specifications prepared and submitted to District for review	(DEVELOPER)
☐	2.	Written approval by Developer of system plans and specifications	(DEVELOPER)
☐	3.	Written approval of final street and storm construction plans by appropriate jurisdiction	(DEVELOPER)
☐	4.	Approval of water plans by County or City Fire Marshal	(DEVELOPER)
☐	5.	Review of plans by King County Wastewater Treatment Division (Sewer Extensions)	(DEVELOPER)
☐	6.	SEPA (if applicable)	(DISTRICT)
☐	7.	Approval of plans and issuance of permits by applicable permitting agencies	(DEVELOPER)
☐	8.	Insurance Certificate	(DEVELOPER/ CONTRACTOR)
☐	9.	Payment of vertical datum, site benchmark, and the first run of pipe and the first manhole verification survey (sewer only); construction record drawing (CRD) survey (by District)	(DISTRICT/ DEVELOPER)[2]
☐	10.	Payment of Construction Observation and Admin. Deposit; SCWSD Inspection Deposit; Developer Guaranty Deposit; and Developer Conformance Deposit ; Latecomer agreement preparation fee	(DEVELOPER)
☐	11.	Provide itemized contractor bid sheet for off-site and on-site work	(DEVELOPER)

[2] See Section 11.08. OTHER FEES AND CHARGES – District pays for vertical datum, site benchmark, and the first run of pipe and the first manhole verification survey (sewer only) and CRD survey; Developer pays for subsequent CRD surveys, if necessary.

☐ 12. Pre-Construction Conference (DISTRICT and ENGINEER; DEVELOPER and ENGINEER; CONTRACTOR)

Note: For all Developer Extension projects, Developer or representative, Developer's Engineer and on-site representative of the Contractor (e.g., foreman) must be present at the pre-construction conference.

C. REQUIRED BEFORE CONSTRUCTION BEGINS

☐ 1. Request District Engineer to verify vertical datum and site benchmark survey (sewer only) (CONTRACTOR)

☐ 2. Payment of Performance Bond for off-site and comprehensive plan or general facility portions of extension (if any) (DEVELOPER)

☐ 3. One week notice of starting date (DEVELOPER)

☐ 4. Vertical datum, site benchmark, and the first run of pipe and the first manhole verification survey (sewer only) (DISTRICT)

☐ 5. Coordination of telephone vaults; coordination of power vault and hand hold locations with Puget Sound Energy (DEVELOPER)

D. PRIOR TO ACCEPTANCE OF JOB

☐ 1. Television inspection of system (sewer only) (DISTRICT)

☐ 2. Construction Record Drawing (CRD) survey (DISTRICT)

☐ 3. Approval of construction – final (DISTRICT)

☐ 4. Certification of areas of all parcels and lots (DISTRICT)

☐ 5. Verification of site grading to meet plat design (DEVELOPER)

☐ 6. Construction costs to District (DEVELOPER)

☐ 7. Preparation of Bill of Sale (DISTRICT)

☐ 8. Executed Bill of Sale and on-site easements returned to District (DEVELOPER)

Note: Signed easements ready for recording are required for review before the Bill of Sale will be accepted by the Board of Commissioners.

☐ 9. Value of system to District (DEVELOPER)

☐ 10. CRD prepared along with the On-From-To document (DISTRICT)

☐ 11. Copy of recorded final plat, showing minimum floor elevation limitations, if any (DEVELOPER)

☐ 12. Bill of Sale (will not be approved by the Board until District has received all documents) (DISTRICT)

☐ 13. Memorandum of Developer Extension Reimbursement Agreement (Latecomer), if applicable (DISTRICT)

Note: Applications for Water Meter and Side Sewer Permits will not be accepted until all of the above items have been accomplished.

E. PRIOR TO RELEASE OF DEVELOPER GUARANTY DEPOSIT

☐ 1. Final inspection approximately one year from acceptance of Bill of Sale (DISTRICT)

☐ 2. Notification of necessary repairs and/or restoration (DISTRICT)

☐ 3. Completion of repairs (DEVELOPER)

☐ 4. Accounting for any funds applied from Deposits; release of balance (DISTRICT)

SOOS CREEK WATER AND SEWER DISTRICT

KING COUNTY, WASHINGTON

APPLICATION AND AGREEMENT TO ALLOW CONSTRUCTION OF EXTENSION TO FACILITIES

TO: SOOS CREEK WATER AND SEWER DISTRICT

The undersigned ("the Developer"), hereby makes application to Soos Creek Water and Sewer District, King County, Washington ("the District"), for permission to construct and install an extension to the District's

☐ Water
☐ Sewer

facilities in the public right-of-way under the District's franchise, and/or upon easements approved by the District, and to connect to the District's water distribution system and/or sewage collection system; and in consideration thereof, makes the following representations and agreements, to wit:

1. **LOCATION OF EXTENSION**

Name of Plat/Project _____

2. **DESCRIPTION OF PROJECT**

A conceptual drawing of the project must be attached, and by this reference thereto the same is made a part of this Agreement.

3. **INCORPORATION OF OTHER DOCUMENTS**

Listed hereinabove are other “Documents”, copies of which have been provided herewith, and which may be applicable to the performance of this Agreement. To the extent any such document applies, the parties hereto agree that the terms thereof are incorporated herein as though fully set forth, and may be enforced in the same manner and to the same extent as all other terms of this Agreement.

4. **DESCRIPTION OF EXTENSION**

4.01 The proposed extension, as determined at the pre-application review, will consist of approximately

_____ Lineal feet of water pipe

_____ Lineal feet of sewer pipe

and appurtenances and shall be installed in accordance with the plans and specifications provided by the Developer’s Engineer, and in accordance with the standards and conditions for constructing extensions to the District's systems adopted by the Board of Commissioners of the District, the terms of which are by this reference made a part hereof as though set forth in full herein.

4.02 The Limitation Period for Acceptance of this extension, as described in Section 26, shall be 18 months, unless the project includes facilities and improvements required by the District (Section 6), in which case the Limitation Period shall be 24 months from the date of this Agreement.

4.03 This extension

☐ Does
☐ Does not include the installation of facilities for which latecomer reimbursement, as described in Section 22 may be available.

5. **SPECIAL FACILITIES (to be paid for by Developer)**

5.01 Special facilities are those that must be constructed to make service available to the Developer's project, but which are other than the typical mains and appurtenances for developer extension projects (e.g. pump stations and pressure reducing valve stations).

5.02 For this project special facilities are (check one)

☐ Not applicable
☐ Applicable. The description and estimated construction cost of the special facilities are as follows:

_____

_____

_____

_____

_____

_____

6. **FACILITIES AND IMPROVEMENTS REQUIRED BY DISTRICT (to be paid for in whole or part by the District)**

6.01 Facilities and improvements required by the District, are as defined in Section 21 hereof.

6.02 For this project special facilities are (check one)

☐ Not applicable
☐ Applicable. The description and projected cost thereof are generally described as follows:

7. PROJECT ACCOUNTING

TOTAL DUE TO RENEW & RESTART THE PROJECT	WATER FEES DUE	SEWER FEES DUE
District Engineered Design, Design Survey and Offsite Easements (if required) Fee	**N/A**	$ 3,000.00
Plan Review Fee (Optional Engineering – 1 cycle)	0.00	0.00
Permit Re -Application Preparation Fee	0.00	1,800.00
SUBTOTAL	0.00	4,800.00
Remaining fees / Overages	**0.00**	**Remaining: $ 355.49**
PROJECT ACCOUNTING DUE	**$ 0.00**	**$ 4,444.51**
ADDITIONAL FEES DUE AT OR BEFORE THE PRECONSTRUCTION MEETING:		
Construction Survey and CRDs (as-builts) Deposit	0.00	5,278.80
Construction Observation & Admin. Deposit	0.00	10,485.60
Onsite Easement Preparation Deposit	0.00	0.00
SCWSD Inspection Deposit	0.00	252.00
Developer Guaranty & Conformance Deposit	0.00	1,200.00
SUBTOTAL	0.00	17,216.40
TOTAL DUE AT OR BEFORE THE PRECONSTRUCTION MEETING:	**$ 0.00**	**$ 17,216.40**

NOTE: The pre-construction conference will not be scheduled until all fees and deposits have been paid.

8. **OTHER FEES AND CHARGES - INFORMATIONAL ONLY**

8.01 Plan Review Fee – A minimum Plan Review Fee has been established by the District. The Fee will be paid by the District for the first "cycle" of plan review as described in Section 11.02. For each subsequent cycle of plan review, it shall then be paid by the Developer.

Water -	(each for second cycle)	$ 3,000.00 + 20% = $3,600.00
	(for each cycle required after two)	$ 1,500.00 + 20% = $1,800.00
Sewer -	(each for second cycle)	$ 5,000.00 + 20% = $6,000.00
	(for each cycle required after two)	$ 2,500.00 + 20% = $3,000.00

8.02 Construction Record Drawing (CRD) Survey determined as necessary

The District will pay for the first CRD Survey. If additional Surveys are required due to failure of the Development to conform with District standards, the cost thereof shall be charged to the Developer as an additional fee.

8.02 Consultation/assistance conference as requested
by the Developer or Developer's Engineer (one hour minimum) $ 250.00/hour

8.03 Latecomer/Special Connection Charges - ***Updated and payable at time of Bill of Sale***

Water -	No.	$
Sewer -	No.	$

8.04 Current District General Facility Charge

A. Residential, per Single Family Unit

Water -	$ 2,444.00 per unit
Sewer -	$ 2,672.00 per unit

B. Commercial Properties; calculated on greater of ERUs based on meter size, or on square footage

Water -	(if based on ERUs)	$ 2,444.00 per unit
	(if based on square footage)	$ 0.2444 per sq ft
Sewer -	(if based on ERUs)	$ 2,672.00 per unit
	(if based on square footage)	$ 0.2672 per sq ft

C. Public Schools and Parks; shall be evaluated in accordance with Department of Ecology and residential equivalency standards regarding their overall impact and utilization of the system to determine ERUs

Water - $ 2,444.00 per unit

Sewer - $ 2,672.00 per unit

8.05 Seattle Public Utility Facility Charge, determined by meter size

Water - $ 713.00 per ERU

8.06 Trench failure/settlement bond amount $_____

8.07 Landscape plantings bond amount $_____

NOTE: All fees include and all deposits are subject to the District's regular and ordinary administrative costs, which have been determined to be 20% of the total amount.

9. **DEVELOPER RESPONSIBILITIES**

THE DEVELOPER/DEVELOPER'S ENGINEER IS FULLY RESPONSIBLE FOR THE EXECUTION OF ITS PROJECT, AND SHALL PERFORM ALL FUNCTIONS WITH REGARD TO THE PROJECT, INCLUDING THE FOLLOWING:

9.01 Determine District's construction specifications and standards, and advise Developer;

9.02 Preparation of plans and specifications;

A. The final plat map shall be to a scale of 1 inch = 100 feet or 1 inch = 50 feet. The contour map shall be to a scale of 1 inch = 100 feet with contour intervals of 5 feet or less. The road profile and storm plan sheets shall be to a scale of 1 inch = 50 feet and shall be furnished to the District rolled, not folded.

B. The Developer shall also provide the description, location and elevation of all bench mark data available on the project site, and this information, wherever possible, shall be indicated on the maps furnished by the Developer. Datum shall be King County Aerial Survey (KCAS or NAVD 88). If not provided by the Developer, this data will be procured by the District, and the cost thereof will be charged as Additional Fees pursuant to Section 11.08 hereof, to which fee the Developer hereby consents. The Developer shall also furnish a plat computation work map with a scale of 1 inch = 50 feet, and a certification by the Developer's Engineer of the areas of all lots and parcels within the plat.

C. Construction plan(s) shall be prepared according to District standards and submitted to the District for review and approval prior to construction.

D. The plan(s) shall be separate from those plans for plat improvements, storm drainage improvements, and road/street improvements, and plans for other

utilities. Plans for water system improvements shall be separate from plans for sanitary sewer system improvements.

The standard scale of horizontal 1 inch = 50 feet and vertical 1 inch = 5 feet is dependent upon the site information/layout and vertical tolerances. The plan and profile views shall be prepared in such a manner that show complete pipe segments between street intersections and easements without duplication of information, as much as possible.

9.03 Send plans to agencies for permitting approval and provide the permits to the District;

9.04 Offsite design survey;

9.05 Provide two (2) sets of preliminary and Eight (8) sets of full size and 2 sets of half sized stamped, approved of final plans and specifications to the District;

9.06 Provide current accepted version of AUTOCAD Compatible Drawing (DWG) electronic files on CD Rom; files to include any special fonts used, all external cross-references, lot and street layout with computation data, street and storm plan and profile data, and site topography and proposed site grading plan;

9.07 Perform all construction staking.

Construction staking procedures used by field surveyors shall place positions of new facilities such as manhole centers, cleanouts, mains, fittings, etc, dimensioned in the design to within a tolerance of 0.2 feet horizontally and 0.02 feet vertically of design dimension, and meet any design clearance or setback requirements.

Vertical elevations are to be expressed in NAVD 88 datum and tied into sufficient known benchmarks to meet this requirement within said tolerance. Slopes shall be expressed to 4 decimal places (e.g., ".0063" representing "0.63 %"). Control and site benchmarks provided or used to position said facilities shall also be of a quality sufficient to meet said tolerances and datum requirement.

10. DISTRICT RESPONSIBILITIES

THE DISTRICT'S RESPONSIBILITY IS LIMITED TO CONFIRMING THAT THE PROJECT CONFORMS TO DISTRICT STANDARDS.

In addition, the District will be responsible for preparation of SEPA Checklist and Environmental Impact Statement, if required, or other environmental documents necessary for compliance of the Developer's Project with SEPA. The costs of the SEPA process will be borne by the District; provided, however, that if SEPA review and process is attributable to pipe over 8" required to serve the Developer's Project, such review and the cost thereof will be borne by the Developer.

11. DESCRIPTION OF FEES, CHARGES, AND DEPOSITS

The following is a description of the fees, charges, and deposits, and the payment terms thereof attributable to this Agreement, and/or necessary to provision of service by the District:

11.01 DESIGN FEE – DISTRICT SPECIAL FACILITIES **-** A Design Fee shall be paid by the Developer to the District in an amount equal to the current rate schedule adopted by Resolution for design fees for any water and/or sewer District Special Facilities. Payment of the design fee is in consideration of the following basic work:

A. Preparation of plans and specifications;

B. Regular and ordinary administrative costs attributable to Special Facilities;

C. Four (4) sets of plans and specifications for Special Facilities; and

D. Preparation of Bill of Sale for Special Facilities.

11.02 PLAN REVIEW FEE **-** A Plan Review Fee shall be paid to the District for the review of plans by the District to determine compliance with District standards and the requirements of other agencies having regulatory authority or control over the extension. The fee for the first cycle of plan review will be paid by the District, and covers one cycle of plan review. A "cycle" is one submission of plans; a review of the plans by the District and response with required changes; and one review of the plans as corrected. Any additional required reviews shall be deemed "additional" and charged as provided in Section 11.08 of this Agreement. The plans shall be prepared in accordance with the District's Design and Construction Standards, Standard Plan Requirements.

11.03 CONSTRUCTION OBSERVATION AND ADMINISTRATION DEPOSIT **-** A deposit as determined by the District, payable prior to the Pre-Construction Meeting, toward the estimated actual costs of construction observation and administration that will be attributable to the Project, including 20% for District administrative costs.

11.04 CRD SURVEY CHARGE - A Construction Record Drawing (CRD) Survey shall be performed by the District Engineer. The cost for the first Survey will be paid by the District. If any additional survey work is required due to the development's failure to conform to the District's standards, such additional survey work shall be deemed "additional" and charged as provided in Section 11.08 of this Agreement.

Measurements taken after construction for production of construction record drawings shall be taken to the same tolerances as the construction staking procedure. Lengths of pipe (run distances) shall be expressed to within 0.5 foot (e.g., "163.5 feet") and elevations expressed to the nearest 0.01 foot (e.g., "423.32 feet") with slopes calculated and expressed to 4 decimal places (e.g., ".0063" representing "0.63%).

11.05 SCWSD INSPECTION DEPOSIT **-** A deposit as determined by the District toward the estimated cost for District inspection, including but not limited to TV inspection, purity testing, punch list inspection, and District administrative costs. To the extent that actual inspection costs exceed this amount, and/or to the extent such costs are attributable to Developer field revisions or deficient work, they shall be deemed "additional" and charged for as provided in Section 11.08 of this Agreement.

11.06 DEVELOPER GUARANTY DEPOSIT

A. The Guaranty Deposit shall be to condition the Developer's compliance with the terms, conditions and standards contained or referenced herein, and shall insure the District against any damage to its existing system and/or proposed extension as a result of the Developer's failure to comply.

B. The Guaranty Deposit shall be used in cases determined by the District when the Developer has failed to make necessary repairs or restoration of any failures, including ditch settlement, of any portion of the extension covered by the guaranty within twenty-four (24) hours after notification by the District of the necessity for said repairs. At the end of the 24 hour period, if the Developer has not accomplished the necessary work, the District will have the work done and pay all costs in connection therewith from the deposit. Determination of any necessary repairs or restoration will be made by the District during the course of periodic inspections and until the final inspection that is to be made within one (1) year of the District's acceptance of the Bill of Sale as provided herein.

C. The Guaranty Deposit will be retained by the District until all items requiring repair or restoration have been satisfactorily completed, and a copy of King County's or the appropriate city's approval of the plat has been provided to the District.

D. In the event that the Guaranty Deposit is reduced by application by the District to repairs or restoration prior to the final inspection, the District will notify the Developer of the amount of the Guaranty Deposit which has been utilized, and the Developer shall immediately deposit with the District the amount of such deposit deficiency.

E. The amount of the Guaranty Deposit shall not constitute a limit on the amount of any District claim, or on the Developer's liability for repairs or restoration, or liability arising out of any other claim by the District for breach of any term of this Agreement. In the event the Main Extension Fee does not cover actual costs, any balance remaining in this deposit may at the District's option be applied to the deficit.

11.07 DEVELOPER CONFORMANCE DEPOSIT

A. The Developer Conformance Deposit shall be held until the Developer has filed with the District office a copy of the recorded plat and any adjustments, amendments or additions to the easement documents or as-built records of the District that are required due to changes in the following, but not limited to: lot line changes, lot number changes, greenbelt area legal description changes, and changes that require amendment to easement descriptions; any of said changes having been made after submittal of the preliminary plat plans, short plat or subdivision plans.

B. The Deposit will be retained by the District until all items requiring adjustment, amendment, or addition have been completed. All costs of such changes for engineering, legal and administration shall be deducted from the deposit and any balance remaining shall be returned to the Developer. The Deposit shall not constitute a limit on the amount to be paid to the District for any such

adjustments, and connections to the system will not be allowed until the District has been reimbursed for the full amount thereof if in excess of the amount of the Deposit. In the event the Main Extension Fee does not cover actual costs, any balance remaining in this deposit may, at the District's option, be applied to the deficit, and the Developer shall be provided an accounting thereof.

11.08 ADDITIONAL FEES AND CHARGES **-** Additional fees and charges shall be paid by the Developer to the District for the costs of work required in addition to the basic work. Additional fees will be based upon the District's current schedule of costs for District employees, and actual engineering, legal and other charges for additional work, plus 20% of the total thereof as the District's administrative costs attributable thereto. Such fees are due upon receipt of the District's invoice, and completed payment is a prerequisite for acceptance by the District of the extension. Additional fees and charges may include, but are not limited to the following:

A. Costs of obtaining King County, appropriate city, and/or State of Washington or other governmental agency franchises, LSA boundary adjustments, annexations, or required approvals, and charges for any inspections performed by those agencies. (Charges for such services are established by the individual agency and not by the District.)

B. Costs attributable to any required environmental assessment and evaluation, including SEPA Checklists and Determinations.

C. Costs of preparation of any special agreements between the Developer and the District, and Resolutions of acceptance.

D. Actual construction observation costs, attributable to Developer field revisions and/or defective work.

E. Any and all costs, charges, expenses and damages attributable to failure of the Developer to comply with this Agreement and/or the requirements of any governing agency.

F. Any and all costs, charges, and expenses incurred by the District to perform or complete any of those functions identified to be performed by the Developer's Engineer.

G. All costs and expenses billed to the District by the District's Engineer to perform or complete any of those functions identified to be performed by the Developer's Engineer.

H. Re-notification of customers if Contractor is unable to meet pre-arranged shutdown schedule (water extensions).

I. All costs, damages and expenses, including reasonable attorney fees, incurred by the District in responding to, and/or defending claims made by third parties for acts of the Developer, its Developer’s Engineer or Contractor.

Note: All amounts remaining from deposits or other funds, including, but not limited to those paid pursuant to this or any other Section of this Agreement, paving deposits, and construction completion deposits for early plat approval, may first be applied by the District to balances owing in the performance of any other portion of this Agreement, and only the balance thereof, after such application, shall be refunded to the Developer.

11.09 CHARGES REQUIRED AS A CONDITION TO SERVICE (INFORMATIONAL ONLY) – As the service is required, other charges will be due, as applicable, as a condition of service. A description of these charges is provided as information only, and are not collected as a part of the Developer Extension process.

A. Latecomer/Special Connection Charges - The charge presently allocated against the property to be developed for prior construction for which there is a connection fee established. This charge is to be paid at the time of submission of the Bill of Sale as a condition to commencement of service. After the first year, this charge is subject to an annual OMD charge and will be re-calculated at time of Bill of Sale.

B. General Facilities Connection Charge - The District's charge for general facilities. This fee is subject to change and is non-refundable. Residential connections are charged on a per living unit basis. Commercial and all other non-living units will be charged on an equivalent residential unit basis, based on water meter size, or on a cost per square foot basis. Public schools and parks will be charged on an Equivalent Residential Unit (ERU) basis. The connection charge shall be paid at the time of application for a meter or side sewer permit, or at such earlier time as may be permitted by Resolution, at the current rate in effect at the time of such application.

12. EVIDENCE OF INSURANCE

12.01 The Developer or the Developer's Contractor shall secure and maintain during the life of this contract Public Liability Insurance for bodily injury and property damage liability, including without limitation, coverage for explosion, collapse, blasting and destruction of underground utilities (X.C.U.) and contingent liability, including projects and completed operations and blanket contractual liability, **as shall protect the Developer or Developer's Contractor, the District and its officers, agents and employees, and specifically designating the District's consulting engineering firm, and the representatives or employees of any regulatory agency with personnel on site, as additional named insureds in said policies, all at no cost to the District.**

12.02 The insurance shall cover the District and its officers, agents and employees, its consulting engineering firm, regulatory agencies with personnel on site, the Developer, and the Developer's Contractor and sub-contractors for claims or damages for bodily injury, including wrongful death, as well as other claims for property damage which may arise from operations under this Agreement, whether such operations be by the Developer or by any contractor or sub-contractor or anyone directly or indirectly employed by either of them, and the Developer agrees, in addition, to indemnify and save harmless the District, its officers, agents and employees, and/or its consulting engineers, from all suits, claims, demands, judgments and attorney's fees, expenses or losses occasioned by the performance of this Agreement by the Developer, its Contractor and

subcontractors, or persons working directly or indirectly for the Developer, on account of, or in consequence of any neglect in safeguarding the work or failure to conform with the safety standards for construction work adopted by the Safety Division of the Department of Labor and Industries of the State of Washington.

12.03 The amount of such insurance shall be as follows: $1,000,000.00 combined single limit bodily injury, including wrongful death, and property damage liability. The Developer's insurance policy shall not contain deductible or self-insured retentions in excess of $10,000, unless approved by the District.

12.04 The Developer shall not cause any policy to be canceled or permit it to lapse, and all policies shall include a clause to the effect that the policy or certificate shall not be subject to cancellation or to a reduction in the required limits of liability or amounts of insurance or any other material change until notice has been mailed to the District stating when, not less than ten (10) days thereafter, such cancellation or reduction or change shall be effective.

12.05 There shall be provided to the District an "Acord Certificate of Insurance". The Certificate is to be completed in full, endorsed to the required limits, and certified by the Developer's or the Developer's Contractor's insurance company.

13. **PERFORMANCE BOND FOR OFF-SITE AND COMPREHENSIVE PLAN OR GENERAL FACILITY PORTIONS OF EXTENSION**

13.01 The Developer shall furnish a fully executed Performance Bond prior to the preconstruction conference, on a form approved by the District and signed by an approved surety or sureties in an amount to be determined by the District Engineer. The Performance Bond shall be conditioned upon the faithful performance of all portions of the extension that are either off-site (not on Developer owned property), or on-site portions of the District's Comprehensive Plan, or General Facilities, which bond shall remain in effect until the Developer has completed all such portions in accordance with District standards and the provisions of this Developer Extension Agreement. The Bond shall also provide that the surety agrees to protect and indemnify the District against any direct or indirect loss claimed

A. By reason of failure by the Developer or its Contractor to faithfully perform the above-referenced portions of the work; or

B. By reason of failure by the Developer or its Contractor to pay all contractors, laborers, mechanics, sub-contractors, agents, materialmen, and all persons who shall supply such Developer or its Contractor, or their sub-contractors or agents, with provisions or supplies for carrying out those portions of the Developer Extension described above.

13.02 The Performance Bond shall be accompanied by a certification indicating the authenticity of the signing agent to act on behalf of the surety. The District may require the sureties or surety company to appear and qualify themselves upon the bond. Whenever the surety or sureties are deemed insufficient, the District may demand in writing that the Developer furnish additional surety in an amount not exceeding that originally required as

may be necessary to cover the remaining portion of the Developer Extension as described hereinabove.

14. **EASEMENTS**

All easements shall be executed on the District's form and shall be prepared and obtained by the Developer at its sole cost and expense prior to commencement of construction. Such easements shall be presented free of all encumbrances, except those acceptable to the District. The District will record a Notice of Executed Easement upon receipt of plat Volume and Page Numbers. Easements over properties that are not within the development site will be recorded upon receipt. Easements within the development site will be recorded by the District upon completion of the extension and recording of the Final Plat.

15. **PERMITS**

All necessary permits and governmental approvals shall be prepared, applied for, and obtained by the Developer before construction commences, at the Developer's expense. The original permit applications shall be provided to the District.

16. **GRADING OF ROADS**

The Developer shall grade all roads to the design subgrade elevation prior to the start of construction or construction staking, and shall advise the District in writing of any changes which may be contemplated during construction. If the Developer changes the subgrade elevation of any road after completion of the extension, or any part thereof, the Developer shall be responsible for all costs incurred by the District as a result of any such change in subgrade elevation. This obligation shall continue in full force until King County and/or any other governing agency releases the right-of-way or road construction bond, or releases any bond of other description provided to ensure the Developer's obligation to the County or other agency for completion of roads within the area of the extension.

17. **SEWER EXTENSIONS - MAINTENANCE OF CORRECT GRADES, AND TELEVISION TESTING FOR CONFORMANCE TO STANDING WATER STANDARDS**

17.01 The Developer and its Contractor shall maintain correct grade at all points between manholes. This requirement shall, at a minimum, require checking of intermediate grades by means of a taut grade wire between no less than three (3) intermediate grade stakes between manholes. In the event that the grade stakes do not line up, the work shall be stopped until the grade is corrected.

17.02 All lines installed by the Developer shall be subject to television testing for conformance to the District's standing water specifications as a condition to the District's acceptance of a Bill of Sale for the extension. The Developer represents that it is, or will make itself familiar with the District's **Resolution No. 1904-S**, which sets out allowable standing water parameters and the District's policies and procedures for testing and acceptance of sewer mains.

18. **PURITY TESTING OF WATER MAINS**

All water mains shall be purity tested under the District's observation prior to any connection to the District's water system.

19. **CONNECTION TO THE DISTRICT'S SYSTEM**

19.01 Not less than forty-eight (48) hours prior to the time that actual connection to the District's system is requested to be made, application for permission to make such connection at a specified time shall be made by the Developer or its Contractor.

19.02 Any connection to the District's existing system and any testing of a new line require advance authorization by the District, and shall be performed under the observation of the District and/or authorized representative.

20. **USE OF EXISTING MAINS**

Until execution and acceptance of the Bill of Sale there shall be no flow through any on-site or off-site mains or facilities.

21. **FACILITIES AND IMPROVEMENTS REQUIRED BY DISTRICT**

21.01 The District may require the installation of facilities, or modification of the Developer's proposed facility design in order to comply with the District's Comprehensive Plan or to provide service availability to other properties within the District's service areas. The most common example is the oversizing or overdepth of lines, and the construction of offsite facilities. An estimated reimbursement amount for the extra cost of such District-required facilities and improvements shall be determined by the Board of Commissioners prior to start of construction, and shall be established by Motion of the Board. Oversized lines are generally those in excess of eight (8) inches equivalent in diameter. Lines sized over eight (8) inches to meet the development's requirements (e.g., larger diameter to compensate for flatter slopes) are not considered oversizing. Overdepth lines are those deeper than ten (10) feet, and only to the extent they are at least two (2) feet deeper than the development's requirements in order to meet the District's Comprehensive Plan or service availability to other properties.

21.02 In the event of unforeseen circumstances which require an increase in the District's cost obligation from that set by the Motion, this Agreement may be modified by supplemental agreement covering said increase. Developer shall provide complete documentation of its costs attributable to such oversize/overdepth within ninety (90) days of the date of the acceptance of the Bill of Sale for the project. If complete documentation is not provided within ninety (90) days, upon written request from the Developer the District may extend the time at its sole discretion, but only for good cause shown. Failure to provide such documentation shall be considered a waiver of the right to such reimbursement.

Written approval must be secured from the District before the beginning of such work. Upon completion of the extension, the final amount of reimbursement will be confirmed by Resolution of the Board of Commissioners in accordance with and pursuant to the laws of the State of Washington.

21.03 The District may refuse to participate in an extension which would otherwise qualify for District reimbursement if budgetary considerations or the prudent management of the District indicates such participation is not appropriate at the time. In such event, the Developer may proceed to construct its extension, but with the facilities or design modifications, and shall be entitled to a reimbursement agreement with the District, payment to be conditioned upon future events as determined by the District which justify such District expenditure, e.g., development utilizing such oversized facilities and providing General Facility Charge funds to the District.

21.04 In the event the District and the Developer are unable to reach agreement as to a reimbursement amount, or as to the increased costs to the District's obligation due to unforeseen circumstances, the Developer may bring no claim against the District in litigation unless the claim has first been the subject of a non-binding mediation before a single mediator under the Voluntary Construction Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The mediation shall be conducted as soon as is practicable after the completion of the project. This requirement cannot be waived except by an explicit written waiver signed by the District. The request for mediation shall be submitted in writing to the American Arbitration Association. The District and the Developer shall participate in the mediation process in good faith. An officer of Developer, and the District Manager or his designee from the District, both having full authority to settle the claim, must attend the mediation session. To the extent there are other parties in interest, such as engineers, subcontractors, or suppliers, their representatives, with full authority to settle any claim, shall also attend the mediation session. Unless the District and the Developer mutually agree in writing otherwise, all unresolved claims shall be considered at a single mediation session which shall occur prior to acceptance by the District of the Bill of Sale.

22. LATECOMER REIMBURSEMENT AGREEMENT

Entitlement to latecomer reimbursement shall be determined in accordance with the District's current latecomer policy Resolutions. Execution of this Agreement constitutes application for Latecomer reimbursement for any facilities which would be eligible for such reimbursement. Developer shall provide complete documentation of its costs attributable to such oversize/overdepth and/or latecomer within ninety (90) days of the date of the acceptance of the Bill of Sale for the project. Based thereon, a Memorandum will be completed, adopted by Resolution, and recorded in accordance with RCW 57.22. If complete documentation is not provided within ninety (90) days, upon written request from the Developer the District may extend the time at its sole discretion, but only for good cause shown. Failure to provide such documentation shall be considered a waiver of the right to such reimbursement.

The Developer shall pay a fee to the District for the preparation of the latecomer agreement, plus 20% for District administrative costs; provided, however, that if the Developer waives latecomer, the 20% shall remain as a Special Connection Charge against any reimbursement area, to be paid by the connecting property owner.

23. PLAT APPROVAL PRIOR TO COMPLETION OF CONSTRUCTION

23.01 If the Developer desires to obtain final plat approval from King County or the applicable city prior to substantial completion of the extension, the District may allow the Developer to provide the District with a set-aside letter or completion bond in an amount the District

determines is reasonably necessary to complete all performances necessary to comply with this Developer Extension Agreement.

23.02 All expenses, including engineering, legal and administrative costs will be determined by the District and paid by the Developer; and signed easements, ready for recording, and a Bill of Sale for the extension shall be provided to the District as a condition to the District's acceptance of a set-aside letter or completion bond.

23.03 The District will advise the King County Health Department of the Developer Extension Agreement, and of the set-aside letter or completion bond upon its acceptance by the District. The Developer shall provide the final plat recording number, Volume and Page Number of Plats, to the District immediately upon recording of the plat. Acceptance of a set-aside letter or completion bond by the District does not entitle the development to receive service. All performances required under this Agreement must be completed before service will be available.

23.04 Upon the Developer's failure to complete the extension and all performances required under this Agreement within the times provided herein, or by any other date mutually agreed upon between the District and the Developer, the District will give ten (10) days written notice to the Developer and thereafter, at its option and without the prior consent of the Developer, accept the Bill of Sale for the extension, assume ownership and control thereof, and utilize the set-aside funds or completion bond to complete the extension and all performances required under this Agreement.

23.05 Upon completion of the extension, the District will provide an accounting to the Developer of the expenditures made pursuant hereto. If the set-aside or bond amount was insufficient to complete the extension and all performances required hereunder, a connection charge will be applied against the properties served by the extension, payment of which will be a condition for receipt of water meter and/or side sewer permits from the District.

23.06 To utilize this procedure for allowing a set-aside letter or completion bond the Developer shall provide to the District a written request in letter form in which the Developer specifically represents to the District that it has read and understands the contents of this Section 23, and consents to the terms hereof.

Note: It is the Developer's obligation to notify the purchaser of any property in the development of the existence and status of any set-aside funds or completion bonds.

24. FINAL ACCEPTANCE

24.01 Fully completed

A. The District will accept title to the extension only when all work has been properly completed, when any damage has been repaired, and when the District has made its inspection and has approved the system as having been completed in accordance with the plans and specifications; provided, however, that there will be no acceptance if the Developer is in default of any of the terms of this Agreement. Acceptance of the extension will be by Resolution of the Board of

Commissioners of the District accepting an executed Bill of Sale on the form provided by the District.

B. Acceptance by the District does not relieve the Developer of the obligation to correct defects in labor and/or materials as heretofore provided, nor of the obligations set forth in the applicable paragraphs hereof. Acceptance will cause the extension to be subject to the ownership, control, use and operation of the District, which may thereafter apply to it all regulations and conditions of service, and make such charges there for as the Board of Commissioners has determined by Resolution to be reasonable and proper.

24.02 Substantially completed

A. At its option, the District may choose to accept a Bill of Sale when an extension is substantially complete, but which cannot reasonably be fully completed prior to the expiration of this Agreement. The Developer will provide the District with a cash deposit in an amount the District determines is reasonably necessary to complete all performances necessary to comply with this Developer Extension Agreement.

B. All expenses, including engineering, legal and administrative costs will be determined by the District and paid by the Developer; and signed easements, ready for recording, and a Bill of Sale for the extension shall be provided to the District as a condition to the District's acceptance of a cash deposit.

C. Acceptance of a cash deposit by the District does not entitle the development to receive service. All performances required under this Agreement must be completed before service will be available.

D. Upon the Developer's failure to complete the extension and all performances required under this Agreement prior to the expiration hereof, the District will give ten (10) days written notice to the Developer and thereafter, at its option and without the prior consent of the Developer, accept the Bill of Sale for the extension, assume ownership and control thereof, and utilize the cash deposit to complete the extension and all performances required under this Agreement.

E. Upon completion of the extension, the District will provide an accounting to the Developer of the expenditures made pursuant hereto. Any balance will be returned to the Developer. If the cash bond was insufficient to complete the extension and all performances required hereunder, a connection charge will be applied against the properties served by the extension, payment of which will be a condition for receipt of water meter and/or side sewer permits from the District.

F. To utilize this procedure for allowing a cash deposit the Developer shall provide to the District a written request, in letter form, in which the Developer specifically represents to the District that it has read and understands the contents of this Section 24, and consents to the terms hereof.

25. BILL OF SALE CONDITIONS

The Bill of Sale will provide for transfer of title to the constructed extension from the Developer to the District, and its acceptance is conditioned upon the following:

25.01 The Developer is the lawful owner and has the right to transfer the extension, that the extension is free from all encumbrances, and that the Developer will warrant and defend the same against all claims and demands of any person.

25.02 All bills for labor and materials have been paid and the Developer has provided a certificate from all contractors providing work on the installation of the extension, and the Developer's Engineer, acknowledging that the contractor(s) and Engineer have been paid in full and/or do fully release, transfer, assign and set over to the District all of their rights, title, claims and interest therein.

25.03 The Developer has submitted to the District the total costs incurred in the installation of the extension, and supporting detail thereof; including but not limited to invoices, payouts, measurements of materials, and other such evidence of the costs incurred for the extension.

25.04 The consideration for the Bill of Sale shall be the District's incorporation of the improvements into its overall water distribution and/or sewer conveyance system.

25.05 The Developer warrants that for a period of one (1) year from the date of the Bill of Sale the water and/or sewer system will remain in acceptable working order and condition, except where abused or neglected by the District, and the Developer will repair or replace at its own expense any work or material that is shown to have been defective during said one (1) year period of warranty.

25.06 The Developer warrants that paving which has been completed will remain in acceptable condition for two (2) years from the date of the Bill of Sale. For paving which has not been completed on the date of the Bill of Sale, for which there is a paving deposit, the Developer warrants that after the paving has been completed, it will remain in acceptable condition for two (2) years from the date of the Bill of Sale, or one (1) year from the date of completion of the paving, whichever is later. The Developer will repair or replace at its own expense any paving work or material that is shown to have failed during the applicable period.

25.07 The Developer agrees to defend and hold the District and its Engineer harmless for trench failures or settlement occurring over any portions of the system installed on private property for two (2) years from the date of the Bill of Sale. The District and its Engineer do not, by virtue of their construction observation and/or inspection, assume liability for such failures, any such construction observation and/or inspection being for the District's purposes of ensuring the soundness of the installation of its system facilities, and not as a warranty of compaction or other restoration on private property. The performance of this condition shall be secured by a bond in the amount specified in Section 8.06.

25.08 The Developer warrants that bushes, trees and other landscaping plantings installed as a part of the permit-required restoration will remain in acceptable condition for the time from the date of the Bill of Sale specified in the applicable permit. The Developer will maintain

such plantings at its own expense during such period. The Developer shall replace at its own expense any such plantings that have failed during the applicable period. The performance of this condition shall be secured by a bond or cash payment in the amount specified in Section 8.07. In the alternative, and at the District's option, the District and the Developer may agree on an amount of payment to the district for which the District will assume the obligation for maintenance and replacement of landscape plantings required hereunder.

25.09 The Developer has submitted a copy of the recorded plat, and all necessary easements.

26. LIMITATION PERIOD FOR ACCEPTANCE

26.01 The Developer agrees that the construction of the extension shall be carried out in a timely and efficient manner and further agrees that the improvements shall be completed and ready for acceptance by the District within the Limitation Period for Acceptance. If the Developer has executed a completion bond or set-aside letter, upon expiration of the period thereof, the District may order the work done, or any remaining portion thereof, and all costs and expense incurred, shall be reimbursed to the District from the bond company or financial institution holding the funds as provided in the set-aside letter; provided, however, that the amount of such reimbursement available shall not be deemed to limit the Developer's obligation to pay the total costs attributable to the work. If the work is completed beyond the period for acceptance, reimbursement shall also include the costs of renewal of this Agreement as described below.

26.02 If the extension is not completed and ready for acceptance within said period, the Developer's rights under this Agreement shall cease and no additional administrative, engineering or legal services will be provided by the District unless and until the Developer makes a new application, or until the District consents to the renewal of the expired Agreement. If the District consents to the renewal of the Agreement, and in consideration thereof, the District's actual costs incurred to the date of renewal shall be accounted, and if they exceed the amount of the fees collected by the District to the date of renewal, the Developer shall pay the difference. In addition, the Developer shall pay all administrative, legal, engineering, construction observation and inspection costs attributable to the renewal, <u>together with a renewal fee of $50.00 per utility.</u> Any renewal shall be for the same number of months specified in Section 4.02. hereof, and shall be from the date of expiration of this Agreement without regard to the date of application or consent to such renewal.

27. ASSIGNMENT OF AGREEMENT

If the Developer desires to assign the Developer Extension Agreement, it shall give the District written notice of its request to do so. Assignment may be accomplished only by the execution by the Developer, by the assignee, and by the District of the ASSIGNMENT AND COVENANT TO PERFORM, listed under "Documents" herein above, the terms of which are incorporated herein by this reference as though fully set forth. Except upon completion of an assignment in accordance herewith, the Developer and the property shall remain fully responsible for performance of this Agreement, and the District may enforce the terms of this Agreement against the Developer and the Property without regard to any purported assignment by any other method.

28. CANCELLATION OF AGREEMENT

28.01 A Developer Extension Agreement may be cancelled under the following circumstances:

A. The Developer gives the District written Notice of its request to cancel the Agreement; or

B. After a period of inactivity, the District gives the Developer written Notice of the District's intent to cancel the Agreement, unless the Developer shall object in writing to such cancellation within thirty (30) days of such Notice by the District.

28.02 Regardless of how a Developer Extension Agreement cancellation is initiated, the procedures to cancel the Agreement shall be as follows:

A. The District shall notify the District Engineer by Work Order that the project has been cancelled, and shall request from the Engineer a final invoice for engineering services rendered to the project, together with a statement of the percentage of plans completed to the date of cancellation;

B. The District and its Engineer will review their records to identify all outstanding work orders which should be cancelled/closed by the cancellation of the project;

C. A final invoice shall be prepared by the District indicating the project's balance (for refund), or shortage (due from Developer) as of the date of cancellation;

D. Either a voucher request or an invoice, as appropriate, shall be prepared to close out the project financially;

E. If an amount is due, the invoice shall notify the Developer that the balance on the invoice, if it becomes delinquent, shall accrue penalties and interest in accordance with the District's collection procedures and policies, and applicable statutes;

F. If an amount is due, and any deposit accounts have balances, the balance of such deposit account may be applied by the District to the outstanding invoice without regard to the nature of the balance on the invoice, and without regard to the nature of the deposit account which contains the balance; and

G. The District will show the project as cancelled in its database, and move the files for the project to the District's inactive files.

28.03 Once a Developer Extension Agreement has been cancelled, it may be revived only in the exercise of the District's sole discretion.

29. DELINQUENT INVOICES

In the event any invoice authorized by this Agreement is not paid within 30 days, it shall be considered delinquent. Simple interest of 6% (but no more than the prime lending rate of the District's bank plus four percentage points) per year shall be added thereto until paid. After 60 days from the date of invoice, the District may stop all work by it and the District Engineer

required under this Agreement. After 120 days from the date of the invoice, the District may record liens against the property for the original invoice amount, plus the recording fee, and enforce such liens in accordance with R.C.W. 57.08.081(4).

30. **BREACH OF CONTRACT - ATTORNEY FEES**

A breach of any provision of this Agreement shall constitute a total breach thereof, and shall subject the Developer to cancellation of the Agreement, forfeiture of deposits, and claim for costs and damages, as appropriate. The parties agree that in the event of litigation regarding the terms or performance of this Agreement, the substantially prevailing party shall be entitled to an award of reasonable attorney fees and costs, in addition to any other appropriate remedy.

31. **RECORDING OF NOTICE OF EXECUTION OF AGREEMENT**

Upon execution hereof, the District may record a Notice of Execution of Developer Extension Agreement against the property as reasonably necessary to notify persons dealing with the property that it is subject to the terms hereof. Upon completion of the project, the District may record a Notice of Completion of Developer Extension Agreement. The Notices shall be in the form described under “Documents” herein.

Dated this _____ day of _____ 20____.

_____
DEVELOPER - Authorized Signature

_____
ADDITIONAL OWNER SIGNATURE

_____
SIGNATURE OF DISTRICT MANAGER
approving Application and Agreement

Date _____, 20____

APPENDIX F

SOOS CREEK WATER & SEWER DISTRICT
DESIGN AND CONSTRUCTION STANDARDS

SOOS CREEK WATER & SEWER DISTRICT

WATER AND SEWER DESIGN AND CONSTRUCTION STANDARDS

APPROVED: FEBRUARY 2003

REVISED 05/16/11

SOOS CREEK WATER & SEWER DISTRICT

DESIGN AND CONSTRUCTION STANDARDS

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1. STANDARD SPECIFICATIONS

All work, materials and testing shall conform to the standards of the Soos Creek Water & Sewer District (SCWSD, or the "District") and the Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction, current edition, except as herein modified.

NOTE: All work, materials and testing within local city or King County rights-of-way is subject to current city or King County Road Standards and requirements.

2. SEPA (STATE ENVIRONMENTAL POLICY ACT)

A. Projects constructed in Soos Creek Water & Sewer District shall comply with SEPA.

B. SEPA Checklist required IF:

1. Project located in environmentally sensitive area or,
2. Project located on "Easement" (outside of proposed subdivision or development) and requires city or King County Grading Permit or,
3. Pipe size is larger than 8 inches.

C. Preparation of SEPA checklist and Environmental Impact Statement, if required, or other environmental documents necessary for compliance with SEPA, shall be prepared by the "Design Engineer" and submitted to SCWSD for review, approval, processing, and SEPA Determination.

D. Projects that require a SEPA checklist will need to obtain District approval by resolution prior to commencement of construction.

3. PERMITS/AGENCY APPROVALS

A. Projects to be constructed in Soos Creek Water & Sewer District shall receive approvals from Soos Creek Water & Sewer District and other agencies as required.

B. Plans, Specifications, and submittals of Permits or Agency Applications as required shall be prepared by the "Design Engineer", who shall also coordinate with Soos Creek Water & Sewer District as needed for review, processing and approval.

C. Agencies:

Sewer Mains
King County Wastewater Treatment Division
Department of Ecology (DOE)

Water Mains
King County Department of Development and Environmental Services - Commercial Permit Section - Fire Protection Engineering
Washington State Department of Health (DOH)

Both Sewer and Water
King County Real Property (R/W Construction Permit)
King County DDES - Grading Permit
City of Renton
City of Kent
City of Covington
City of Maple Valley
City of Auburn
City of Black Diamond
Burlington Northern Railroad
Bonneville Power Association
Washington State Department of Transportation
Washington State Department of Natural Resources
Washington State Department of Fish and Wildlife
U.S. Corps of Engineers

Notes:

King County DDES

1) Final King County approved development PLANS or street and storm drainage PLANS are required prior to construction of sewer and water developer extension projects.

2) Projects that will be constructed on easements and with trench excavation of more than 100 cubic yards will require a King County Grading Permit prior to construction.

4. EASEMENTS

A. ON-SITE and OFF-SITE easement(s) and/or temporary construction permit(s) shall be prepared by the District's Engineer, executed on the District's form(s) and shall be obtained by the Developer at its sole cost and expense prior to commencement of construction.

B. Easement document form and number designation shall be according to the District's system.

C. After Developer obtains signature(s) on the easement document(s), the document shall be submitted to the District for approval and final recording.

5. STANDARD PLAN REQUIREMENTS

A. Construction PLANS shall be prepared according to District standards and submitted to the District for review and approval prior to construction. (See attached water and sewer plan sample format requirements.)

B. The PLAN(S) shall be separate from those PLANS for plat improvements, storm drainage improvements and road/street improvements, and PLANS for any other

utilities. PLANS for water system improvements shall be separate from PLANS for sanitary sewer system improvements.

C. The PLANS shall be prepared using AUTOCAD Release 2008 drawing (DWG) compatible electronic files. The drawing files shall be submitted to the District on CD-Rom. Drawing files to include any special fonts used, all external cross-references, lot and street layout with computation data, street and storm plan and profile data, site topography and proposed site grading or lot computation data.

(Note: **DO NOT** show street or storm computation data or topography on **FINAL** Water or Sewer PLANS.)

D. PLAN SIZE: 22" X 34"
Plan View: Lower ½ of sheet
Profile: Upper ½ of sheet

E. SCALE: Horizontal: 1" = 50' (SHOW SCALE BAR on PLAN)
Vertical: 1" = 10'

F. North Arrow/Plan Orientation
North toward the top of the sheet or toward the left of the sheet.

G. DATUM shall be KCAS (Mean Sea Level) or NAVD 88. The elevation benchmarks used for control shall be shown on the PLAN.

H. The PLANS shall be prepared and stamped by a civil engineer with current registration in the State of Washington.

I. The PLANS shall indicate and identify all property lot lines, street rights-of-way lines, lot numbers, block numbers, plat names, street names, utility easements and references within and adjacent to the project area. The PLANS shall indicate and identify all existing and proposed buildings; building numbers/letters; structures; existing underground power, telephone, natural gas, cable television, storm drainage, water and sewer mains; street alley and driveway pavement; stream crossings; trees to be saved; green belts; and other known physical features within the project area which will affect the construction of the system improvement. This information should not obscure any water or sewer improvement information. See the attached standard water and sewer plan format samples.

Permanent Easements shall be shown for Sewer and Water as required (typical easement widths: 15 feet or 20 feet as required; minimum width: 10 feet).

J. The PLANS shall include title block/plate, which states the names and/or addresses of the property owner/Developer, and Engineer, the scale, the date, stamp and signature of the design Engineer. This information should be located on the right side of the PLAN according to District standard format.

K. The PLANS shall indicate requirements for pavement restoration/repair that are necessary if an existing street or portion thereof is damaged/removed for construction.

L. Soos Creek Water & Sewer District "General Notes" and "Standard Details" shall be included in the PLAN sets.

M. The PLANS shall have a vicinity map that clearly shows the project and its boundaries in relationship to the nearest street intersections. The PLANS shall also include an index sheet map if there are 3 sheets or more.

N. Lettering and line work shall be of the sizes and thickness as shown on the attached standard water and sewer plan format samples.

O. The PLANS shall be submitted to Soos Creek Water & Sewer District for review and approval. After District approval, the PLANS shall be submitted to required agencies for review and approval. Construction shall not begin until all approvals and permits have been received by the District.

P. Upon approval, the PLANS shall be submitted to the District to be stamped as "Approved for Construction" by the District. The electronic AUTOCAD file(s) shall be submitted along with the FINAL PLANS for use by the District. Upon completion of construction, the Developer shall also submit Construction Record Drawings as hardcopy as well as AUTOCAD file(s).

6. WATER DESIGN:

A. DESIGN CRITERIA

1. Comply with current Soos Creek Water & Sewer District approved Comprehensive Water System Plan and all amendments thereto.

2. Fire Protection – All work within the Soos Creek Water & Sewer District must comply with city or King County requirements and the Washington Surveying and Rating Bureau.

   Obtain fire flow requirements and hydrant location requirements from city or King County Fire Marshal.

   Fire hydrants shall be provided according to District requirements and requirements of city or King County Fire Marshal. Soos Creek Water & Sewer District is served by King County Fire District Nos. 37 and 40, and some portions by the cities of Renton & Kent.

3. Verify existing water mains and hydrant facility locations, sizes and type of pipes, and feasibility of use.

4. Minimum separation between water and sewer shall be according to the Washington State Department of Ecology (DOE) requirements.

5. Pipe shall be new Ductile Iron Pipe. See Section C - Materials.

6. Water mains shall be extended to the boundaries of plat or commercial development as required for future connections.

7. Water mains serving fire protection systems shall be a minimum of 8-inch in diameter.

8. According to King County Road or city standards, location for water mains shall be 5 feet North and 5 feet East of street centerline (other locations subject to District, King County and/or city approvals). Water mains shall be located to not cross storm detention ponds or vaults.

9. Maximum distance/spacing for fire hydrants shall be per city or King County Code.

10. Water mains shall maintain 36-inch minimum cover over top of pipe or as required for oversize pipe and valves.

11. Water mains shall pass under storm sewers when required to maintain 36-inch minimum cover. Provide minimum 6-inch sand cushion between water main and storm sewer.

12. Each lot/parcel shall have 1-inch minimum single service line. See Section C - Materials.

13. Pipe size, length and fittings call-outs, gate valves, fire hydrant assemblies, and blow-off assemblies shall be shown on the PLANS.

14. Water mains, meters, fire hydrants and blow-off assemblies shall maintain minimum 10 feet separation from power vaults, hand holes and light standards. Water services shall maintain minimum 5 feet separation from power vaults, hand holes and light standards.

15. Backflow prevention facilities according to Soos Creek Water and Sewer District and Washington State Code requirements shall be provided on all systems which serve interior fire protection sprinkler systems and/or any other system(s) that may contaminate the water system as outlined in District Resolution No. 2574-W.

16. Individual pressure reducing valve assemblies may be required at some lots in areas of high pressure as required by Soos Creek Water and Sewer District.

17. All water mains shall be subject to final testing and flushing per District Standard Construction Provisions and subject to final purity samples taken by the District to the Washington State Department of Health (DOH) for testing and approval prior to water mains and facilities being accepted for service.

B. CONSTRUCTION PROVISIONS

1. STANDARD SPECIFICATIONS

All work, materials and testing shall conform to the standards of Soos Creek Water & Sewer District and the "Standard Specifications for Road, Bridge, and Municipal Construction", current edition, as prepared by the Washington State Department of Transportation, and hereinafter referred to as the "Standard Specifications," except as herein modified.

2. TRENCH EXCAVATION, BEDDING AND BACKFILL

All work within the right-of-way shall comply with all pertinent permits, the governing agency's current road standards, and the Standard Specifications. All material from clearing and grubbing shall be hauled to an approved waste disposal site provided by the Developer/Contractor.

When trenching through existing pavement, the pavement shall be cut on a neat-line by saw cutting. Trench sides shall be kept as vertical as possible given the soil conditions. Compaction and restoration shall be done as detailed below and immediately after the trench backfill is placed so as to cause the least disruption to traffic. All pavement shall be cut 1 foot outside the edge of the trench on each side.

Any trench exceeding four feet in depth shall be provided with adequate safety systems meeting the requirements of the Washington State Industrial Safety and Health Act (WISHA), Chapter 49.17 RCW, and all regulations adopted pursuant thereto. The Developer/Contractor shall have a structural engineer review and stamp any and all shoring plans and calculations. The Developer/Contractor shall be responsible for worker safety and the District and the District's Engineer assume no responsibility.

When native material at the trench bottom is suitable for pipe bedding, the bottom shall be hand finished to grade so that the pipe will have uniform support along the barrel and bell. After the pipe is in place, additional hand selected native material meeting the requirements for bedding material shall be placed and tamped around the pipe for a minimum of 4 inches above the crown of the pipe.

When native material at the trench bottom is stony or otherwise non-uniform, the trench shall be over-excavated a minimum of 6 inches below the specified grade and a layer of pipe bedding material shall be furnished and placed to the specified grade. After the pipe is in place, additional hand selected native material meeting the requirements for bedding material shall be placed and tamped around the pipe for a minimum of 4 inches above the crown of the pipe.

If the native material at the trench bottom is unsuitable for foundation purposes or will have difficulty providing uniform bearing for the pipe, such material shall be removed and replaced with a minimum of 6 inches of compacted foundation material.

The bedding material shall be carried up evenly on both sides of the pipe simultaneously in approximately 6-inch layers and each layer thoroughly compacted with appropriate tools in such manner as to avoid injuring or disturbing the completed pipeline. All

bedding and native material shall be stored away from the edges of excavation and off the paved roadway and shoulder.

All trench backfill shall be mechanically compacted to 95% of the maximum density within the right-of-way and in all areas (paved and unpaved) where streets, roadway shoulders, driveways, sidewalks, or parking lots will be constructed or reconstructed over the trench except for trenches over 8 feet in depth. When the trench depth exceeds 8 feet, trench backfill up to 4 feet from the top of the trench shall be mechanically compacted to 90% of the maximum density. The remaining top 4 feet of the trench shall then be mechanically compacted to 95% of the maximum density. In unpaved areas and other areas not subject to vehicular traffic, trench backfill from the pipe to within 3 feet of the surface shall be compacted to 90% of the maximum density. The upper 3 feet shall be compacted to 95% of the maximum density.

All densities shall be determined by testing per the modified proctor method, ASTM D1557. The Developer/Contractor shall be responsible for providing density test reports certified by a professional engineer registered in the State of Washington. A minimum of one test shall be taken within every 500 feet of trench length and at depths up to 50% of trench depth, or as directed by the District's field representative or the governing road agency. Compaction of laterals or service line trenches shall also be tested where directed by the District's field representative or the governing road agency. Testing of CDF, when used as required by the governing road agency, shall be in accordance with ASTM 04832.

Trench backfill shall be placed in uniform loose layers no more than 12 inches thick and mechanically compacted as specified. In any trench where the specified compaction cannot be achieved with native backfill, the top 4 feet shall be replaced and compacted to 95% of the maximum density with imported bank run gravel. The District's field representative reserves the right to request a compaction test at any time on the backfill material.

In cuts transverse to the road alignment and at all utility crossings, the entire trench shall be backfilled with crushed surfacing. Backfill shall be placed and mechanically compacted in 12-inch maximum lifts.

After backfill and compaction, an immediate cold mix patch shall be placed and maintained in a manner acceptable to the governing road agency until replaced with permanent surfacing.

All pipe and fittings shall be laid "in the dry" unless otherwise approved by the District. Trench excavations shall be dewatered by using well point systems, sumps with pumps or other methods approved by the District. Dewatering systems shall be used in accordance with good standard practice and shall be efficient enough to lower the water level in advance of the excavation and maintain it continuously to keep the trench bottom and sides firm and dry. Developer/Contractor shall submit the dewatering plan to the District for review at least 10 days prior to commencing any dewatering work. All dewatering effluent shall be routed through a dewatering pond prior to release.

Groundwater shall be controlled such that softening of the bottom of excavations or formation of "quick" conditions or "boils" during excavation shall be prevented and no soil shall be eroded into the excavation from the sides of excavation. Dewatering systems

shall be designed and operated so as to prevent removal of the natural soils. The Developer/Contractor shall at all times have on hand sufficient pumping equipment and machinery in good working condition for all ordinary emergencies, including power outages, and shall have available at all times competent workers for the operation of said equipment.

Developer/Contractor shall control surface runoff so as to prevent entry or collection of water in excavations and shall maintain the undisturbed state of the foundation soils and allow the placement of any backfill to the required density. The release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soils, prevent disturbance of compacted backfill, and prevent flotation or movement of structures and pipelines.

Developer/Contractor shall be responsible for complying with all permit requirements and provisions for monitoring and managing water discharged from the excavation.

3. COVER OVER PIPELINES

The depth of cover for water mains shall be 36-inches for 8-inch diameter and smaller mains and 48-inches for mains over 8-inches in diameter. Depth of cover at ditch lines shall meet the same requirements. Exceptions will be allowed only with the prior approval of the District.

4. CONNECTION TO EXISTING WATER SYSTEM

The Developer/Contractor shall notify the District's field representative and other utilities at least 48 hours in advance of any construction and make the necessary arrangements with the District's field representative for the connection to the existing water main. The Developer/Contractor shall not operate any gate valve of the water system before, during or after construction without prior approval of the District. The Developer/Contractor shall furnish all material, equipment and labor necessary for making the connection under the supervision of the District. The 48 hour notice requirement shall not count Saturdays, Sundays, and holidays.

Work shall not be started until all of the material, equipment and labor necessary to properly complete work is assembled on the site. Once work is started on a connection, it shall proceed continuously without interruption and as rapidly as possible until the connection is completed. Before ordering materials for any connection to an existing water main, Developer/Contractor shall excavate the water main and verify outside diameter of all pipes for determination of types of fittings to be used. The Developer/Contractor shall coordinate all work with the District's field representative.

5. SEPARATION OF UTILITIES

Minimum separation between water and sewer mains shall conform to Section C1-9.1 of the “Criteria for Sewage Works Design”, current edition, as published by the Department of Ecology. Minimum separation between other utilities shall be 6 inches with a sand cushion.

Water mains shall pass under storm sewers when necessary to maintain the minimum cover requirements for water mains. There shall be not less than a six-inch cushion between the water mains and the storm sewers.

Puget Sound Energy vaults, hand holes and light standards shall be located no closer than 10 feet from any water mains, fire hydrants, and blow-off assemblies and no closer than 5 feet from any water services. Developer shall be responsible for coordination of vaults, hand holes, and light standards with the water mains, services, fire hydrants, and blow-off assemblies. No construction shall start until the Developer has furnished the District with a work sketch from Puget Sound Energy or a signed hold harmless agreement (form supplied by the District) is provided.

6. THRUST BLOCKING

All fittings shall be blocked with poured concrete against undisturbed soil with sufficient concrete and 3/4-inch anchor rods, if required, to resist the resultant forces. Blocking shall provide for removal of any connection to the fitting without damage to the fitting. Where unfavorable ground conditions are encountered, special blocking will be required as directed by the District in the field. When digging near fittings on existing pipelines, temporary blocking shall be installed to prevent blowouts. Thrust blocking shall conform to the standard details.

7. WATER WORKS TESTING

Pressure testing of lines shall be in accordance with Section 7-09.3(23) of the Standard Specifications. Test pressure shall be the existing system line pressure plus 150 psi, but in no case shall the test pressure be less than 250 psi. Mains shall be disinfected per Section 7-09.3(24) of the Standard Specifications.

The Developer/Contractor shall cube and flush all new water mains while being observed by the District's field representative. District shall furnish the cubes for the Developer/Contractor who shall then be responsible for cubing the new water mains. Developer/Contractor shall coordinate with District's field representative for the locations to be cubed. After the cubes have been flushed from the system, the rest of the flushing, chlorinating, pressure and purity tests shall be completed. The District shall be responsible for collecting the samples and obtaining the bacteriological tests.

8. REPAIR OF PIPELINE FAILURES

Broken or otherwise defective pipe shall be removed and replaced. Repair bands or clamps shall not be used to repair broken pipe.

9. JACKED CROSSING

At locations as required by the District or governing road agency, or as proposed by the Developer, water main crossings of arterial streets shall be made by jacking, driving, or auguring a steel casing pipe beneath the surface. Alignment and grade of casings furnished shall be such that no additional fittings are necessary to make the connection. If the casing does not meet this requirement, it shall be abandoned by filling the casing with moist sand and a new casing installed to meet the line and grade requirements. No open excavation shall be made closer than 6 feet from the edge of pavement.

Diameter of casing pipe shall be sufficient to allow installation of the water pipe. Wall thickness shall be sufficient to withstand installation force and highway loading with a minimum thickness of ¼-inch. After the water pipe has been adjusted to grade, moist sand shall be tamped into the casing pipe so that all voids will be filled. Manufactured casing spacers that prohibit movement of the pipe in any direction within the casing may be used in lieu of filling the void between the water main and the casing wall with sand.

10. WATER SUPPLY

Water supply for filling, testing and flushing of the new mains may be available from the existing distribution system; however, the Developer/Contractor will be billed by the District for the water used at the current commercial meter rate. The Developer/Contractor may provide his own metering facilities to the satisfaction of the District or accept the quantities estimated by the District.

11. EXISTING UTILITIES

Existing utilities shown on any reference drawings provided by the District have been plotted from the best information available to the District. The Developer/Contractor shall be responsible for locating all existing utilities well enough in advance of the excavation to prevent damage during construction. The Developer/Contractor shall be responsible for any damage resulting from his operations on the project.

The Developer shall relocate or replace any existing fire hydrants located within 50 feet of the development to meet the District's requirements if new construction by the development creates a safety hazard or a non-compliant condition with District standard specification requirements.

12. WARRANTY PERIOD

The Developer making the application for a line extension shall be responsible for the materials and for satisfactory operation of the facility for a period of one year from the date of acceptance of the completed project and the bill of sale to the District.

C. MATERIALS

1. DUCTILE IRON PIPE

All ductile iron pipe shall conform to Section 9-30.1(1) of the Standard Specifications. Pipe shall be Class 52 conforming to laying condition type 2, shall be lined with cement mortar per ANSI/AWWA C104/A21.4-95, and shall be seal coated. Joints shall be push-on types with rubber gaskets, which fit into annular grooves. Joints at valves or fittings may be mechanical joint or flanged depending on specification and drawing requirement. Ductile iron pipe manufactured and distributed by Pacific States Cast Iron Pipe Company shall be manufactured after 1988. Restrained joints for ·ductile iron pipe shall be U.S. Pipe field lock gasket system or approved equal.

2. FITTINGS

Fittings for ductile iron pipe shall conform to Section 9-30.2(1) of the Standard Specifications and may be flanged, mechanical or push-on as required. Flanged fittings shall conform to a Class 125 pressure rating. Mechanical joint fittings shall be restrained with mega-lug restraining devices or approved equal. Restraining devices shall be manufactured of high strength ductile iron, ASTM A536, Grade 65-45-12. Bolts and connecting hardware shall be of high strength low alloy material in accordance with ANSI/AWWA C111/A21.11. All restraining devices shall have a water working pressure rating equivalent to the full rated pressure of the pipe on which they are installed, with a minimum 2:1 safety factor in any nominal pipe size. Notarized certification from the manufacturer of the restraint device shall be provided with submittals.

The exterior of all ductile iron fittings shall be coated with bituminous paint.

3. FIRE HYDRANTS

Hydrants shall conform to AWWA C-502, except as herein modified. Hydrants shall have a minimum of 5-1/4-inch main valve opening with two 2-1/2-inch hose connections and one 4-1/2-inch pumper connection. All ports shall be furnished with national standard hose thread and 1-1/4-inch operating nuts that turn counterclockwise to open.

The pumper connection shall be equipped with a 5-inch storz adapter meeting or exceeding the following specifications.

A. Storz adapter and cap shall be forged and/or extruded 6061-t6 aluminum alloy, hard coat anodized.

B. Threaded portion to have two set screws 180° apart and no lugs.

C. Storz face to be metal with no gaskets to weather.

D. Storz cap to have synthetic molded rubber gasket and shall be attached to hydrant adapter with 1/8-inch coated stainless steel aircraft cable.

E. Cap to be connected and disconnected with storz wrenches only. Torque to be sufficient so cap cannot be removed by hand.

Hydrants shall be furnished with a 6-inch mechanical joint outlet, two 3/4-inch diameter tie rods, or mega-lugs, a 6-inch auxiliary gate valve with valve box, and a riser to suit trench depth at each installation. The gate valve shall be flanged to the main tee. Hydrant shall be furnished with a break-off flange on the barrel and a break-off coupling for the stem. Hydrants shall conform to District standards.

All fire hydrants shall be M & H Style 929 Reliant, Mueller Centurion Model A-423, Clow Medallion or Waterous Pacer No. WB-67.

Nozzles shall be fitted with renewable bronze nipple locked in place. Maintain 3 feet clearance between hydrant and property or easement line.

Type 1 blue reflective markers as described in Section 9-21.1 of the Standard Specifications shall be installed as required by the governing road agency.

Fire hydrants shall be equipped with steamer and hose port threads in accordance with the requirements of the local Fire Protection District.

The hydrant shall be cleansed and prime coated with a heavy-duty brush type primer or approved equal. All hydrants shall be painted yellow with two topcoats of oil resistant enamel, brush type or approved equal. The distance from the hydrant to the 6-inch gate valve shall be stenciled on the hydrant with 2-inch letters.

During the chlorinating process for the newly laid pipe, all valves associated with the fire hydrants shall be operated while the pipeline is filled with the chlorinating agent and under normal operating pressure.

4. FIRE HYDRANT GUARD POSTS

Guard posts shall not be installed with fire hydrant assemblies unless required by District. If guard posts are required by District, they shall be made of reinforced concrete, 8 inches in diameter, 6 feet long and buried to a minimum depth of 3 feet. Guard posts shall be set with their tops at the same elevation as the bonnet flange of the hydrant. The exposed portion of the guard posts shall be painted with 2 coats of exterior concrete paint, color as designated by the District.

5. GATE VALVES

Gate valves shall be of the size and type indicated on the drawings with bronze-mounted resilient seat wedging devices conforming to AWWA C509 or AWWA C515. Valves shall be coated per AWWA C550 with non-rising stems, open counterclockwise, and be equipped with an o-ring stuffing box. Valve end connections may be flanged, mechanical joint or push-on as required. All flange faces shall be machined and drilled to straddle the vertical centerline. Valve stem extensions with plate welded to operating nut will be required where operating nut is more than 4 feet below surface. The valve stem extension top shall be installed within 18 inches to 24 inches below finish grade and shall have a 2-inch square operating nut and self-centering rock plate support. Lock down set screws shall not be used on valve operating nut extensions.

Manufacturer shall provide catalog data, net weight, and assembly drawings of all valves to be purchased and installed as well as an affidavit of compliance. All valves shall have

a water working pressure rating equivalent to the full rated pressure of the pipe on which they are installed, with a minimum 2:1 safety factor in any nominal pipe size.

6. VALVE BOX

Valve box shall be cast iron Series 940B as manufactured by Olympic Foundry or approved equal with lid marked “WATER”. All boxes shall be adjusted to match the finish grade at the valve location. All valve box covers shall be painted blue. Orient the valve boxes so the “ears” are set the same as the pipe direction. Provide 4-inch thick by 2-foot wide asphalt or concrete collar around valve box covers in unimproved areas, landscape areas and easements.

7. VALVE MARKER POSTS

Valve marker posts shall be furnished and installed with each valve unless the valve is located in the pavement or in a vault. Marker posts shall be concrete with 4-inch minimum square section, 42-inch length, and shall be reinforced with one 3/8" x 39" bar of reinforcing steel. Markers shall be placed at the edge of the right-of-way opposite the valve or as directed by the District with 18 inches of the post exposed above grade. The exposed portion shall be painted with two coats of white exterior concrete paint with the size of the valve and the distance in feet and inches to the valve stenciled with black paint on the face of the post using a stencil that will produce letters two inches high.

8. WET TAPS

Tapping sleeve shall be JCM 432 or Romac “SST” stainless steel sleeves with full coverage rubber gasket, or epoxy coated long pattern sleeve, or approved equal. Valve shall be a resilient seated valve made for tapping, U.S. Pipe Metroseal 250 or approved equal. Refer to the gate valve description for additional details. Submittals required for all wet tap materials.

9. WATER SERVICES AND METERS

New service lines shall be Class 200, Hi-Mol or approved equal and shall conform to the standard details and Sections 9-30.6 and 9-30.6(3)B of the Standard Specifications. Install plastic-coated 16-gauge copper tracer wire along top of all plastic service pipes. Attach bare wire to angle and corporation stops.

Connections from pipe to angle and corporation stops shall be with compression pack joints. Meter boxes shall be as called out on the standard details. Meter boxes and lids located in driveways or sidewalks shall be traffic bearing as approved by the District.

Water services shall be located by mutual agreement between Developer, District, and other utility companies. Paint service locations on curb with blue paint. Meter boxes shall be furnished and installed by Developer/Contractor. Water service shall be located no closer than 5 feet from power vaults, hand holes and light standards.

All service lines shall be one-inch minimum, and shall be continuous and unspliced from corporation stop to meter and shall have 6 inches of sand bedding surrounding the service line. Expansion loops are to be held as flat as possible with no reverse grade.

Water main service saddle and corporation stop with compression adapter shall be located at approximately 10° above spring line per the standard detail.

The Developer/Contractor shall not backfill any service lines until all brass fittings associated with that service line have been inspected and accepted by the District.

Existing water services, which need to be abandoned, shall be disconnected at the water main corporation stop. The Developer/Contractor shall coordinate with the District's field representative as required.

10. IMPORTED GRAVEL MATERIAL

Pipe bedding shall conform to Section 9-03.12(3) of the Standard Specifications. Foundation gravel shall conform to Section 9-03.17 of the Standard Specifications. Bankrun gravel for trench backfill shall conform to Section 9-03.19 of the Standard Specifications, except at transverse cuts to the road alignment or at utility crossings, which shall be backfilled with crushed gravel surfacing or as required by the governing agency. Developer/Contractor shall be responsible for removing and disposing of any excess excavated soil material at an approved disposal site.

11. CRUSHED GRAVEL SURFACING

Crushed gravel surfacing shall conform to the requirements of Section 9-03.9(3) of the Standard Specifications.

12. ASPHALT CONCRETE PATCH AND OVERLAY

Asphalt concrete surfacing for patching and overlay shall conform to Section 5-04.2 and 5-04.3 of the Standard Specifications. Asphalt concrete surfacing shall meet Class 1/2-inch, P.G. 58-22 grading requirements, or as required by the governing road agency.

D. SURFACE RESTORATION

1. OFFSITE SURFACE RESTORATION

All paved or unpaved surfaces or easements shall be restored to a condition equal to or better than that which existed prior to construction. All trees, shrubs and or other improvements shall be saved, relocated, or replaced by Developer/Contractor unless noted otherwise on the drawings or in the easement stipulations. Restoration shall be to the satisfaction of the District, property owner, or governing road agency. Preconstruction photographs shall be used to approve restoration.

2. ROAD SHOULDER RESTORATION WITHIN RIGHT-OF-WAY

The existing surfacing of disturbed asphalt shoulders shall be removed to a minimum depth of 6 inches below original street grade to provide for placement of the new subgrade and paving. The subgrade shall be constructed of 1-1/4-inch minus crushed surfacing base course placed to a compacted thickness of 2-1/2 inches, followed by 5/8-inch minus crushed surfacing top course placed to a compacted thickness of 1-1/2 inches. Asphalt concrete paving shall then be placed and compacted in 2-inch lifts up to a maximum 4-inch thickness to match existing pavement thickness. Minimum thickness shall be 2 inches. The shoulder shall be replaced to the existing fog line in areas where the existing asphalt shoulder is seriously disturbed, or at the discretion of the District or the governing road agency.

Restoration of gravel shoulders shall include a minimum of 1-1/2 inches of crushed surfacing top course and 2-1/2 inches of crushed surfacing base course.

3. ASPHALT SURFACE RESTORATION WITHIN RIGHT-OF-WAY

The existing asphalt surface shall be cut on a neat line by sawcutting prior to excavation. Following proper backfill and compaction of the trench, the edges of the surfacing shall be re-trimmed 12 inches wider than the excavation with straight vertical edges free from irregularities. A 1-1/4 inch minus crushed surfacing base course shall be placed to a compacted thickness of 4-1/2 inches, followed by 5/8-inch minus crushed surfacing top course placed to a compacted thickness of 2 inches.

Asphalt concrete paving shall then be placed and compacted in 2-inch lifts to match the existing thickness and grade of the original surface. Asphalt patches shall have a minimum thickness of 2 inches and a maximum thickness of 4 inches. The asphalt patch shall then be overlaid with a minimum of 1-1/2 inches compacted asphalt concrete. Asphalt overlay shall be pre-leveled as determined by the District's field representative. No overlay shall be required if the final trimmed edge of the asphalt patch does not encroach inside the fog line or, in lieu of a fog line, within 12 feet from the existing centerline of the road. The District or governing road agency reserves the right to require an overlay on any section. If the edge of the road is curb and gutter, then the asphalt patch shall extend to the edge of the curb unless indicated otherwise by the District or governing road agency. All asphalt joints shall be sealed with an approved sealer. Developer/Contractor shall replace existing striping and pavement markings as required by the governing road agency.

Developer/Contractor shall maintain temporary cold or hot mix asphalt patches daily during construction to the satisfaction of the governing road agency and the District's field representative until said patch is replaced with a permanent hot patch. The permanent patch shall be placed and sealed with paving grade asphalt within 30 calendar days.

Concrete pavement shall be restored consistent with Section 5-01 of the Standard Specifications. Any concrete pavement traffic lane affected by the trenching shall have all affected panels replaced. Cement concrete pavement shall be restored with an 8-sack mix, using either Type II or Type III cement within 30 calendar days.

4. CURBS, GUTTERS, AND SIDEWALKS

Existing curbs, gutters, and sidewalks damaged by construction of the project or the Developer's/Contractor's use and activity, shall be repaired to the satisfaction of the property owner, the District, or the governing road agency, and to its original condition or better.

5. NON-PAVEMENT RESTORATION WITHIN RIGHT-OF-WAY

Cultivated lawns shall be restored with sod. Reseeding of cultivated lawns will not be allowed without prior approval of property owner and District. Uncultivated lawns, pasture and vacant land shall be restored with a pasture grass meeting the following requirements.

Seed Mix: 40% perennial ryegrass
10% white clover
30% fescue
20% red creeping fescue
Apply at the rate of 100 pounds per acre

Mulch: Silva fiber mulch applied at 1500 to 2000 pounds per acre.

Fertilizer: Commercial mix 10/20/20 of nitrate, phosphate and potash applied at rate of 450 pounds per acre.

6. FINAL UTILITY ADJUSTMENT TO FINISH GRADE

All utility covers, which are located on proposed asphalt roadways, shall be temporarily placed at sub-grade elevation prior to placing crushed surfacing material. Final adjustment of all covers and access entries shall be made following final paving by sawcutting the pavement around lids and covers. Opening should not be larger than 12 inches beyond the radius of the cover. Developer/Contractor shall then remove base material, surfacing course, and frame; add raising bricks; and replace frame and cover to finish grade. Fill and mechanically compact around the structure and frame with crushed surfacing material. Finished surfacing shall be two, 2-inch courses of asphalt concrete surfacing, compacted and sealed to provide a dense, uniform surface. Final adjustment of all covers and access entries shall be completed within 30 days of final paving.

7. FINAL CLEANUP

The Developer/Contractor shall cleanup all adjacent areas in compliance with Section 1-04.11 of the Standard Specifications. Streets and roadways shall be cleaned and swept both during and after the installation work. Disturbed soils shall be final graded, seeded, and mulched after installation of the water main. In limited areas, seeding and mulching by hand, using approved methods, will be acceptable. Ditch lines with erodible soil or subject to rapid flows may require seeding, jute matting, netting, or rock lining to control erosion. Any silting of downstream drainage facilities, whether ditches or pipe and catch basins, which results from the water main installation shall be cleaned out and the work site restored to a stable condition as part of site cleanup.

8. TRAFFIC CONTROL

The Developer/Contractor shall be responsible for interim traffic control during construction on or along traveled county roadways. Traffic control shall follow the guidelines of Section 1-07.23 of the Standard Specifications. All barricades, signs, and flagging shall conform to the requirements of the MUTCD Manual. Signs shall be legible and visible and should be removed at the end of each workday if not applicable after construction hours.

When road closures cannot be avoided, the Developer/Contractor shall post "to be closed" signs a minimum of five days prior to the closing. The types and locations of the signs shall be shown on a detour plan. A detour plan must be prepared and submitted to the District's field representative and approved by the governing road agency prior to closing any roadways. In addition, the Developer/Contractor must notify in writing all local fire, school, law enforcement authorities, metro transit, and any other affected persons as directed by the District's field representative at least five days prior to the road closure.

E. GENERAL NOTES

1. All work shall be performed in accordance with the specifications of the Soos Creek Water & Sewer District, also referred hereinafter as “District”.

2. The Developer shall furnish the District a copy of the commercial and/or subdivision plans approved by the governing agency prior to any water main construction.

3. Prior to constructing any water mains, the appropriate streets and lots shall be cleared, graded, and staked by the Developer/Contractor and all existing utilities shall be located.

4. Following water main construction, any revision of roadway or easement grades requiring the mains to be reconstructed shall be made at the Developer's/Contractor’s expense.

5. Reconstruction shall conform to the specifications of the District. All costs for inspecting such reconstruction shall be charged to the Developer in addition to the standard charges, and shall be paid before acceptance by the District.

6. No water service connections shall be made to the existing system until completion of the Bill of Sale and all easements. Make application to the District for water meter installation for each water service connection prior to making connection. Bill of Sale will not be processed until Puget Sound Energy has either provided a work sketch or installed their vaults, hand holes and light standards, or the Developer has provided a signed hold harmless agreement (form supplied by the District).

7. All costs of water main re-staking shall be paid by the Developer/Contractor.

8. Property corners shall be pinned with reference tack on curbs by the Developer/Contractor.

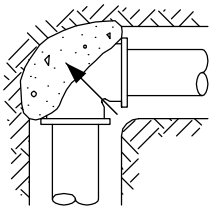
9. The Developer/Contractor shall notify the District at (253) 630-9900 to schedule a pre-construction meeting at the District office. After the pre-construction meeting, the Developer/Contractor shall notify the District’s field representative at least 48 hours (regular working days) before starting work.

10. The Developer/Contractor shall obtain all required final inspections to meet permit requirements. Inspections must be scheduled at least 48 hours in advance.

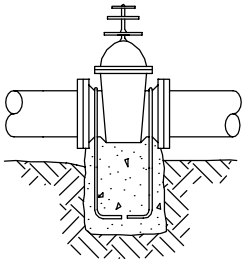
F. WATER STANDARD DETAILS

DTL. NO.	DETAIL TITLE
W-1	CONCRETE BLOCKING DETAIL (06-02-11)
W-2	TYPICAL ROADWAY SECTIONS FOR RESIDENTIAL SUBDIVISION (06-02-11)
W-3	TYPICAL ROADWAY SECTIONS (06-02-11)
W-4	FIRE HYDRANT ASSEMBLY – ROLLED CURB (06-02-11)
W-5	FIRE HYDRANT ASSEMBLY – VERTICAL CURB (06-02-11)
W-6	FIRE HYDRANT ASSEMBLY – COMMERCIAL (06-02-11)
W-7	FIRE HYDRANT ASSEBMLY – GRAVEL SHOULDER (06-02-11)
W-8	IN PAVING 2” BLOWOFF ASSEMBLY (06-02-11)
W-9	OFF PAVING 2” BLOWOFF ASSEMBLY (06-02-11)
W-10	IN PAVING 4” BLOWOFF ASSEMBLY FOR 8” AND LARGER MAINS (06-02-11)
W-11	OFF PAVING 4” BLOWOFF ASSEMBLY FOR 8” AND LARGER MAINS (06-02-11)
W-11A	4”, 6” OR 8” TEMPORARY BLOWOFF ASSEMBLY (06-02-11)
W-12	A/C WATERMAIN REPLACEMENT @ SANITARY SEWER CROSSING (06-02-11)
W-13	VALVE BOX PROTECTIVE PAD AND MARKER POST (06-02-11)
W-14	VALVE OPERATING NUT EXTENSION (06-02-11)
W-15	WATER SERVICE CONNECTION – 1” (06-02-11)
W-16	TYPICAL SERVICE DETAIL (06-02-11)
W-16A	NEW SERVICE TRANSFER TO EXISTING METER (06-02-11)
W-17	HDPE METER BOX FOR 5/8”x3/4” METER (06-02-11)
W-18	HDPE METER BOX FOR 1” METER (06-02-11)
W-19	METER INSTALLATION (06-02-11)
W-20	WATER SERVICE CONNECTION – 1-1/2” AND LARGER (06-02-11)
W-21	1-1/2” AND 2” METER SETTERS (ALTERNATE NO. 1) (06-02-11)

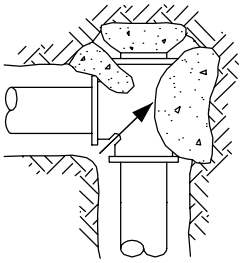
DTL. NO.	DETAIL TITLE
W-22	1-1/2” AND 2” METER SETTERS (ALTERNATE NO. 2) (06-02-11)
W-23	1-1/2” AND 2” IRRIGATION METER SETTERS (ALTERNATE NO. 1) (06-02-11)
W-24	1-1/2” AND 2” IRRIGATION METER SETTERS (ALTERNATE NO. 2) (06-02-11)
W-25A	DOUBLE CHECK DETCTOR BACKFLOR PREVENTION ASSEMBLY (06-02-11)
W-25B	DOUBLE CHECK DETCTOR BACKFLOR PREVENTION ASSEMBLY (06-02-11)
W-25C	LOCKING FRAME AND COVER DETAIL (06-02-11)
W-26A	3”, 4” AND 6” METERS (06-02-11)
W-26B	3”, 4” AND 6” METERS – MATERIALS LIST AND GENERAL NOTES (06-02-11)
W-26C	LOCKING FRAME AND COVER DETAIL (06-02-11)
W-27A	3” TURBO METER (06-02-11)
W-27B	3” TURBO METER – MATERIALS LIST AND GENERAL NOTES (06-02-11)
W-28	2” AIR/VACUUM VALVE CHAMBER (06-02-11)
W-29	PIPE ANCHOR DETAIL (06-02-11)
W-30	SACK SLOPE RETAINER (06-02-11)
W-31	FILTER FABRIC FENCE (06-02-11)
W-32	TYPICAL UTILITY / WATER MAIN CROSSING (06-02-11)
W-33	TYPICAL TRENCH DETAIL (06-02-11)
W-34	TYPICAL TRENCH DETAIL (OUTSIDE ROADWAY) (06-02-11)



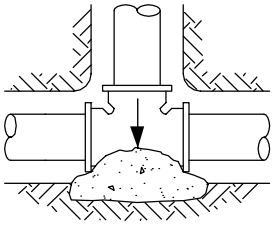
HORIZONTAL BEND



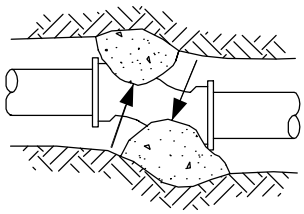
VALVE ANCHOR



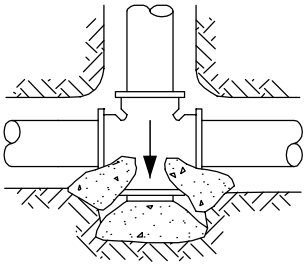
PLUGGED TEE



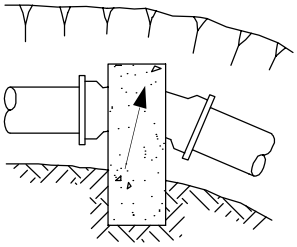
TEE



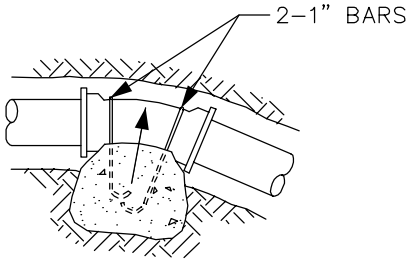
OFFSET



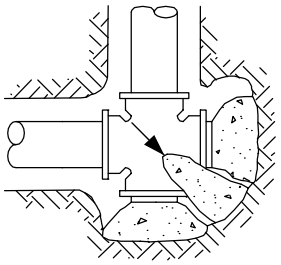
PLUGGED CROSS



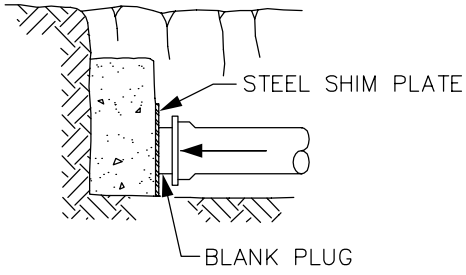
VERTICAL BEND



ALTERNATE VERTICAL BEND



PLUGGED CROSS



PLUGGED END FOR FUTURE EXPANSION

NOTES:

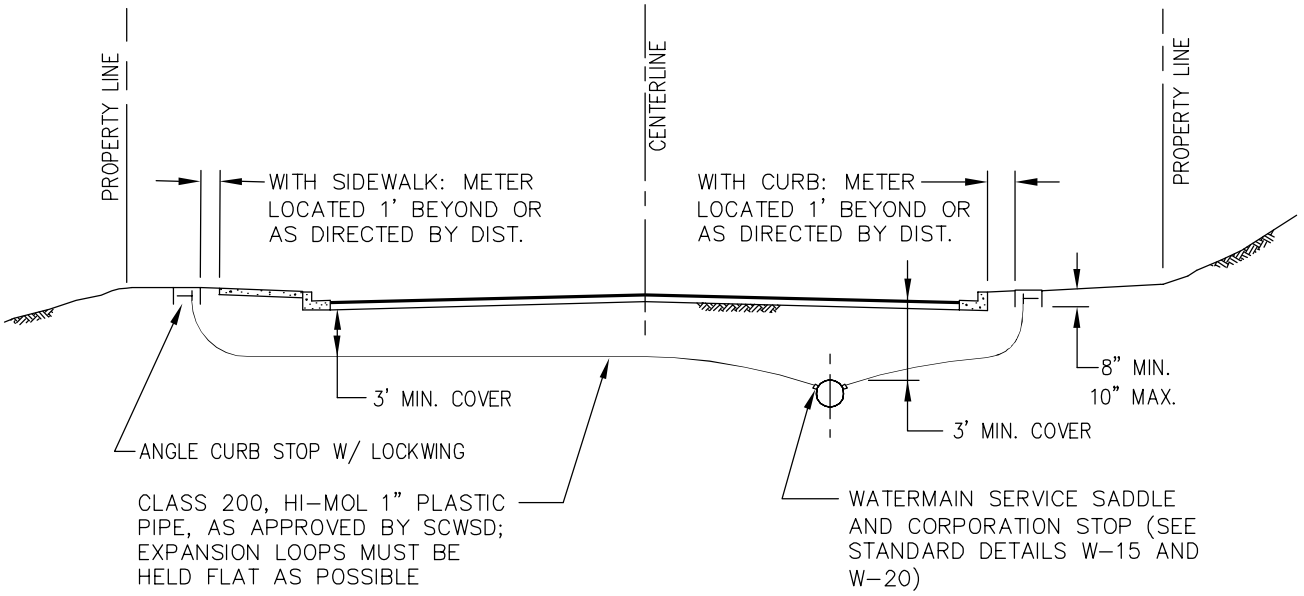
1. ALL CONCRETE FOR BLOCKING SHALL BE A FIVE (5) SACK MIX.
2. ALL BLOCKING SHALL BE POURED AGAINST FIRM, UNDISTURBED EARTH.

CONCRETE BLOCKING DETAIL

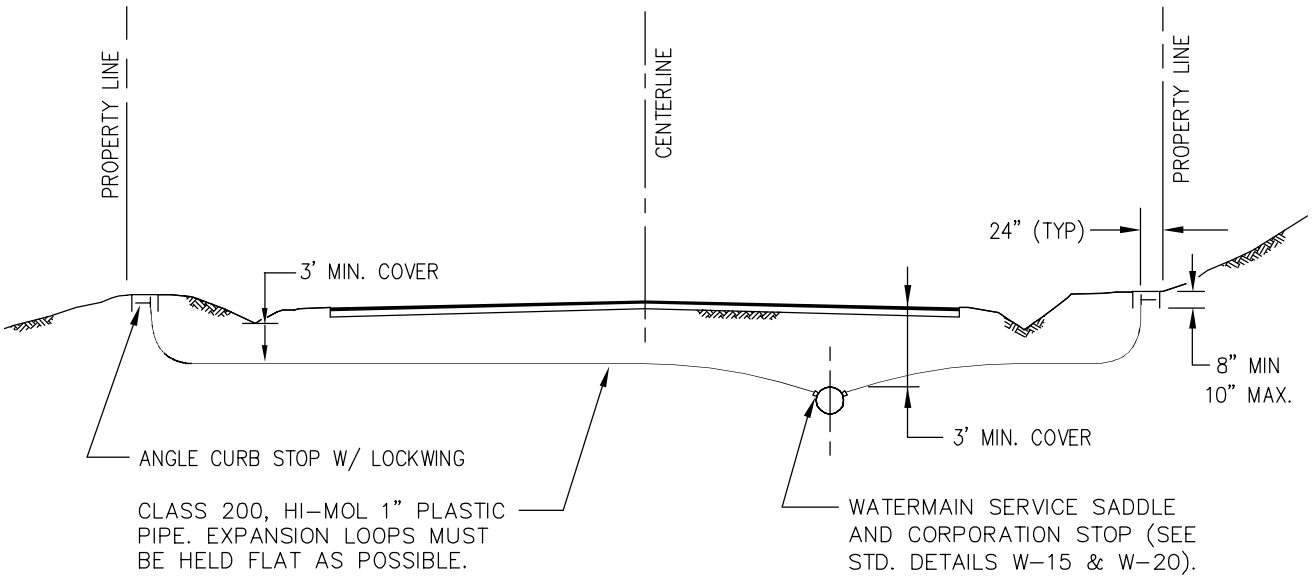
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-1

DWG. NO. W-1



ROADWAY WITH CURB AND GUTTER AND/OR SIDEWALK



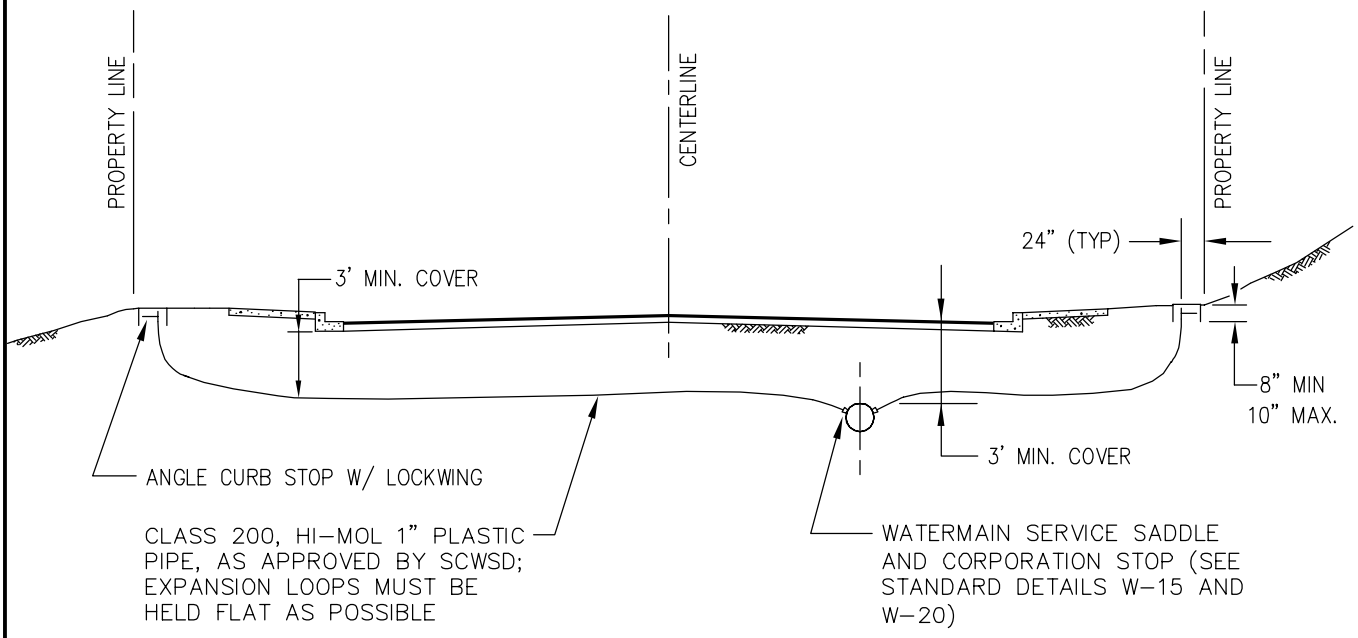
ROADWAY WITH DITCHES

NOTE:
METER BOX SUPPLIED BY DEVELOPER OR CONTRACTOR; METER BOX SHALL BE PER STANDARD DETAILS W-17 AND W-18.

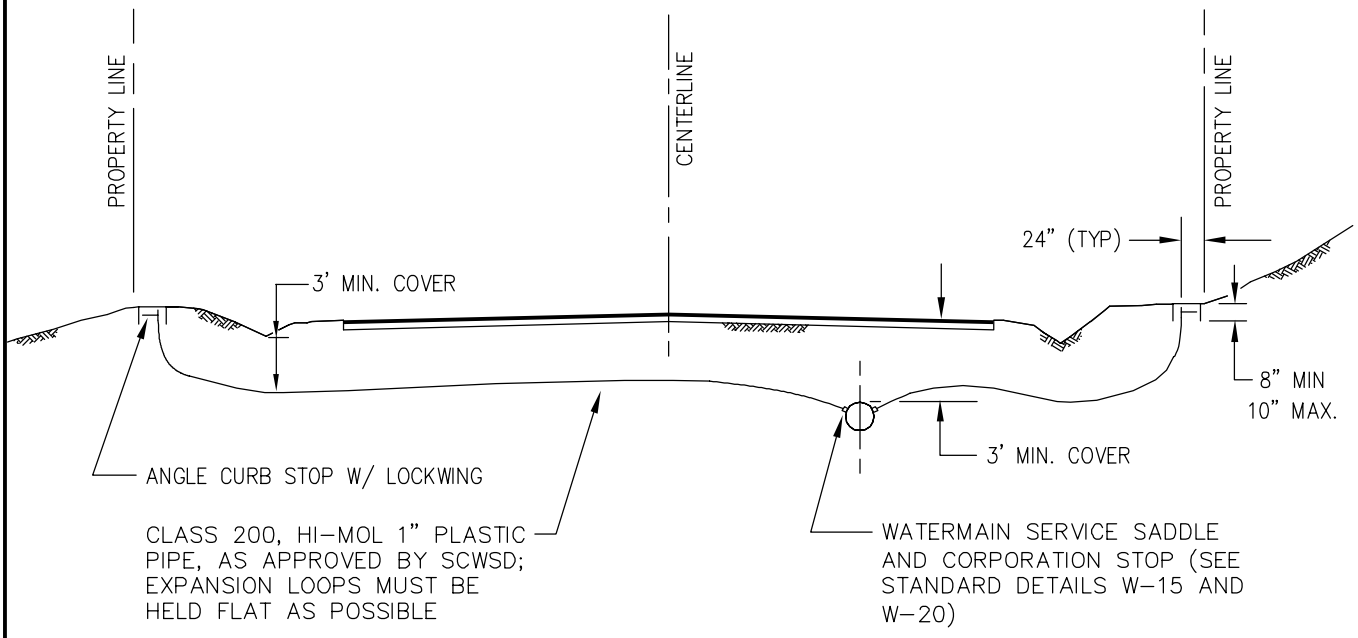
TYPICAL ROADWAY SECTIONS FOR RESIDENTIAL SUBDIVISION

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-2	W-2



ROADWAY WITH CURB AND GUTTER



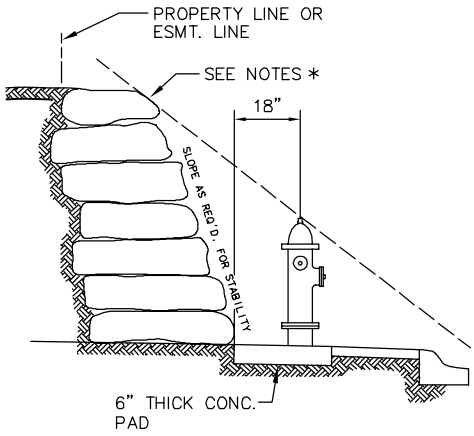
ROADWAY WITH DITCHES

NOTE:
METER BOX SUPPLIED BY DEVELOPER OR CONTRACTOR; METER BOX SHALL BE PER STANDARD DETAILS W-17 AND W-18.

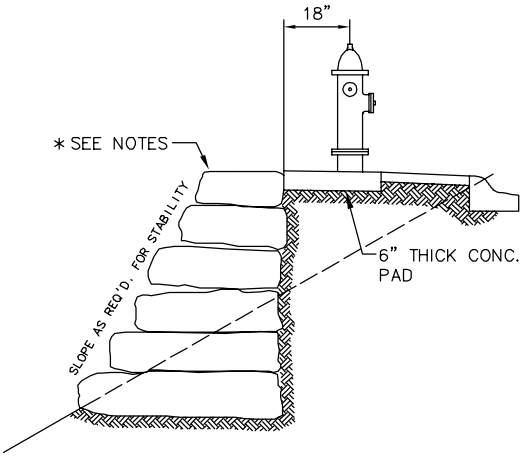
TYPICAL ROADWAY SECTIONS

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-3	W-3

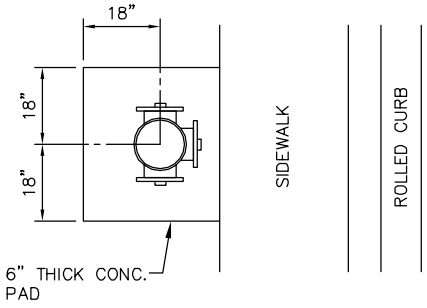


FIRE HYDRANT IN CUT



FIRE HYDRANT IN FILL

FIRE HYDRANT LOCATION IN CUT OR FILL



FIRE HYDRANT PLAN VIEW

HYDRANT RUN:

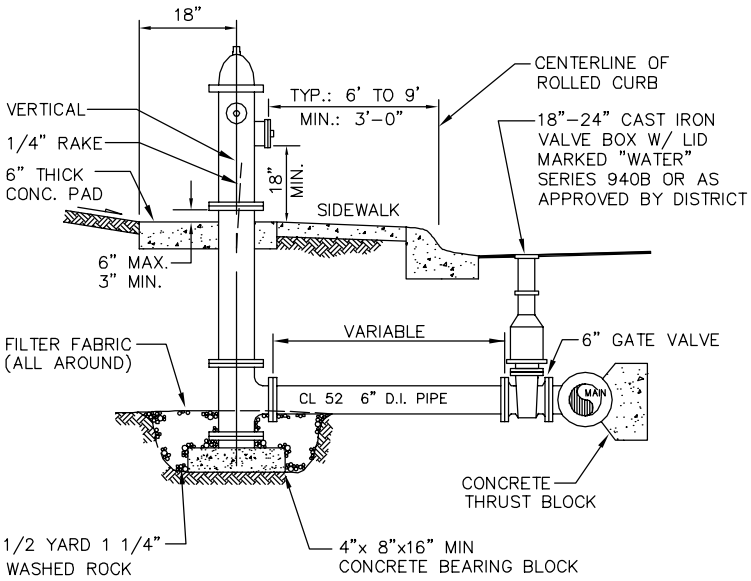
1. LENGTH ESTABLISHED ON JOB AS APPROVED BY DISTRICT.
   A. USE 6" DI PIPE, FLANGED (SHORT RUNS ONLY).
   B. OR 6" DI PIPE, MJ WITH 2 3/4" STEEL TIE RODS WITH ONE HEAVY COAT OF COAL TAR PRESERVATIVE ON TIE RODS, NUTS AND BOLTS AFTER INSTALLATION. MEGALUGS CAN BE PROVIDED IN LIEU OF TIE RODS.

HYDRANT:

1. SHALL BE CLEANSED & PRIME COATED WITH HEAVY DUTY BRUSH TYPE PRIMER OR APPROVED EQUAL. ALL HYDRANTS SHALL BE PAINTED YELLOW. TWO TOP COATS SHALL BE OIL RESISTANT ENAMEL, BRUSH TYPE OR APPROVED EQUAL.
2. STENCIL ON FACE OF HYDRANT BARREL THE DISTANCE FROM HYDRANT TO GV. IN FEET WITH 2" BLACK LETTERS.
3. SURFACE TO BE GRADED UNIFORMLY AROUND HYDRANT (18" RADIUS). SLOPE AWAY W/ BRUSH FINISH.
4. INSTALL STIMSONITE MODEL 88-A BLUE REFLECTIVE PAVEMENT MARKER, OR EQUAL, ON HYDRANT SIDE OF THE CENTER LINE OF THE ADJACENT STREET IN DIRECT LINE WITH THE HYDRANT.

* NOTES:

1. ROCKERY TYPE RETAINING WALL TO BE PROVIDED WHERE NECESSARY IN CUT OR FILL AREAS.
2. NO GUARD POSTS.

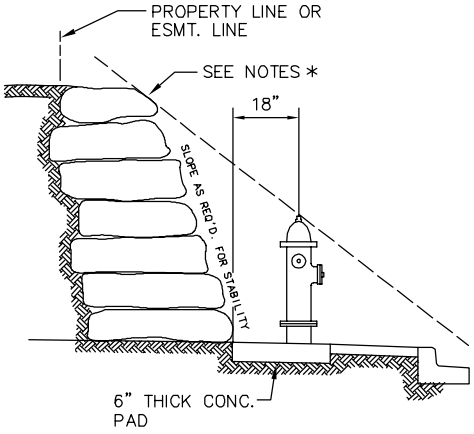


FIRE HYDRANT ASSEMBLY

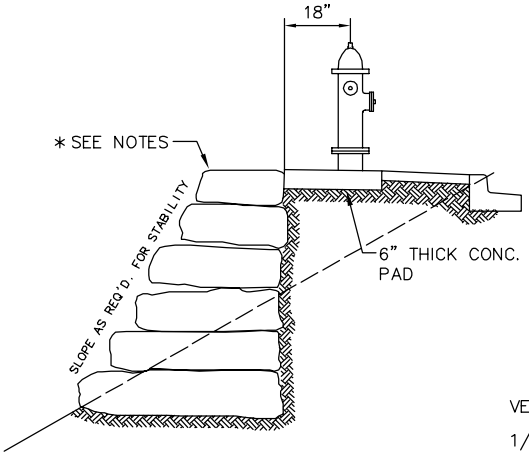
FIRE HYDRANT ASSEMBLY ROLLED CURB

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-4	W-4

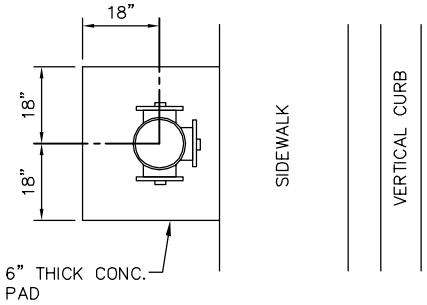


FIRE HYDRANT IN CUT



FIRE HYDRANT IN FILL

FIRE HYDRANT LOCATION IN CUT OR FILL



FIRE HYDRANT PLAN VIEW

HYDRANT RUN:

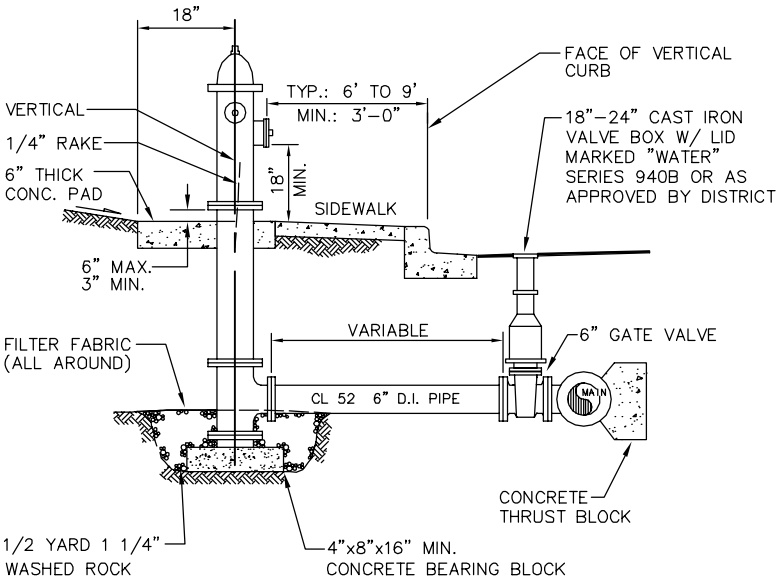
1. LENGTH ESTABLISHED ON JOB AS APPROVED BY DISTRICT.
   A. USE 6" DI PIPE, FLANGED (SHORT RUNS ONLY).
   B. OR 6" DI PIPE, MJ WITH 2 3/4" STEEL TIE RODS WITH ONE HEAVY COAT OF COAL TAR PRESERVATIVE ON TIE RODS, NUTS AND BOLTS AFTER INSTALLATION. MEGALUGS CAN BE PROVIDED IN LIEU OF TIE RODS.

HYDRANT:

1. SHALL BE CLEANSED & PRIME COATED WITH HEAVY DUTY BRUSH TYPE PRIMER OR APPROVED EQUAL. ALL HYDRANTS SHALL BE PAINTED YELLOW. TWO TOP COATS SHALL BE OIL RESISTANT ENAMEL, BRUSH TYPE OR APPROVED EQUAL.
2. STENCIL ON FACE OF HYDRANT BARREL THE DISTANCE FROM HYDRANT TO GV. IN FEET WITH 2" BLACK LETTERS.
3. SURFACE TO BE GRADED UNIFORMLY AROUND HYDRANT (18" RADIUS). SLOPE AWAY W/ BRUSH FINISH.
4. INSTALL STIMSONITE MODEL 88-A BLUE REFLECTIVE PAVEMENT MARKER, OR EQUAL, ON HYDRANT SIDE OF THE CENTER LINE OF THE ADJACENT STREET IN DIRECT LINE WITH THE HYDRANT.

* NOTES:

1. ROCKERY TYPE RETAINING WALL TO BE PROVIDED WHERE NECESSARY IN CUT OR FILL AREAS.
2. NO GUARD POSTS.

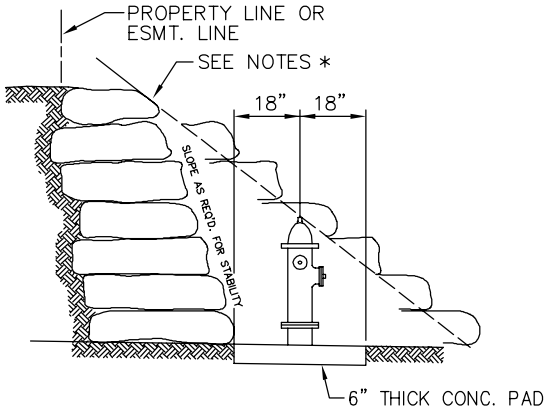


FIRE HYDRANT ASSEMBLY

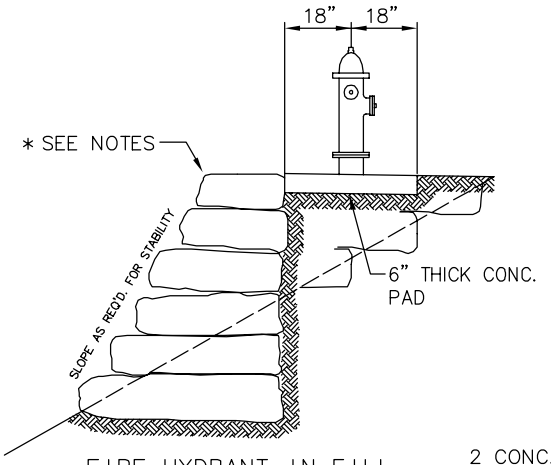
FIRE HYDRANT ASSEMBLY VERTICAL CURB

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-5	W-5



FIRE HYDRANT IN CUT



FIRE HYDRANT IN FILL

FIRE HYDRANT LOCATION IN CUT OR FILL

HYDRANT RUN:

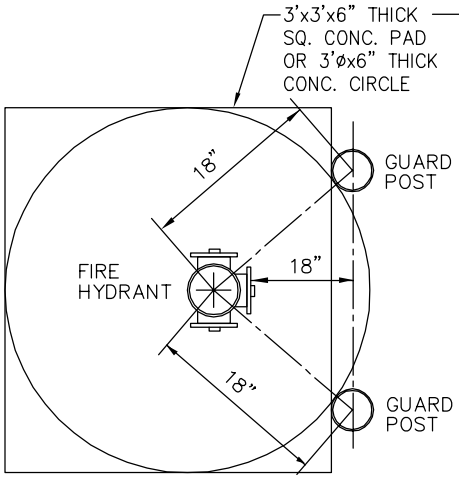
1. LENGTH ESTABLISHED ON JOB AS APPROVED BY DISTRICT.
   A. USE 6" DI PIPE, FLANGED (SHORT RUNS ONLY).
   B. OR 6" DI PIPE, MJ WITH 2 3/4" STEEL TIE RODS WITH ONE HEAVY COAT OF COAL TAR PRESERVATIVE ON TIE RODS, NUTS AND BOLTS AFTER INSTALLATION. MEGALUGS CAN BE PROVIDED IN LIEU OF TIE RODS.

HYDRANT:

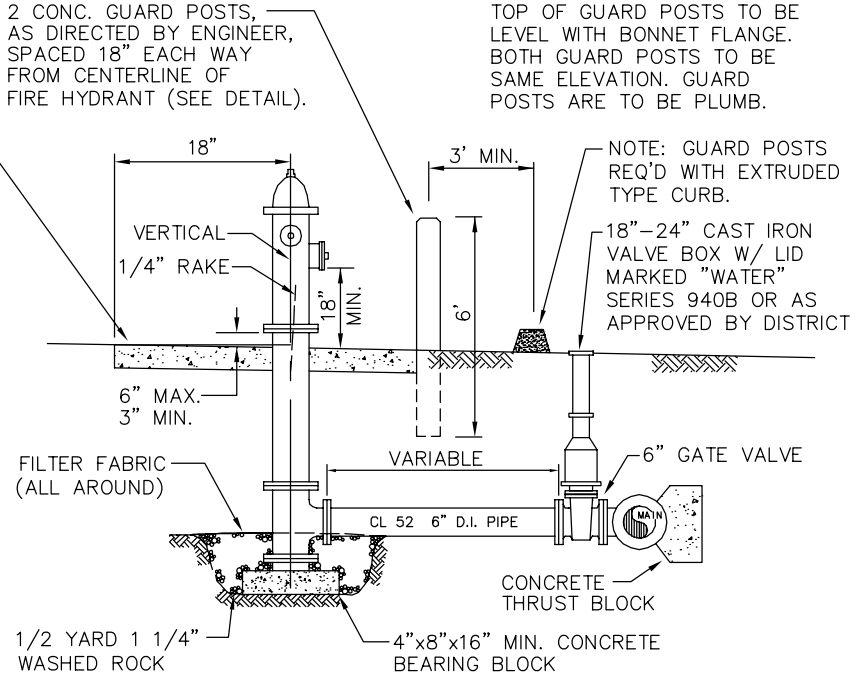
1. SHALL BE CLEANSED & PRIME COATED WITH HEAVY DUTY BRUSH TYPE PRIMER OR APPROVED EQUAL. ALL HYDRANTS SHALL BE PAINTED YELLOW. TWO TOP COATS SHALL BE OIL RESISTANT ENAMEL, BRUSH TYPE OR APPROVED EQUAL.
2. STENCIL ON FACE OF HYDRANT BARREL THE DISTANCE FROM HYDRANT TO GV. IN FEET WITH 2" BLACK LETTERS.
3. SURFACE TO BE GRADED UNIFORMLY AROUND HYDRANT (18" RADIUS). SLOPE AWAY W/ BRUSH FINISH.
4. GUARD POSTS SHALL BE INSTALLED FOR ALL FIRE HYDRANTS EXCEPT IN PLATS IN WHICH VERTICAL TYPE CURBS WILL BE INSTALLED.
5. INSTALL STIMSONITE MODEL 88-A BLUE REFLECTIVE PAVEMENT MARKER, OR EQUAL, ON HYDRANT SIDE OF THE CENTER LINE OF THE ADJACENT STREET IN DIRECT LINE WITH THE HYDRANT.

*NOTES:

1. ROCKERY TYPE RETAINING WALL TO BE PROVIDED WHERE NECESSARY IN CUT OR FILL AREAS.
2. GUARD POSTS NOT REQUIRED WITH POURED-IN-PLACE VERTICAL CURB.
3. GUARD POSTS LOCATED IN KING CO. RIGHT-OF-WAY REQUIRE 10 FT. SETBACK FROM ROADWAY EDGE.



DETAIL

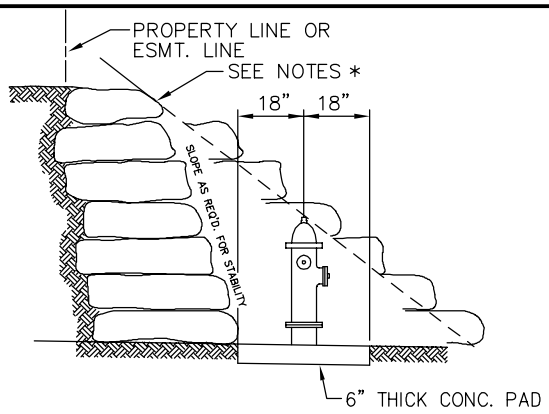


FIRE HYDRANT ASSEMBLY

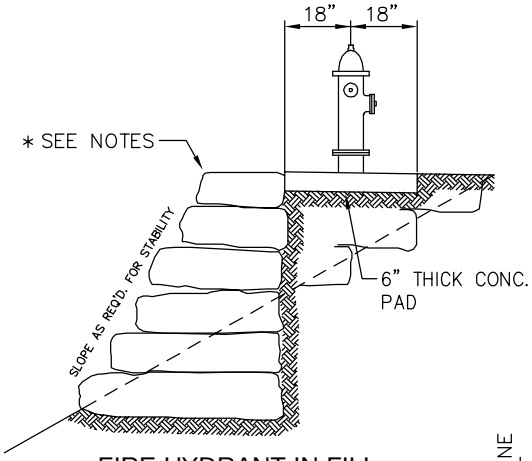
FIRE HYDRANT ASSEMBLY COMMERCIAL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-6	W-6



FIRE HYDRANT IN CUT



FIRE HYDRANT IN FILL

FIRE HYDRANT LOCATION IN CUT OR FILL

HYDRANT RUN:

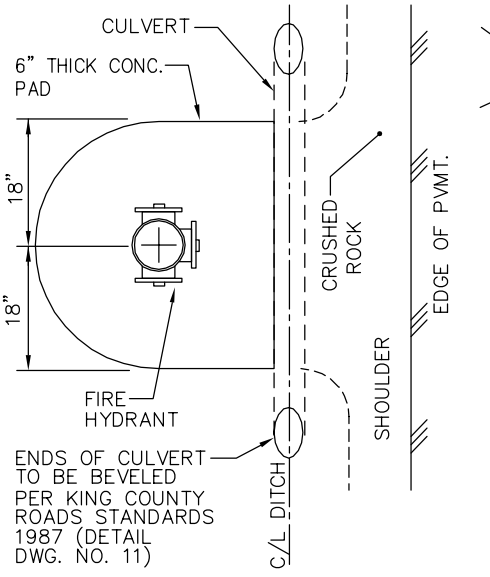
1. LENGTH ESTABLISHED ON JOB AS APPROVED BY DISTRICT.
   A. USE 6" DI PIPE, FLANGED (SHORT RUNS ONLY).
   B. OR 6" DI PIPE, MJ WITH 2 3/4" STEEL TIE RODS WITH ONE HEAVY COAT OF COAL TAR PRESERVATIVE ON TIE RODS, NUTS AND BOLTS AFTER INSTALLATION. MEGALUGS CAN BE PROVIDED IN LIEU OF TIE RODS.

HYDRANT:

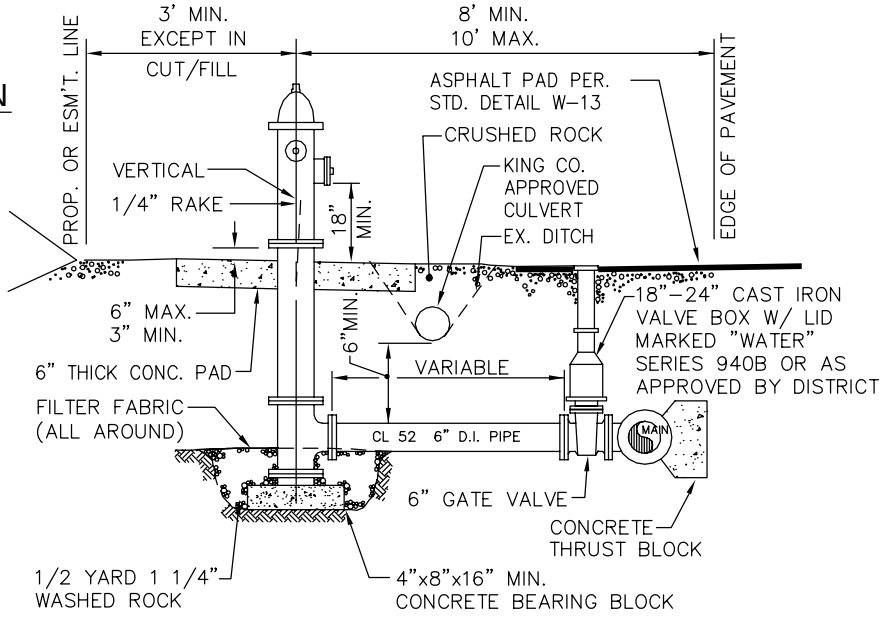
1. SHALL BE CLEANSED & PRIME COATED WITH HEAVY DUTY BRUSH TYPE PRIMER OR APPROVED EQUAL. ALL HYDRANTS SHALL BE PAINTED YELLOW. TWO TOP COATS SHALL BE OIL RESISTANT ENAMEL, BRUSH TYPE OR APPROVED EQUAL.
2. STENCIL ON FACE OF HYDRANT BARREL THE DISTANCE FROM HYDRANT TO GV. IN FEET WITH 2" BLACK LETTERS.
3. SURFACE TO BE GRADED UNIFORMLY AROUND HYDRANT (18" RADIUS). SLOPE AWAY W/ BRUSH FINISH.
4. INSTALL STIMSONITE MODEL 88–A BLUE REFLECTIVE PAVEMENT MARKER, OR EQUAL, ON HYDRANT SIDE OF THE CENTER LINE OF THE ADJACENT STREET IN DIRECT LINE WITH THE HYDRANT.

*NOTES:

1. ROCKERY TYPE RETAINING WALL TO BE PROVIDED WHERE NECESSARY IN CUT OR FILL AREAS.
2. NO GUARD POSTS.



PLAN VIEW



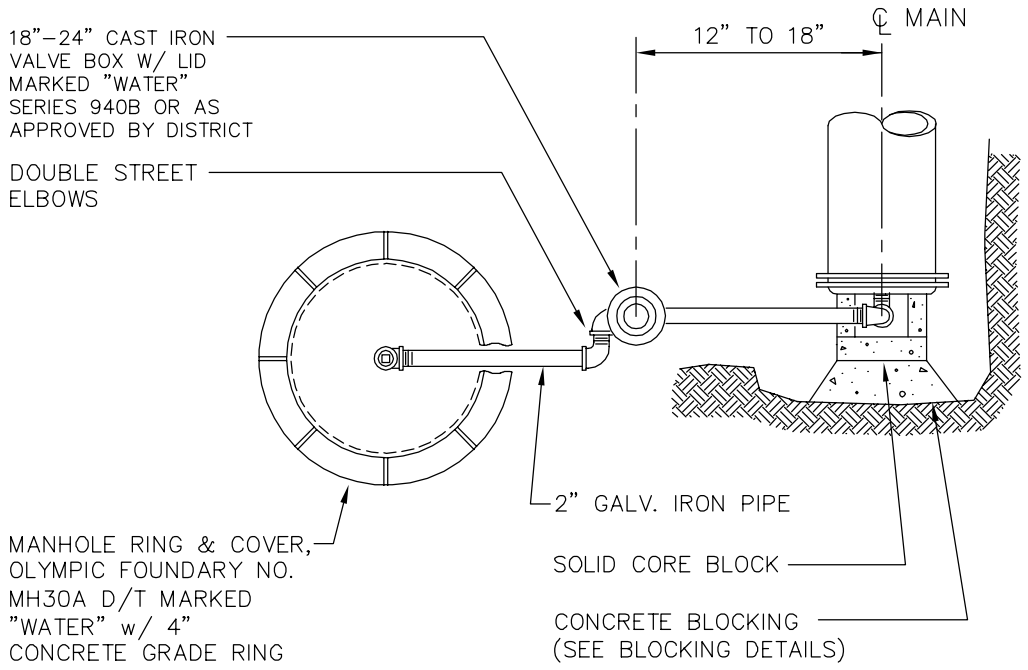
FIRE HYDRANT ASSEMBLY

SOOS CREEK WATER & SEWER DISTRICT

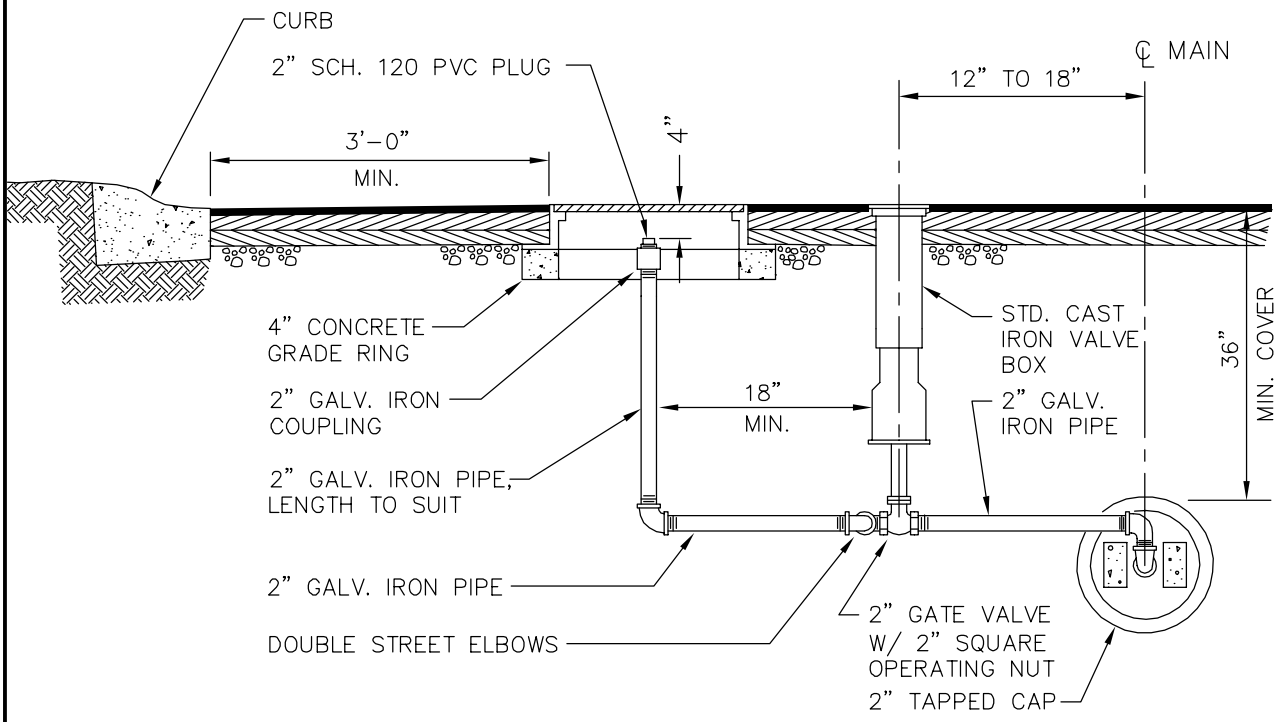
FIRE HYDRANT ASSEMBLY GRAVEL SHOULDER

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-7	W-7



PLAN



ELEVATION

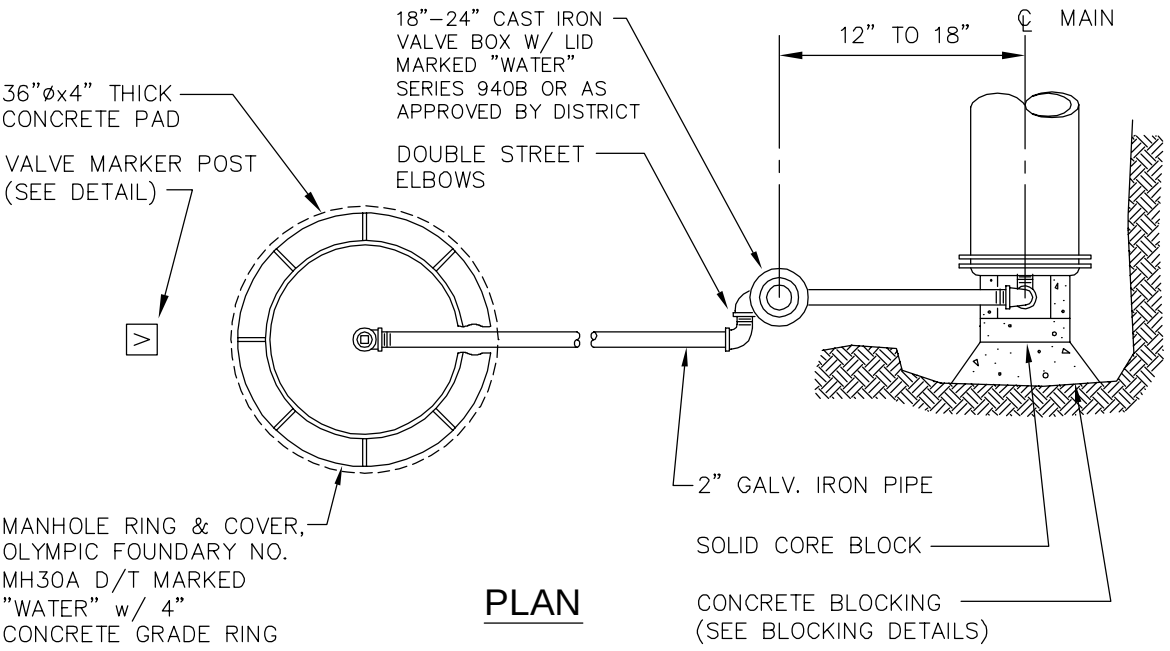
NOTE:
LOCATE BLOW–OFF ASSEMBLY AS CLOSE AS POSSIBLE TO MAIN.

IN PAVING 2" BLOWOFF ASSEMBLY

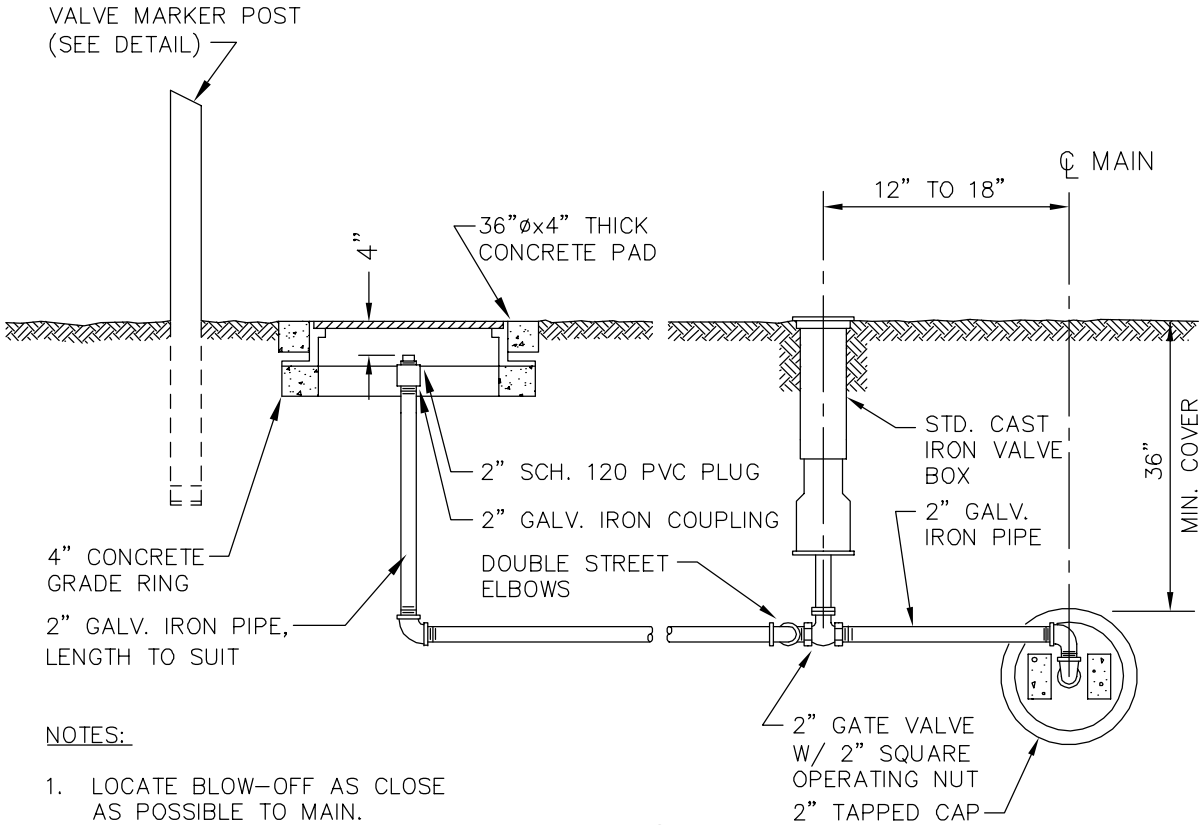
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W–8

DWG. NO. W-8



PLAN



ELEVATION

NOTES:

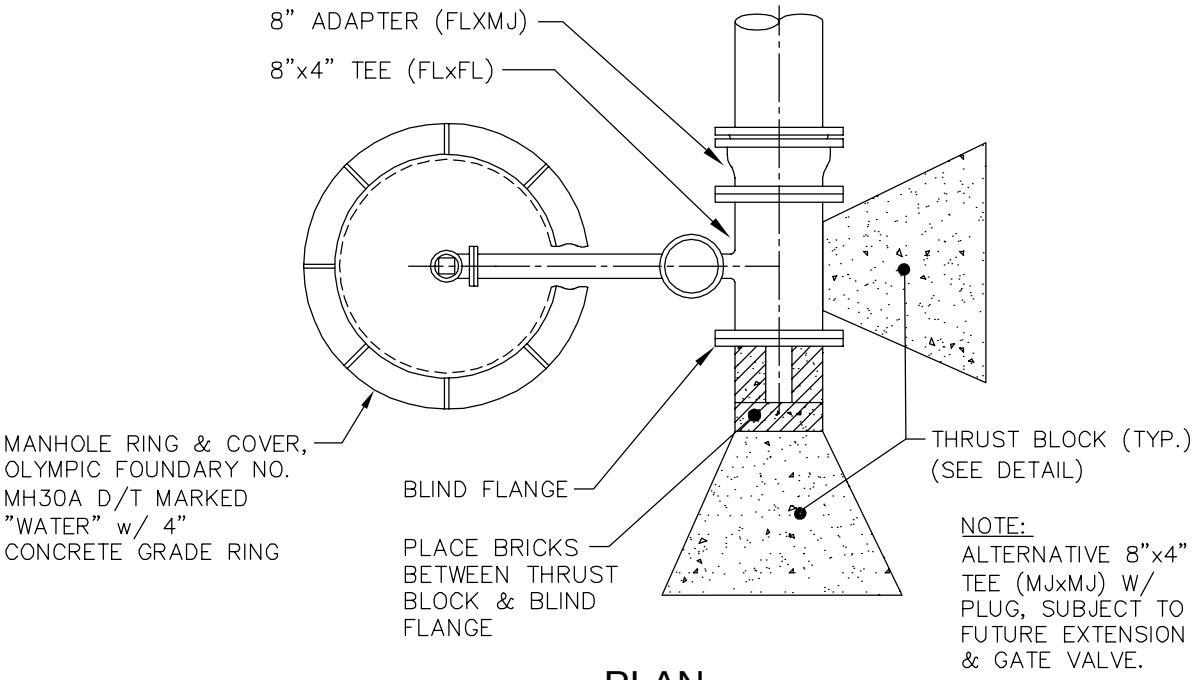
1. LOCATE BLOW–OFF AS CLOSE AS POSSIBLE TO MAIN.
2. THE GROUND WITHIN 3' RADIUS OF BLOW–OFF SHALL BE GRADED UNIFORMLY.

OFF PAVING 2" BLOWOFF ASSEMBLY

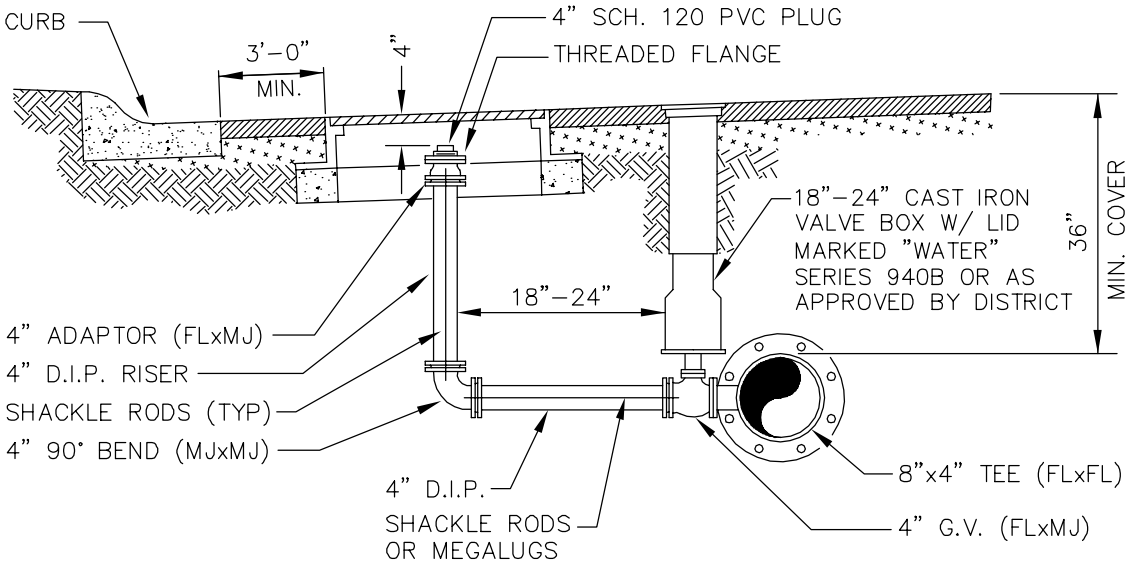
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W–9

DWG. NO. W-9



PLAN



ELEVATION

NOTES:

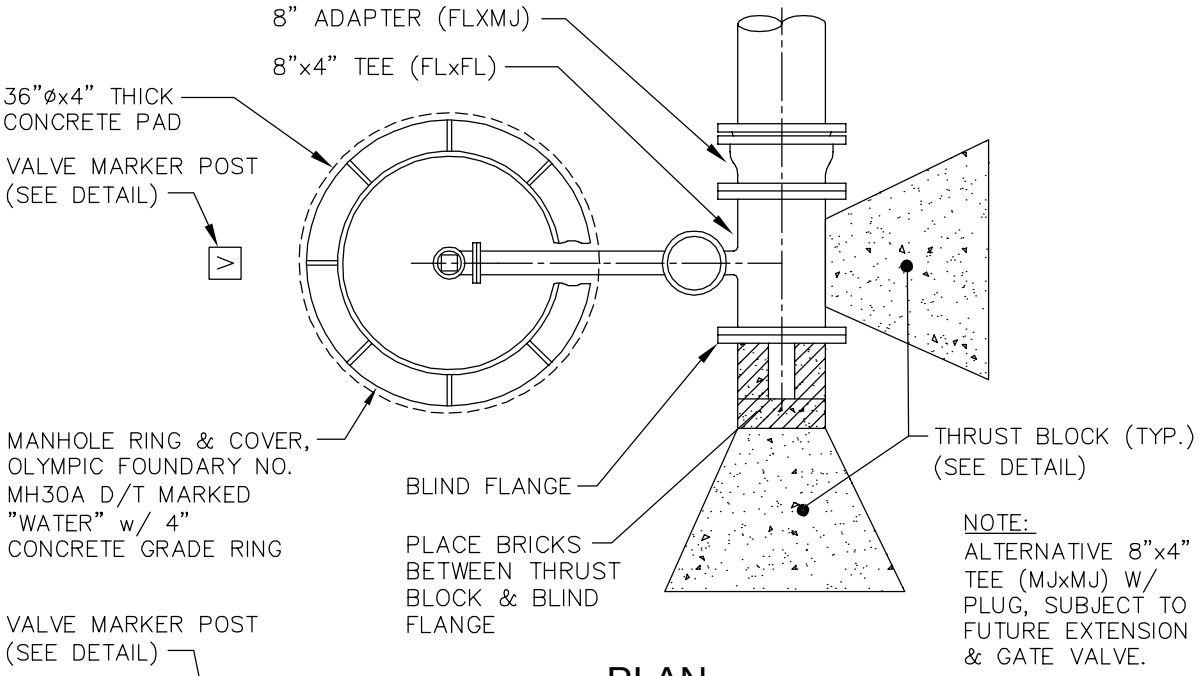
1. LOCATE BLOW-OFF AS CLOSE AS POSSIBLE TO MAIN, OR AS DIRECTED BY DISTRICT.
2. THE GROUND WITHIN 3' RADIUS OF BLOWOFF SHALL BE GRADED UNIFORMLY.
3. SHACKLE RODS SHALL BE TWO EA., 3/4" GALV. STEEL TIE RODS WITH ONE HEAVY COAT OF COAL TAR PRESERVATIVE ON TIE RODS, NUTS AND BOLTS AFTER INSTALLATION. MEGALUGS CAN BE PROVIDED IN LIEU OF SHACKLE RODS.
4. COVER ON BOX MUST BE LOCKING TYPE.
5. NO MARKING POST NEEDED.

SOOS CREEK WATER & SEWER DISTRICT

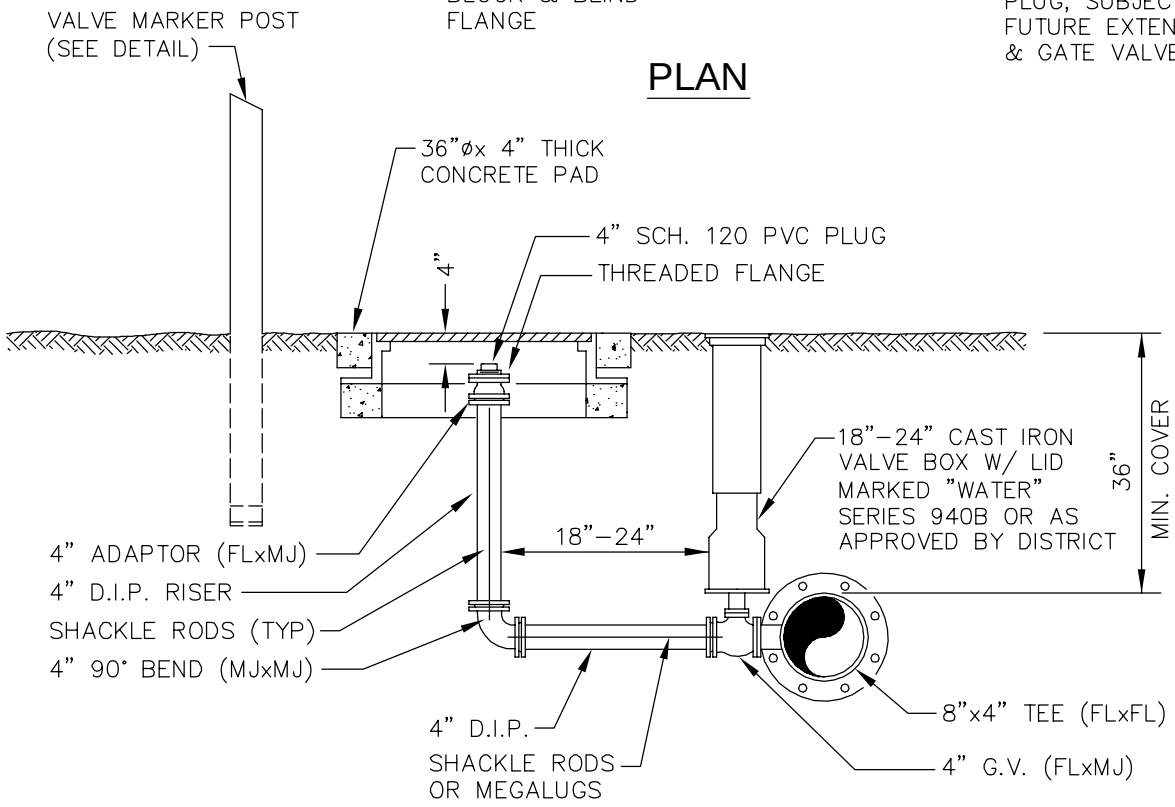
IN PAVING 4" BLOWOFF ASSY. FOR 8" AND LARGER MAINS

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-10	W-10



PLAN



ELEVATION

NOTES:

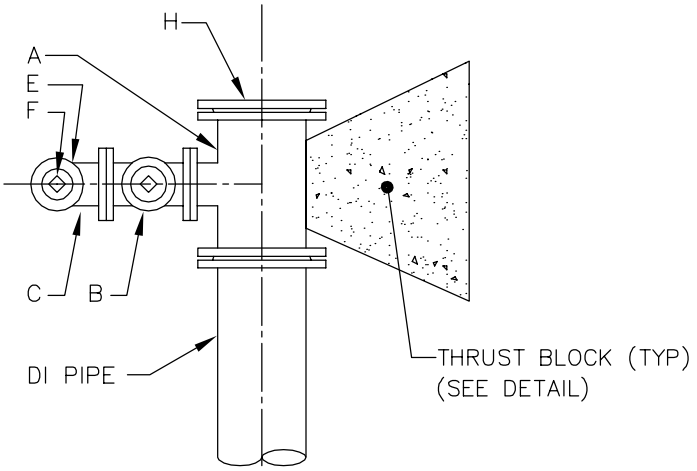
1. LOCATE BLOW–OFF AS CLOSE AS POSSIBLE TO MAIN, OR AS DIRECTED BY DISTRICT.
2. THE GROUND WITHIN 3' RADIUS OF BLOWOFF SHALL BE GRADED UNIFORMLY.
3. SHACKLE RODS SHALL BE TWO EA., 3/4" GALV. STEEL TIE RODS WITH ONE HEAVY COAT OF COAL TAR PRESERVATIVE ON TIE RODS, NUTS AND BOLTS AFTER INSTALLATION. MEGALUGS CAN BE PROVIDED IN LIEU OF SHACKLE RODS.
4. COVER ON BOX MUST BE LOCKING TYPE.

SOOS CREEK WATER & SEWER DISTRICT

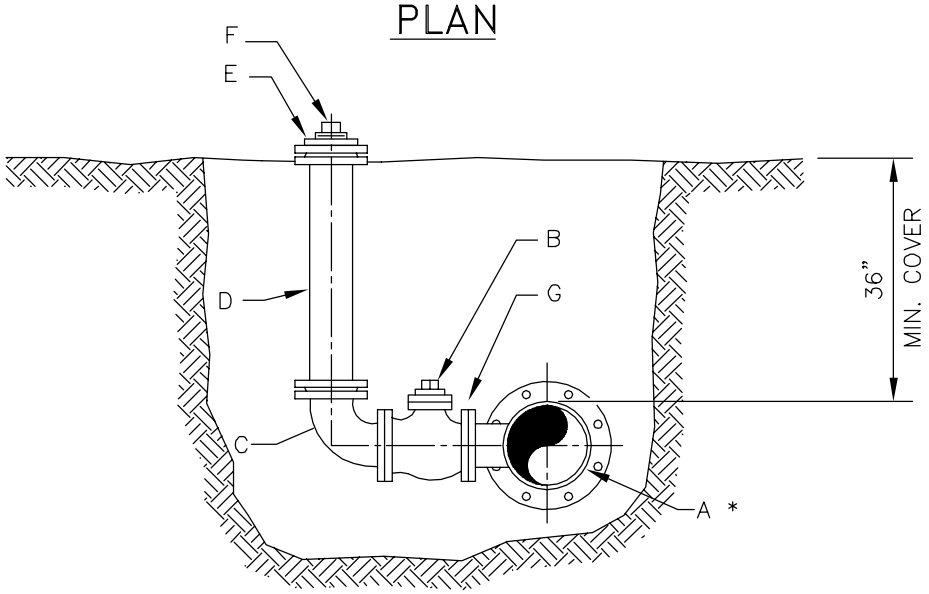
OFF PAVING 4" BLOWOFF ASSY. FOR 8" AND LARGER MAINS

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W–11	W-11



PLAN



ELEVATION

PART NO.	PART DESCRIPTION	BLOW OFF SIZE		
		4"	6"	8"
A	D.I. TEE (FL x MJ) BRANCH SIZE *	4"	6"	8"
B	G.V. (FL x FL)	4"	6"	8"
C	90° BEND (FL x MJ)	4"	6"	8"
D	RISER D.I.P. x LENGTH AS REQ'D	4"	6"	8"
E	MJ CAP W/ MEGALUGS TAPPED FOR 4" IPT (3" IPT FOR 4" BLOW OFF)	4"	6"	8"
F	PLASTIC PLUG	3"	4"	4"
G	BLIND FLANGE (AFTER FLUSHING, REMOVE GATE VALVE & RISER)	4"	6"	8"
H	MJ PLUG	MAIN	SIZE	

* TEE SIZE SAME AS WATER MAIN UNLESS OTHERWISE INDICATED. ALTERNATIVELY D.I. TEE (MJ x MJ) WITH PLUG, SUBJECT TO FUTURE EXTENSION & GATE VALVE.

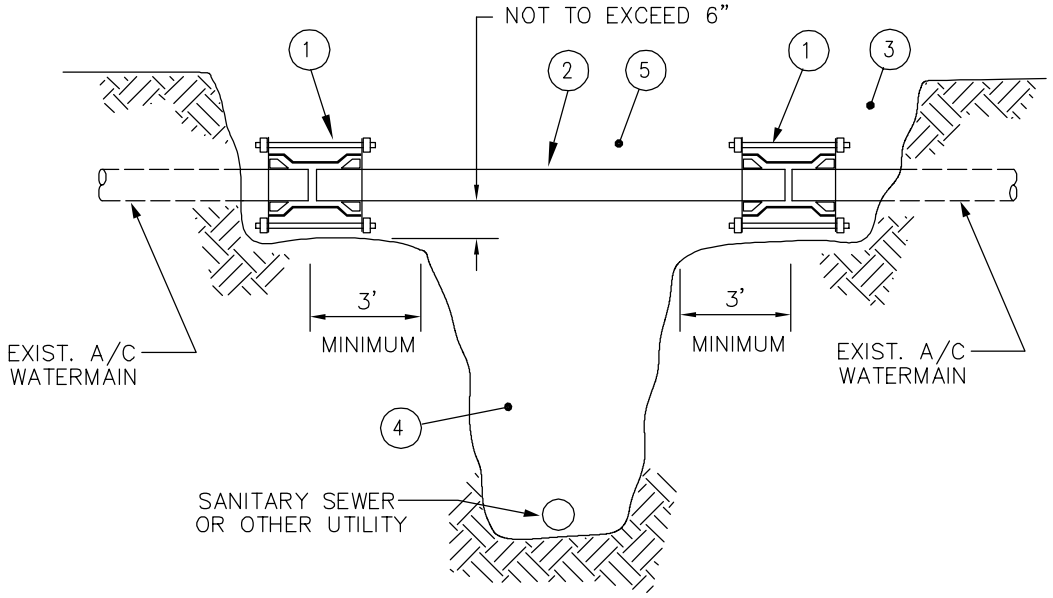
SOOS CREEK WATER & SEWER DISTRICT

4", 6" OR 8" TEMPORARY BLOWOFF ASSEMBLY

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-11A

DWG. NO. W-11A



NOTES:

(1) COUPLING: ASBESTOS–CEMENT (A/C) BY DUCTILE IRON (DUCTILE IRON, ROMAC STYLE 501, OR EQUAL).

(2) DUCTILE IRON PIPE, CL. 52, DIAMETER TO MATCH EXISTING A/C.

(3) BACKFILL EXISTING A/C AND COUPLING WITH PEA GRAVEL TO 1' ABOVE PIPE.

(4) BACKFILL UNDER THE WATERLINE WITH CRUSHED ROCK COMPACTED TO 95% MDD, OR CONTROLLED DENSITY FILL (CDF) PER GOVERNING ROAD AGENCY REQUIREMENTS.

(5) BACKFILL OVER THE TOP OF THE WATERLINE WITH CRUSHED ROCK COMPACTED TO 95% MDD, OR CONTROLLED DENSITY FILL (CDF) PER GOVERNING ROAD AGENCY REQUIREMENTS. BACKFILL OVER THE TOP OF THE WATERLINE WITH NATIVE MATERIAL COMPACTED TO 90% MDD IF LOCATED WITHIN EASEMENT OR UNIMPROVED AREAS.

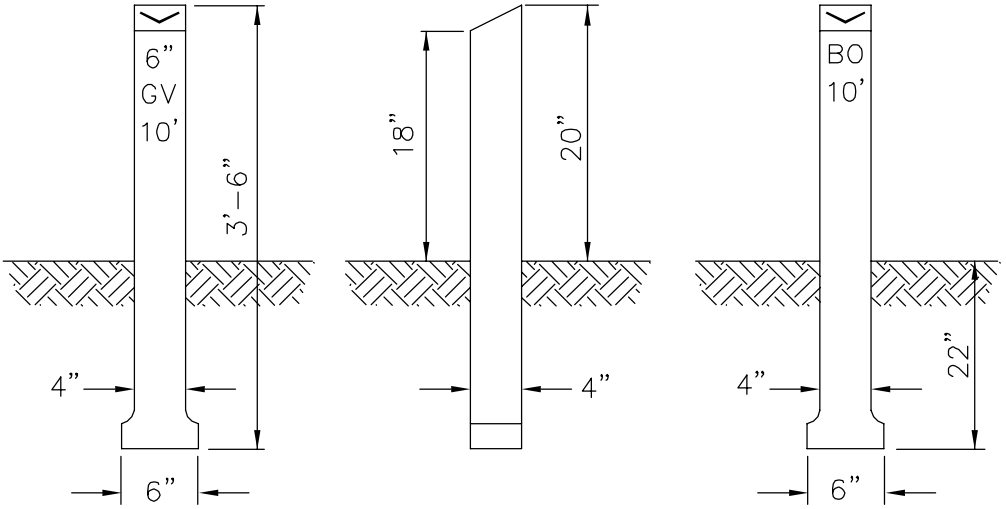
(6) A/C DISPOSAL PER CURRENT WAC AND PUGET SOUND AIR POLLUTION CONTROL AGENCY REQUIREMENTS.

SOOS CREEK WATER & SEWER DISTRICT

A/C WATER MAIN REPLACEMENT @ SANITARY SEWER CROSSING

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-12	W-12

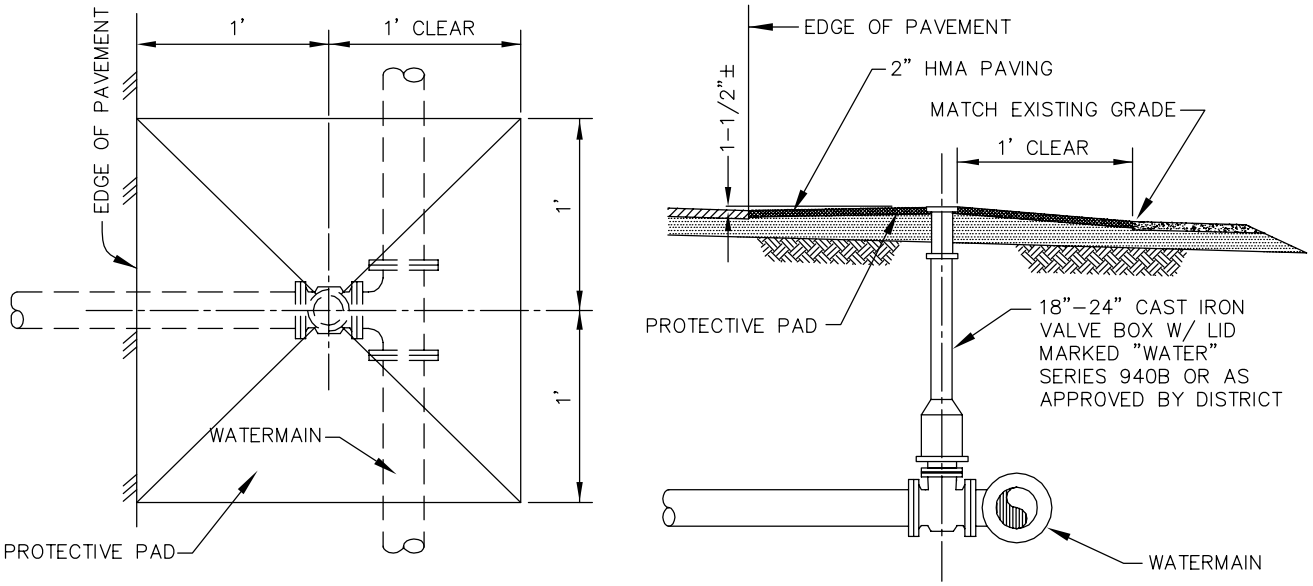


VALVE MARKER POST

VALVE MARKER POST WILL BE REQUIRED UNLESS VALVE IS IN PAVEMENT AND TOP OF VALVE BOX IS AT FINISHED GRADE.

BLOW-OFF ASSEMBLY MARKER POST

BLOW-OFF MARKER POST WILL BE REQUIRED UNLESS BLOW-OFF IS IN PAVEMENT.



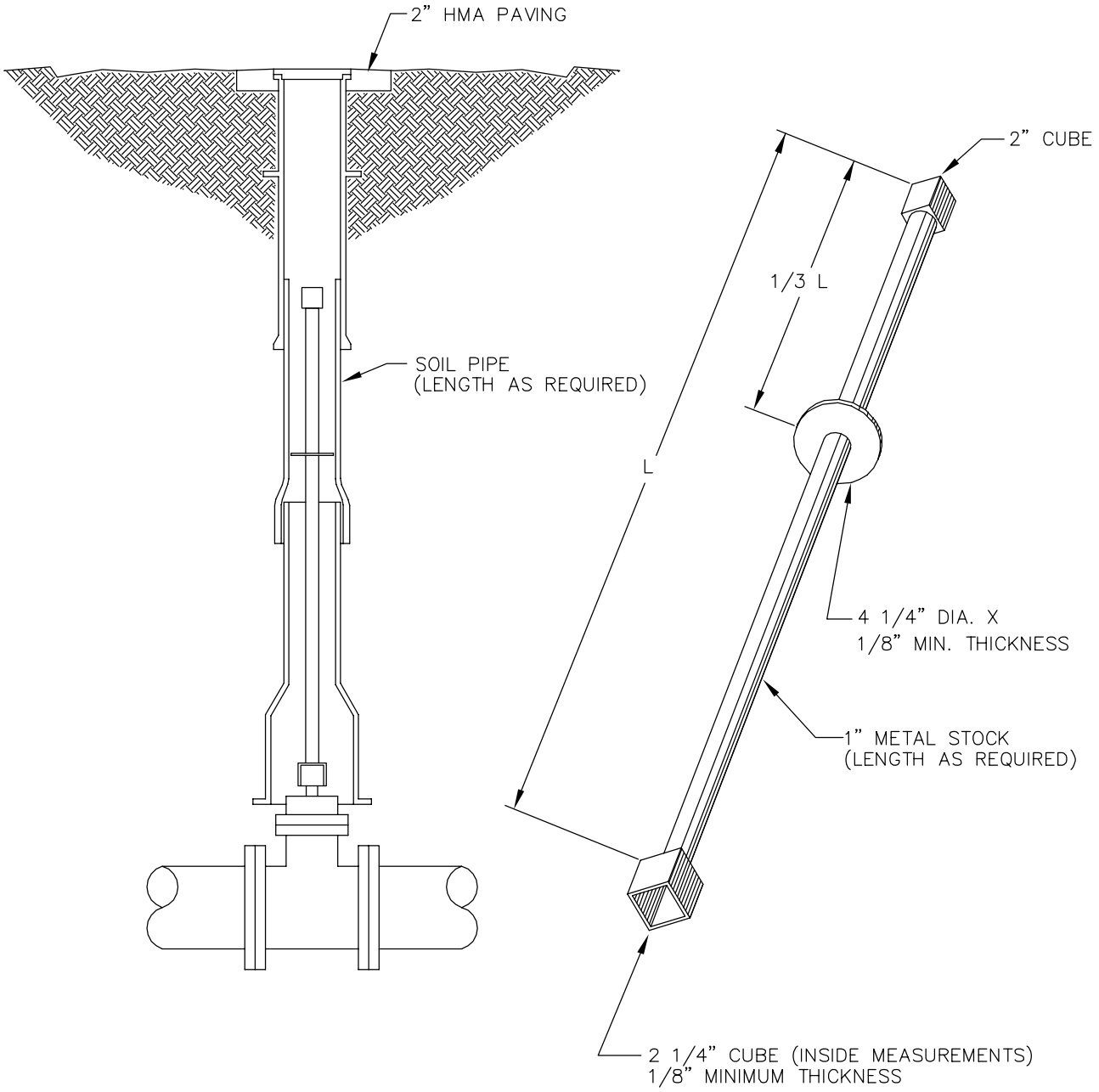
VALVE BOX PROTECTIVE PAD

NOTE:
MARKER POST SHALL BE PAINTED WITH 2 COATS OF WHITE PAINT, LETTERS SHALL BE 2" HIGH AND STENCILED IN BLACK PAINT. MARKER POST SHALL BE LOCATED 10 FT. (MIN.) AWAY FROM EDGE OF ROAD WAY.

VALVE BOX PROTECTIVE PAD AND MARKER POST

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-13	W-13



NOTES:

LENGTH AS REQUIRED TO PUT OPERATING NUT TWO (2) FEET FROM SURFACE. EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN FOUR (4) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF TWO (2) FEET LONG. ONE EXTENSION IS TO BE USED PER VALVE.

ALL EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO (2) COATS OF METAL PAINT.

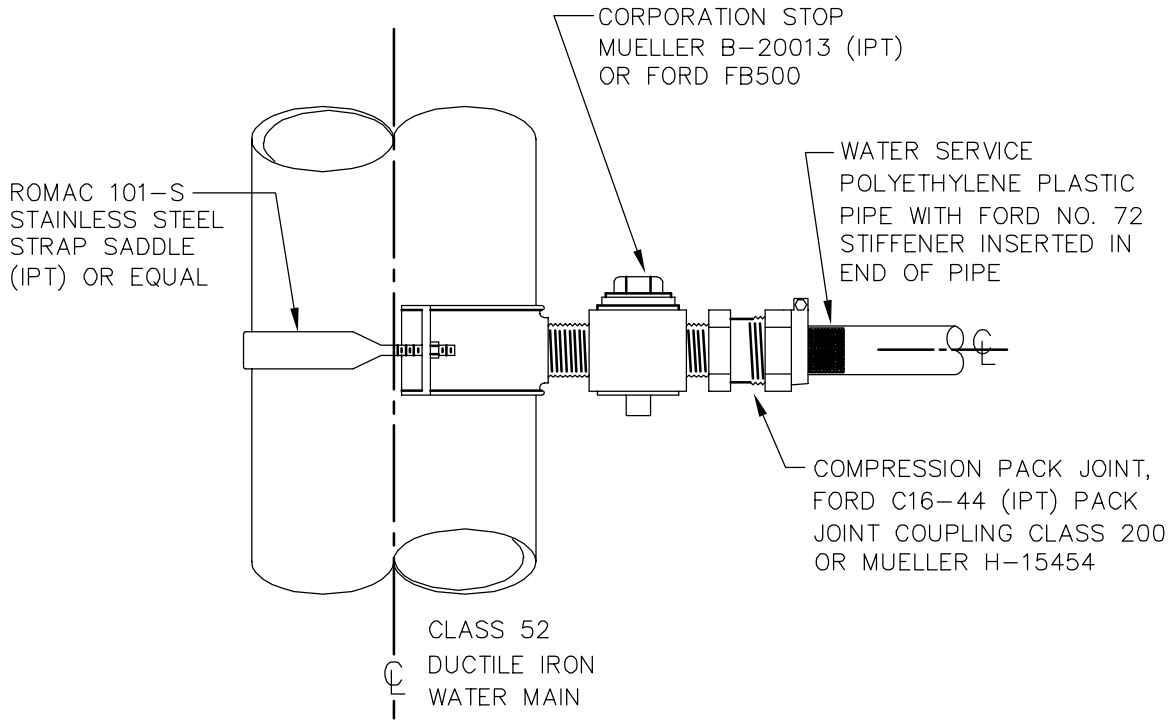
SOOS CREEK WATER & SEWER DISTRICT

VALVE OPERATING NUT EXTENSION

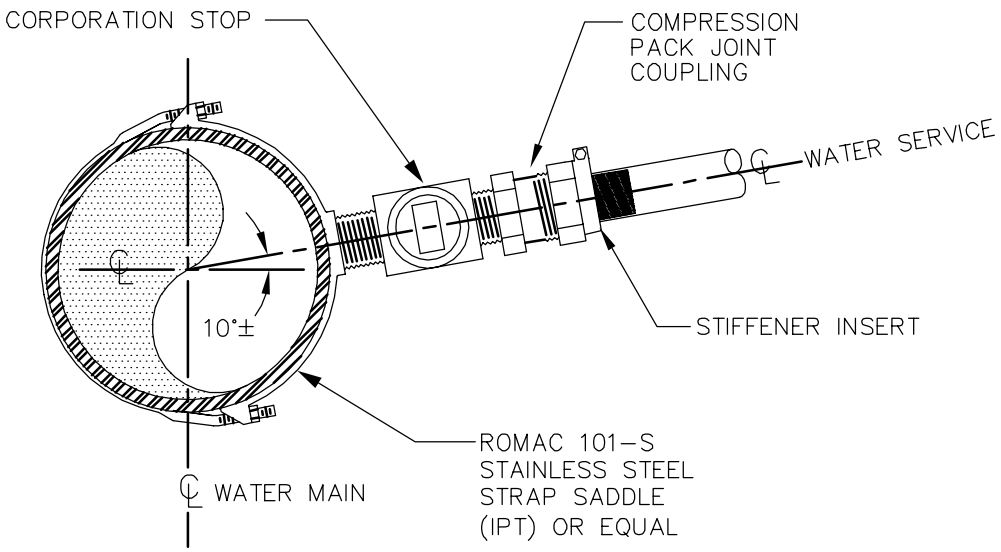
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-14

DWG. NO. W-14



PLAN



ELEVATION

NOTES:

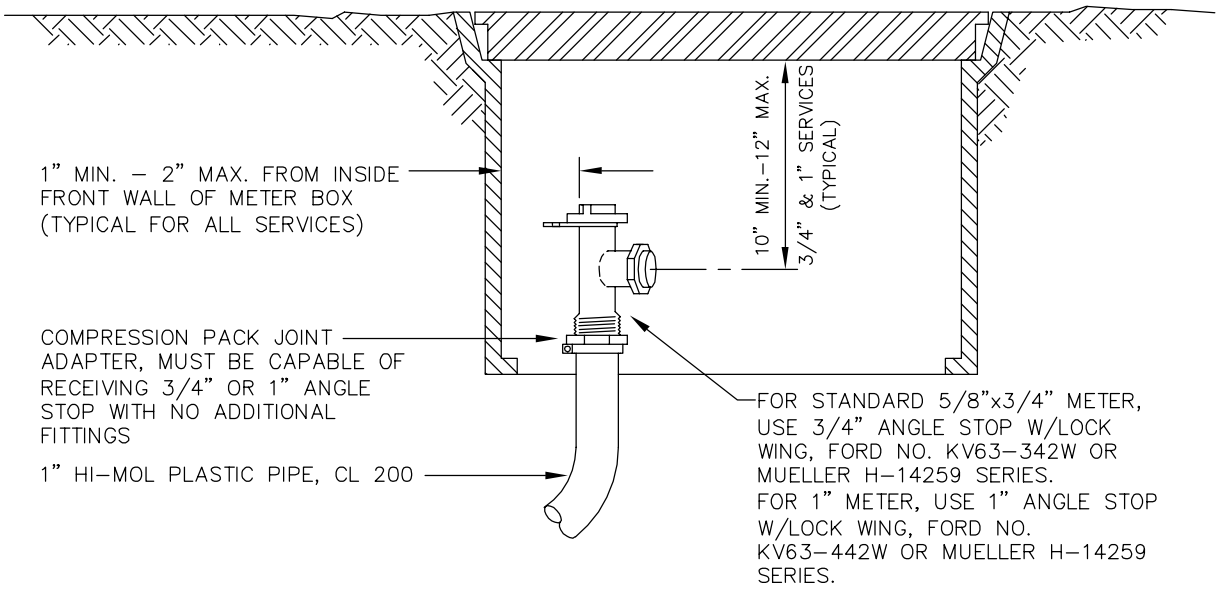
1. SERVICE LINE FITTINGS: ALL FITTINGS SHALL BE CAST FROM WATER WORKS BRASS CONFORMING TO C800.
2. MUNICIPAL SERVICE PIPE: IRON PIPE SIZE ID, ASTM D-2239, SIDR 7, PE 3408 (HI-MOL PLASTIC) WITH 16 GAUGE TRACER WIRE.

SOOS CREEK WATER & SEWER DISTRICT

WATER SERVICE CONNECTION
ONE INCH

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-15	W-15



SINGLE SERVICE

NOTES:

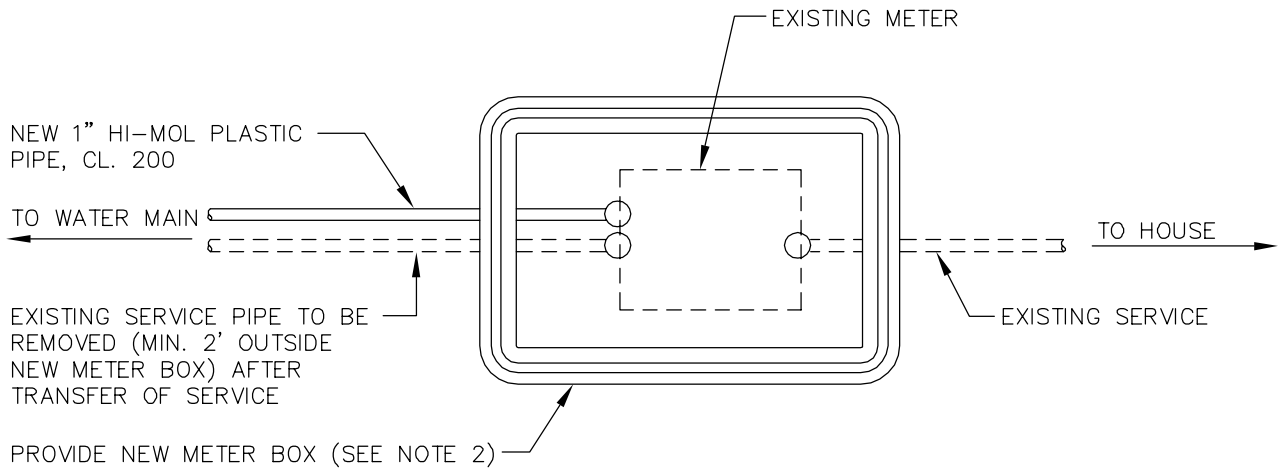
1. DO NOT BACKFILL UNTIL ALL BRASS FITTINGS HAVE BEEN INSPECTED BY THE DISTRICT.
2. WATER METER BOXES SHALL BE A MINIMUM OF 5 FEET FROM POWER VAULTS, HANDHOLES, STREET LIGHTS AND ELECTRICAL SERVICES AND SHALL BE A MINIMUM OF 3 FEET FROM OTHER WATER METERS, SERVICES, FIRE HYDRANTS AND BLOWOFF ASSEMBLIES.
3. METER BOX SHALL BE SUPPLIED BY DEVELOPER OR CONTRACTOR AND SHALL BE PER STANDARD DETAILS W–17 AND W–18.

SOOS CREEK WATER & SEWER DISTRICT

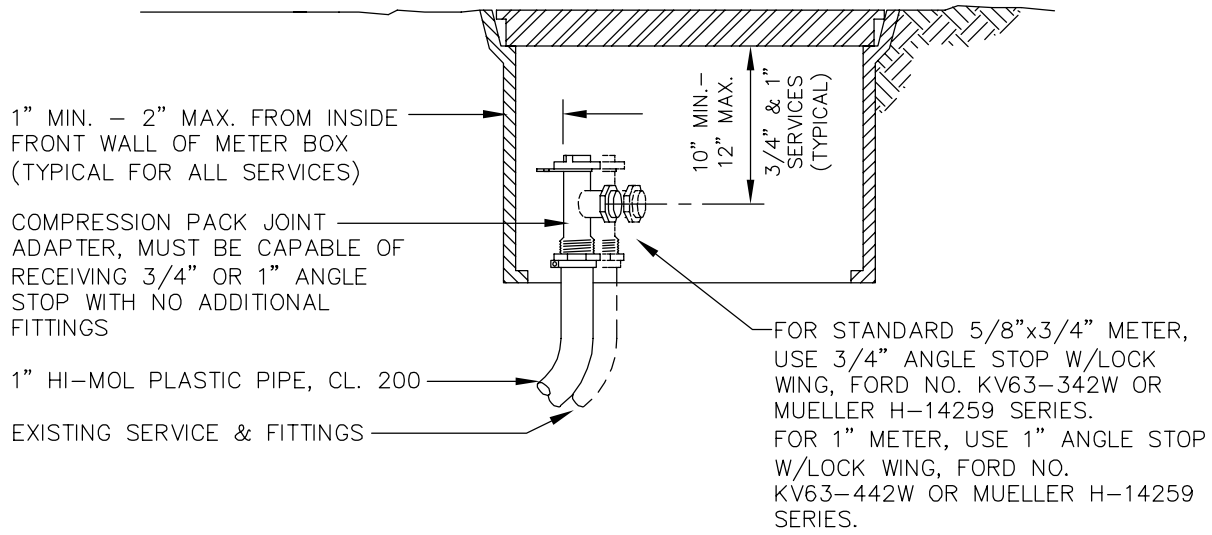
TYPICAL SERVICE DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W–16	W-16



PLAN VIEW



SINGLE SERVICE

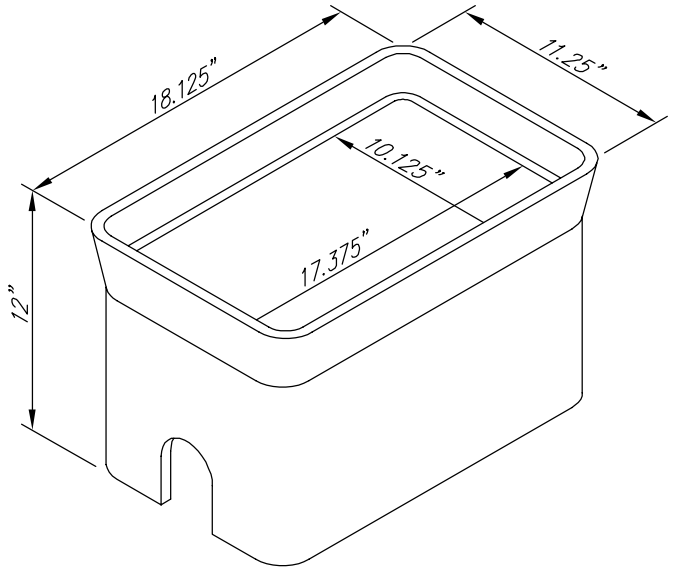
NOTES:

1. BRING NEW WATER SERVICE INTO METER BOX AND INSTALL NEW ANGLE STOP, ETC. TO MATCH VERTICAL AND HORIZONTAL ALIGNMENT WITH EXISTING FITTINGS FOR METER RECONNECTION.
2. DO NOT BACKFILL UNTIL ALL BRASS FITTINGS HAVE BEEN INSPECTED BY THE DISTRICT.
3. WATER METER BOXES SHALL BE A MINIMUM OF 5 FEET FROM POWER VAULTS, HANDHOLES, STREET LIGHTS AND ELECTRICAL SERVICES AND SHALL BE A MINIMUM OF 3 FEET FROM OTHER WATER METERS, SERVICES, FIRE HYDRANTS AND BLOWOFF ASSEMBLIES.
4. METER BOX SHALL BE SUPPLIED BY DEVELOPER OR CONTRACTOR AND SHALL BE PER STANDARD DETAILS W-17 AND W-18.

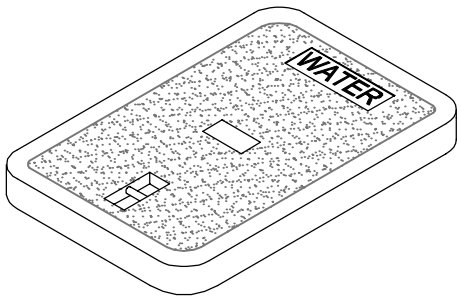
INSTALLATION DETAIL FOR NEW SERVICE TRANSFER TO EXISTING METER

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-16A	W-16A



MID-STATES PLASTIC HDPE METER BOX NO. BC111812BXL



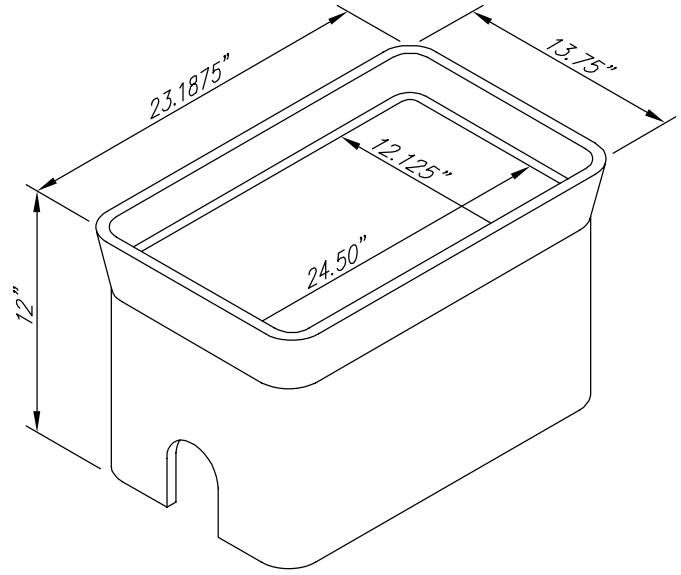
CARSON LID #11184135 MARKED "WATER"

SOOS CREEK WATER & SEWER DISTRICT

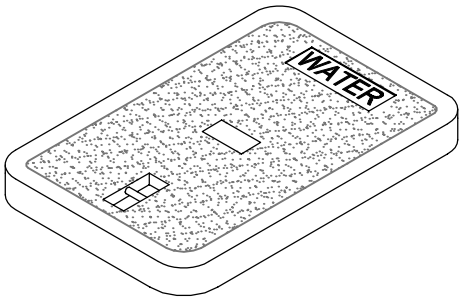
HDPE METER BOX
FOR 5/8"x3/4" METER

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-17	W-17



MID-STATES PLASTIC HDPE METER BOX NO. BCF132412B



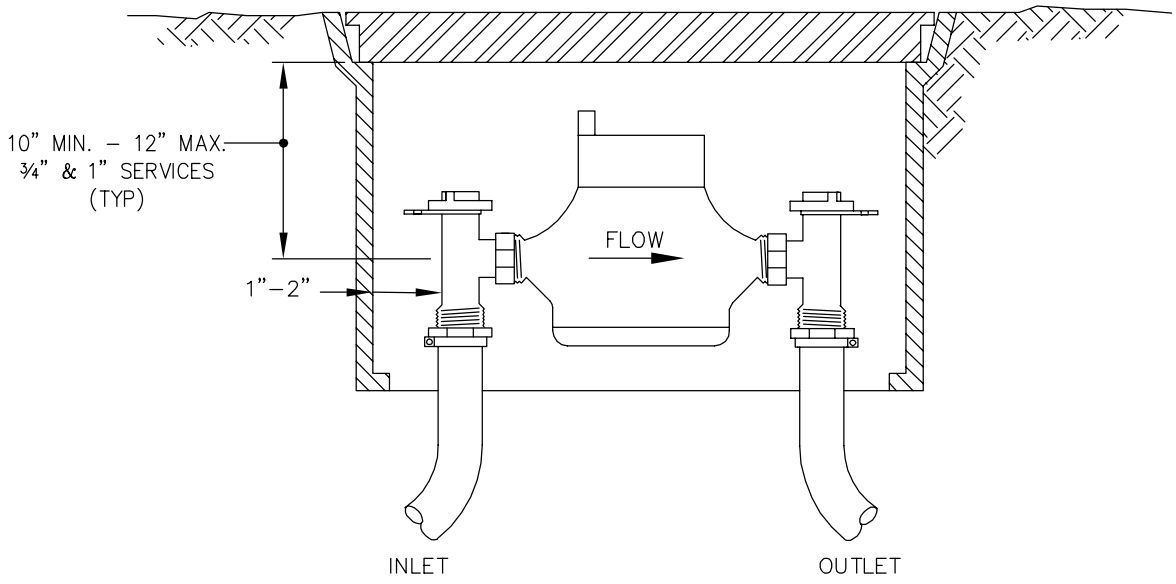
CARSON LID #13244252 MARKED "WATER"

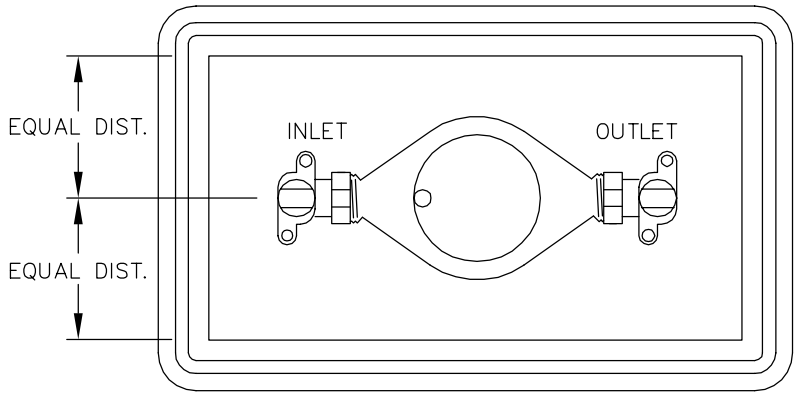
SOOS CREEK WATER & SEWER DISTRICT

HDPE METER BOX FOR 1" METER

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.	
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-18	DWG. NO.	W-18





NOTES:

1. THE ANGLESTOPS MUST BE EQUAL DISTANCE FROM THE LONGITUDINAL SIDES OF THE METER BOX. THE OUTLET OF THE ANGLESTOPS MUST BE BETWEEN 10" AND 12" BELOW THE BOTTOM OF THE METER BOX LID. THE ANGLESTOPS MUST BE BETWEEN 1" AND 2" FROM THE LATITUDINAL END OF THE METER BOX AND MUST BE VERTICAL (90°) TO GROUND LEVEL.

2. THE ANGLESTOP CONNECTION ON THE CUSTOMER'S SIDE OF THE METER MUST REMAIN IN A VERTICAL POSITION AFTER THE CONNECTION TO THE CUSTOMER'S LINE HAS BEEN COMPLETED.

3. THE METER BOX MUST REMAIN FREE OF FOREIGN MATERIAL SUCH AS CONCRETE & ITS BY–PRODUCTS.

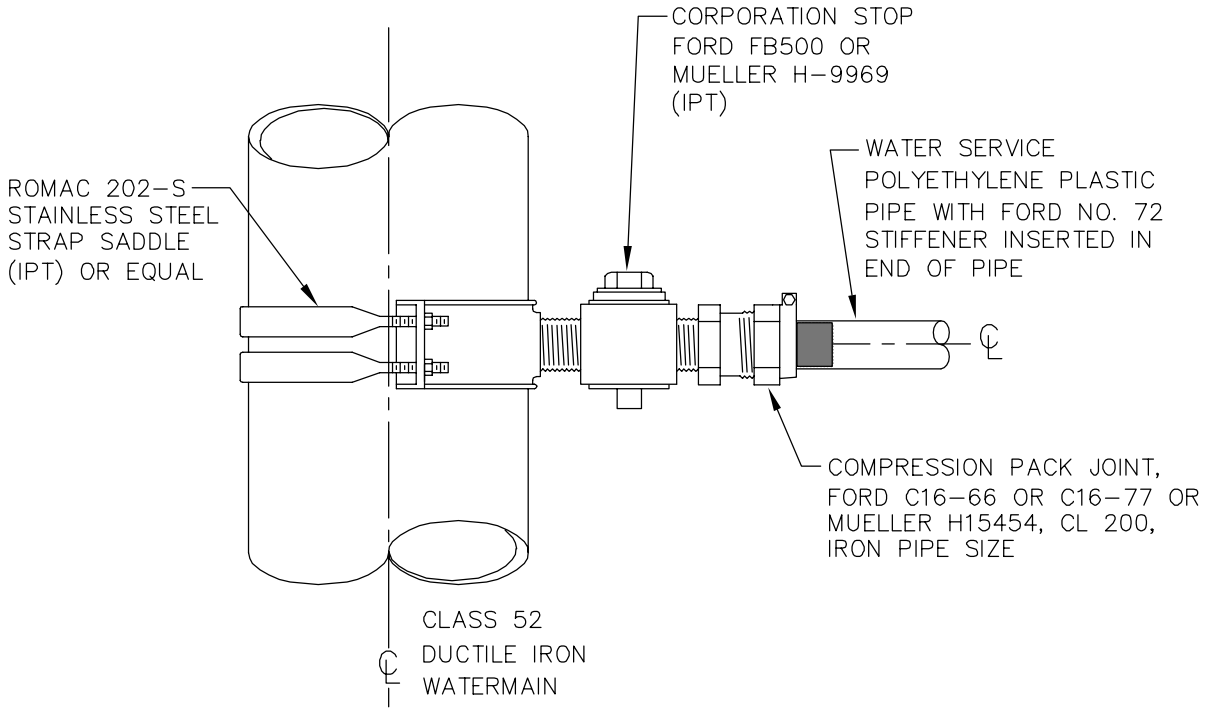
4. METER BOX SUPPLIED BY DEVELOPER/CONTRACTOR. METER BOX SHALL BE PER STANDARD DETAILS W–17 AND W–18.

SOOS CREEK WATER & SEWER DISTRICT

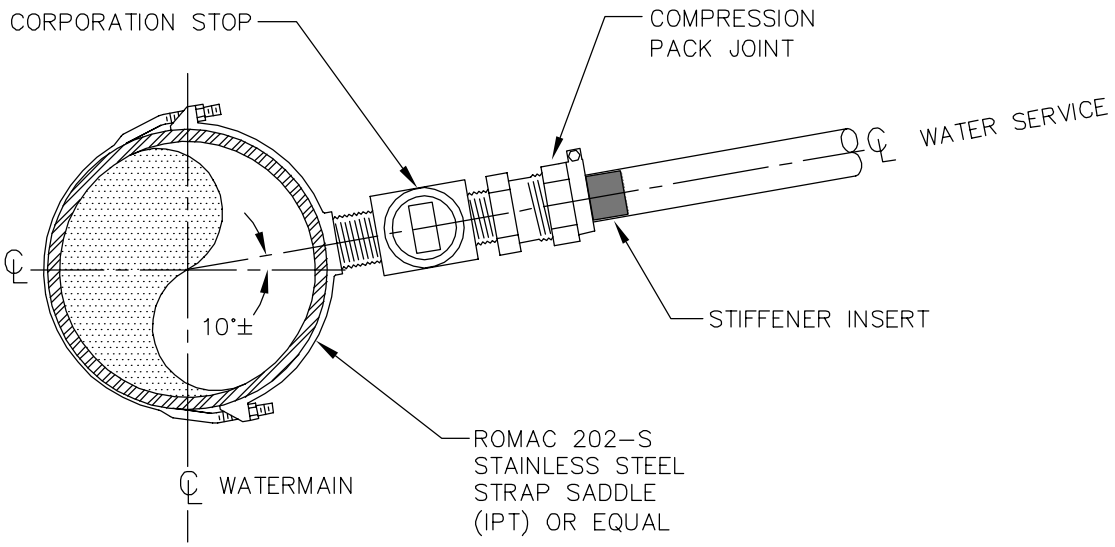
METER INSTALLATION

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W–19	W-19



PLAN



ELEVATION

NOTES:

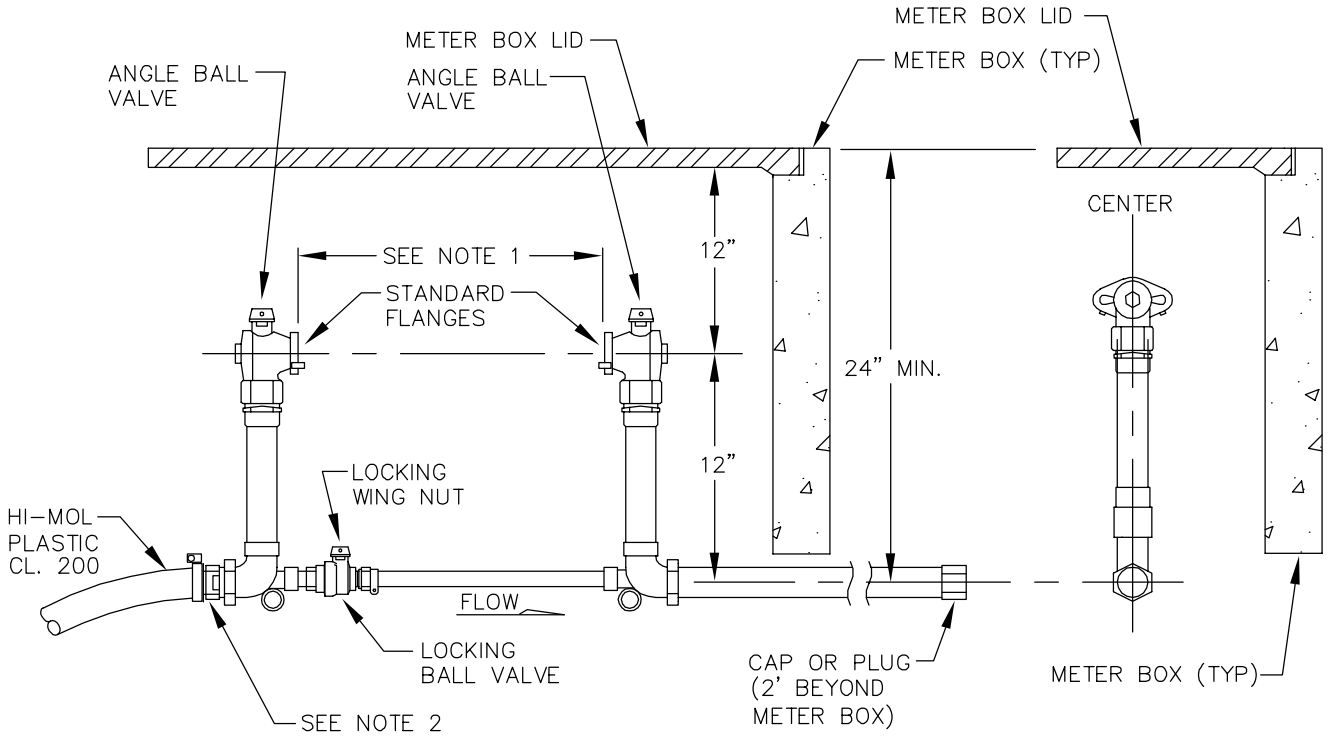
1. SERVICE LINE FITTINGS: CAST C800 WATER WORKS BRASS.
2. MUNICIPAL SERVICE PIPE: IRON PIPE SIZE ID, ASTM D-2239, SIDR 7, PE 3408 (HI-MOL PLASTIC) WITH 16 GAUGE TRACER WIRE.
3. CORPORATION STOP VALVE INSTALLED PARALLEL TO WATERMAIN.

SOOS CREEK WATER & SEWER DISTRICT

WATER SERVICE CONNECTION 1-1/2 INCH AND LARGER

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-20	W-20



ELEVATION

END VIEW

NOTE 1:

1-1/2" METER = 13"
2" METER = 15¼"

NOTE 2:

COMPRESSION PACK JOINT:

FOR 1-1/2" DIA. USE FORD #C86-66 (PACK END I.P.S.) OR EQUAL.

FOR 2" DIA. USE FORD #C86-77 (PACK END I.P.S.) OR EQUAL.

NOTE 3:

METER BOXES SHALL BE INSTALLED AS FOLLOWS:

2-HDPE METER BOX BOTTOMS NO. BCF173012B STACKED UPON EACH OTHER.

1-HDPE METER BOX LID NO. BCF1730.

GENERAL NOTES:

FORD CUSTOM SETTER 1-1/2": #VBB76-12B-11-66
FORD CUSTOM SETTER 2": #VBB77-12B-11-77-1525

METERS TO BE SUPPLIED AND SET BY THE DISTRICT.

ABOVE REFERENCED PART NUMBERS REFER TO ITEMS MANUFACTURED BY FORD METER BOX CO, INC. THESE OR EQUIVALENT FITTINGS TO BE USED.

METER SETTER TO BE APPROVED BY THE DISTRICT PRIOR TO BACKFILL.

METER BOXES TO BE SUPPLIED BY DEVELOPER OR CONTRACTOR. METER BOX SHALL BE MANUFACTURED BY MID-STATES PLASTIC, INC. METER BOX COMPANY.

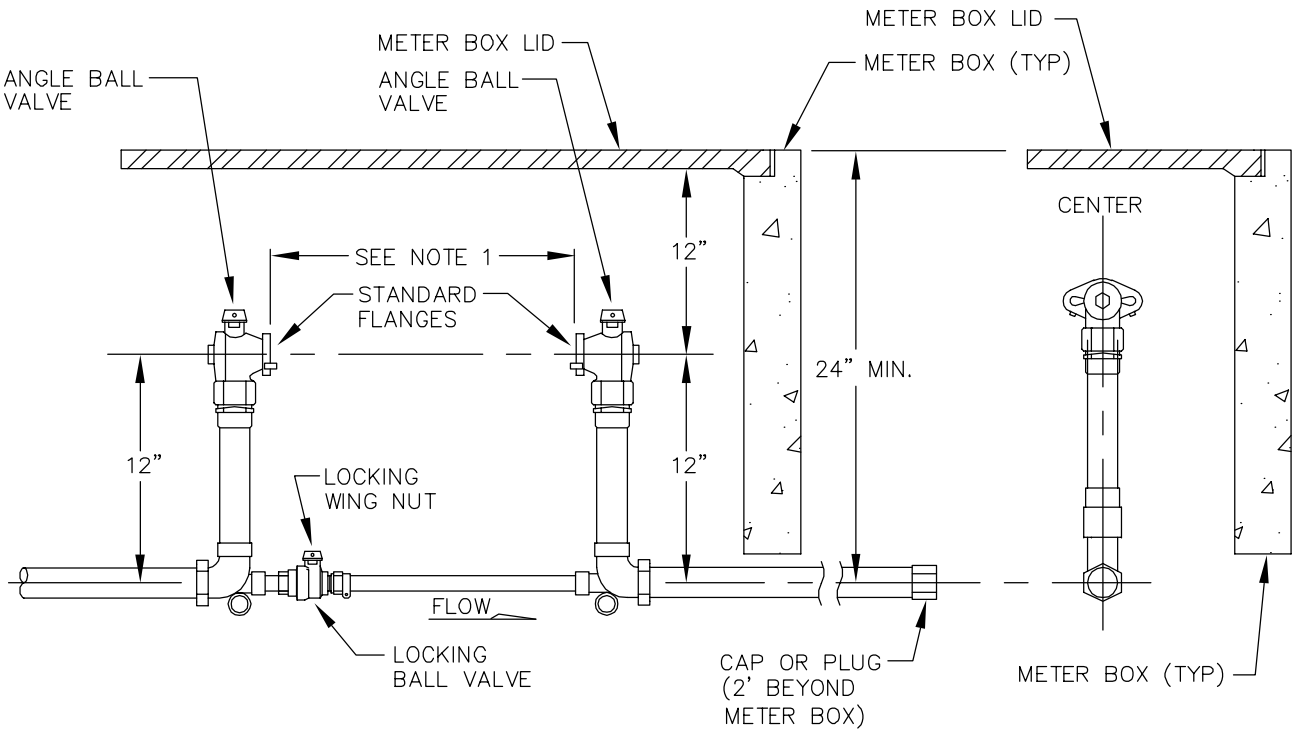
SOOS CREEK WATER & SEWER DISTRICT

1-1/2" & 2" METER SETTERS (ALTERNATE NO. 1)

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-21

DWG. NO. W-21



ELEVATION

END VIEW

NOTE 1:

1-1/2" METER = 13"
2" METER = 15¼"

NOTE 2:

COMPRESSION PACK JOINT:

FOR 1-1/2" DIA. USE FORD #C86-66 (PACK END I.P.S.) OR EQUAL.

FOR 2" DIA. USE FORD #C86-77 (PACK END I.P.S.) OR EQUAL.

NOTE 3:

METER BOXES SHALL BE INSTALLED AS FOLLOWS:

2-HDPE METER BOX BOTTOMS NO. BCF173012B STACKED UPON EACH OTHER.

1-HDPE METER BOX LID NO. BCF1730.

GENERAL NOTES:

FORD CUSTOM SETTER 1-1/2": #VBB76-12B-11-66
FORD CUSTOM SETTER 2": #VBB77-12B-11-77-1525

METERS TO BE SUPPLIED AND SET BY THE DISTRICT.

ABOVE REFERENCED PART NUMBERS REFER TO ITEMS MANUFACTURED BY FORD METER BOX CO, INC. THESE OR EQUIVALENT FITTINGS TO BE USED.

METER SETTER TO BE APPROVED BY THE DISTRICT PRIOR TO BACKFILL.

METER BOXES TO BE SUPPLIED BY DEVELOPER OR CONTRACTOR. METER BOX SHALL BE MANUFACTURED BY MID-STATES PLASTIC, INC. METER BOX COMPANY.

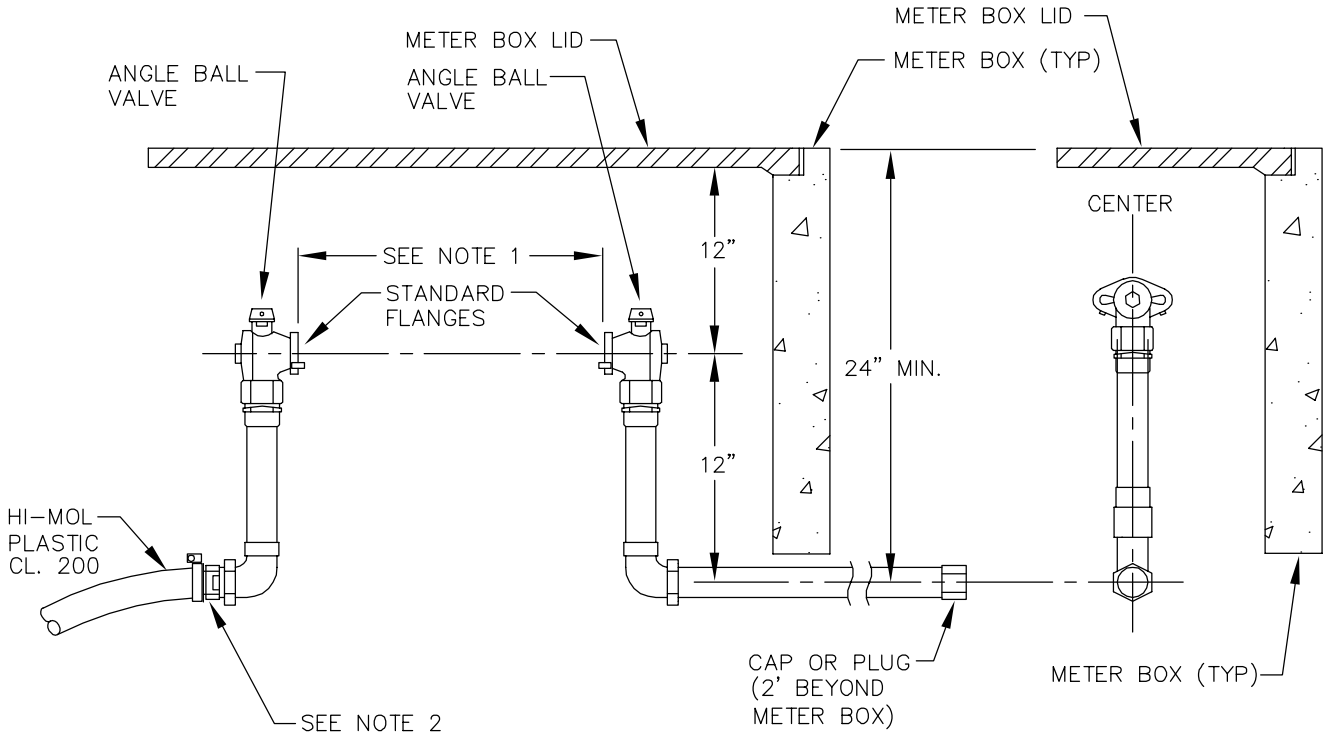
SOOS CREEK WATER & SEWER DISTRICT

1-1/2" & 2" METER SETTERS (ALTERNATE NO. 2)

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-22

DWG. NO. W-22



ELEVATION

END VIEW

NOTE 1:

1-1/2" METER = 13"
2" METER = 15¼"

NOTE 2:

COMPRESSION PACK JOINT:

FOR 1-1/2" DIA. USE FORD #C86-66 (PACK END I.P.S.) OR EQUAL.

FOR 2" DIA. USE FORD #C86-77 (PACK END I.P.S.) OR EQUAL.

NOTE 3:

METER BOXES SHALL BE INSTALLED AS FOLLOWS:

2-HDPE METER BOX BOTTOMS NO. BCF173012B STACKED UPON EACH OTHER.

1-HDPE METER BOX LID NO. BCF1730.

GENERAL NOTES:

FORD CUSTOM SETTER 1-1/2": #VBB76-12B-11-66
FORD CUSTOM SETTER 2": #VBB77-12B-11-77-1525

METERS TO BE SUPPLIED AND SET BY THE DISTRICT.

ABOVE REFERENCED PART NUMBERS REFER TO ITEMS MANUFACTURED BY FORD METER BOX CO, INC. THESE OR EQUIVALENT FITTINGS TO BE USED.

METER SETTER TO BE APPROVED BY THE DISTRICT PRIOR TO BACKFILL.

METER BOXES TO BE SUPPLIED BY DEVELOPER OR CONTRACTOR. METER BOX SHALL BE MANUFACTURED BY MID-STATES PLASTIC, INC. METER BOX COMPANY.

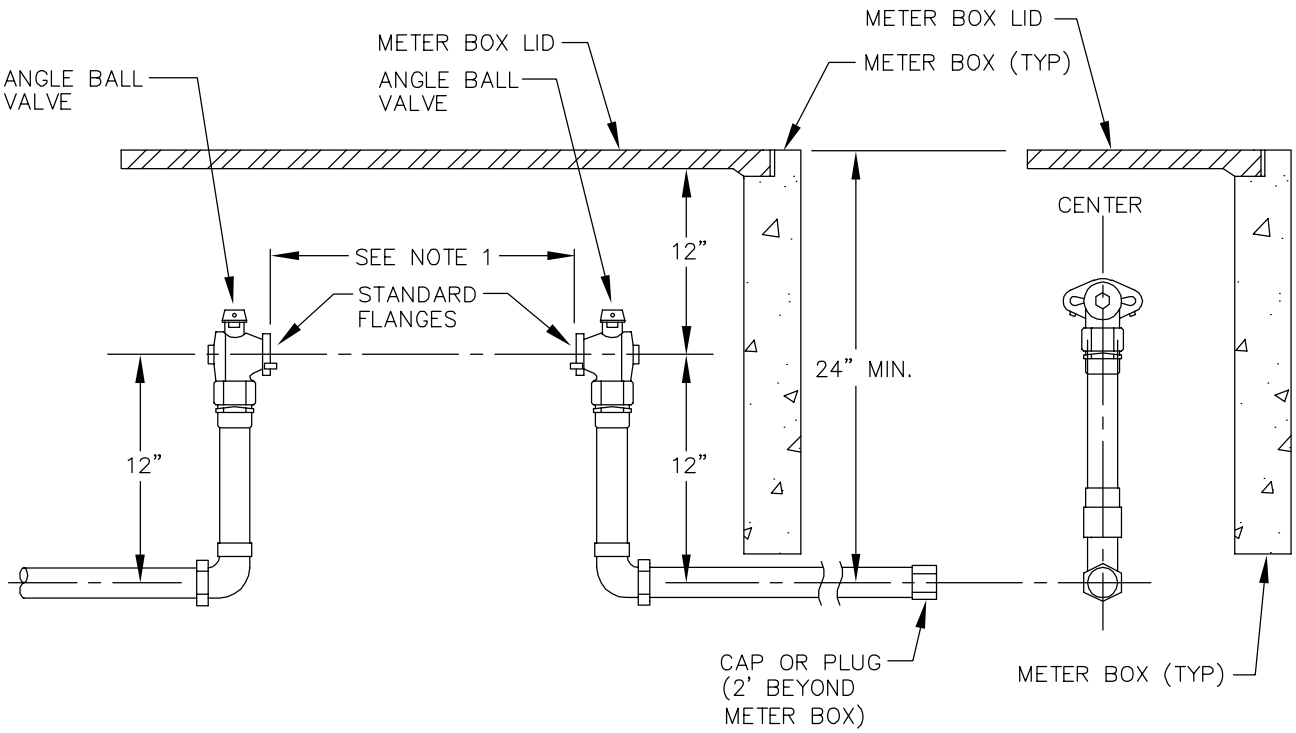
SOOS CREEK WATER & SEWER DISTRICT

1-1/2" & 2" IRRIGATION METER SETTERS (ALTERNATE NO. 1)

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-23

DWG. NO. W-23



ELEVATION

END VIEW

NOTE 1:

1-1/2" METER = 13"
2" METER = 15¼"

NOTE 2:

COMPRESSION PACK JOINT:

FOR 1-1/2" DIA. USE FORD #C86-66 (PACK END I.P.S.) OR EQUAL.

FOR 2" DIA. USE FORD #C86-77 (PACK END I.P.S.) OR EQUAL.

NOTE 3:

METER BOXES SHALL BE INSTALLED AS FOLLOWS:

2-HDPE METER BOX BOTTOMS NO. BCF173012B STACKED UPON EACH OTHER.

1-HDPE METER BOX LID NO. BCF1730.

GENERAL NOTES:

FORD CUSTOM SETTER 1-1/2": #VBB76-12B-11-66
FORD CUSTOM SETTER 2": #VBB77-12B-11-77-1525

METERS TO BE SUPPLIED AND SET BY THE DISTRICT.

ABOVE REFERENCED PART NUMBERS REFER TO ITEMS MANUFACTURED BY FORD METER BOX CO, INC. THESE OR EQUIVALENT FITTINGS TO BE USED.

METER SETTER TO BE APPROVED BY THE DISTRICT PRIOR TO BACKFILL.

METER BOXES TO BE SUPPLIED BY DEVELOPER OR CONTRACTOR. METER BOX SHALL BE MANUFACTURED BY MID-STATES PLASTIC, INC. METER BOX COMPANY.

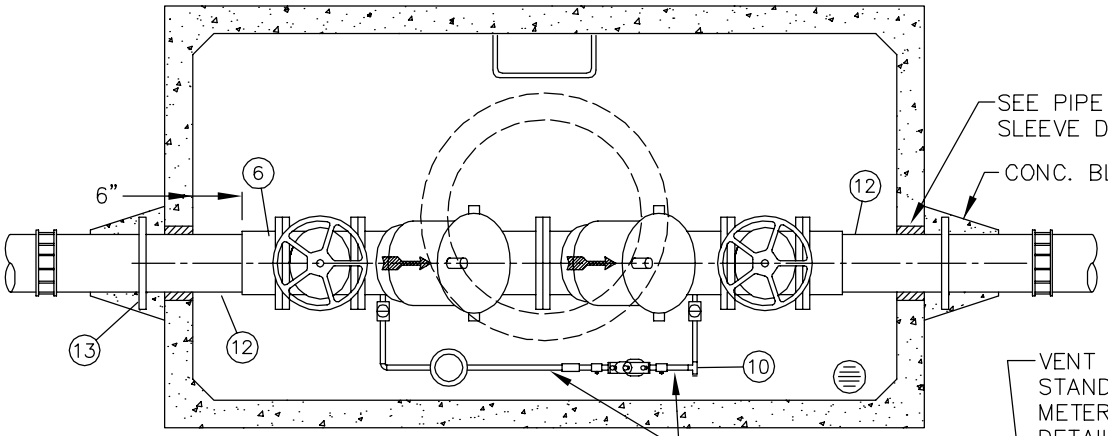
SOOS CREEK WATER & SEWER DISTRICT

1-1/2" & 2" IRRIGATION METER SETTERS (ALTERNATE NO. 2)

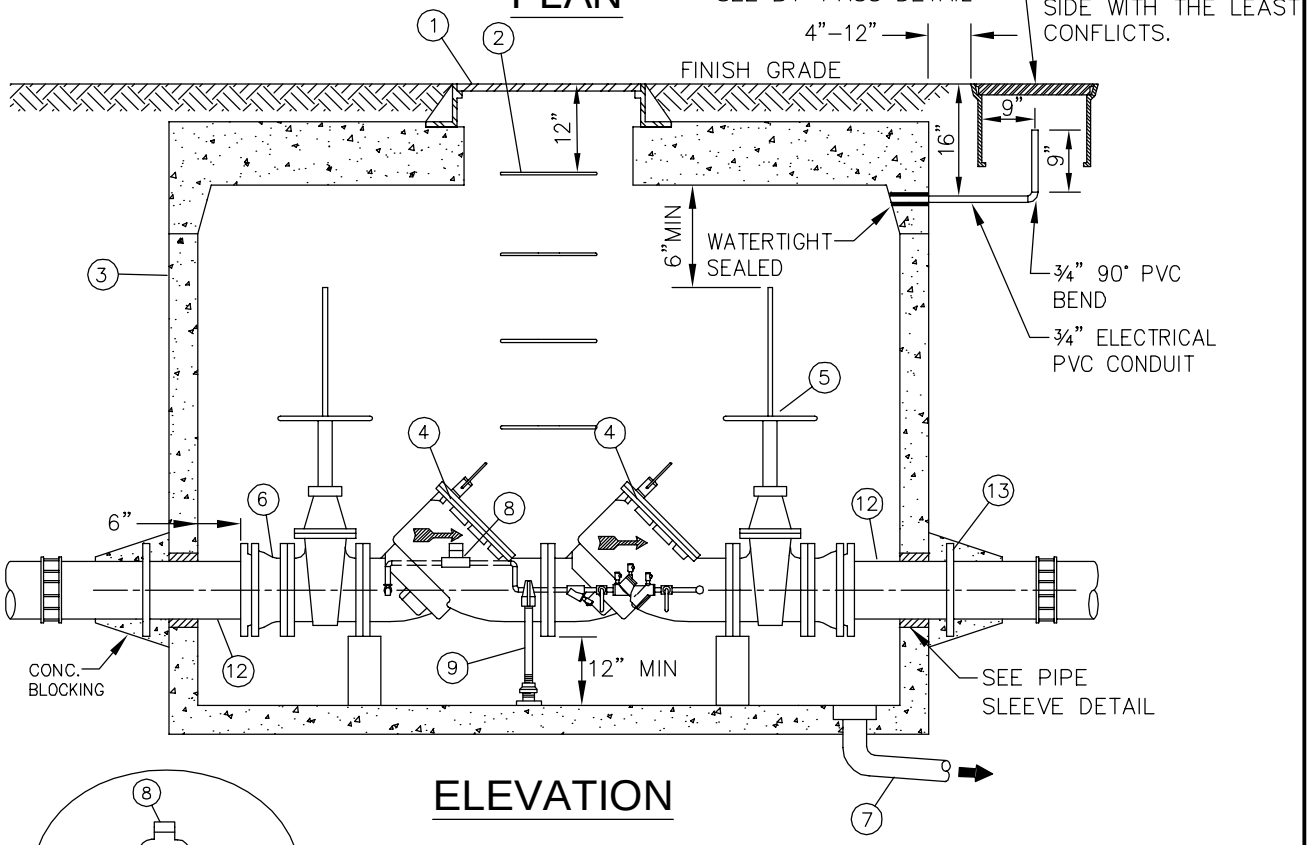
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-24

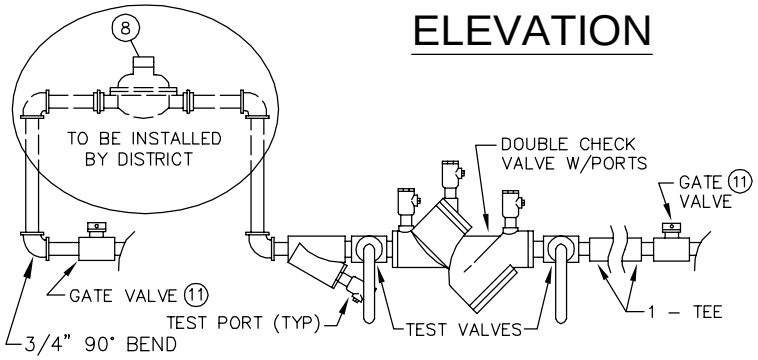
DWG. NO. W-24



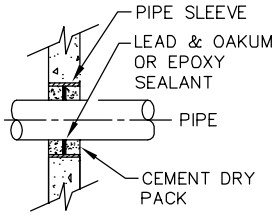
PLAN



ELEVATION



BY-PASS DETAIL (BRASS PIPE)



PIPE SLEEVE DETAIL

* SEE SHEET 2 FOR ADDITIONAL NOTES & MATERIALS

SOOS CREEK WATER & SEWER DISTRICT

DOUBLE CHECK DETECTOR BACKFLOW PREVENTION ASSY.

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-25A	W-25A

PIPE SIZE	VAULT SIZES			
	CATALOG #	VAULT #	COVER #	BASE #
3" & 4"	575-LA	575-BL	57TL-30C	575-BL
6" & 8"	4484-LA	4484-ML	4484TL-30C	4484-BL
10"	5106-LA	5106-ML	5106TL-30C	5106-BL

GENERAL NOTES:

1. PAINT ALL INTERIOR METAL INCLUDING PIPE, VALVES, AND FITTINGS WITH TWO COATS OF EPOXY AS APPROVED BY THE DISTRICT. USE TNEMEC SERIES 135 CHEMBUILD, MODIFIED POLYAMIDOAMINE EPOXY. APPLY PER MANUFACTURERS INSTRUCTIONS.

2. THE ABOVE VAULT SIZES WERE SUPPLIED BY UTILITY VAULT CO. AS A REFERENCE FOR REQUIRED VAULT DIMENSIONS. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.

3. ALL ACCESS COVERS MUST BE MARKED "WATER" & BE LOCKING & TRAFFIC BEARING AS REQ'D BY DIST. WITH THREE (3) TAPPED 5/8" HOLES (SEE STANDARD DETAIL W-25C). SQUARE HATCH MAY BE USED, SUBJECT TO APPROVAL BY DISTRICT.

4. CLASS 52 D.I. PIPE IS REQUIRED.

MATERIAL LIST

(1) HATCH ——— CAST IRON OR ALUMINUM MANHOLE GRATE AND COVER (SEE #3 ABOVE).

(2) LADDER RUNGS ——— CAST IN PLACE 3/4" GALV. BAR AT 12" O.C. OR FABRICATED ALUMINUM LADDER SECURED AT TOP AND BOTTOM.

(3) CONCRETE VAULT ——— SUBMIT DETAILS FOR APPROVAL (SEE TABLE ABOVE).

(4) DETECTOR ——— DOUBLE DETECTOR CHECK VALVE ASSEMBLY MUST BE APPROVED FOR INSTALLATION IN WASHINGTON STATE. TYPE SHALL BE APPROVED BY THE DISTRICT.

(5) VALVE ——— TWO EACH, AWWA, FLANGED OS & Y GATE VALVES WITH HANDWHEELS. MUST BE LOCATED INSIDE OF VAULT.

(6) COUPLING ADAPTOR ——— TWO EACH, CAST IRON, FLANGE BY MECHANICAL JOINT WITH RESTRAINT.

(7) FLOOR DRAIN ——— 4" PVC, SLOPED TO STORM SEWER OR DAYLIGHT TO DRAINAGE DITCH. ALTERNATE: WATERPROOF VAULT w/ XYPEX & SUMP PUMP. ALTERNATE MUST BE APPROVED BY THE DISTRICT AND WILL BE ALLOWED ONLY IF DAYLIGHT DRAIN IS EXTENDED OVER 300 FEET.

(8) WATER METER ——— 5/8" x 3/4" TO BE INSTALLED BY THE DISTRICT.

(9) PIPE STAND ——— 1" SCHEDULE 40 GALVANIZED PIPE STAND & BASE BOLTED TO FLANGE.

(10) TEE ——— 3/4" BRASS WITH 3/4" PLUG.

(11) GATE VALVE ——— 3/4" BRONZE BYPASS GATE VALVES (ASTM B62).

(12) WATER MAIN ——— CLASS 52 D.I. PIPE WITH RESTRAINED JOINTS.

(13) WALL FLANGE ——— TWO EACH

* SEE SHEET 1 FOR ADDITIONAL DETAILS

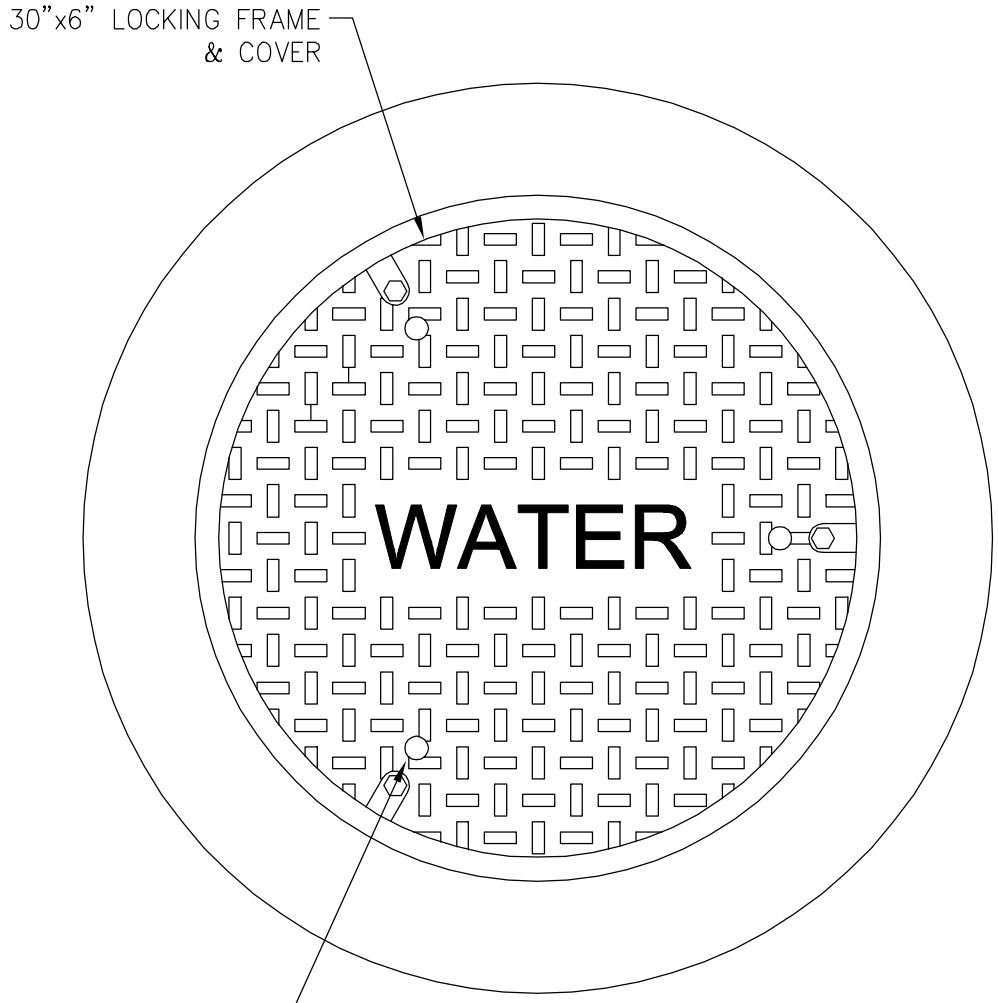
SOOS CREEK WATER & SEWER DISTRICT

1-1/2" & 2" IRRIGATION METER SETTERS (ALTERNATE NO. 1)

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-25B

DWG. NO. W-25B



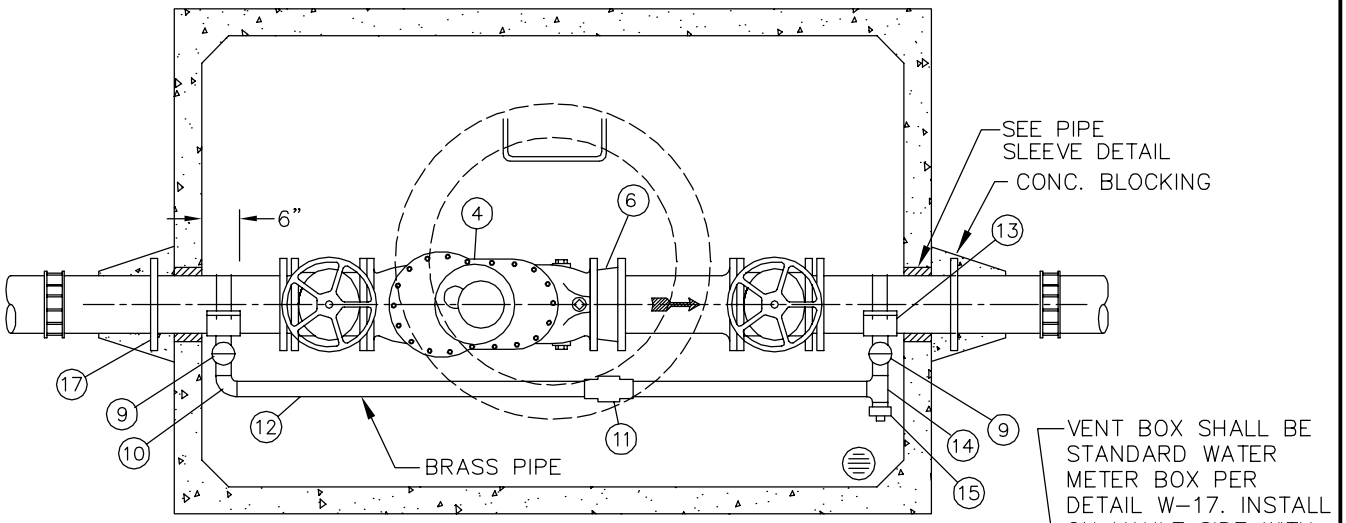
UTILITY VAULT CO:
30" x 6"
30" DIA. CLEAR OPENING
FLANGED DOWN

LOCKING FRAME & COVER DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

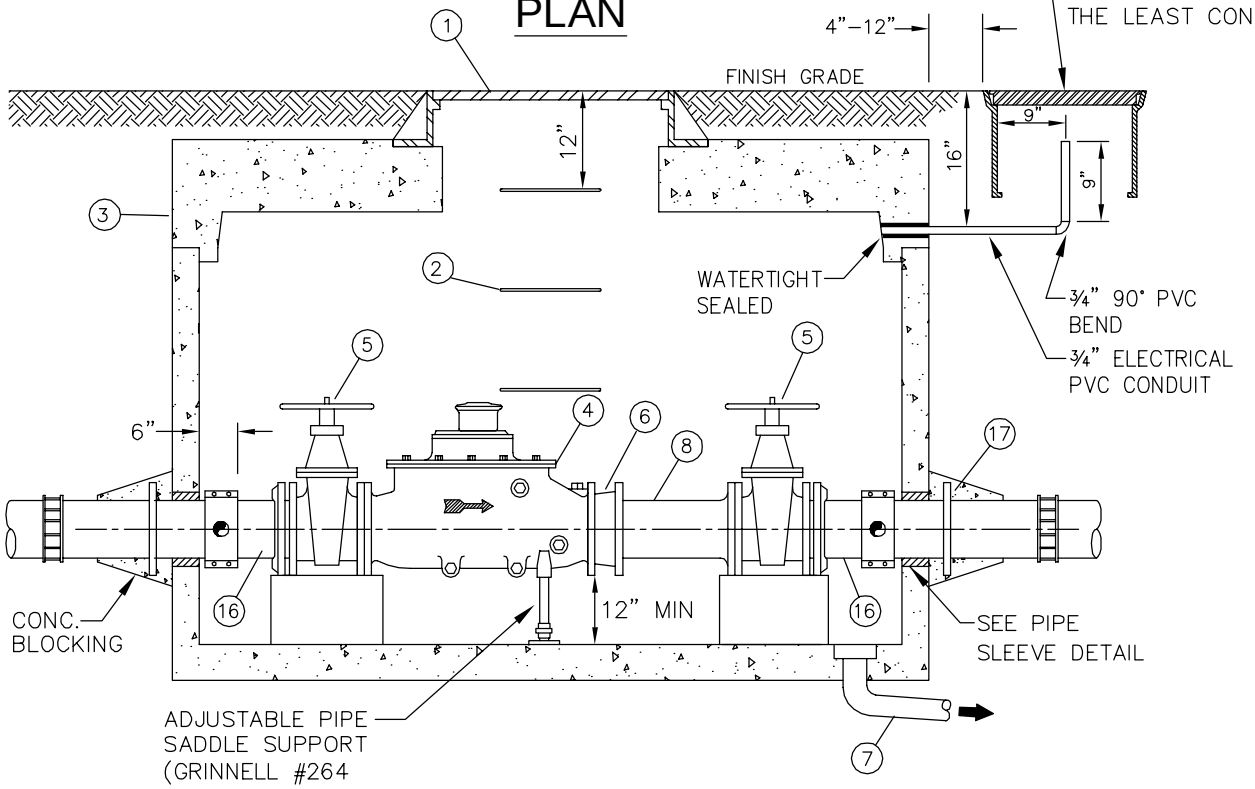
FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-25C

DWG. NO. W-25C

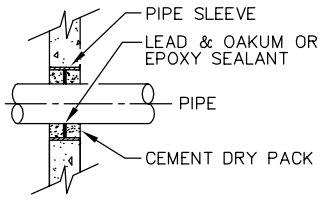


PLAN

VENT BOX SHALL BE STANDARD WATER METER BOX PER DETAIL W-17. INSTALL ON VAULT SIDE WITH THE LEAST CONFLICTS.



ELEVATION



PIPE SLEEVE DETAIL

* SEE SHEET 2 FOR ADDITIONAL NOTES & MATERIALS

SOOS CREEK WATER & SEWER DISTRICT

3", 4" AND 6" METERS

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-26A	W-26A

METER SIZE	VAULT SIZES			
	CATALOG#	VAULT#	COVER#	BASE#
3"	575–LA	575–BL	57TL–30C	575–BL
4"	575–LA	575–BL	57TL–30C	575–BL
6"	675–LA	675–ML	675–TL–30C	675–BL

GENERAL NOTES:

1. PAINT ALL INTERIOR METAL INCLUDING PIPE, VALVES, AND FITTINGS WITH TWO COATS OF EPOXY AS APPROVED BY THE ENGINEER. USE TNEMEC SERIES 135 CHEMBUILD MODIFIED POLYAMIDOAMINE EPOXY. APPLY PER MANUFACTURERS INSTRUCTIONS.

2. THE ABOVE VAULT SIZES WERE SUPPLIED BY UTILTY VAULT CO. AS A REFERENCE FOR REQUIRED VAULT DIMENSIONS. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.

3. ALL ACCESS COVERS MUST BE MARKED "WATER", AND BE LOCKING, & TRAFFIC BEARING. AS REQUIRED BY DIST. WITH THREE (3) TAPPED 5/8" HOLES (SEE DWG. 26C). SQUARE HATCH MAY BE USED, SUBJECT TO APPROVAL BY DISTRICT.

4. CLASS 52 D.I.PIPE IS REQUIRED.

5. ALTERNATE METHODS OF RESTRAINT SHALL BE APPROVED BY THE DISTRICT.

MATERIAL LIST

(1) HATCH — CAST IRON OR ALUMINUM MANHOLE GRATE AND COVER (30"x 6") SEE #3 ABOVE

(2) LADDER RUNGS — CAST IN PLACE 3/4" GALV. BAR AT 12" O.C. OR FABRICATED ALUMINUM LADDER SECURED AT TOP AND BOTTOM.

(3) CONCRETE VAULT — SUBMIT DETAILS FOR APPROVAL. (SEE TABLE ABOVE)

(4) METER — COMPOUND WATER METER FLG. x FLG. SUPPLIED BY DISTRICT.

(5) MAIN VALVE — TWO EACH, AWWA, FL x MJ W/RESTRAINTS GATE VALVES WITH HANDWHEEL. MUST BE LOCATED INSIDE OF VAULT.

(6) COUPLING ADAPTER — ONE EACH, CAST IRON, (FLANGE BY MECHANICAL JOINT) COUPLING ADAPTER.

(7) FLOOR DRAIN — 4" PVC, SLOPED TO STORM SEWER OR DAYLIGHT TO DRAINAGE DITCH.
ALTERNATE: WATERPROOF VAULT W/ XYPEX. ALTERNATE MUST BE APPROVED BY THE DISTRICT AND WILL BE ALLOWED ONLY IF DAYLIGHT DRAIN IS EXTENDED OVER 300 FEET.

(8) SPOOL — SPOOL PLANE–END x FLANGED D.I.P. (CL52)

(9) 1–1/2" VALVE — TWO EA. BRASS GATE VALVES FOR BY–PASS.

(10) BEND — TWO EA. 1–1/2 INCH 90 BRASS BENDS.

(11) UNION — ONE EA. 1–1/2 INCH TWO–PART UNION BRASS.

(12) BY–PASS PIPE — 1–1/2 INCH BRASS PIPE AS NEEDED.

(13) SADDLE — TWO EA. 1–1/2 INCH SMITH BLAIR TYPE 313 OR EQUAL.

(14) TEE — 1–1/2"x 1–1/2" BRASS TEE.

(15) BUSHING — 1 1/2"x 3/4" BUSHING WITH 3/4" PLUG.

(16) WATER MAIN — CLASS 52 DUCTILE IRON PIPE WITH MEGALUG RESTRAINED JOINTS.

(17) WALL FLANGE — TWO EACH

* SEE SHEET 1 FOR ADDITIONAL DETAILS

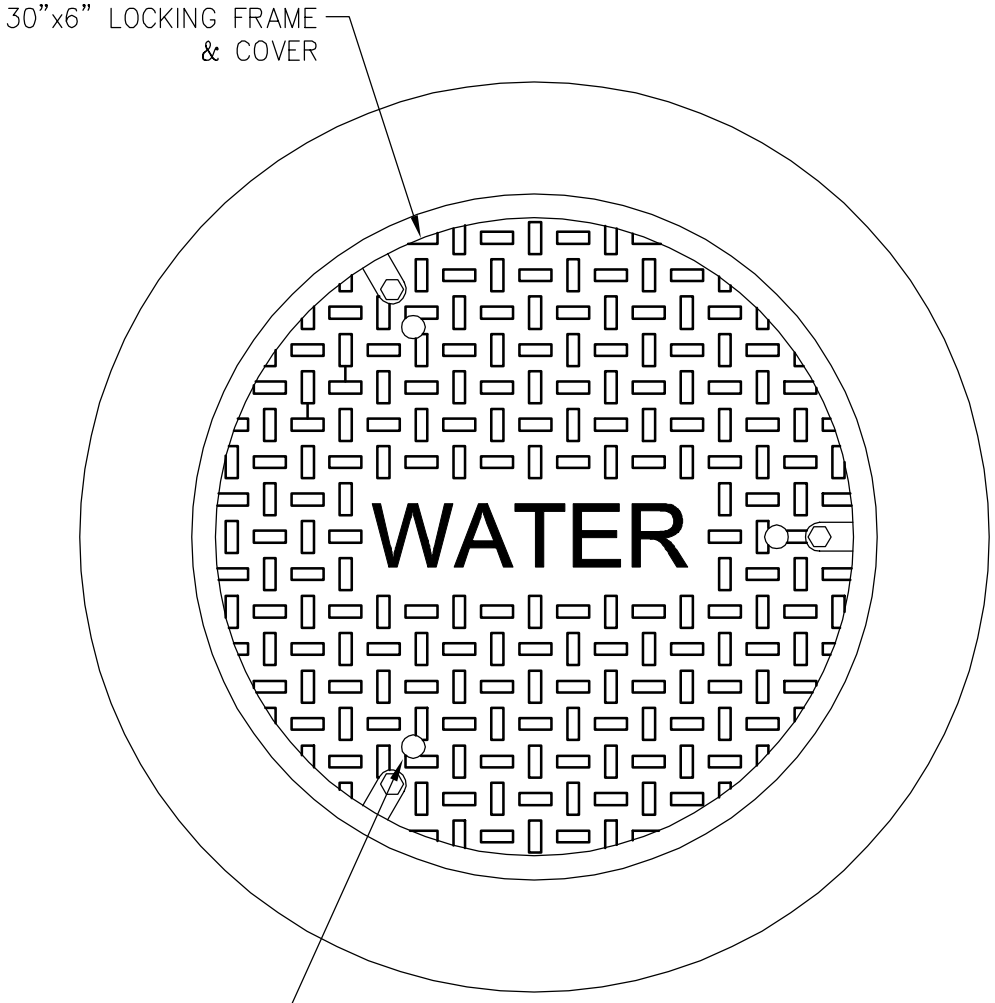
SOOS CREEK WATER & SEWER DISTRICT

3", 4" AND 6" METERS
MAT'L LIST AND GENERAL NOTES

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W–26B

DWG. NO. W-26B

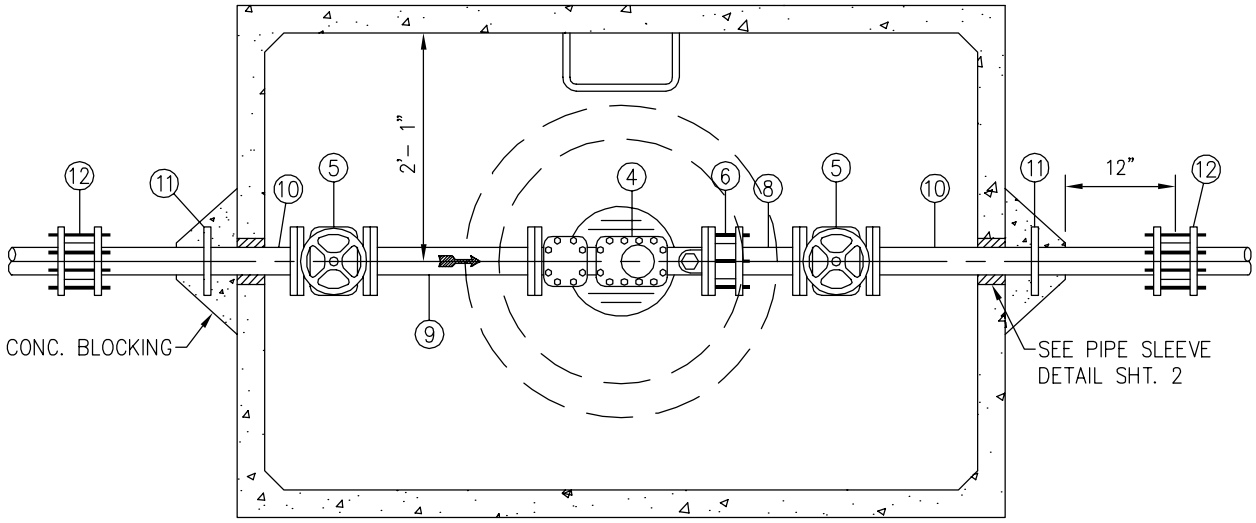


UTILITY VAULT CO:
30" x 6"
30" DIA. CLEAR OPENING
FLANGED DOWN

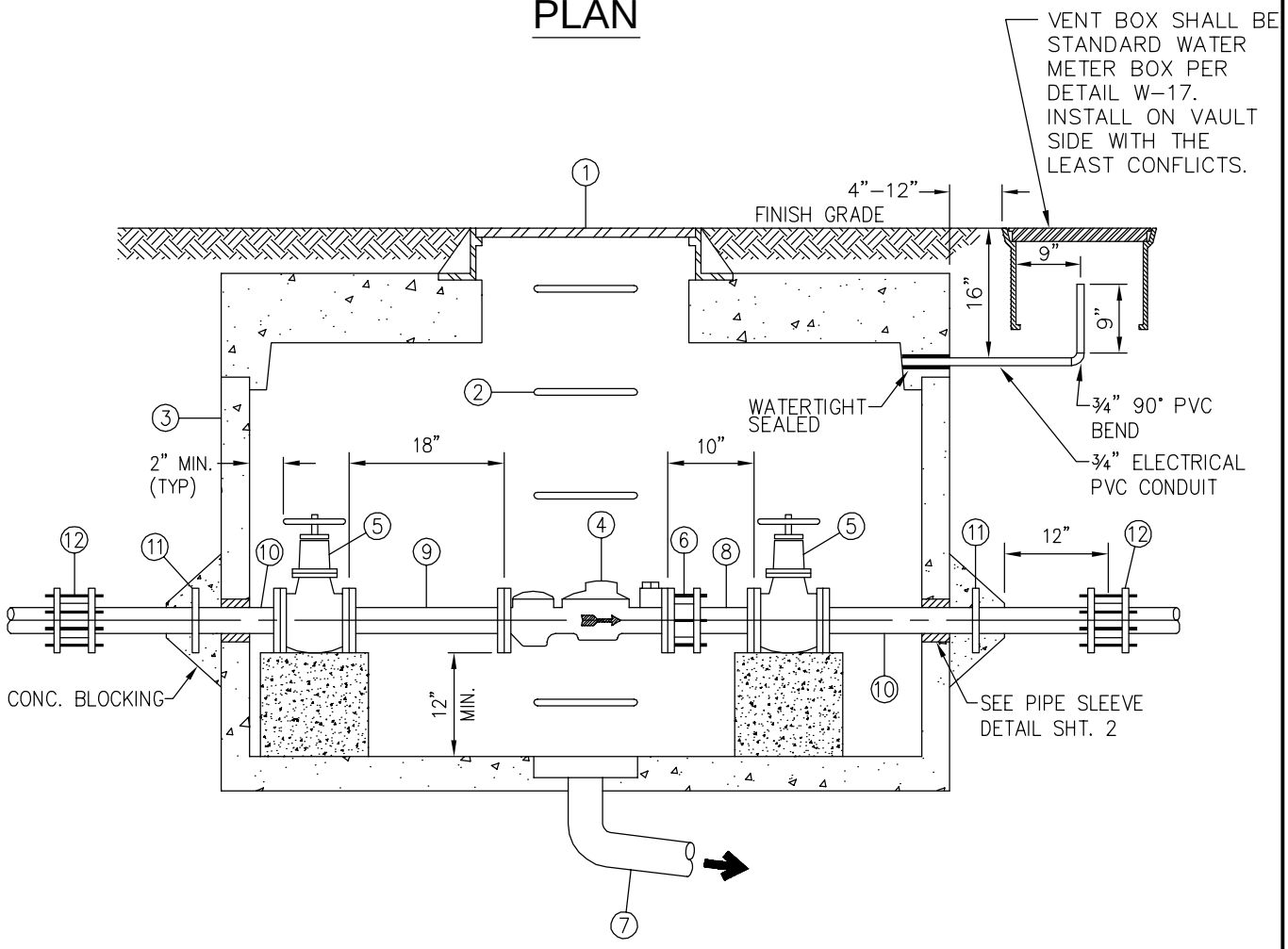
LOCKING FRAME & COVER DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-26C	W-26C



PLAN



ELEVATION

* SEE SHEET 2 FOR ADDITIONAL NOTES & MATERIALS

SOOS CREEK WATER & SEWER DISTRICT

3" TURBO METER

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-27A

DWG. NO. W-27A

GENERAL NOTES:

1. PAINT ALL INTERIOR METAL INCLUDING PIPE, VALVES, AND FITTINGS WITH TWO COATS OF EPOXY AS APPROVED BY THE ENGINEER. USE TNEMEC SERIES 135 CHEMBUILD MODIFIED POLYAMIDOAMINE EPOXY.
2. THE VAULT SIZE WAS SUPPLIED BY UTILITY VAULT CO. AS A REFERANCE FOR REQUIRED VAULT DIMENSIONS. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.
3. ALL ACCESS COVERS MUST BE MARKED "WATER" AND BE LOCKING AND TRAFFIC BEARING AS REQUIRED BY DISTRICT WITH THREE (3) TAPPED ⅝" HOLES (SEE DWG. 26C). SQUARE HATCH MAY BE USED, SUBJECT TO APPROVAL BY DISTRICT.
4. CLASS 52 D.I. PIPE IS REQUIRED.
5. ALTERNATE METHODS OF RESTRAINT SHALL BE APPROVED BY THE DISTRICT.

MATERIAL LIST

(1) HATCH ———— CAST IRON OR ALUMINUM MANHOLE GRATE AND COVER (30"x 6") SEE #3 ABOVE

(2) LADDER RUNGS —— CAST IN PLACE ¾" GALV. BAR AT 12" O.C. OR FABRICATED ALUMINUM LADDER SECURED AT TOP AND BOTTOM.

(3) CONCRETE VAULT — UTILITY VAULT CO. VAULT #575–BL, COVER #57TL–30C SUBMIT DETAILS FOR APPROVAL.

(4) METER ———— TURBO WATER METER FLG. x FLG. SUPPLIED BY DISTRICT.

(5) MAIN VALVE ——— TWO EACH, AWWA, FLG. x FLG. GATE VALVES W/ HANDWHEEL. MUST BE LOCATED INSIDE VAULT.

(6) COUPLING ADAPTOR–ONE EACH, CAST IRON, (FLG. x MECH. JOINT) COUPLING ADAPTOR.

(7) FLOOR DRAIN ——— 4" PVC, SLOPED TO STORM SEWER OR DAYLIGHT TO DRAINAGE DITCH. ALTERNATE: WATERPROOF VAULT W/ XYPEX. ALTERNATE MUST BE APPROVED BY THE DISTRICT AND WILL BE ALLOWED ONLY IF DAYLIGHT DRAIN IS EXTENDED OVER 300 FEET.

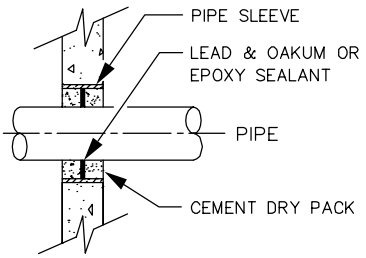
(8) SPOOL ———— 10" LONG D.I. PIPE PLANE–END x FLANGE

(9) SPOOL ———— 18" LONG D.I. PIPE FLANGE x FLANGE

(10) WATER MAIN ——— CLASS 52 DUCTILE IRON PIPE WITH MEGALUG RESTRAINED JOINTS.

(11) WALL FLANGE ——— TWO EACH

(12) FLEX COUPLING —— TWO EACH W/ RESTRAINED JOINTS



PIPE SLEEVE DETAIL

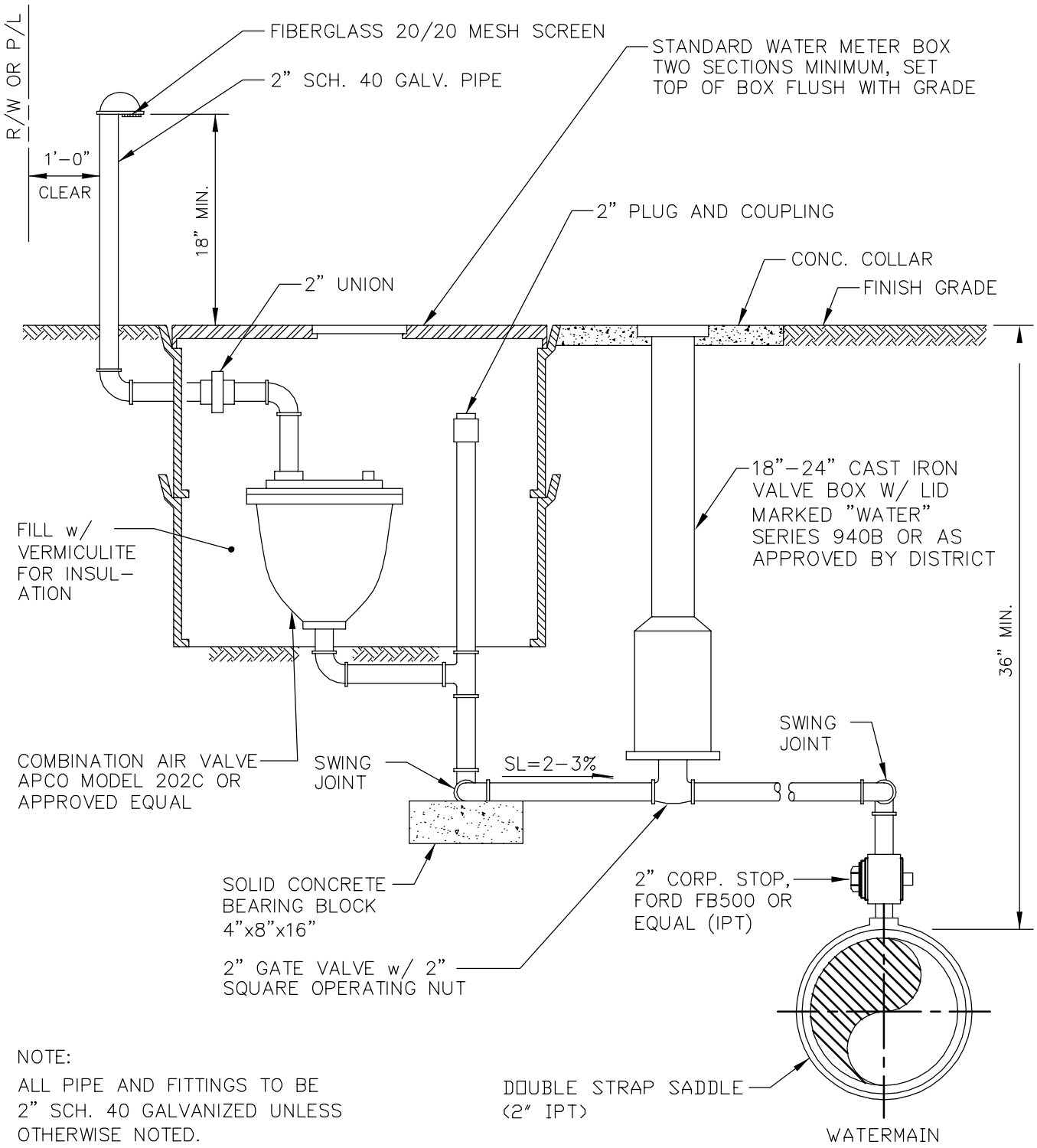
* SEE SHEET 1 FOR ADDITIONAL DETAILS

3" TURBO METER
MAT'L LIST & GENERAL NOTES

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-27B

DWG. NO. W-27B



NOTE:

ALL PIPE AND FITTINGS TO BE 2" SCH. 40 GALVANIZED UNLESS OTHERWISE NOTED.

2" AIR/VACUUM VALVE CHAMBER

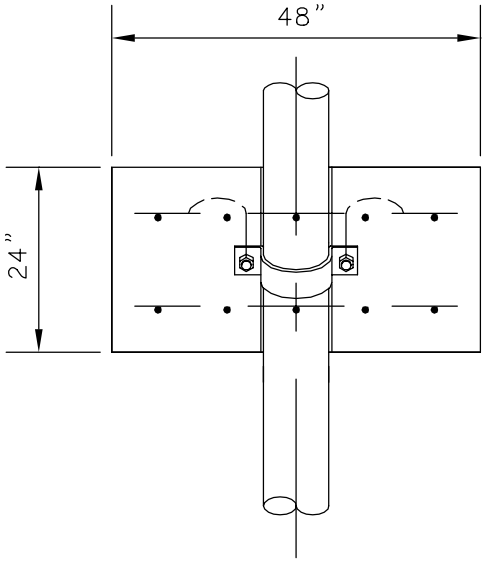
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-28

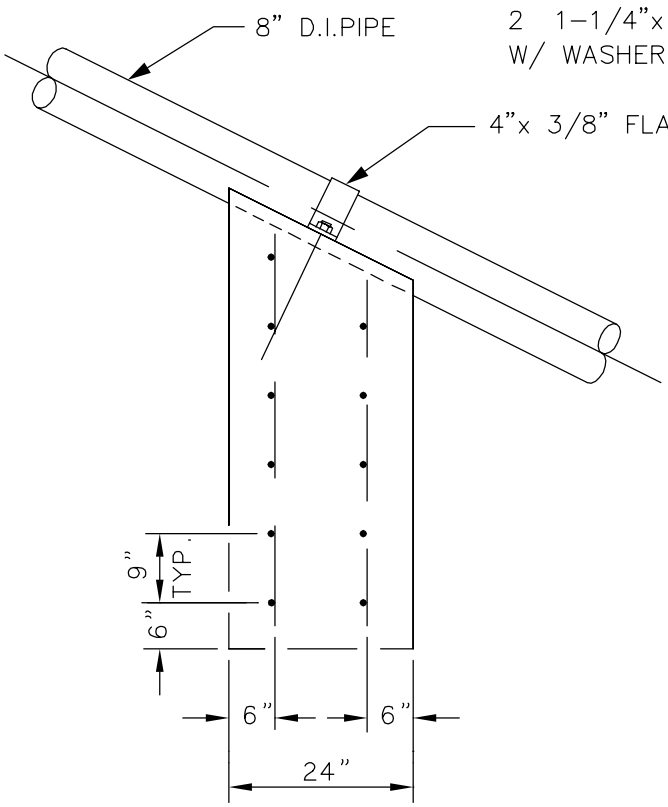
DWG. NO. W-28

NOTES:

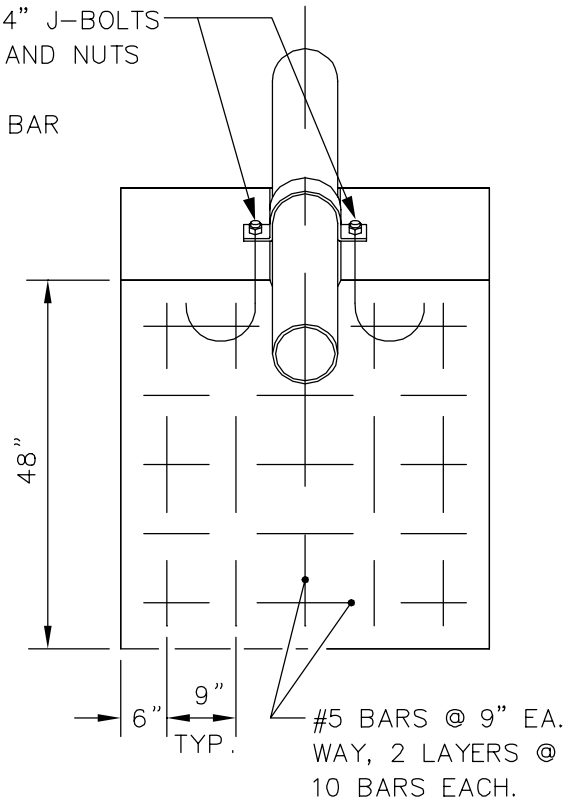
1. SLOPE TOP SURFACE OF PIPE ANCHOR TO MATCH PIPE SLOPE.
2. INSTALL J – BOLTS AT RIGHT ANGLES TO TOP SURFACE OF ANCHOR FOR MAXIMUM CONTACT BETWEEN PIPE AND STRAP.
3. BOLTS, NUTS AND FLAT BAR TO BE HOT–DIPPED GALVANIZED.



PLAN



END VIEW



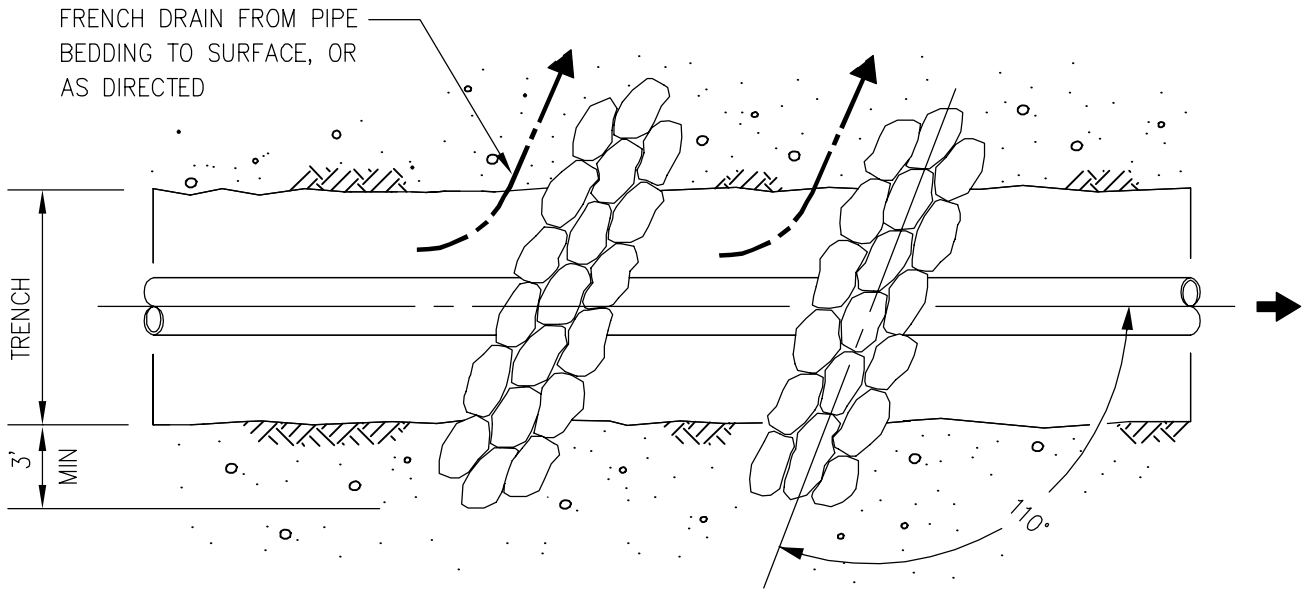
ELEVATION

PIPE ANCHOR DETAIL

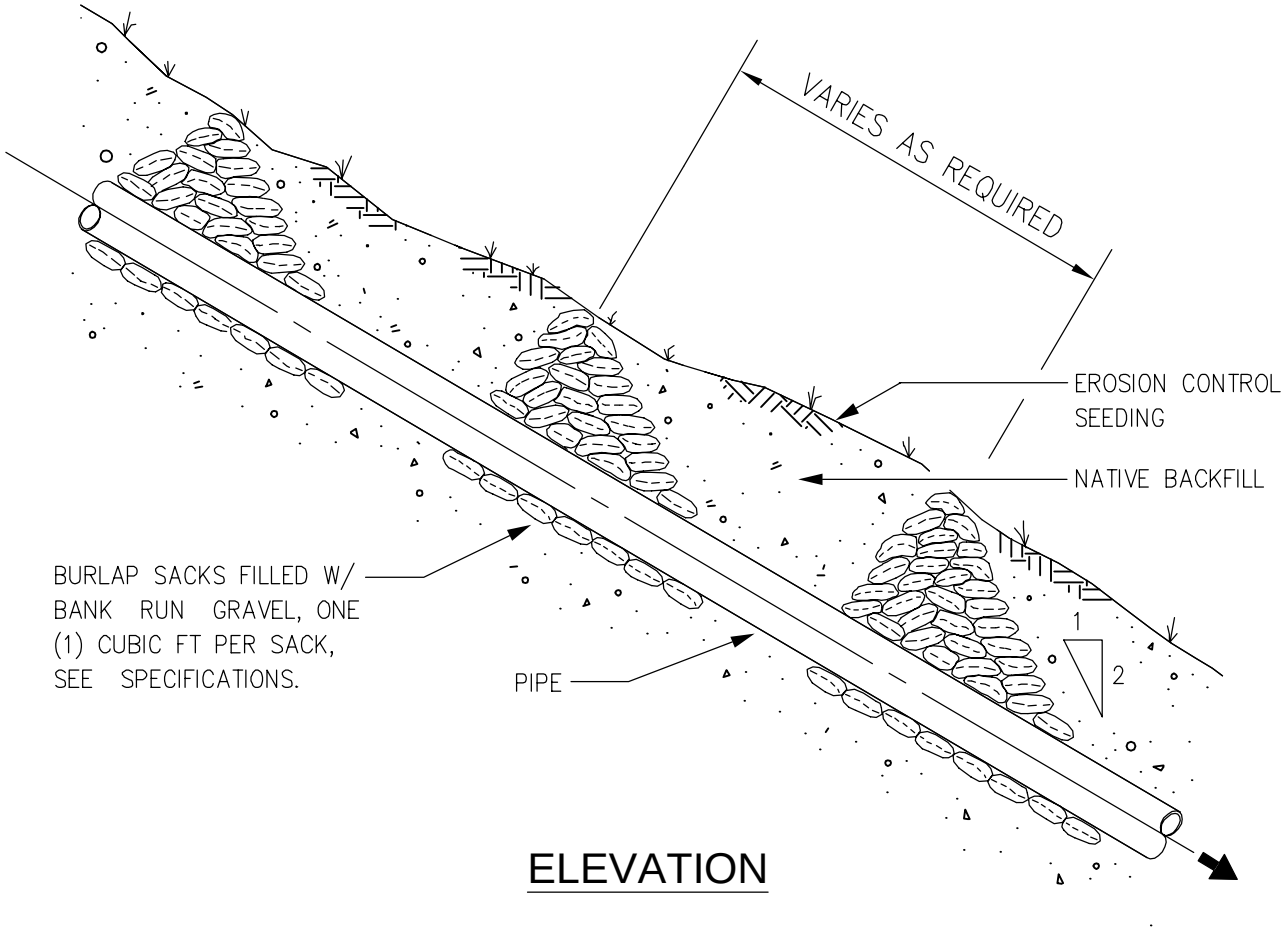
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W–29

DWG. NO. W-29



PLAN



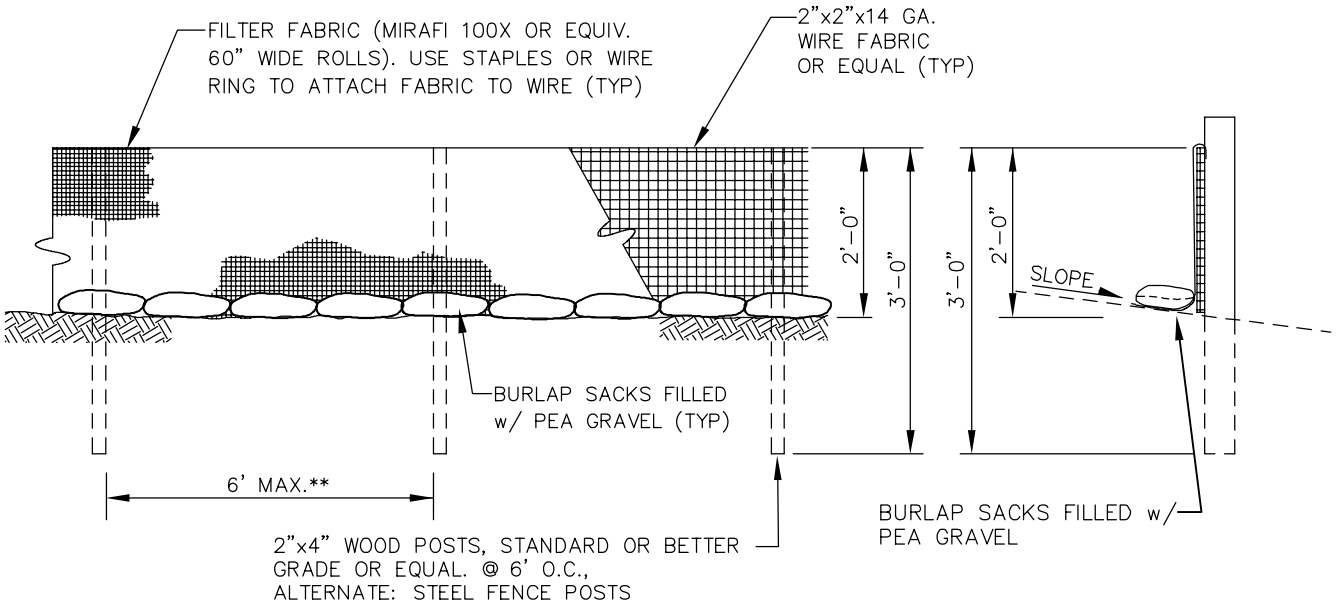
ELEVATION

SACK SLOPE RETAINER

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-30

DWG. NO. W-30



** POST SPACING MAY BE INCREASED TO 8' IF WIRE BACKING IS USED

SIDE VIEW

FILTER FABRIC FENCE NOTES:

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6–INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.

2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS (WHERE FEASIBLE). THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 30 INCHES).

3. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY–DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

4. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 30 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.

5. WHEN EXTRA–STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF STANDARD NOTE 5 APPLYING.

6. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

7. FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

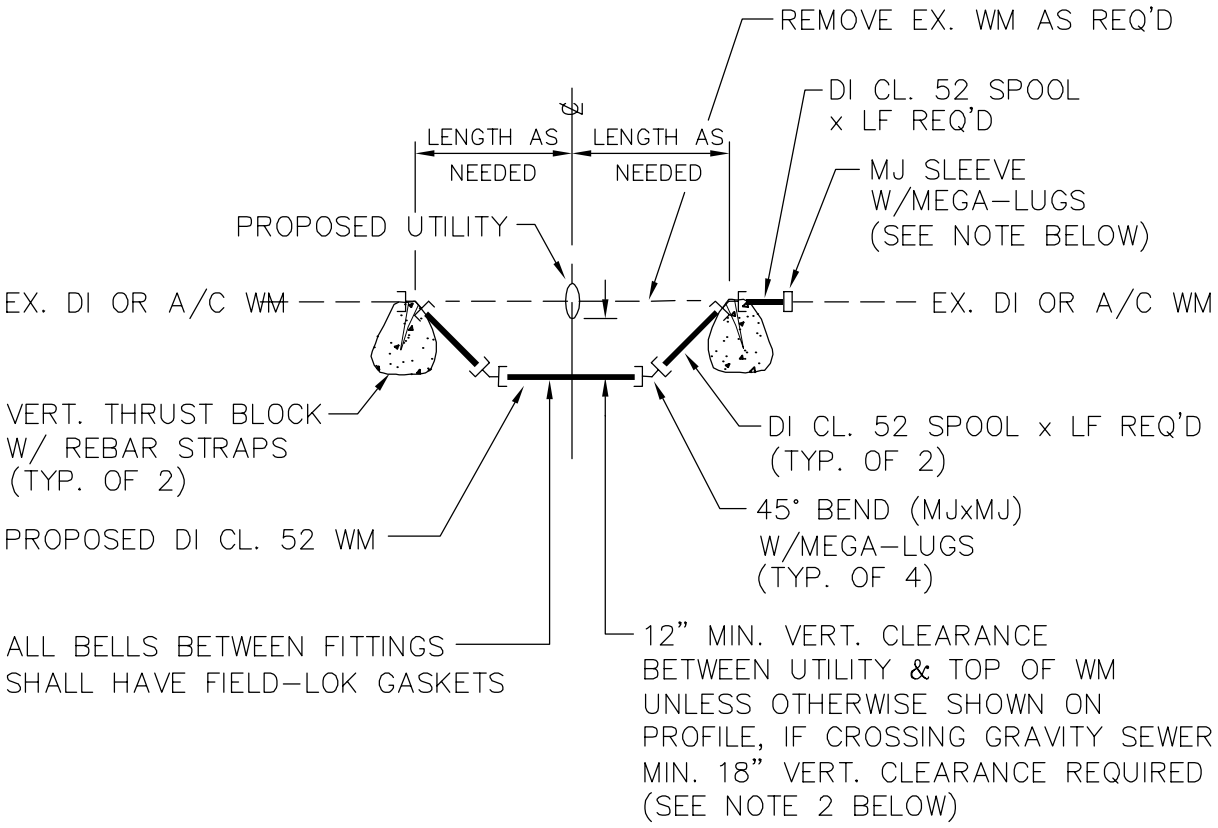
SOOS CREEK WATER & SEWER DISTRICT

FILTER FABRIC FENCE

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W–31

DWG. NO. W-31



NOTES:

1. MEGA-LUGS SHALL NOT BE USED ON EXISTING WATER MAIN PIPE IF EXISTING PIPE IS CLASS 50 D.I. OR A.C. PIPE. MJ SLEEVE TO BE INSTALLED ON CLASS 50 D.I. PIPE. TRANSITION COUPLING TO BE INSTALLED ON A.C. PIPE. BLOCKING SHALL BE DETERMINED IN FIELD BY DISTRICT FIELD REPRESENTATIVE.
2. SANITARY SEWER SHOULD BE LOCATED BELOW WATER MAINS IF POSSIBLE. GRAVITY SEWERS MAY BE LOCATED ABOVE WATER MAINS AS LONG AS THERE IS 18" MIN. SEPARATION AND THE WATER MAIN IS CASED FOR AT LEAST 10' EACH SIDE OF THE CROSSING.
3. PRESSURE SEWER MAINS SHALL ONLY BE LOCATED BELOW WATER MAINS WITH 18" MIN. SEPARATION. WATER MAIN SHALL ALSO BE CASED FOR 10' EACH SIDE OF CROSSING.

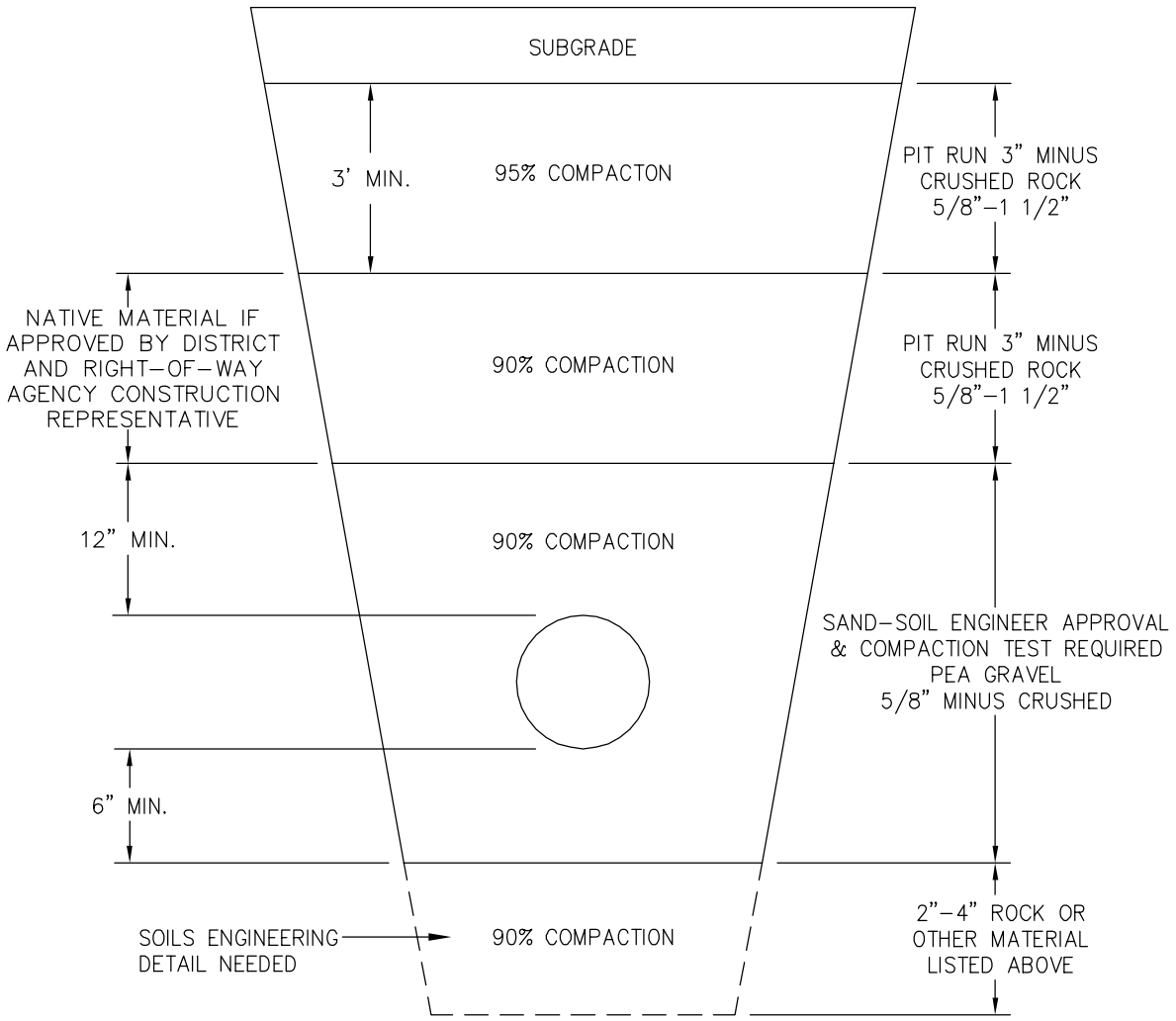
SOOS CREEK WATER & SEWER DISTRICT

TYPICAL UTILITY / WATER MAIN CROSSING

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-32

DWG. NO. W-32



NOTES:

1. BEDDING–IN RIGHT OF WAY, DRIVEWAY PARKING LOTS, PAVED AREAS, AND NON–PAVED AREAS.
2. BEDDING FOR RIGID PIPE–NATIVE MATERIAL UNLESS JUDGED UNSUITABLE BY THE DISTRICT AND RIGHT–OF–WAY AGENCY CONSTRUCTION REPRESENTATIVE.
3. TRENCH BACKFILL, BEDDING AND MATERIAL TO CONFORM TO RIGHT–OF–WAY AGENCY SPECIFICATIONS AND DISTRICT STANDARDS.

TRENCH WIDTHS			
NOMINAL PIPE DIAMETER	MINIMUM EARTH	MINIMUM ROCK	MAXIMUM
2	18	24	36
3	18	24	36
4	18	24	36
6	21	24	36
8	24	24	36
12	28	28	40

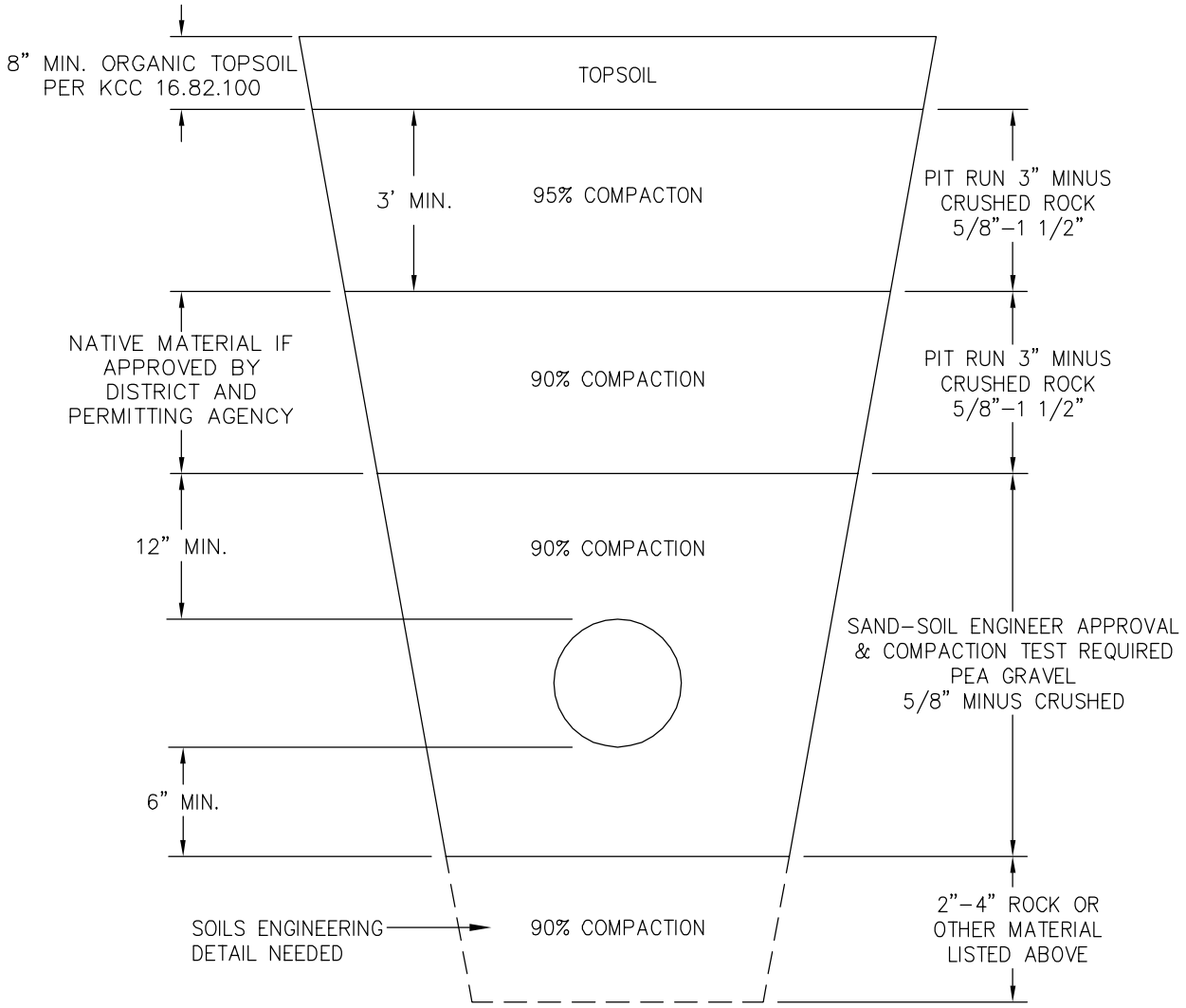
(IN INCHES)

TYPICAL TRENCH DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W–33

DWG. NO. W-33



NOTES:

1. BEDDING-IN RIGHT OF WAY, DRIVEWAY PARKING LOTS, PAVED AREAS, AND NON-PAVED AREAS.
2. BEDDING FOR RIGID PIPE-NATIVE MATERIAL UNLESS JUDGED UNSUITABLE BY THE DISTRICT AND PERMITTING AGENCY.
3. TRENCH BACKFILL, BEDDING AND MATERIAL TO CONFORM TO PERMITTING AGENCY SPECIFICATIONS AND DISTRICT STANDARDS.

TRENCH WIDTHS			
NOMINAL PIPE DIAMETER	MINIMUM EARTH	MINIMUM ROCK	MAXIMUM
2	18	24	36
3	18	24	36
4	18	24	36
6	21	24	36
8	24	24	36
12	28	28	40

(IN INCHES)

TYPICAL TRENCH DETAIL (OUTSIDE ROADWAY)

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\WTR DTLS\W-34

DWG. NO. W-34

G. WATER STANDARD PLANS FORMAT

Note: The following 11”x17” figures are half size samples. Standard full size plans are to be 22”x34” per Section 5.

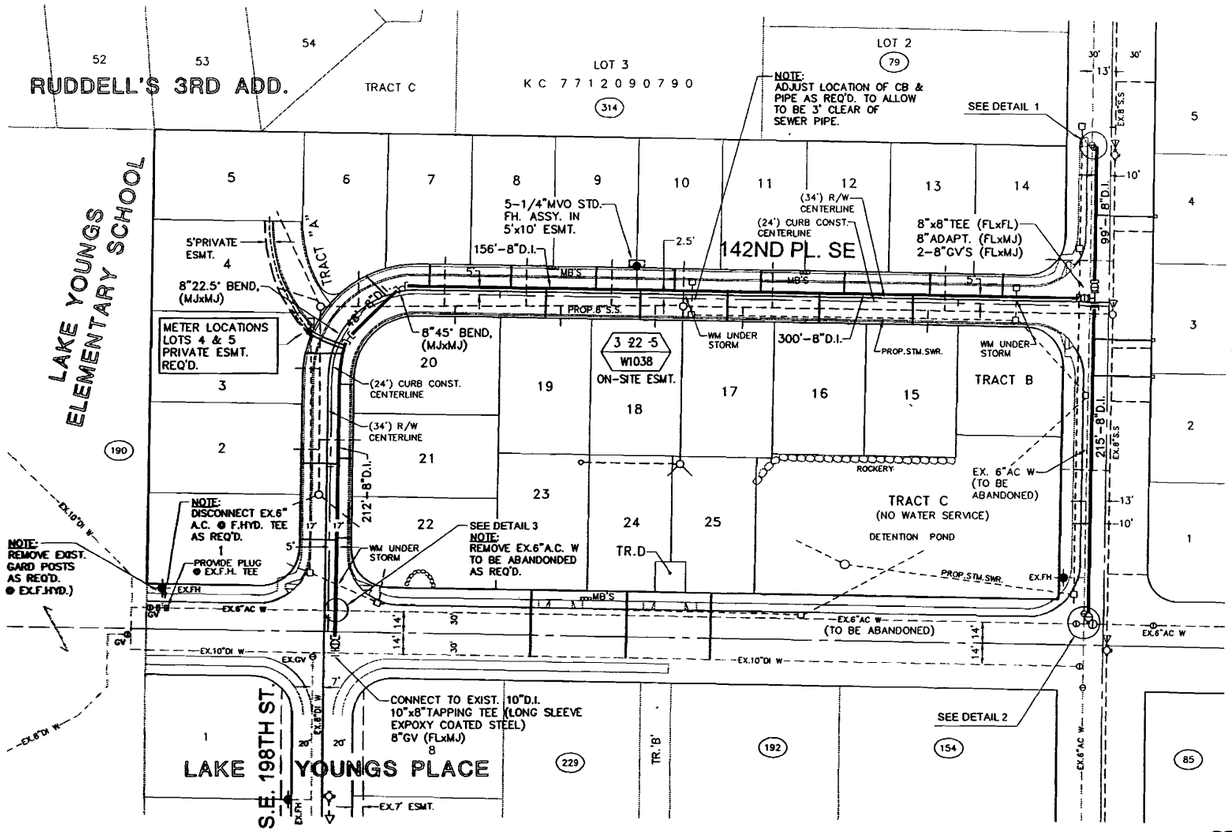
Figure WP-1 Water Plan Sheet Format

Figure WP-2 Construction Provisions

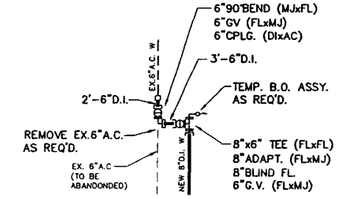
Figure WP-3 Materials and Surface Restoration

Figure WP-4 Standard Details

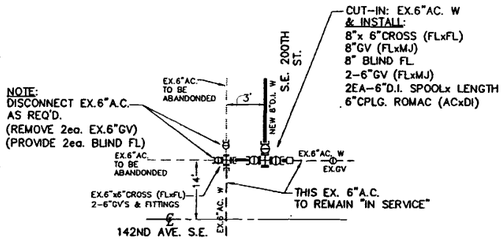
1/4 SEC., SEC.-TWP-RGE



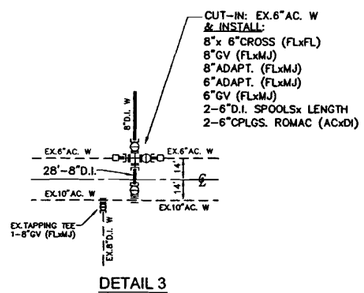
(EXAMPLE OF PLAN VIEW)



DETAIL 1



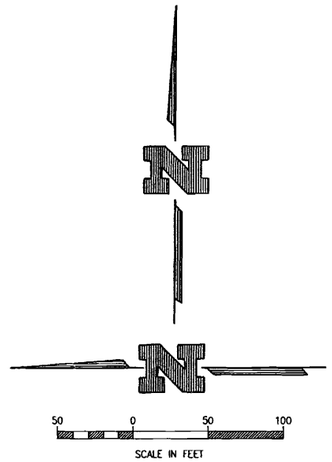
DETAIL 2



DETAIL 3

WATER GENERAL NOTES:

(INSERT THE MOST CURRENT VERSION OF GENERAL NOTES)



NOTE:
ALL SYMBOLS, TEXT & LINES ARE SHOWN AT A LTSCALE OF 50.

THESE ARE THE DISTRICT STANDARDS AND WILL HELP TO MAKE REVIEW AND REVISING TO CONSTRUCTION RECORDS EASIER.

THE TEXT HEIGHT IS USED TO KEEP HALF SIZING FOR DISTRICT RECORDS READABLE.

STANDARD BLOCKS

FIRE HYDRANT · TEE (MJ) · GATE VALVE (MJ) · 90° BEND (FL) · 45° BEND (MJ) · 22 1/2° BEND (MJ) · BLOW OFF ASSEMBLY (MJ) · REDUCER (FLxMJ)

COUPLING · FLxMJ ADAPTOR · PLUG · EXISTING FIRE HYDRANT · EXISTING WATER VALVE · TAX LOT NUMBER W/ATTRIBUTE (12)

22-22-5 EASEMENT BLOCK WITH ATTRIBUTES

BURIED UTILITIES IN AREA
CALL BEFORE YOU DIG
1-800-424-5555
EXISTING UTILITIES SHOWN ARE FROM THE BEST AVAILABLE INFORMATION AND NO GUARANTEE IS MADE AS TO THE EXACT SIZE, TYPE, LOCATION OR DEPTH

EXISTING FEATURES LEGEND

(EXAMPLE OF EXISTING FEATURE LINETYPES AND PEN WEIGHTS TO USE)

MB	MAIL BOX	14"MP	DECIDUOUS TREE
RS	ROAD SIGN	14"FR	CONIFEROUS TREE
UP	UTILITY POLE		EDGE OF TREES
UB	UTILITY BOX	-x-x-x-x-	FENCE
TB	TELEPHONE BOX		CULVERT
PB	POWER BOX		EDGE OF PAVEMENT
	EX. SEWER MANHOLE		EDGE OF GRAVEL
CB	CATCH BASIN		DITCH CENTERLINE
SM	STORM MANHOLE		GRADE BREAK
BO	WATER BLOW-OFF		STORM SEWER LINE
FH	FIRE HYDRANT		SANITARY SEWER LINE
WV	WATER VALVE	-P-	UNDERGROUND POWER
WM	WATER METER	-T-	UNDERGROUND TELECOM
	SURVEY MONUMENT	-W-	EXISTING WATER LINE
	OWNERSHIP TIE	02+00	PROPOSED SEWER FORCE MAIN W/ STA. NUMBER

STANARD LINETYPES & TEXT

(USE THE TEXT, LINETYPE STYLES AND PEN WEIGHTS RECOMMENDED)

PROPOSED WATER EASEMENT
P-LINE
WIDTH: 0
LINETYPE: EASEMENT.LIN
PEN WEIGHT: 0.018

PROPOSED WATER LINE
P-LINE
WIDTH: 1.8
LINETYPE: CONTINUOUS
PEN WEIGHT: 0.021

PROPOSED WATER SERVICE
P-LINE
WIDTH: 0
LINETYPE: CONTINUOUS
PEN WEIGHT: 0.021

EXISTING WATER LINE
P-LINE
WIDTH: 0
LINETYPE: EXWATER
PEN WEIGHT: 0.001

WATER DESIGN TEXT
DESIGN TEXT
STYLE: SIMPLEX.SHX
HEIGHT: 5
PEN WEIGHT: 0.015

SE 240TH ST
STREET NAME CALLOUTS
STYLE: ARIAL.SHX
HEIGHT: 10
PEN WEIGHT: 0.015

PLAT TEXT
PLAT NAME CALLLOUTS
STYLE: HMO.SHX
HEIGHT: 10 OR 8
PEN WEIGHT: 0.001

22
EXISTING PLAT LOT NOS.
STYLE: SIMPLEX.SHX
HEIGHT: 6
PEN WEIGHT: 0.004

12
PROPOSED PLAT LOT NOS..
STYLE: ROMAND.SHX
HEIGHT: 7
PEN WEIGHT: 0.009

IN THE TITLE BLOCK AREA, JUST USE THE TEXT EDIT COMMAND AND EDIT THE TEXT AS NEEDED.

SITE

VICINITY MAP
THIS DRAWING REDUCED ONE-HALF (SCALE ACCORDINGLY)

NO.	BY	DATE	DESCRIPTION REVISIONS

DATE · APPROVED · DESIGN · DRAWN · CHECKED · JOB NO. 12-

OPTIONAL ENGINEER NAME AND LOGO HERE

CST. FLD. BK. NO. PG.
DES. FLD. BK. NO. PG.
SCALE HORIZ: 1"=50' VERT:

SOOS CREEK WATER & SEWER DISTRICT

WATERMAIN EXTENSION PROJECT NAME HERE

BASE MAP
SHEET 1 OF 4
DRAWING WP-1

PLOTTING DATE: 2-26-03 · USER: VANWECHE · VERSION: 2000I · FILE NAME: F:\ 01\013\ENGR\ACAD\DE-WTRPLN.dwg

CONSTRUCTION PROVISIONS (Revised 05-16-11)

1. STANDARD SPECIFICATIONS

ALL WORK, MATERIALS AND TESTING SHALL CONFORM TO THE STANDARDS OF SOOS CREEK WATER & SEWER DISTRICT AND THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION", CURRENT EDITION, AS PREPARED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, AND HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS," EXCEPT AS HEREIN MODIFIED.

2. TRENCH EXCAVATION, BEDDING AND BACKFILL

ALL WORK WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH ALL PERTINENT PERMITS, THE GOVERNING AGENCY'S CURRENT ROAD STANDARDS, AND THE STANDARD SPECIFICATIONS. ALL MATERIAL FROM CLEARING AND GRUBBING SHALL BE HAULED TO AN APPROVED WASTE DISPOSAL SITE PROVIDED BY THE DEVELOPER/CONTRACTOR.

WHEN TRENCHING THROUGH EXISTING PAVEMENT, THE PAVEMENT SHALL BE CUT ON A NEAT-LINE BY SAW CUTTING. TRENCH SIDES SHALL BE KEPT AS VERTICAL AS POSSIBLE GIVEN THE SOIL CONDITIONS. COMPACTION AND RESTORATION SHALL BE DONE AS DETAILED BELOW AND IMMEDIATELY AFTER THE TRENCH BACKFILL IS PLACED SO AS TO CAUSE THE LEAST DISRUPTION TO TRAFFIC. ALL PAVEMENT SHALL BE CUT 1 FOOT OUTSIDE THE EDGE OF THE TRENCH ON EACH SIDE.

ANY TRENCH EXCEEDING FOUR FEET IN DEPTH SHALL BE PROVIDED WITH ADEQUATE SAFETY SYSTEMS MEETING THE REQUIREMENTS OF THE WASHINGTON STATE INDUSTRIAL SAFETY AND HEALTH ACT (WISHA), CHAPTER 49.17 RCW, AND ALL REGULATIONS ADOPTED PURSUANT THERETO. THE DEVELOPER/CONTRACTOR SHALL HAVE A STRUCTURAL ENGINEER REVIEW AND STAMP ANY AND ALL SHORING PLANS AND CALCULATIONS. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR WORKER SAFETY AND THE DISTRICT AND THE DISTRICT'S ENGINEER ASSUME NO RESPONSIBILITY.

WHEN NATIVE MATERIAL AT THE TRENCH BOTTOM IS SUITABLE FOR PIPE BEDDING, THE BOTTOM SHALL BE HAND FINISHED TO GRADE SO THAT THE PIPE WILL HAVE UNIFORM SUPPORT ALONG THE BARREL AND BELL. AFTER THE PIPE IS IN PLACE, ADDITIONAL HAND SELECTED NATIVE MATERIAL MEETING THE REQUIREMENTS FOR BEDDING MATERIAL SHALL BE PLACED AND TAMPED AROUND THE PIPE FOR A MINIMUM OF 4 INCHES ABOVE THE CROWN OF THE PIPE.

WHEN NATIVE MATERIAL AT THE TRENCH BOTTOM IS STONY OR OTHERWISE NON-UNIFORM, THE TRENCH SHALL BE OVER-EXCAVATED A MINIMUM OF 6 INCHES BELOW THE SPECIFIED GRADE AND A LAYER OF PIPE BEDDING MATERIAL SHALL BE FURNISHED AND PLACED TO THE SPECIFIED GRADE. AFTER THE PIPE IS IN PLACE, ADDITIONAL HAND SELECTED NATIVE MATERIAL MEETING THE REQUIREMENTS FOR BEDDING MATERIAL SHALL BE PLACED AND TAMPED AROUND THE PIPE FOR A MINIMUM OF 4 INCHES ABOVE THE CROWN OF THE PIPE.

IF THE NATIVE MATERIAL AT THE TRENCH BOTTOM IS UNSUITABLE FOR FOUNDATION PURPOSES OR WILL HAVE DIFFICULTY PROVIDING UNIFORM BEARING FOR THE PIPE, SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH A MINIMUM OF 6 INCHES OF COMPACTED FOUNDATION MATERIAL.

THE BEDDING MATERIAL SHALL BE CARRIED UP EVENLY ON BOTH SIDES OF THE PIPE SIMULTANEOUSLY IN APPROXIMATELY 6-INCH LAYERS AND EACH LAYER THOROUGHLY COMPACTED WITH APPROPRIATE TOOLS IN SUCH MANNER AS TO AVOID INJURING OR DISTURBING THE COMPLETED PIPELINE. ALL BEDDING AND NATIVE MATERIAL SHALL BE STORED AWAY FROM THE EDGES OF EXCAVATION AND OFF THE PAVED ROADWAY AND SHOULDER.

ALL TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED TO 95% OF THE MAXIMUM DENSITY WITHIN THE RIGHT-OF-WAY AND IN ALL AREAS (PAVED AND UNPAVED) WHERE STREETS, ROADWAY SHOULDERS, DRIVEWAYS, SIDEWALKS, OR PARKING LOTS WILL BE CONSTRUCTED OR RECONSTRUCTED OVER THE TRENCH EXCEPT FOR TRENCHES OVER 8 FEET IN DEPTH. WHEN THE TRENCH DEPTH EXCEEDS 8 FEET, TRENCH BACKFILL UP TO 4 FEET FROM THE TOP OF THE TRENCH SHALL BE MECHANICALLY COMPACTED TO 90% OF THE MAXIMUM DENSITY. THE REMAINING TOP 4 FEET OF THE TRENCH SHALL THEN BE MECHANICALLY COMPACTED TO 95% OF THE MAXIMUM DENSITY. IN UNPAVED AREAS AND OTHER AREAS NOT SUBJECT TO VEHICULAR TRAFFIC, TRENCH BACKFILL FROM THE PIPE TO WITHIN 3 FEET OF THE SURFACE SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY. THE UPPER 3 FEET SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY.

ALL DENSITIES SHALL BE DETERMINED BY TESTING PER THE MODIFIED PROCTOR METHOD, ASTM D1557. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DENSITY TEST REPORTS CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON. A MINIMUM OF ONE TEST SHALL BE TAKEN WITHIN EVERY 500 FEET OF TRENCH LENGTH AND AT DEPTHS UP TO 50% OF TRENCH DEPTH, OR AS DIRECTED BY THE DISTRICT'S FIELD REPRESENTATIVE OR THE GOVERNING ROAD AGENCY. COMPACTION OF LATERALS OR SERVICE LINE TRENCHES SHALL ALSO BE TESTED WHERE DIRECTED BY THE DISTRICT'S FIELD REPRESENTATIVE OR THE GOVERNING ROAD AGENCY. TESTING OF CDF, WHEN USED AS REQUIRED BY THE GOVERNING ROAD AGENCY, SHALL BE IN ACCORDANCE WITH ASTM 04832.

TRENCH BACKFILL SHALL BE PLACED IN UNIFORM LOOSE LAYERS NO MORE THAN 12 INCHES THICK AND MECHANICALLY COMPACTED AS SPECIFIED. IN ANY TRENCH WHERE THE SPECIFIED COMPACTION CANNOT BE ACHIEVED WITH NATIVE BACKFILL, THE TOP 4 FEET SHALL BE REPLACED AND COMPACTED TO 95% OF THE MAXIMUM DENSITY WITH IMPORTED BANK RUN GRAVEL. THE DISTRICT'S FIELD REPRESENTATIVE RESERVES THE RIGHT TO REQUEST A COMPACTION TEST AT ANY TIME ON THE BACKFILL MATERIAL.

IN CUTS TRANSVERSE TO THE ROAD ALIGNMENT AND AT ALL UTILITY CROSSINGS, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH CRUSHED SURFACING. BACKFILL SHALL BE PLACED AND MECHANICALLY COMPACTED IN 12-INCH MAXIMUM LIFTS.

AFTER BACKFILL AND COMPACTION, AN IMMEDIATE COLD MIX PATCH SHALL BE PLACED AND MAINTAINED IN A MANNER ACCEPTABLE TO THE GOVERNING ROAD AGENCY UNTIL REPLACED WITH PERMANENT SURFACING.

ALL PIPE AND FITTINGS SHALL BE LAID "IN THE DRY" UNLESS OTHERWISE APPROVED BY THE DISTRICT. TRENCH EXCAVATIONS SHALL BE DEWATERED BY USING WELL POINT SYSTEMS, SUMPS WITH PUMPS OR OTHER METHODS APPROVED BY THE DISTRICT. DEWATERING SYSTEMS SHALL BE USED IN ACCORDANCE WITH GOOD STANDARD PRACTICE AND SHALL BE EFFICIENT ENOUGH TO LOWER THE WATER LEVEL IN ADVANCE OF THE EXCAVATION AND MAINTAIN IT CONTINUOUSLY TO KEEP THE TRENCH BOTTOM AND SIDES FIRM AND DRY. DEVELOPER/CONTRACTOR SHALL SUBMIT THE DEWATERING PLAN TO THE DISTRICT FOR REVIEW AT LEAST 10 DAYS PRIOR TO COMMENCING ANY DEWATERING WORK. ALL DEWATERING EFFLUENT SHALL BE ROUTED THROUGH A DEWATERING POND PRIOR TO RELEASE.

GROUNDWATER SHALL BE CONTROLLED SUCH THAT SOFTENING OF THE BOTTOM OF EXCAVATIONS OR FORMATION OF "QUICK" CONDITIONS OR "BOILS" DURING EXCAVATION SHALL BE PREVENTED AND NO SOIL SHALL BE ERODED INTO THE EXCAVATION FROM THE SIDES OF EXCAVATION. DEWATERING SYSTEMS SHALL BE DESIGNED AND OPERATED SO AS TO PREVENT REMOVAL OF THE NATURAL SOILS. THE DEVELOPER/CONTRACTOR SHALL AT ALL TIMES HAVE ON HAND SUFFICIENT PUMPING EQUIPMENT AND MACHINERY IN GOOD WORKING CONDITION FOR ALL ORDINARY EMERGENCIES, INCLUDING POWER OUTAGES, AND SHALL HAVE AVAILABLE AT ALL TIMES COMPETENT WORKERS FOR THE OPERATION OF SAID EQUIPMENT.

DEVELOPER/CONTRACTOR SHALL CONTROL SURFACE RUNOFF SO AS TO PREVENT ENTRY OR COLLECTION OF WATER IN EXCAVATIONS AND SHALL MAINTAIN THE UNDISTURBED STATE OF THE FOUNDATION SOILS AND ALLOW THE PLACEMENT OF ANY BACKFILL TO THE REQUIRED DENSITY. THE RELEASE OF GROUNDWATER TO ITS STATIC LEVEL SHALL BE PERFORMED IN SUCH A MANNER AS TO MAINTAIN THE UNDISTURBED STATE OF THE NATURAL FOUNDATION SOILS, PREVENT DISTURBANCE OF COMPACTED BACKFILL, AND PREVENT FLOTATION OR MOVEMENT OF STRUCTURES AND PIPELINES.

DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL PERMIT REQUIREMENTS AND PROVISIONS FOR MONITORING AND MANAGING WATER DISCHARGED FROM THE EXCAVATION.

3. COVER OVER PIPELINES

THE DEPTH OF COVER FOR WATER MAINS SHALL BE 36-INCHES FOR 8-INCH DIAMETER AND SMALLER MAINS AND 48-INCHES FOR MAINS OVER 8-INCHES IN DIAMETER. DEPTH OF COVER AT DITCH LINES SHALL MEET THE SAME REQUIREMENTS. EXCEPTIONS WILL BE ALLOWED ONLY WITH THE PRIOR APPROVAL OF THE DISTRICT.

4. CONNECTION TO EXISTING WATER SYSTEM

THE DEVELOPER/CONTRACTOR SHALL NOTIFY THE DISTRICT'S FIELD REPRESENTATIVE AND OTHER UTILITIES AT LEAST 48 HOURS IN ADVANCE OF ANY CONSTRUCTION AND MAKE THE NECESSARY ARRANGEMENTS WITH THE DISTRICT'S FIELD REPRESENTATIVE FOR THE CONNECTION TO THE EXISTING WATER MAIN. THE DEVELOPER/CONTRACTOR SHALL NOT OPERATE ANY GATE VALVE OF THE WATER SYSTEM BEFORE, DURING OR AFTER CONSTRUCTION WITHOUT PRIOR APPROVAL OF THE DISTRICT. THE DEVELOPER/CONTRACTOR SHALL FURNISH ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY FOR MAKING THE CONNECTION UNDER THE SUPERVISION OF THE DISTRICT. THE 48 HOUR NOTICE REQUIREMENT SHALL NOT COUNT SATURDAYS, SUNDAYS, AND HOLIDAYS.

WORK SHALL NOT BE STARTED UNTIL ALL OF THE MATERIAL, EQUIPMENT AND LABOR NECESSARY TO PROPERLY COMPLETE WORK IS ASSEMBLED ON THE SITE. ONCE WORK IS STARTED ON A CONNECTION, IT SHALL PROCEED CONTINUOUSLY WITHOUT INTERRUPTION AND AS RAPIDLY AS POSSIBLE UNTIL THE CONNECTION IS COMPLETED. BEFORE ORDERING MATERIALS FOR ANY CONNECTION TO AN EXISTING WATER MAIN, DEVELOPER/CONTRACTOR SHALL EXCAVATE THE WATER MAIN AND VERIFY OUTSIDE DIAMETER OF ALL PIPES FOR DETERMINATION OF TYPES OF FITTINGS TO BE USED. THE DEVELOPER/CONTRACTOR SHALL COORDINATE ALL WORK WITH THE DISTRICT'S FIELD REPRESENTATIVE.

5. SEPARATION OF UTILITIES

MINIMUM SEPARATION BETWEEN WATER AND SEWER MAINS SHALL CONFORM TO SECTION C1-9.1 OF THE "CRITERIA FOR SEWAGE WORKS DESIGN", CURRENT EDITION, AS PUBLISHED BY THE DEPARTMENT OF ECOLOGY. MINIMUM SEPARATION BETWEEN OTHER UTILITIES SHALL BE 6 INCHES WITH A SAND CUSHION.

WATER MAINS SHALL PASS UNDER STORM SEWERS WHEN NECESSARY TO MAINTAIN THE MINIMUM COVER REQUIREMENTS FOR WATER MAINS. THERE SHALL BE NOT LESS THAN A SIX-INCH CUSHION BETWEEN THE WATER MAINS AND THE STORM SEWERS.

PUGET SOUND ENERGY VAULTS, HAND HOLES AND LIGHT STANDARDS SHALL BE LOCATED NO CLOSER THAN 10 FEET FROM ANY WATER MAINS, FIRE HYDRANTS, AND BLOW-OFF ASSEMBLIES AND NO CLOSER THAN 5 FEET FROM ANY WATER SERVICES. DEVELOPER SHALL BE RESPONSIBLE FOR COORDINATION OF VAULTS, HAND HOLES, AND LIGHT STANDARDS WITH THE WATER MAINS, SERVICES, FIRE HYDRANTS, AND BLOW-OFF ASSEMBLIES. NO CONSTRUCTION SHALL START UNTIL THE DEVELOPER HAS FURNISHED THE DISTRICT WITH A WORK SKETCH FROM PUGET SOUND ENERGY OR A SIGNED HOLD HARMLESS AGREEMENT (FORM SUPPLIED BY THE DISTRICT) IS PROVIDED.

6. THRUST BLOCKING

ALL FITTINGS SHALL BE BLOCKED WITH POURED CONCRETE AGAINST UNDISTURBED SOIL WITH SUFFICIENT CONCRETE AND 3/4-INCH ANCHOR RODS, IF REQUIRED, TO RESIST THE RESULTANT FORCES. BLOCKING SHALL PROVIDE FOR REMOVAL OF ANY CONNECTION TO THE FITTING WITHOUT DAMAGE TO THE FITTING. WHERE UNFAVORABLE GROUND CONDITIONS ARE ENCOUNTERED, SPECIAL BLOCKING WILL BE REQUIRED AS DIRECTED BY THE DISTRICT IN THE FIELD. WHEN DIGGING NEAR FITTINGS ON EXISTING PIPELINES, TEMPORARY BLOCKING SHALL BE INSTALLED TO PREVENT BLOWOUTS. THRUST BLOCKING SHALL CONFORM TO THE STANDARD DETAILS.

7. WATER WORKS TESTING

PRESSURE TESTING OF LINES SHALL BE IN ACCORDANCE WITH SECTION 7-09.3(23) OF THE STANDARD SPECIFICATIONS. TEST PRESSURE SHALL BE THE EXISTING SYSTEM LINE PRESSURE PLUS 150 PSI, BUT IN NO CASE SHALL THE TEST PRESSURE BE LESS THAN 250 PSI. MAINS SHALL BE DISINFECTED PER SECTION 7-09.3(24) OF THE STANDARD SPECIFICATIONS.

THE DEVELOPER/CONTRACTOR SHALL CUBE AND FLUSH ALL NEW WATER MAINS WHILE BEING OBSERVED BY THE DISTRICT'S FIELD REPRESENTATIVE. DISTRICT SHALL FURNISH THE CUBES FOR THE DEVELOPER/CONTRACTOR WHO SHALL THEN BE RESPONSIBLE FOR CUBING THE NEW WATER MAINS. DEVELOPER/CONTRACTOR SHALL COORDINATE WITH DISTRICT'S FIELD REPRESENTATIVE FOR THE LOCATIONS TO BE CUBED. AFTER THE CUBES HAVE BEEN FLUSHED FROM THE SYSTEM, THE REST OF THE FLUSHING, CHLORINATING, PRESSURE AND PURITY TESTS SHALL BE COMPLETED. THE DISTRICT SHALL BE RESPONSIBLE FOR COLLECTING THE SAMPLES AND OBTAINING THE BACTERIOLOGICAL TESTS.

8. REPAIR OF PIPELINE FAILURES

BROKEN OR OTHERWISE DEFECTIVE PIPE SHALL BE REMOVED AND REPLACED. REPAIR BANDS OR CLAMPS SHALL NOT BE USED TO REPAIR BROKEN PIPE.

9. JACKED CROSSING

AT LOCATIONS AS REQUIRED BY THE DISTRICT OR GOVERNING ROAD AGENCY, OR AS PROPOSED BY THE DEVELOPER, WATER MAIN CROSSINGS OF ARTERIAL STREETS SHALL BE MADE BY JACKING, DRIVING, OR AUGURING A STEEL CASING PIPE BENEATH THE SURFACE. ALIGNMENT AND GRADE OF CASINGS FURNISHED SHALL BE SUCH THAT NO ADDITIONAL FITTINGS ARE NECESSARY TO MAKE THE CONNECTION. IF THE CASING DOES NOT MEET THIS REQUIREMENT, IT SHALL BE ABANDONED BY FILLING THE CASING WITH MOIST SAND AND A NEW CASING INSTALLED TO MEET THE LINE AND GRADE REQUIREMENTS. NO OPEN EXCAVATION SHALL BE MADE CLOSER THAN 6 FEET FROM THE EDGE OF PAVEMENT.

DIAMETER OF CASING PIPE SHALL BE SUFFICIENT TO ALLOW INSTALLATION OF THE WATER PIPE. WALL THICKNESS SHALL BE SUFFICIENT TO WITHSTAND INSTALLATION FORCE AND HIGHWAY LOADING WITH A MINIMUM THICKNESS OF ½-INCH. AFTER THE WATER PIPE HAS BEEN ADJUSTED TO GRADE, MOIST SAND SHALL BE TAMPED INTO THE CASING PIPE SO THAT ALL VOIDS WILL BE FILLED. MANUFACTURED CASING SPACERS THAT PROHIBIT MOVEMENT OF THE PIPE IN ANY DIRECTION WITHIN THE CASING MAY BE USED IN LIEU OF FILLING THE VOID BETWEEN THE WATER MAIN AND THE CASING WALL WITH SAND.

10. WATER SUPPLY

WATER SUPPLY FOR FILLING, TESTING AND FLUSHING OF THE NEW MAINS MAY BE AVAILABLE FROM THE EXISTING DISTRIBUTION SYSTEM; HOWEVER, THE DEVELOPER/CONTRACTOR WILL BE BILLED BY THE DISTRICT FOR THE WATER USED AT THE CURRENT COMMERCIAL METER RATE. THE DEVELOPER/CONTRACTOR MAY PROVIDE HIS OWN METERING FACILITIES TO THE SATISFACTION OF THE DISTRICT OR ACCEPT THE QUANTITIES ESTIMATED BY THE DISTRICT.

11. EXISTING UTILITIES

EXISTING UTILITIES SHOWN ON ANY REFERENCE DRAWINGS PROVIDED BY THE DISTRICT HAVE BEEN PLOTTED FROM THE BEST INFORMATION AVAILABLE TO THE DISTRICT. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES WELL ENOUGH IN ADVANCE OF THE EXCAVATION TO PREVENT DAMAGE DURING CONSTRUCTION. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM HIS OPERATIONS ON THE PROJECT.

THE DEVELOPER SHALL RELOCATE OR REPLACE ANY EXISTING FIRE HYDRANTS LOCATED WITHIN 50 FEET OF THE DEVELOPMENT TO MEET THE DISTRICT'S REQUIREMENTS IF NEW CONSTRUCTION BY THE DEVELOPMENT CREATES A SAFETY HAZARD OR A NON-COMPLIANT CONDITION WITH DISTRICT STANDARD SPECIFICATION REQUIREMENTS.

12. WARRANTY PERIOD

THE DEVELOPER MAKING THE APPLICATION FOR A LINE EXTENSION SHALL BE RESPONSIBLE FOR THE MATERIALS AND FOR SATISFACTORY OPERATION OF THE FACILITY FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE COMPLETED PROJECT AND THE BILL OF SALE TO THE DISTRICT.

NO. | BY | DATE | DESCRIPTION
REVISIONS

DATE APPROVED
PRINCIPAL APPROVAL
DESIGN
DRAWN
CHECKED
JOB NO.

OPTIONAL ENGINEER NAME AND LOGO HERE

CST. FLD. BK. NO. PG.
DES. FLD. BK. NO. PG.
SCALE HORIZ: VERT:

SOOS CREEK WATER & SEWER DISTRICT

WATERMAIN EXTENSION
PROJECT NAME HERE
CONSTRUCTION PROVISIONS

BASE MAP

SHEET 2 OF 4

DRAWING FIG. WP-2

MATERIALS (Revised 05-16-11)

1. DUCTILE IRON PIPE

ALL DUCTILE IRON PIPE SHALL CONFORM TO SECTION 9-30.1(1) OF THE STANDARD SPECIFICATIONS. PIPE SHALL BE CLASS 52 CONFORMING TO LAYING CONDITION TYPE 2, SHALL BE LINED WITH CEMENT MORTAR PER ANSI/AWWA C104/A21.4-95, AND SHALL BE SEAL COATED. JOINTS SHALL BE PUSH-ON TYPES WITH RUBBER GASKETS, WHICH FIT INTO ANNULAR GROOVES. JOINTS AT VALVES OR FITTINGS MAY BE MECHANICAL JOINT OR FLANGED DEPENDING ON SPECIFICATION AND DRAWING REQUIREMENT. DUCTILE IRON PIPE MANUFACTURED AND DISTRIBUTED BY PACIFIC STATES CAST IRON PIPE COMPANY SHALL BE MANUFACTURED AFTER 1988. RESTRAINED JOINTS FOR DUCTILE IRON PIPE SHALL BE U.S. PIPE FIELD LOCK GASKET SYSTEM OR APPROVED EQUAL.

2. FITTINGS

FITTINGS FOR DUCTILE IRON PIPE SHALL CONFORM TO SECTION 9-30.2(1) OF THE STANDARD SPECIFICATIONS AND MAY BE FLANGED, MECHANICAL OR PUSH-ON AS REQUIRED. FLANGED FITTINGS SHALL CONFORM TO A CLASS 125 PRESSURE RATING. MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED WITH MEGA-LUG RESTRAINING DEVICES OR APPROVED EQUAL. RESTRAINING DEVICES SHALL BE MANUFACTURED OF HIGH STRENGTH DUCTILE IRON, ASTM A536, GRADE 65-45-12. BOLTS AND CONNECTING HARDWARE SHALL BE OF HIGH STRENGTH LOW ALLOY MATERIAL IN ACCORDANCE WITH ANSI/AWWA C111/A21.11. ALL RESTRAINING DEVICES SHALL HAVE A WATER WORKING PRESSURE RATING EQUIVALENT TO THE FULL RATED PRESSURE OF THE PIPE ON WHICH THEY ARE INSTALLED, WITH A MINIMUM 2:1 SAFETY FACTOR IN ANY NOMINAL PIPE SIZE. NOTARIZED CERTIFICATION FROM THE MANUFACTURER OF THE RESTRAINT DEVICE SHALL BE PROVIDED WITH SUBMITTALS.

THE EXTERIOR OF ALL DUCTILE IRON FITTINGS SHALL BE COATED WITH BITUMINOUS PAINT.

3. FIRE HYDRANTS

HYDRANTS SHALL CONFORM TO AWWA C-502, EXCEPT AS HEREIN MODIFIED. HYDRANTS SHALL HAVE A MINIMUM OF 5-1/4-INCH MAIN VALVE OPENING WITH TWO 2-1/2-INCH HOSE CONNECTIONS AND ONE 4-1/2-INCH PUMPER CONNECTION. ALL PORTS SHALL BE FURNISHED WITH NATIONAL STANDARD HOSE THREAD AND 1-1/4-INCH OPERATING NUTS THAT TURN COUNTERCLOCKWISE TO OPEN.

THE PUMPER CONNECTION SHALL BE EQUIPPED WITH A 5-INCH STORZ ADAPTER MEETING OR EXCEEDING THE FOLLOWING SPECIFICATIONS.

A. STORZ ADAPTER AND CAP SHALL BE FORGED AND/OR EXTRUDED 6061-T6 ALUMINUM ALLOY, HARD COAT ANODIZED.

B. THREADED PORTION TO HAVE TWO SET SCREWS 180° APART AND NO LUGS.

C. STORZ FACE TO BE METAL WITH NO GASKETS TO WEATHER.

D. STORZ CAP TO HAVE SYNTHETIC MOLDED RUBBER GASKET AND SHALL BE ATTACHED TO HYDRANT ADAPTER WITH 1/8-INCH COATED STAINLESS STEEL AIRCRAFT CABLE.

E. CAP TO BE CONNECTED AND DISCONNECTED WITH STORZ WRENCHES ONLY. TORQUE TO BE SUFFICIENT SO CAP CANNOT BE REMOVED BY HAND.

HYDRANTS SHALL BE FURNISHED WITH A 6-INCH MECHANICAL JOINT OUTLET, TWO 3/4-INCH DIAMETER TIE RODS, OR MEGA-LUGS, A 6-INCH AUXILIARY GATE VALVE WITH VALVE BOX, AND A RISER TO SUIT TRENCH DEPTH AT EACH INSTALLATION. THE GATE VALVE SHALL BE FLANGED TO THE MAIN TEE. HYDRANT SHALL BE FURNISHED WITH A BREAK-OFF FLANGE ON THE BARREL AND A BREAK-OFF COUPLING FOR THE STEM. HYDRANTS SHALL CONFORM TO DISTRICT STANDARDS.

ALL FIRE HYDRANTS SHALL BE M & H STYLE 929 RELIANT, MUELLER CENTURION MODEL A-423, CLOW MEDALLION OR WATEROUS PACER NO. WB-67.

NOZZLES SHALL BE FITTED WITH RENEWABLE BRONZE NIPPLE LOCKED IN PLACE. MAINTAIN 3 FEET CLEARANCE BETWEEN HYDRANT AND PROPERTY OR EASEMENT LINE.

TYPE 1 BLUE REFLECTIVE MARKERS AS DESCRIBED IN SECTION 9-21.1 OF THE STANDARD SPECIFICATIONS SHALL BE INSTALLED AS REQUIRED BY THE GOVERNING ROAD AGENCY.

FIRE HYDRANTS SHALL BE EQUIPPED WITH STEAMER AND HOSE PORT THREADS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL FIRE PROTECTION DISTRICT.

THE HYDRANT SHALL BE CLEANSED AND PRIME COATED WITH A HEAVY-DUTY BRUSH TYPE PRIMER OR APPROVED EQUAL. ALL HYDRANTS SHALL BE PAINTED YELLOW WITH TWO TOPCOATS OF OIL RESISTANT ENAMEL, BRUSH TYPE OR APPROVED EQUAL. THE DISTANCE FROM THE HYDRANT TO THE 6-INCH GATE VALVE SHALL BE STENCILED ON THE HYDRANT WITH 2-INCH LETTERS.

DURING THE CHLORINATING PROCESS FOR THE NEWLY LAID PIPE, ALL VALVES ASSOCIATED WITH THE FIRE HYDRANTS SHALL BE OPERATED WHILE THE PIPELINE IS FILLED WITH THE CHLORINATING AGENT AND UNDER NORMAL OPERATING PRESSURE.

4. FIRE HYDRANT GUARD POSTS

GUARD POSTS SHALL NOT BE INSTALLED WITH FIRE HYDRANT ASSEMBLIES UNLESS REQUIRED BY DISTRICT. IF GUARD POSTS ARE REQUIRED BY DISTRICT, THEY SHALL BE MADE OF REINFORCED CONCRETE, 8 INCHES IN DIAMETER, 6 FEET LONG AND BURIED TO A MINIMUM DEPTH OF 3 FEET. GUARD POSTS SHALL BE SET WITH THEIR TOPS AT THE SAME ELEVATION AS THE BONNET FLANGE OF THE HYDRANT. THE EXPOSED PORTION OF THE GUARD POSTS SHALL BE PAINTED WITH 2 COATS OF EXTERIOR CONCRETE PAINT, COLOR AS DESIGNATED BY THE DISTRICT.

5. GATE VALVES

GATE VALVES SHALL BE OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS WITH BRONZE-MOUNTED RESILIENT SEAT WEDGING DEVICES CONFORMING TO AWWA C509 OR AWWA C515. VALVES SHALL BE COATED PER AWWA C550 WITH NON-RISING STEMS, OPEN COUNTERCLOCKWISE, AND BE EQUIPPED WITH AN O-RING STUFFING BOX. VALVE END CONNECTIONS MAY BE FLANGED, MECHANICAL JOINT OR PUSH-ON AS REQUIRED. ALL FLANGE FACES SHALL BE MACHINED AND DRILLED TO STRADDLE THE VERTICAL CENTERLINE. VALVE STEM EXTENSIONS WITH PLATE WELDED TO OPERATING NUT WILL BE REQUIRED WHERE OPERATING NUT IS MORE THAN 4 FEET BELOW SURFACE. THE VALVE STEM EXTENSION TOP SHALL BE INSTALLED WITHIN 18 INCHES TO 24 INCHES BELOW FINISH GRADE AND SHALL HAVE A 2-INCH SQUARE OPERATING NUT AND SELF-CENTERING ROCK PLATE SUPPORT. LOCK DOWN SET SCREWS SHALL NOT BE USED ON VALVE OPERATING NUT EXTENSIONS.

MANUFACTURER SHALL PROVIDE CATALOG DATA, NET WEIGHT, AND ASSEMBLY DRAWINGS OF ALL VALVES TO BE PURCHASED AND INSTALLED AS WELL AS AN AFFIDAVIT OF COMPLIANCE. ALL VALVES SHALL HAVE A WATER WORKING PRESSURE RATING EQUIVALENT TO THE FULL RATED PRESSURE OF THE PIPE ON WHICH THEY ARE INSTALLED, WITH A MINIMUM 2:1 SAFETY FACTOR IN ANY NOMINAL PIPE SIZE.

6. VALVE BOX

VALVE BOX SHALL BE CAST IRON SERIES 940B AS MANUFACTURED BY OLYMPIC FOUNDRY OR APPROVED EQUAL WITH LID MARKED "WATER". ALL BOXES SHALL BE ADJUSTED TO MATCH THE FINISH GRADE AT THE VALVE LOCATION. ALL VALVE BOX COVERS SHALL BE PAINTED BLUE. ORIENT THE VALVE BOXES SO THE "EARS" ARE SET THE SAME AS THE PIPE DIRECTION. PROVIDE 4-INCH THICK BY 2-FOOT WIDE ASPHALT OR CONCRETE COLLAR AROUND VALVE BOX COVERS IN UNIMPROVED AREAS, LANDSCAPE AREAS AND EASEMENTS.

7. VALVE MARKER POSTS

VALVE MARKER POSTS SHALL BE FURNISHED AND INSTALLED WITH EACH VALVE UNLESS THE VALVE IS LOCATED IN THE PAVEMENT OR IN A VAULT. MARKER POSTS SHALL BE CONCRETE WITH 4-INCH MINIMUM SQUARE SECTION, 42-INCH LENGTH, AND SHALL BE REINFORCED WITH ONE 3/8" X 39" BAR OF REINFORCING STEEL. MARKERS SHALL BE PLACED AT THE EDGE OF THE RIGHT-OF-WAY OPPOSITE THE VALVE OR AS DIRECTED BY THE DISTRICT WITH 18 INCHES OF THE POST EXPOSED ABOVE GRADE. THE EXPOSED PORTION SHALL BE PAINTED WITH TWO COATS OF WHITE EXTERIOR CONCRETE PAINT WITH THE SIZE OF THE VALVE AND THE DISTANCE IN FEET AND INCHES TO THE VALVE STENCILED WITH BLACK PAINT ON THE FACE OF THE POST USING A STENCIL THAT WILL PRODUCE LETTERS TWO INCHES HIGH.

8. WET TAPS

TAPPING SLEEVE SHALL BE JCM 432 OR ROMAC "SST" STAINLESS STEEL SLEEVES WITH FULL COVERAGE RUBBER GASKET, OR EPOXY COATED LONG PATTERN SLEEVE, OR APPROVED EQUAL. VALVE SHALL BE A RESILIENT SEATED VALVE MADE FOR TAPPING, U.S. PIPE METROSEAL 250 OR APPROVED EQUAL. REFER TO THE GATE VALVE DESCRIPTION FOR ADDITIONAL DETAILS. SUBMITTALS REQUIRED FOR ALL WET TAP MATERIALS.

9. WATER SERVICES AND METERS

NEW SERVICE LINES SHALL BE CLASS 200, HI-MOL OR APPROVED EQUAL AND SHALL CONFORM TO THE STANDARD DETAILS AND SECTIONS 9-30.6 AND 9-30.6(3)B OF THE STANDARD SPECIFICATIONS. INSTALL PLASTIC-COATED 16-GAUGE COPPER TRACER WIRE ALONG TOP OF ALL PLASTIC SERVICE PIPES. ATTACH BARE WIRE TO ANGLE AND CORPORATION STOPS.

CONNECTIONS FROM PIPE TO ANGLE AND CORPORATION STOPS SHALL BE WITH COMPRESSION PACK JOINTS. METER BOXES SHALL BE AS CALLED OUT ON THE STANDARD DETAILS. METER BOXES AND LIDS LOCATED IN DRIVEWAYS OR SIDEWALKS SHALL BE TRAFFIC BEARING AS APPROVED BY THE DISTRICT.

WATER SERVICES SHALL BE LOCATED BY MUTUAL AGREEMENT BETWEEN DEVELOPER, DISTRICT, AND OTHER UTILITY COMPANIES. PAINT SERVICE LOCATIONS ON CURB WITH BLUE PAINT. METER BOXES SHALL BE FURNISHED AND INSTALLED BY DEVELOPER/CONTRACTOR. WATER SERVICE SHALL BE LOCATED NO CLOSER THAN 5 FEET FROM POWER VAULTS, HAND HOLES AND LIGHT STANDARDS.

ALL SERVICE LINES SHALL BE ONE-INCH MINIMUM, AND SHALL BE CONTINUOUS AND UNSPLICED FROM CORPORATION STOP TO METER AND SHALL HAVE 6 INCHES OF SAND BEDDING SURROUNDING THE SERVICE LINE. EXPANSION LOOPS ARE TO BE HELD AS FLAT AS POSSIBLE WITH NO REVERSE GRADE. WATER MAIN SERVICE SADDLE AND CORPORATION STOP WITH COMPRESSION ADAPTER SHALL BE LOCATED AT APPROXIMATELY 10° ABOVE SPRING LINE PER THE STANDARD DETAIL.

THE DEVELOPER/CONTRACTOR SHALL NOT BACKFILL ANY SERVICE LINES UNTIL ALL BRASS FITTINGS ASSOCIATED WITH THAT SERVICE LINE HAVE BEEN INSPECTED AND ACCEPTED BY THE DISTRICT.

EXISTING WATER SERVICES, WHICH NEED TO BE ABANDONED, SHALL BE DISCONNECTED AT THE WATER MAIN CORPORATION STOP. THE DEVELOPER/CONTRACTOR SHALL COORDINATE WITH THE DISTRICT'S FIELD REPRESENTATIVE AS REQUIRED.

10. IMPORTED GRAVEL MATERIAL

PIPE BEDDING SHALL CONFORM TO SECTION 9-03.12(3) OF THE STANDARD SPECIFICATIONS. FOUNDATION GRAVEL SHALL CONFORM TO SECTION 9-03.17 OF THE STANDARD SPECIFICATIONS. BANKRUN GRAVEL FOR TRENCH BACKFILL SHALL CONFORM TO SECTION 9-03.19 OF THE STANDARD SPECIFICATIONS, EXCEPT AT TRANSVERSE CUTS TO THE ROAD ALIGNMENT OR AT UTILITY CROSSINGS, WHICH SHALL BE BACKFILLED WITH CRUSHED GRAVEL SURFACING OR AS REQUIRED BY THE GOVERNING AGENCY. DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ANY EXCESS EXCAVATED SOIL MATERIAL AT AN APPROVED DISPOSAL SITE.

11. CRUSHED GRAVEL SURFACING

CRUSHED GRAVEL SURFACING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 9-03.9(3) OF THE STANDARD SPECIFICATIONS.

12. ASPHALT CONCRETE PATCH AND OVERLAY

ASPHALT CONCRETE SURFACING FOR PATCHING AND OVERLAY SHALL CONFORM TO SECTION 5-04.2 AND 5-04.3 OF THE STANDARD SPECIFICATIONS. ASPHALT CONCRETE SURFACING SHALL MEET CLASS 1/2-INCH, P.G. 58-22 GRADING REQUIREMENTS, OR AS REQUIRED BY THE GOVERNING ROAD AGENCY.

SURFACE RESTORATION (Revised 05-16-11)

1. OFFSITE SURFACE RESTORATION

ALL PAVED OR UNPAVED SURFACES OR EASEMENTS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION. ALL TREES, SHRUBS AND OR OTHER IMPROVEMENTS SHALL BE SAVED, RELOCATED, OR REPLACED BY DEVELOPER/CONTRACTOR UNLESS NOTED OTHERWISE ON THE DRAWINGS OR IN THE EASEMENT STIPULATIONS. RESTORATION SHALL BE TO THE SATISFACTION OF THE DISTRICT, PROPERTY OWNER, OR GOVERNING ROAD AGENCY. PRECONSTRUCTION PHOTOGRAPHS SHALL BE USED TO APPROVE RESTORATION.

2. ROAD SHOULDER RESTORATION WITHIN RIGHT-OF-WAY

THE EXISTING SURFACING OF DISTURBED ASPHALT SHOULDERS SHALL BE REMOVED TO A MINIMUM DEPTH OF 6 INCHES BELOW ORIGINAL STREET GRADE TO PROVIDE FOR PLACEMENT OF THE NEW SUBGRADE AND PAVING. THE SUBGRADE SHALL BE CONSTRUCTED OF 1-1/4-INCH MINUS CRUSHED SURFACING BASE COURSE PLACED TO A COMPACTED THICKNESS OF 2-1/2 INCHES, FOLLOWED BY 5/8-INCH MINUS CRUSHED SURFACING TOP COURSE PLACED TO A COMPACTED THICKNESS OF 1-1/2 INCHES. ASPHALT CONCRETE PAVING SHALL THEN BE PLACED AND COMPACTED IN 2-INCH LIFTS UP TO A MAXIMUM 4-INCH THICKNESS TO MATCH EXISTING PAVEMENT THICKNESS. MINIMUM THICKNESS SHALL BE 2 INCHES. THE SHOULDER SHALL BE REPLACED TO THE EXISTING FOG LINE IN AREAS WHERE THE EXISTING ASPHALT SHOULDER IS SERIOUSLY DISTURBED, OR AT THE DISCRETION OF THE DISTRICT OR THE GOVERNING ROAD AGENCY.

RESTORATION OF GRAVEL SHOULDERS SHALL INCLUDE A MINIMUM OF 1-1/2 INCHES OF CRUSHED SURFACING TOP COURSE AND 2-1/2 INCHES OF CRUSHED SURFACING BASE COURSE.

3. ASPHALT SURFACE RESTORATION WITHIN RIGHT-OF-WAY

THE EXISTING ASPHALT SURFACE SHALL BE CUT ON A NEAT LINE BY SAWCUTTING PRIOR TO EXCAVATION. FOLLOWING PROPER BACKFILL AND COMPACTION OF THE TRENCH, THE EDGES OF THE SURFACING SHALL BE RE-TRIMMED 12 INCHES WIDER THAN THE EXCAVATION WITH STRAIGHT VERTICAL EDGES FREE FROM IRREGULARITIES. A 1-1/4 INCH MINUS CRUSHED SURFACING BASE COURSE SHALL BE PLACED TO A COMPACTED THICKNESS OF 4-1/2 INCHES, FOLLOWED BY 5/8-INCH MINUS CRUSHED SURFACING TOP COURSE PLACED TO A COMPACTED THICKNESS OF 2 INCHES.

ASPHALT CONCRETE PAVING SHALL THEN BE PLACED AND COMPACTED IN 2-INCH LIFTS TO MATCH THE EXISTING THICKNESS AND GRADE OF THE ORIGINAL SURFACE. ASPHALT PATCHES SHALL HAVE A MINIMUM THICKNESS OF 2 INCHES AND A MAXIMUM THICKNESS OF 4 INCHES. THE ASPHALT PATCH SHALL THEN BE OVERLAID WITH A MINIMUM OF 1-1/2 INCHES COMPACTED ASPHALT CONCRETE. ASPHALT OVERLAY SHALL BE PRE-LEVELED AS DETERMINED BY THE DISTRICT'S FIELD REPRESENTATIVE. NO OVERLAY SHALL BE REQUIRED IF THE FINAL TRIMMED EDGE OF THE ASPHALT PATCH DOES NOT ENCROACH INSIDE THE FOG LINE OR, IN LIEU OF A FOG LINE, WITHIN 12 FEET FROM THE EXISTING CENTERLINE OF THE ROAD. THE DISTRICT OR GOVERNING ROAD AGENCY RESERVES THE RIGHT TO REQUIRE AN OVERLAY ON ANY SECTION. IF THE EDGE OF THE ROAD IS CURB AND GUTTER, THEN THE ASPHALT PATCH SHALL EXTEND TO THE EDGE OF THE CURB UNLESS INDICATED OTHERWISE BY THE DISTRICT OR GOVERNING ROAD AGENCY. ALL ASPHALT JOINTS SHALL BE SEALED WITH AN APPROVED SEALER. DEVELOPER/CONTRACTOR SHALL REPLACE EXISTING STRIPING AND PAVEMENT MARKINGS AS REQUIRED BY THE GOVERNING ROAD AGENCY.

DEVELOPER/CONTRACTOR SHALL MAINTAIN TEMPORARY COLD OR HOT MIX ASPHALT PATCHES DAILY DURING CONSTRUCTION TO THE SATISFACTION OF THE GOVERNING ROAD AGENCY AND THE DISTRICT'S FIELD REPRESENTATIVE UNTIL SAID PATCH IS REPLACED WITH A PERMANENT HOT PATCH. THE PERMANENT PATCH SHALL BE PLACED AND SEALED WITH PAVING GRADE ASPHALT WITHIN 30 CALENDAR DAYS.

CONCRETE PAVEMENT SHALL BE RESTORED CONSISTENT WITH SECTION 5-01 OF THE STANDARD SPECIFICATIONS. ANY CONCRETE PAVEMENT TRAFFIC LANE AFFECTED BY THE TRENCHING SHALL HAVE ALL AFFECTED PANELS REPLACED. CEMENT CONCRETE PAVEMENT SHALL BE RESTORED WITH AN 8-SACK MIX, USING EITHER TYPE II OR TYPE III CEMENT WITHIN 30 CALENDAR DAYS.

4. CURBS, GUTTERS, AND SIDEWALKS

EXISTING CURBS, GUTTERS, AND SIDEWALKS DAMAGED BY CONSTRUCTION OF THE PROJECT OR THE DEVELOPER'S/CONTRACTOR'S USE AND ACTIVITY, SHALL BE REPAIRED TO THE SATISFACTION OF THE PROPERTY OWNER, THE DISTRICT, OR THE GOVERNING ROAD AGENCY, AND TO ITS ORIGINAL CONDITION OR BETTER.

5. NON-PAVEMENT RESTORATION WITHIN RIGHT-OF-WAY

CULTIVATED LAWNS SHALL BE RESTORED WITH SOD. RESEEDING OF CULTIVATED LAWNS WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL OF PROPERTY OWNER AND DISTRICT. UNCULTIVATED LAWNS, PASTURE AND VACANT LAND SHALL BE RESTORED WITH A PASTURE GRASS MEETING THE FOLLOWING REQUIREMENTS.

SEED MIX: 40% PERENNIAL RYEGRASS
10% WHITE CLOVER
30% FESCUE
20% RED CREEPING FESCUE
APPLY AT THE RATE OF 100 POUNDS PER ACRE

MULCH: SILVA FIBER MULCH APPLIED AT 1500 TO 2000 POUNDS PER ACRE.

FERTILIZER: COMMERCIAL MIX 10/20/20 OF NITRATE, PHOSPHATE AND POTASH APPLIED AT RATE OF 450 POUNDS PER ACRE.

6. FINAL UTILITY ADJUSTMENT TO FINISH GRADE

ALL UTILITY COVERS, WHICH ARE LOCATED ON PROPOSED ASPHALT ROADWAYS, SHALL BE TEMPORARILY PLACED AT SUB-GRADE ELEVATION PRIOR TO PLACING CRUSHED SURFACING MATERIAL. FINAL ADJUSTMENT OF ALL COVERS AND ACCESS ENTRIES SHALL BE MADE FOLLOWING FINAL PAVING BY SAWCUTTING THE PAVEMENT AROUND LIDS AND COVERS. OPENING SHOULD NOT BE LARGER THAN 12 INCHES BEYOND THE RADIUS OF THE COVER. DEVELOPER/CONTRACTOR SHALL THEN REMOVE BASE MATERIAL, SURFACING COURSE, AND FRAME; ADD RAISING BRICKS; AND REPLACE FRAME AND COVER TO FINISH GRADE. FILL AND MECHANICALLY COMPACT AROUND THE STRUCTURE AND FRAME WITH CRUSHED SURFACING MATERIAL. FINISHED SURFACING SHALL BE TWO, 2-INCH COURSES OF ASPHALT CONCRETE SURFACING, COMPACTED AND SEALED TO PROVIDE A DENSE, UNIFORM SURFACE. FINAL ADJUSTMENT OF ALL COVERS AND ACCESS ENTRIES SHALL BE COMPLETED WITHIN 30 DAYS OF FINAL PAVING.

7. FINAL CLEANUP

THE DEVELOPER/CONTRACTOR SHALL CLEANUP ALL ADJACENT AREAS IN COMPLIANCE WITH SECTION 1-04.11 OF THE STANDARD SPECIFICATIONS. STREETS AND ROADWAYS SHALL BE CLEANED AND SWEPT BOTH DURING AND AFTER THE INSTALLATION WORK. DISTURBED SOILS SHALL BE FINAL GRADED, SEEDED, AND MULCHED AFTER INSTALLATION OF THE WATER MAIN. IN LIMITED AREAS, SEEDING AND MULCHING BY HAND, USING APPROVED METHODS, WILL BE ACCEPTABLE. DITCH LINES WITH ERODIBLE SOIL OR SUBJECT TO RAPID FLOWS MAY REQUIRE SEEDING, JUTE MATTING, NETTING, OR ROCK LINING TO CONTROL EROSION. ANY SILTING OF DOWNSTREAM DRAINAGE FACILITIES, WHETHER DITCHES OR PIPE AND CATCH BASINS, WHICH RESULTS FROM THE WATER MAIN INSTALLATION SHALL BE CLEANED OUT AND THE WORK SITE RESTORED TO A STABLE CONDITION AS PART OF SITE CLEANUP.

8. TRAFFIC CONTROL

THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR INTERIM TRAFFIC CONTROL DURING CONSTRUCTION ON OR ALONG TRAVELED COUNTY ROADWAYS. TRAFFIC CONTROL SHALL FOLLOW THE GUIDELINES OF SECTION 1-07.23 OF THE STANDARD SPECIFICATIONS. ALL BARRICADES, SIGNS, AND FLAGGING SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD MANUAL. SIGNS SHALL BE LEGIBLE AND VISIBLE AND SHOULD BE REMOVED AT THE END OF EACH WORKDAY IF NOT APPLICABLE AFTER CONSTRUCTION HOURS.

WHEN ROAD CLOSURES CANNOT BE AVOIDED, THE DEVELOPER/CONTRACTOR SHALL POST "TO BE CLOSED" SIGNS A MINIMUM OF FIVE DAYS PRIOR TO THE CLOSING. THE TYPES AND LOCATIONS OF THE SIGNS SHALL BE SHOWN ON A DETOUR PLAN. A DETOUR PLAN MUST BE PREPARED AND SUBMITTED TO THE DISTRICT'S FIELD REPRESENTATIVE AND APPROVED BY THE GOVERNING ROAD AGENCY PRIOR TO CLOSING ANY ROADWAYS. IN ADDITION, THE DEVELOPER/CONTRACTOR MUST NOTIFY IN WRITING ALL LOCAL FIRE, SCHOOL, LAW ENFORCEMENT AUTHORITIES, METRO TRANSIT, AND ANY OTHER AFFECTED PERSONS AS DIRECTED BY THE DISTRICT'S FIELD REPRESENTATIVE AT LEAST FIVE DAYS PRIOR TO THE ROAD CLOSURE.

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REVISIONS

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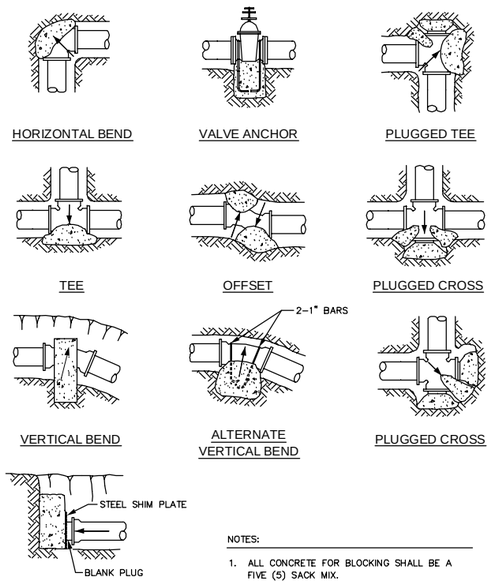
SOOS CREEK WATER & SEWER DISTRICT

WATERMAIN EXTENSION
PROJECT NAME HERE
MATERIALS & SURFACE RESTORATION

BASE MAP

SHEET 3 OF 4

DRAWING FIG. WP-3

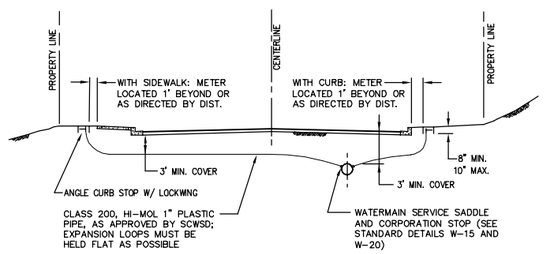


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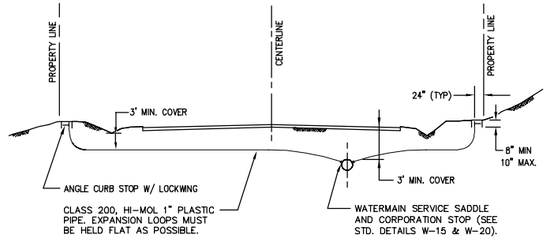
1. ALL CONCRETE FOR BLOCKING SHALL BE A FIVE (5) SACK MIX.
2. ALL BLOCKING SHALL BE POURED AGAINST FIRM, UNDISTURBED EARTH.

W 1 CONCRETE BLOCKING DETAIL

NTS



ROADWAY WITH CURB AND GUTTER AND/OR SIDEWALK

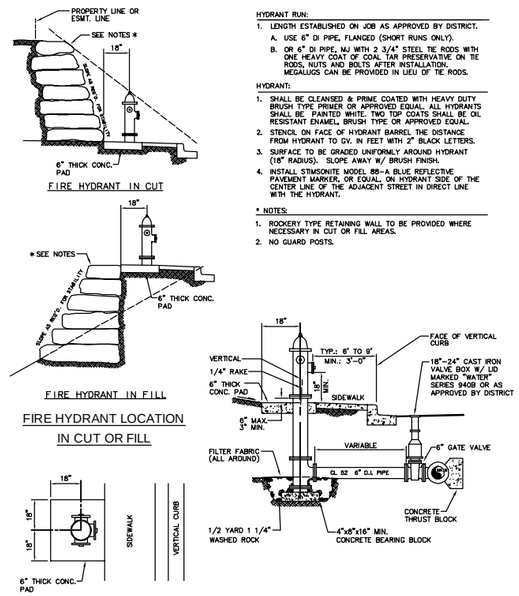


ROADWAY WITH DITCHES

NOTE:
METER BOX SUPPLIED BY DEVELOPER OR CONTRACTOR; METER BOX SHALL BE PER STANDARD DETAILS W-17 AND W-18.

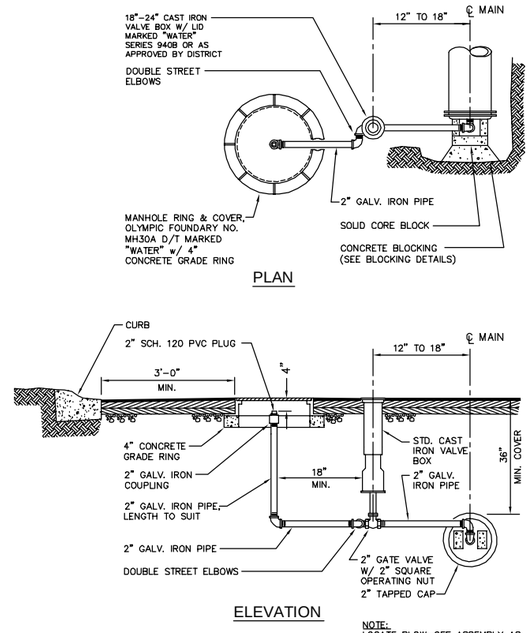
W 2 TYPICAL ROADWAY SECTIONS FOR RESIDENTIAL SUBDIVISIONS

NTS



W 5 FIRE HYDRANT ASSEMBLY-VERTICAL CURB

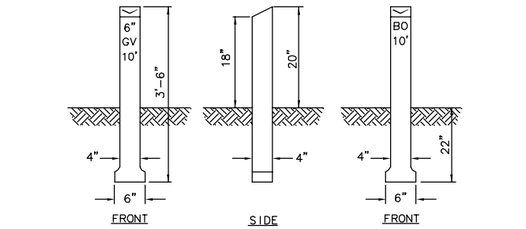
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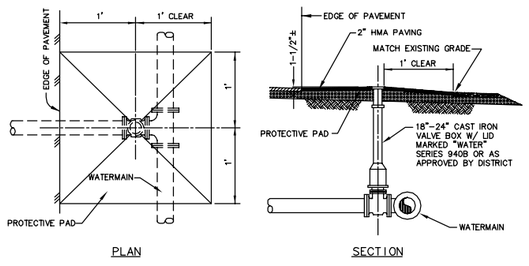


NOTE:
LOCATE BLOW-OFF ASSEMBLY AS CLOSE AS POSSIBLE TO MAIN.

W 8 2" BLOWOFF ASSEMBLY-IN PAVING

NTS

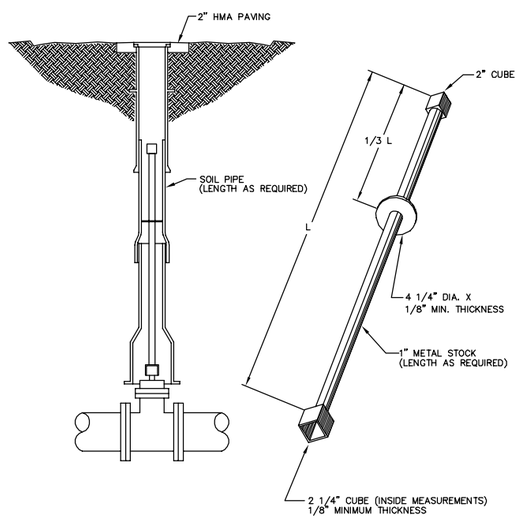




NOTE:
MARKER POST SHALL BE PAINTED WITH 2 COATS OF WHITE PAINT, LETTERS SHALL BE 2" HIGH AND STENCILED IN BLACK PAINT. MARKER POST SHALL BE LOCATED 10 FT. (MIN.) AWAY FROM EDGE OF ROAD WAY.

W 13 VALVE BOX PROTECTION PAD AND MARKER POST

NTS



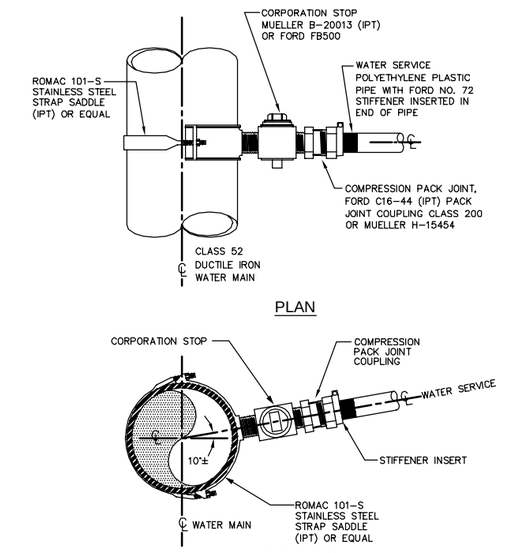
NOTES:

LENGTH AS REQUIRED TO PUT OPERATING NUT TWO (2) FEET FROM SURFACE. EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN FOUR (4) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF TWO (2) FEET LONG. ONE EXTENSION IS TO BE USED PER VALVE.

ALL EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO (2) COATS OF METAL PAINT.

W 14 VALVE OPERATING NUT EXTENSION

NTS



NOTES:

1. SERVICE LINE FITTINGS: ALL FITTINGS SHALL BE CAST FROM WATER WORKS BRASS CONFORMING TO C800.
2. MUNICIPAL SERVICE PIPE: IRON PIPE SIZE ID, ASTM D-2239, SIDR 7, PE 3408 (HI-MOL PLASTIC) WITH 16 GAUGE TRACER WIRE.

W 15 1" WATER SERVICE CONNECTION

NTS

NOTE:

THIS IS A SAMPLE SHEET ONLY. THE DEVELOPER SHALL USE THE APPROPRIATE STANDARD DETAILS FOR EACH SPECIFIC PROJECT.

NO.	BY	DATE	DESCRIPTION
			REVISIONS

DATE APPROVED
PRINCIPAL APPROVAL
DESIGN
DRAWN
CHECKED
JOB NO.

OPTIONAL ENGINEER NAME AND LOGO HERE

CST. FLD. BK. NO. PG.
DES. FLD. BK. NO. PG.
SCALE HORIZ.: VERT.:

SOOS CREEK WATER & SEWER DISTRICT

WATERMAIN EXTENSION
PROJECT NAME HERE
STANDARD DETAILS

BASE MAP

SHEET 4 OF 4

DRAWING FIG. WP-4

7. SEWER DESIGN:

A. DESIGN CRITERIA

1. Comply with current Soos Creek Water & Sewer District approved Comprehensive Sewerage Plan and all amendments thereto.

2. Verify existing sewer main facility locations, sizes and type of pipes, and feasibility of use.

3. Utilize the aerial base map data to determine the sewer service area requirements.

4. Minimum separation between sewer and water shall be according to the Washington State Department of Ecology (DOE) requirements.

5. Minimum depth of manholes shall be 8 feet in public right-of-ways and other paved traffic areas; or 6 feet in non-traffic easements.

6. Pipe shall be PVC or D.I. Ductile iron pipe shall be used for all slopes greater than 20% and for sewer 18 feet and deeper.

7. Minimum slope on all 8-inch sewer lines shall be 0.4% (0.004). Minimum slope on all dead end lines shall be 1.0%. All other minimum slopes shall be per DOE requirements.

8. All main line sewers shall terminate with a manhole.

9. Main line sewers shall be extended to the boundaries of plat or commercial development as required for future connections.

10. Main line sewers shall be a minimum of 8-inches in diameter. Maximum design capacity for all sanitary lines shall not exceed d/D - 0.8.

11. According to King County Road or city standards, location for sewer main lines shall be 5 feet South and 5 feet West of street centerline (other locations subject to District, King County and/or city approvals). Sewer mains shall be located to not cross under storm detention vaults.

12. Minimum cover on all sewer main lines shall be 7 feet in public right-of-ways and other paved traffic areas and 5 feet on easements (out of paved areas).

13. Maximum distance between manholes shall be 400 feet.

14. Pipe size, length and slopes of all main lines shall be shown on the profile.

15. Sewer mains shall maintain minimum 10 feet separation from power vaults, hand holes and light standards.

16. ALL SEWER LINES shall be subject to television testing for conformance to the District's standard specifications. Final acceptance of SEWERS will be subject to the District's Resolution No. 1904-S.

SEWER STUB SERVICES

1. All stub services shall be 6-inch minimum diameter and terminate at the property and/or easement line with a 6-inch cap, or 10 feet past at option of Developer/Contractor. (Install TEE at property line/or easement line as directed.)

2. Minimum cover shall be 5 feet at the property line, or deeper, if required to provide sewer service and/or proper clearance from other utilities.

3. Minimum slope on stub services shall be 2%.

4. Each lot/unit shall have a single side sewer stub unless the District issues a special permit for double side sewer.

5. For one/two units, the side sewer stub shall connect directly to the sewer main with a tee (or to a manhole).

6. For commercial buildings, schools, and apartments, the side sewer stub shall connect directly to a manhole.

7. Provide one stub to each tract for OFFSITE sewers required in paved areas, and stubs for future lots shall be extended out from under any paved areas.

8. Maximum 6-inch side sewer length shall be 200 feet with a surface cleanout at 100 foot intervals and at the end.

9. Puget Sound Energy vaults, hand holes and light standards shall be located no closer than 10 feet from sewer stub services.

10. Refer to Soos Creek Water and Sewer District current side sewer policy for other side sewer requirements.

ALTERNATIVE SEWER SYSTEM

1. It is the District's policy that transporting sewage by gravity is the best system. Alternative pressure systems will be permitted only in those circumstances when a gravity system would be impractical, unreasonably expensive or otherwise infeasible.

2. A pre-design report, with system analysis to justify the installation of an alternative system, must be submitted prior to design. Approval of an alternative system must be given by the District's Board of Commissioners.

3. The District has selected the grinder pump pressure system as most suitable for its needs and has standardized on the "Environment One" grinder pump for all installations.

4. All pipe and fittings for the alternative system shall be High Density Polyethylene (HDPE). See Section C - Materials.

5. HDPE pipe location shall be identified by installation of a 16-gauge solid tracer wire attached to top of pipe and by "SEWER" warning tape installed 18 inches above the

pipe.

6. Grinder Pump Sewer stubs shall be as detailed on the Standard Details and Sewer Construction Provisions.

7. Minimum cover on alternative pressure mains shall be minimum 4 feet (or as required to provide minimum clearance from water main and other utilities), or as directed by the District.

B. CONSTRUCTION PROVISIONS

1. STANDARD SPECIFICATIONS

All work, materials and testing shall conform to the standards of Soos Creek Water & Sewer District and the "Standard Specifications for Road, Bridge, and Municipal Construction", current edition, as prepared by the Washington State Department of Transportation, and hereinafter referred to as the "Standard Specifications," except as herein modified.

2. TRENCH EXCAVATION, BEDDING AND BACKFILL

All work within the right-of-way shall comply with all pertinent permits, the governing agency's current road standards, and the Standard Specifications. All material from clearing and grubbing shall be hauled to an approved waste disposal site provided by the Developer/Contractor.

When trenching through existing pavement, the pavement shall be cut on a neat-line by saw cutting. Trench sides shall be kept as vertical as possible given the soil conditions. Compaction and restoration shall be done as detailed below and immediately after the trench backfill is placed, so as to cause the least disruption to traffic. All pavement shall be cut 1 foot outside the edge of the trench on each side.

Any trench exceeding four feet in depth shall be provided with adequate safety systems meeting the requirements of the Washington State Industrial Safety and Health Act (WISHA), Chapter 49.17 RCW, and all regulations adopted pursuant thereto. The Developer/Contractor shall have a structural engineer review and stamp any and all shoring plans and calculations. The Developer/Contractor shall be responsible for worker safety and the District and the District's Engineer assume no responsibility.

When native material at the trench bottom is suitable for pipe bedding, the bottom shall be hand finished to grade so that the pipe will have uniform support along the barrel and bell. After the pipe is in place, additional hand selected native material meeting the requirements for bedding material shall be placed and tamped around the pipe for a minimum of 4 inches above the crown of the pipe.

When native material at the trench bottom is stony or otherwise non-uniform, the trench shall be over-excavated a minimum of 6 inches below the specified grade and a layer of pipe bedding material shall be furnished and placed to the specified grade. After the pipe is in place, additional hand selected native material meeting the requirements for bedding material shall be placed and tamped around the pipe for a minimum of 4 inches above the crown of the pipe.

If the native material at the trench bottom is unsuitable for foundation purposes or will have difficulty providing uniform bearing for the pipe, such material shall be removed and replaced with a minimum of 6 inches of compacted foundation material.

The bedding material shall be carried up evenly on both sides of the pipe simultaneously in approximately 6-inch layers and each layer thoroughly compacted with appropriate tools in such manner as to avoid injuring or disturbing the completed pipeline. All

bedding and native material shall be stored away from the edges of excavation and off the paved roadway and shoulder.

All trench backfill shall be mechanically compacted to 95% of the maximum density within the right-of-way and in all areas (paved and unpaved) where streets, roadway shoulders, driveways, sidewalks, or parking lots will be constructed or reconstructed over the trench except for trenches over 8 feet in depth. When the trench depth exceeds 8 feet, trench backfill up to 4 feet from the top of the trench shall be mechanically compacted to 90% of the maximum density. The remaining top 4 feet of the trench shall then be mechanically compacted to 95% of the maximum density. In unpaved areas and other areas not subject to vehicular traffic, trench backfill from the pipe to within 3 feet of the surface shall be compacted to 90% of the maximum density. The upper 3 feet shall be compacted to 95% of the maximum density.

All densities shall be determined by testing per the modified proctor method, ASTM D1557. The Developer/Contractor shall be responsible for providing density test reports certified by a professional engineer registered in the State of Washington. A minimum of one test shall be taken within every 500 feet of trench length and at depths up to 50% of trench depth, or as directed by the District's field representative or the governing road agency. Compaction of laterals or service line trenches shall be tested where directed by the District's field representative or the governing road agency. Testing of CDF, when used as required by the governing road agency, shall be in accordance with ASTM 04832.

Trench backfill shall be placed in uniform loose layers no more than 12 inches thick and mechanically compacted as specified. In any trench where the specified compaction cannot be achieved with native backfill, the top 4 feet shall be replaced and compacted to 95% of the maximum density with imported bank run gravel. The District's field representative reserves the right to request a compaction test at any time on the backfill material.

In cuts transverse to the road alignment and at all utility crossings, the entire trench shall be backfilled with crushed surfacing. Backfill shall be placed and mechanically compacted in 12-inch maximum lifts.

After backfill and compaction, an immediate cold mix patch shall be placed and maintained in a manner acceptable to the governing road agency until replaced with permanent surfacing.

All pipe and fittings shall be laid "in the dry" unless otherwise approved by Engineer. Trench excavations shall be dewatered by using well point systems, sumps with pumps or other methods approved by the District. Dewatering systems shall be used in accordance with good standard practice and shall be efficient enough to lower the water level in advance of the excavation and maintain it continuously to keep the trench bottom and sides firm and dry. Developer/Contractor shall submit the dewatering plan to the District for review at least 10 days prior to commencing any dewatering work. All dewatering effluent shall be routed through a dewatering pond prior to release.

Groundwater shall be controlled such that softening of the bottom of excavations or formation of "quick" conditions or "boils" during excavation shall be prevented and no soil shall be eroded into the excavation from the sides of excavation. Dewatering systems

shall be designed and operated so as to prevent removal of the natural soils. The Developer/Contractor shall at all times have on hand sufficient pumping equipment and machinery in good working condition for all ordinary emergencies, including power outages, and shall have available at all times competent workers for the operation of said equipment.

Developer/Contractor shall control surface runoff so as to prevent entry or collection of water in excavations and shall maintain the undisturbed state of the foundation soils and allow the placement of any backfill to the required density. The release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soils, prevent disturbance of compacted backfill, and prevent flotation or movement of structures and pipelines.

Developer/Contractor shall be responsible for complying with all permit requirements and provisions for monitoring and managing water discharged from the excavation.

3. CONNECTION TO EXISTING SEWER SYSTEM

Connections to existing lines shall be made only with the written approval of Soos Creek Water & Sewer District. The Developer/Contractor shall notify the District's field representative and other utilities at least 48 hours in advance of any construction and make the necessary arrangements with the District's field representative for the connection to the existing sewer system. The Developer/Contractor shall furnish all material, equipment and labor necessary for making the connection under the supervision of the District. The 48-hour notice requirement shall not count Saturdays, Sundays, and holidays.

Work shall not be started until all of the material, equipment and labor necessary to properly complete work is assembled on the site. Once work is started on a connection, it shall proceed continuously without interruption and as rapidly as possible until the connection is completed. Before ordering materials for any connection to an existing manhole, Developer/Contractor shall excavate the manhole and verify outside diameter of all pipes for determining types of fittings to be used. All work shall be coordinated with the District’s field representative. The existing sewers shall remain in service at all times.

Connections to sanitary sewer manholes shall be made using a sand collar, a concrete coupling or a kor-n-seal boot. The pipe to manhole connection shall be watertight. Any leaks in the couplings or other areas created while connecting to the existing manhole shall be sealed with Strata Tech ST-520 Injection Resin or approved equal.

Developer/Contractor shall re-channel existing manholes as necessary to smoothly direct the flow into the existing system.

All water and/or construction debris shall be removed from new sewers and not be permitted to enter the existing system. The Developer/Contractor shall be responsible for flushing out and cleaning any existing sewers into which gravel, rocks or other debris has entered as a result of the Developer’s/Contractor's operations, and shall pay for repair to lift stations or other facilities damaged by such debris. All flushing water shall be pumped from upstream manholes or sewer lines and shall not be allowed to enter the existing sewer.

4. SEPARATION OF UTILITIES

Minimum separation between sewer and water mains shall conform to Section C1-9.1 of the "Criteria for Sewage Works Design", current edition, as published by the Department of Ecology. Minimum separation between other utilities shall be 6 inches with a sand cushion.

Puget Sound Energy vaults, hand holes and light standards shall be located no closer than 10 feet from any sewer mains and stub services. Developer/Contractor shall be responsible for coordination of vaults, hand holes, and light standards with the sewer stub services. No construction shall start until the Developer/Contractor has furnished the District with a work sketch from Puget Sound Energy or a signed hold harmless agreement (form supplied by the District) is provided..

5. THRUST BLOCKING

When digging near fittings on existing pipelines, temporary blocking shall be installed to prevent blowouts. Blocking shall allow for any connections to the fitting to be removed without damaging the fitting. Thrust blocking shall conform to the standard details. Where unfavorable ground conditions are encountered, special blocking may be required as directed by the District in the field.

6. SEWER MAIN TESTING

Gravity sewers and appurtenances shall be tested after backfilling by the low-pressure air method in accordance with Section 7-17.3(2) of the Standard Specifications, except where the ground water table is such that the District may require the infiltration test. Final acceptance of the sewer main installation will be subject to the District's Resolution No. 1904-S, which allows a maximum ponding depth of 3/4-inch. In the event of conflicts between the standards established in Resolution No. 1904-S and the standards specified in Section 7-17.3(2) of the Standard Specifications, the standards of the Resolution will take precedence.

7. REPAIR OF PIPELINE FAILURES

Broken or otherwise defective pipe shall be removed and replaced. Repair bands or clamps shall not be used to repair broken pipe.

8. JACKED CROSSING

At locations as required by the District or governing road agency, or as proposed by the Developer/Contractor, sewer main crossings of arterial streets shall be made by jacking, driving, or auguring a steel casing pipe beneath the surface. Alignment and grade of casings furnished shall be such that no additional fittings are necessary to make the connection. If the casing does not meet this requirement, it shall be abandoned by filling the casing with moist sand and a new casing installed to meet the line and grade requirements. No open excavation shall be made closer than 6 feet from the edge of pavement.

Diameter of casing pipe shall be sufficient to allow installation of the sewer. Wall thickness shall be sufficient to withstand installation force and highway loading with a minimum thickness of ¼-inch. After the sewer main has been adjusted to grade, moist sand shall be tamped into the casing pipe so that all voids will be filled. Manufactured casing spacers that prohibit movement of the pipe in any direction within the casing may be used in lieu of filling the void between the sewer main and the casing wall with sand.

10. EXISTING UTILITIES

Existing utilities shown on any reference drawings provided by the District have been plotted from the best information available to the District. The Developer/Contractor shall be responsible for locating all existing utilities well enough in advance of the excavation to prevent damage during construction. The Developer/Contractor shall be responsible for any damage resulting from his operations on the project.

11. WARRANTY PERIOD

The Developer making the application for a line extension shall be responsible for the materials and for satisfactory operation of the facility for a period of one year from the date of acceptance of the completed project and the bill of sale to the District.

C. MATERIALS

1. PIPE

Gravity sewers and services shall be constructed of PVC pipe conforming to Section 9-05.12 of the Standard Specifications unless required otherwise by the District. PVC gravity sewer main and PVC gravity sewer service pipe shall be considered flexible conduit. PVC compound shall meet the requirements of ASTM D 1784 for Class 12454-B PVC.

Ductile iron pipe (class 52) may be used in lieu of PVC pipe provided the ductile iron pipe is lined with epoxy, polyurethane, or SewperCoat as manufactured by Kerneos Aluminate Technologies or approved equal. All linings shall be applied per the manufacturer's recommendations.

A. Lined ductile iron pipe shall have the lining applied to all exposed interior surfaces per the manufacturer's recommendations.

B. Polyurethane linings shall consist of polyisocyanate resin and polyol resin mixed at a 1:1 ratio at the time of the application and applied to a dry film thickness of 40 mils (0.040 inches). Coating thickness within the bell socket interior and on the spigot end of the pipe exterior shall be 8 mils (0.008 inches) nominal with a maximum thickness of 10 mils (0.010 inches) in order to minimize potential dimensional assembly problems. Thicker coats may be allowed provided final dimensions are within allowable tolerances after the coating. The lining shall provide an ASTM D16 Type V system.

C. Sewpercoat is a calcium aluminate mortar made of fused calcium aluminate and calcium aluminate aggregates. The lining shall be applied to a thickness of 125 mils (0.125 inches) for 12-inch and smaller diameter pipes and 3/16 inches for pipes larger than 12 inches in diameter. Cracks in the lining, other than closed hairline cracks and/or fine crazing are not acceptable. A seal coat shall be applied to any Sewpercoat lining.

D. The exterior of all ductile iron pipes shall be coated with 1 mil (0.001 inches) of bituminous paint according to ANSI/AWWA C151/A21.51.

2. SIDE SEWER SERVICES

All side services shall be constructed in accordance with the Section 7-18 of the Standard Specifications and the resolutions of the District, which are incorporated herein by reference. Side service construction shall follow the installation of main lines as closely as practical in the opinion of the District.

Contractor shall install the pipe to a minimum depth at the property line of 5 feet below the floor to be served or 5 feet below the street centerline whichever is deeper. In cases of vacant properties or properties vacant beyond 150 feet from sewer main, the side sewer shall be constructed with a minimum slope of 2% from the tee, unless otherwise approved by the District in writing.

All stub services shall terminate with a 6-inch watertight cap at the property and/or easement line, or 10 feet past at the option of the Developer. All ends of stub services shall be marked by a 12-gauge galvanized wire and a 2-inch by 4-inch timber. The wire shall extend vertically from the capped end to the ground surface and shall be attached to the timber from end to end. The timber shall extend from the capped end to a minimum of 12 inches above the ground and shall be painted traffic white with the word "sewer" stenciled on with black paint. The end of the timber shall be marked in permanent indelible ink with the length of the timber installed. Neither the wire nor 2" x 4" timber shall be secured or attached to the sewer pipe.

All side services shall be tested for acceptance at the same time the main line sewer is tested for acceptance.

All 6-inch stubs into manholes to match crowns.

3. MANHOLES

Manholes shall be precast concrete unless required otherwise by the District and shall conform to Standard Plan B-23A except with eccentric reducing cones. Poured in place bases shall not be allowed. Maximum allowable dimension from the break of cone to top of casting shall be 20 inches.

Internal concrete channels, benches and fillets shall be formed using Low Shrinkage Class 4000D 5 sack mix with pea gravel to 5/8-inch (max size) aggregate conforming to Section 6-02.3 of the Standard Specifications. The water-cement ratio shall not exceed 0.38. A water-reducing admixture shall be included in the mix.

Ladder rungs shall be 1-inch diameter deformed bar, galvanized or polypropylene safety-type steps meeting the requirements of ASTM C478, AASHTO M-199, and all WISHA and OSHA specifications. Polypropylene steps, conforming to ASTM D 4101, shall be injection molded around a 1/2-inch ASTM A 615 Grade 60 steel reinforcing bar.

Covers shall be Olympic Foundry Model No. MH30A D/T or approved equal and shall be 24-inch diameter cast iron or ductile iron with three 5/8-inch diameter x 1 1/2-inch long countersunk N.C. stainless steel socket head cap screws and single 1-inch diameter lift hole located approximately 3 inches from the outside edge of the cover. Provide 5/8-inch x 2 1/2-inch stainless steel carriage bolt installed in manhole lift hole. Lids shall have a non-skid pattern cast integrally on top with the word "SEWER" cast in 3-inch raised letters. Ring and cover shall have one of the lock down bolts centered directly over the access ladder.

All manhole covers located in sidewalks or driveways shall be Olympic Foundry No. MH30A D/T Smooth Design or approved equal with locking lid and 6-inch casting ring and the word "SEWER" cast integrally on top in 3-inch raised letters.

Manhole sections shall have rubber gasket joints conforming to ASTM C 443. All manhole joints and pick holes shall be sealed from the inside and the outside with a sand and Portland cement concrete mix.

Contractor shall provide an 8-inch thick by 6-foot wide asphalt or concrete collar around the rims of all manholes located in unimproved areas, landscaped areas, easements, and all other unpaved areas. The asphalt or concrete collar shall slope away from the manhole rim.

4. IMPORTED GRAVEL MATERIAL

Pipe bedding shall conform to Section 9-03.12(3) of the Standard Specifications. Foundation gravel shall conform to Section 9-03.17 of the Standard Specifications. Bankrun gravel for trench backfill shall conform to Section 9-03.19 of the Standard Specifications, except at transverse cuts to the road alignment or at utility crossings, which shall be backfilled with crushed gravel surfacing or as required by the governing road agency. Developer/Contractor shall be responsible for removing and disposing of any excess excavated soil material at an approved disposal site.

5. CRUSHED GRAVEL SURFACING

Crushed gravel surfacing shall conform to the requirements of Section 9-03.9(3) of the Standard Specifications.

6. ASPHALT CONCRETE PATCH AND OVERLAY

Asphalt concrete surfacing for patching and overlay shall conform to Section 5-04.2 and 5-04.3 of the Standard Specifications. Asphalt concrete surfacing shall meet Class ½-inch, P.G, 58-22 grading requirements, or as required by the governing road agency.

D. SURFACE RESTORATION

1. OFFSITE SURFACE RESTORATION

All paved or unpaved surfaces or easements shall be restored to a condition equal to or better than that which existed prior to construction. All trees, shrubs and or other improvements shall be saved, relocated, or replaced by Developer/Contractor unless noted otherwise on the drawings or in the easement stipulations. Restoration shall be to the satisfaction of the District, property owner, or governing road agency. Preconstruction photographs shall be used to approve restoration.

2. ROAD SHOULDER RESTORATION WITHIN RIGHT-Of-WAY

The existing surfacing of disturbed asphalt shoulders shall be removed to a minimum depth of 6 inches below original street grade to provide for placement of the new subgrade and paving. The subgrade shall be constructed of 1-1/4-inch minus crushed surfacing base course placed to a compacted thickness of 2-1/2 inches, followed by 5/8-inch minus crushed surfacing top course placed to a compacted thickness of 1-1/2 inches. Asphalt concrete paving shall then be placed and compacted in 2-inch lifts up to a maximum 4-inch thickness to match existing pavement thickness. Minimum thickness shall be 2 inches. The shoulder shall be replaced to the existing fog line in areas where the existing asphalt shoulder is seriously disturbed, or at the discretion of the District or the governing road agency.

Restoration of gravel shoulders shall include a minimum of 1-1/2 inches of crushed surfacing top course and 2-1/2 inches of crushed surfacing base course.

3. ASPHALT SURFACE RESTORATION WITHIN RIGHT-Of-WAY

The existing asphalt surface shall be cut on a neat line by sawcutting prior to excavation to provide a continuous line. Following proper backfill and compaction of the trench, the edges of the surfacing shall be re-trimmed 12 inches wider than the excavation with straight vertical edges free from irregularities. A 1-1/4-inch minus crushed surfacing base course shall be placed to a compacted thickness of 4-1/2 inches, followed by 5/8-inch minus crushed surfacing top course placed to a compacted thickness of 2 inches.

Asphalt concrete paving shall then be placed and compacted in 2-inch lifts to match the existing thickness and grade of the original surface. Asphalt patch shall have a minimum thickness of 2 inches and a maximum thickness of 4 inches. The asphalt patch shall then be overlaid with a minimum of 1-1/2 inches compacted asphalt concrete. Asphalt overlay shall be pre-leveled as determined by the District's field representative. No overlay shall be required if the final trimmed edge of the asphalt patch does not encroach inside the fog line or, in lieu of a fog line, within 12 feet from the existing centerline of the road. The District or governing road agency reserves the right to require an overlay on any section. If the edge of the road is curb and gutter, then the asphalt patch shall extend to the edge of the curb unless indicated otherwise by the District or governing road agency. All asphalt joints shall be sealed with approved sealer. Developer/Contractor shall replace existing striping and pavement markings as required by the governing road agency.

Developer/Contractor shall maintain temporary cold or hot mix asphalt patches daily during construction to the satisfaction of the governing road agency and the District's field representative until said patch is replaced with a permanent hot patch. The permanent patch shall be placed and sealed with paving grade asphalt within 30 calendar days.

Concrete pavement shall be restored consistent with Section 5-01 of the Standard Specifications. Any concrete pavement traffic lane affected by the trenching shall have all affected panels replaced. Cement concrete pavement shall be restored with an 8-sack mix, using either Type II or Type III cement within 30 calendar days.

4. CURBS, GUTTERS, AND SIDEWALKS

Existing curbs, gutters, and sidewalks damaged by construction of the project or the Developer's/Contractor's use and activity, shall be repaired to the satisfaction of the property owner, the District, or the governing road agency, and to its original condition or better.

5. NON-PAVEMENT RESTORATION WITHIN RIGHT-OF-WAY

Cultivated lawns shall be restored with sod. Reseeding of cultivated lawns will not be allowed without prior approval of property owner and District. Uncultivated lawns, pasture and vacant land shall be restored with a pasture grass meeting the following requirements.

Seed Mix:	40% perennial ryegrass 10% white clover 30% fescue 20% red creeping fescue Apply at the rate of 100 pounds per acre
Mulch:	Silva fiber mulch applied at 1500 to 2000 pounds per acre.
Fertilizer:	Commercial mix 10/20/20 of nitrate, phosphate and potash applied at rate of 450 pounds per acre.

6. FINAL UTILITY ADJUSTMENT TO FINISH GRADE

All utility covers, which are located on proposed asphalt roadways, shall be temporarily placed at sub-grade elevation prior to placing crushed surfacing material. Final adjustment of all covers and access entries shall be made following final paving by sawcutting of the pavement around lids and covers. Opening should not be larger than 12 inches beyond the radius of the cover. Developer/Contractor shall then remove base material, surfacing course, and frame; add raising bricks; and replace frame and cover to finish grade. Fill and mechanically compact around the structure and frame with crushed surfacing material. Finished surfacing shall be two, 2-inch courses of asphalt concrete surfacing, compacted and sealed to provide a dense, uniform surface. Final adjustment of all covers and access entries shall be completed within 30 days of final paving.

7. FINAL CLEANUP

The Developer/Contractor shall cleanup all adjacent areas in compliance with Section 1-04.11 of the Standard Specifications. Streets and roadways shall be cleaned and swept both during and after the installation work. Disturbed soils shall be final graded, seeded, and mulched after installation of the sewer main. In limited areas seeding and mulching by hand, using approved methods, will be acceptable. Ditch lines with erodible soil or subject to rapid flows may require seeding, jute matting, netting, or rock lining to control erosion. Any silting of downstream drainage facilities, whether ditches or pipe and catch basins, which results from the sewer main installation shall be cleaned out and the work site restored to a stable condition as part of site cleanup.

8. TRAFFIC CONTROL

The Developer/Contractor shall be responsible for interim traffic control during construction on or along traveled county roadways. Traffic control shall follow the guidelines of Section 1-07.23 of the Standard Specifications. All barricades, signs, and flagging shall conform to the requirements of the MUTCD Manual. Signs shall be legible and visible and should be removed at the end of each workday if not applicable after construction hours.

When road closures cannot be avoided, the Developer/Contractor shall post "to be closed" signs a minimum of five days prior to the closing. The types and locations of the signs shall be shown on a detour plan. A detour plan must be prepared and submitted to the District's field representative and approved by the governing road agency prior to closing any roadways. In addition, the Developer/Contractor must notify in writing all local fire, school, law enforcement authorities, metro transit, and any other affected persons as directed by the District's field representative at least five days prior to the road closure.

E. GENERAL NOTES

1. All work shall be performed in accordance with the specifications of the Soos Creek Water & Sewer District, also referred hereinafter as “District”.

2. The Developer shall furnish the District a copy of the commercial and/or subdivision plans approved by the governing agency prior to any sewer main construction.

3. Prior to constructing any sewer mains, the appropriate streets and lots shall be cleared, graded, and staked by the Developer/Contractor and all existing utilities shall be located.

4. Following sewer main construction, any revision of roadway or easement grades requiring the mains to be reconstructed shall be made at the Developer's/Contractor’s expense.

5. Reconstruction shall conform to the specifications of the District. All costs for inspecting such reconstruction shall be charged to the Developer in addition to the standard charges, and shall be paid before acceptance by the District.

6. No side sewer connections shall be made to the existing system until completion of the Bill of Sale and all easements. Obtain side sewer permits from the District for each side sewer connection prior to making connection. Bill of Sale will not be processed until Puget Sound Energy has either provided a work sketch or installed their vaults, hand holes and light standards, or the Developer has provided a signed hold harmless agreement (form supplied by the District).

7. All costs of sewer main re-staking shall be paid by the Developer/Contractor.

8. Property corners shall be pinned with reference tack on curbs by the Developer/Contractor.

9. The Developer/Contractor shall notify the District at (253) 630-9900 to schedule a pre-construction meeting at the District office. After the pre-construction meeting, the Developer/Contractor shall notify the District’s field representative at least 48 hours (regular working days) before starting work.

10. The Developer/Contractor shall obtain all required final inspections to meet permit requirements. Inspections must be scheduled at least 48 hours in advance.

11. Connections to existing sewer mains shall be made only with written approval of the District and only after at least 48 hours (two regular working days) advance notice.

12. Existing sewers to remain in service at all times.

13. All water and/or construction debris shall be removed from new sewers and shall not be permitted to enter the existing system.

14. Existing Manhole No. ___ shall be core-drilled and re-channeled as required to receive incoming flow from the new sewer.

F. SEWER STANDARD DETAILS

DTL. NO.	DETAIL TITLE
S-1	SPECIAL MANHOLE CUT-IN INSTALLATION (06-02-11)
S-2	MANHOLE DETAIL (06-02-11)
S-3	SURFACE CLEANOUT (MAINLINE STUB) (06-02-11)
S-4	STUB SERVICE CONSTRUCTION DETAIL (06-02-11)
S-5	STANDARD PLAN STUB SERVICE (ALTERNATE NO. 1) (06-02-11)
S-6	STANDARD PLAN STUB SERVICE (ALTERNATE NO. 2) (06-02-11)
S-7	STANDARD PLAN DOUBLE STUB SERVICE (06-02-11)
S-8	STANDARD PLAN STUB SERVICE FOR MANUFACTURED HOME (06-02-11)
S-9	SADDLE STUB SERVICE CONNECTION TO EXISTING SEWER MAIN (06-02-11)
S-10	SAFETY GRATE DETAIL (06-02-11)
S-11	PIPE ANCHOR DETAIL (06-02-11)
S-12	SACK SLOPE RETAINER (06-02-11)
S-13	STEEL SLOPE RETAINER (06-02-11)
S-14	SADDLE MANHOLE BASE DETAIL (06-02-11)
S-15	FILTER FABRIC FENCE (06-02-11)
S-16	GRINDER PUMP SERVICE LINE FOR PVC OR D.I. GRAVITY SEWER MAIN IN PUBLIC RIGHT-OF-WAY (06-02-11)
S-17	GRINDER PUMP SERVICE LINE FOR SMALL DIAMTER LOW PRESSURE SEWER SYSTEM IN PUBLIC RIGHT-OF-WAY (06-02-11)
S-18	GRINDER PUMP DOUBLE SERVICE LINE FOR LOW PRESSURE SEWER SYSTEM (06-02-11)
S-19A	TYPICAL HOUSE CONNECTION FOR GRAVITY SEWER (06-02-11)
S-19B	TYPICAL HOUSE CONNECTION ALT. – GRAVITY STUB (06-02-11)
S-19C	TYPICAL HOUSE CONNECTION ALT. – PRESSURE STUB (06-02-11)
S-19D	TYPICAL HOUSE CONNECTION CONSTRUCTION REQUIREMENTS (06-02-11)

S-19E TYPICAL HOUSE CONNECTION MATERIALS LIST (06-02-11)

S-20 SIDE SEWER CONNECTION INFORMATION (06-02-11)

S-21 SHALLOW MANHOLE DETAIL (06-02-11)

S-22 GRINDER SERVICE CONNECTION TAPPED ON EXISTING LINE (06-02-11)

S-23 MANHOLE RIM AND COVER – OFF PAVEMENT (06-02-11)

S-24 A/C WATER MAIN REPLACEMENT & SANITARY SEWER CROSSING (06-02-11)

S-25 DROP MANHOLE DETAIL (06-02-11)

S-26 BACKWATER VALVE DETAIL (06-02-11)

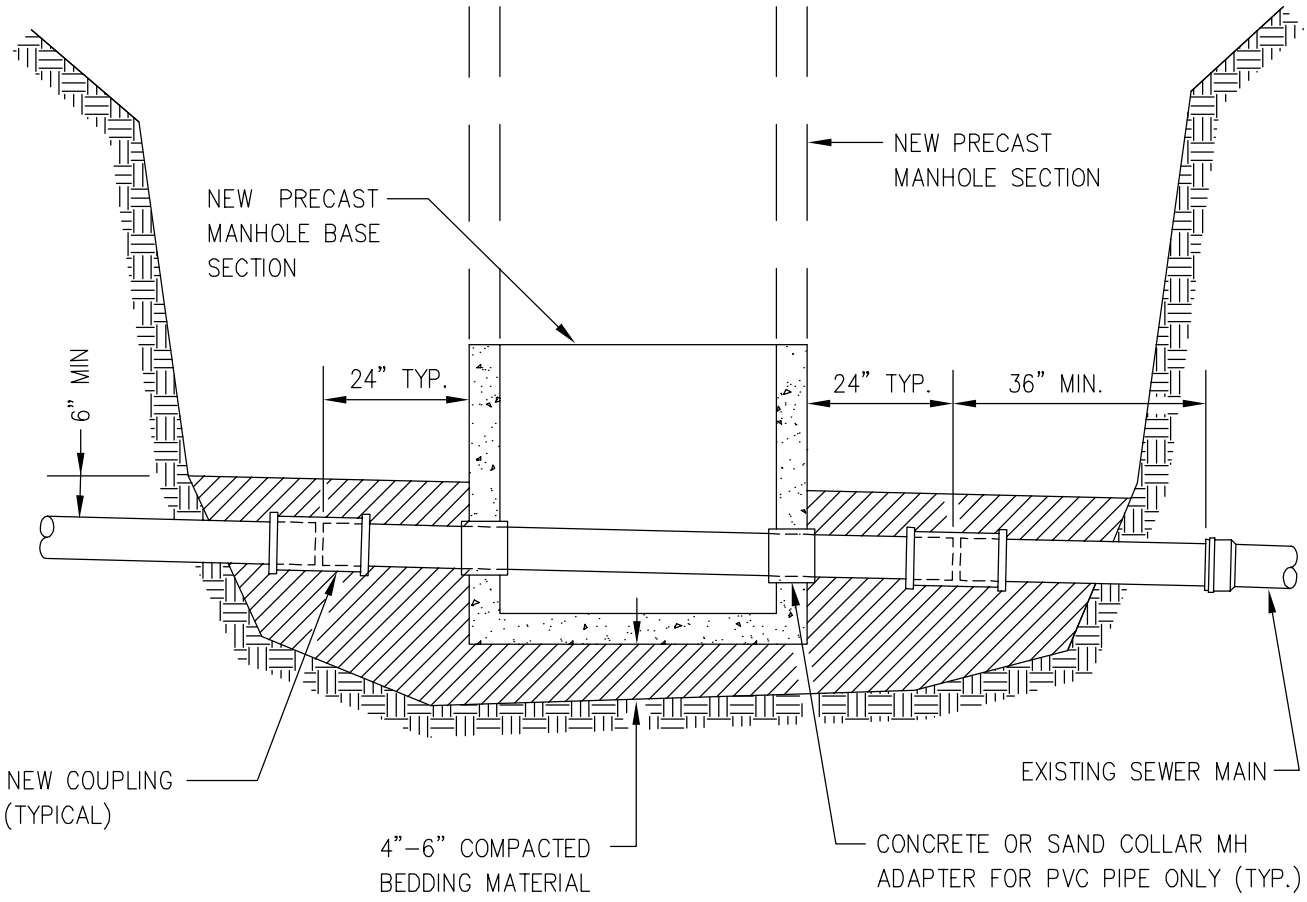
S-27 STANDARD MANHOLE DETAIL (06-02-11)

S-28 TYPICAL TRENCH DETAIL (06-02-11)

S-29 TYPICAL TRENCH DETAIL (OUTSIDE ROADWAY) (06-02-11)

S-30 SURFACE CLEANOUT (MAINLINE STUB) (06-02-11)

S-31 SEWER FORCE MAIN TRACER WIRE RISER (06-02-11)



ELEVATION

INSTALLATION PROCEDURES:

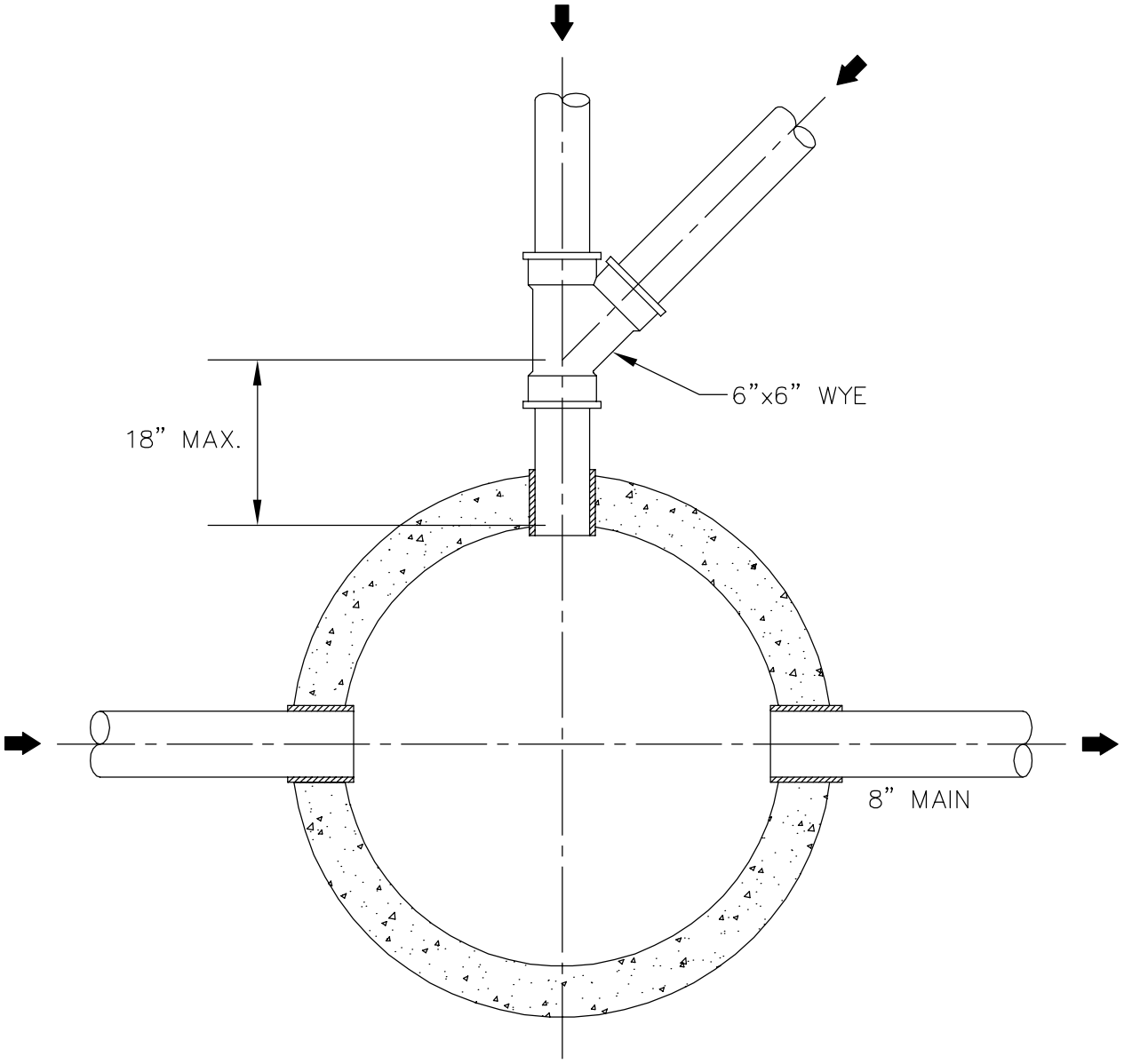
1. THE CONTRACTOR SHALL TEMPORARILY PLUG LINE AT UPSTREAM MANHOLE UNDER DISTRICT SUPERVISION. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE BY–PASS SEWAGE PUMPING AS REQUIRED.
2. EXPOSE AND REMOVE EXISTING PIPE.
3. PLACE EXISTING PIPE WITH NEW CONCRETE OR SAND COLLARS THROUGH NEW MANHOLE BASE SECTION. IF CUT PIPE SECTION CONTAINS A PIPE BELL, REPLACE PIPE WITH A NEW STRAIGHT SECTION OF PIPE, OR AS DIRECTED BY THE DISTRICT.
4. SET MANHOLE AND PIPE IN PLACE TO PROPER ALIGNMENT AND GRADE.
5. RECONNECT PIPE WITH COUPLINGS (ROMAC, MJ SLEEVE, OR PVC SLIP COUPLING).
6. CHANNEL MANHOLE PER DISTRICT STANDARDS.
7. REMOVE PIPE INSIDE MANHOLE.

SPECIAL MANHOLE CUT-IN INSTALLATION

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-1

DWG. NO. S-1

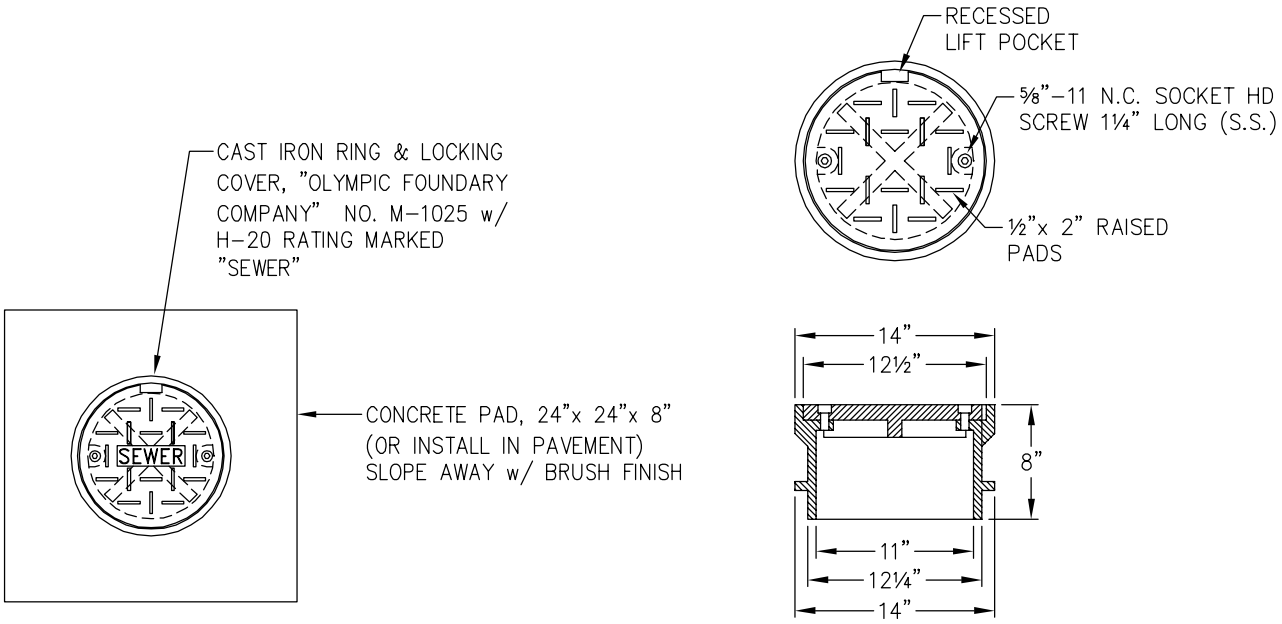


PLAN VIEW

MANHOLE DETAIL

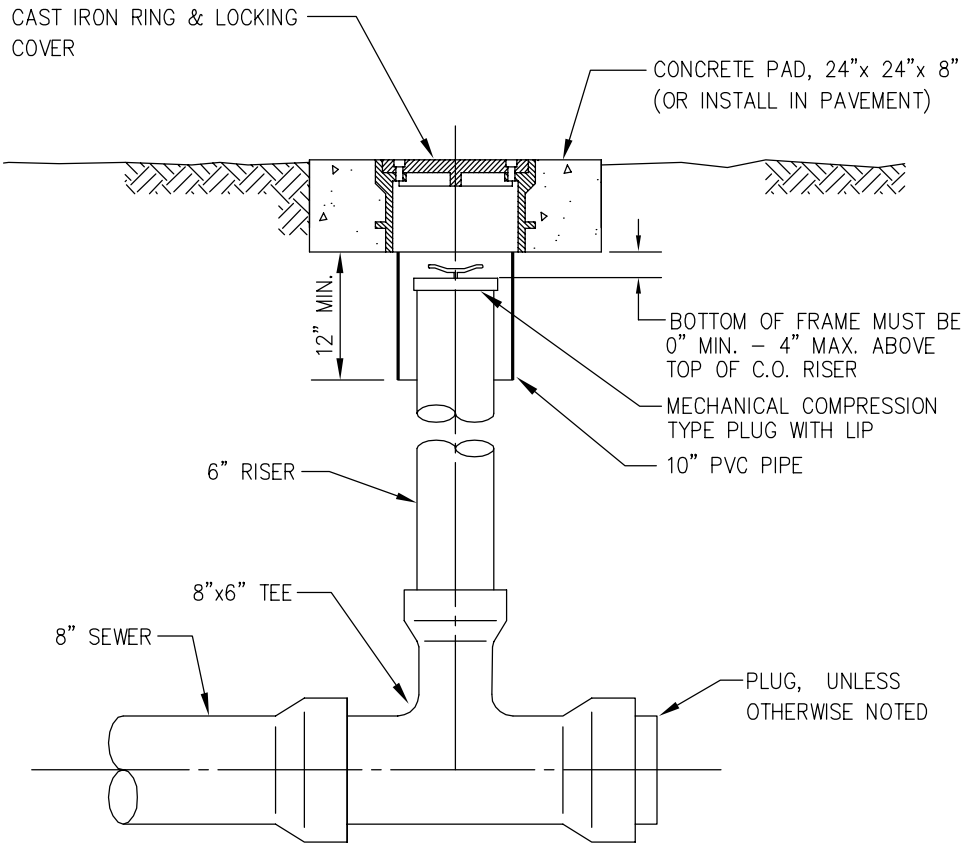
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-2	S-2



PLAN

11"x 8" LOCKING CLEANOUT

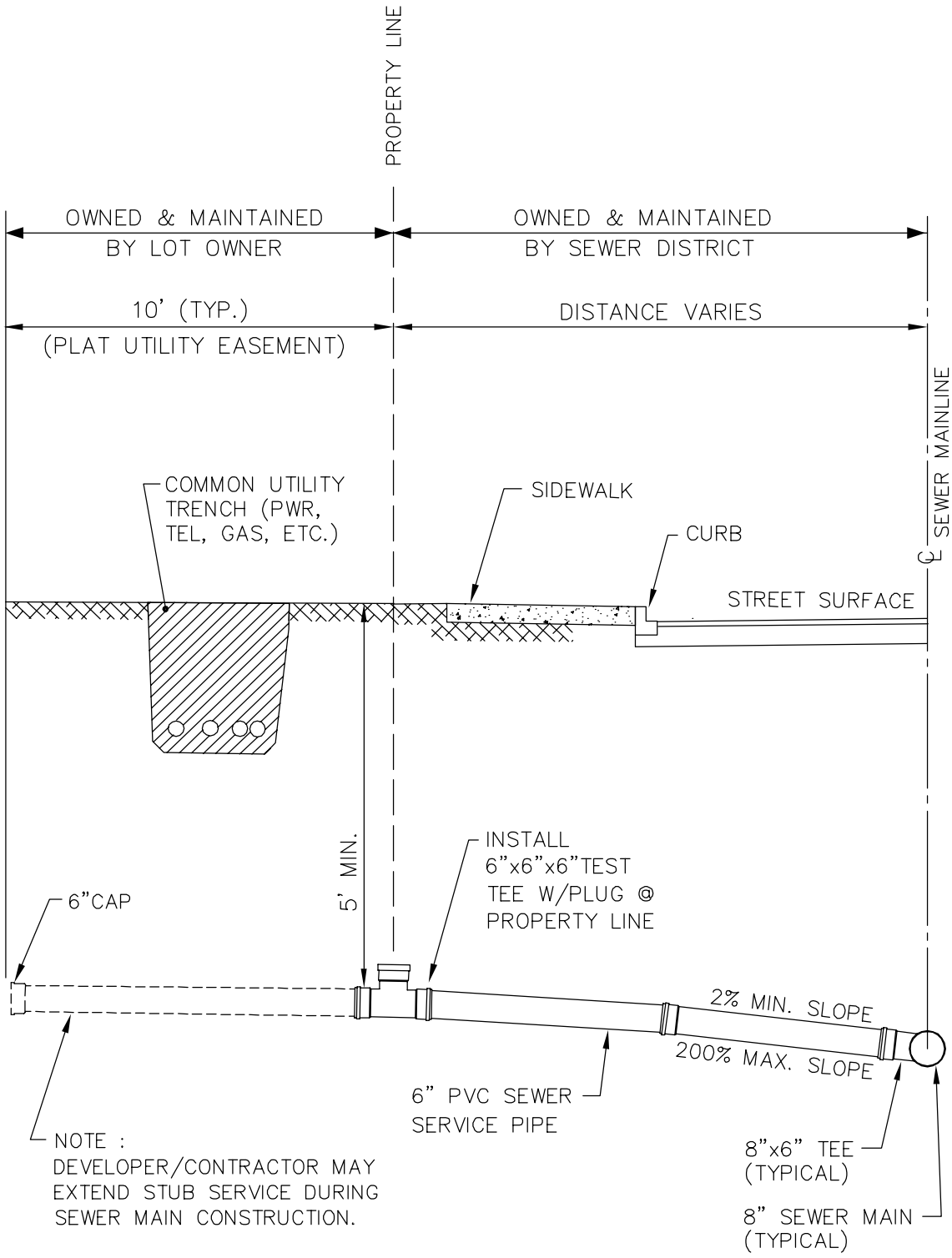


ELEVATION

SURFACE CLEAN OUT (MAINLINE STUB)

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-3	S-3

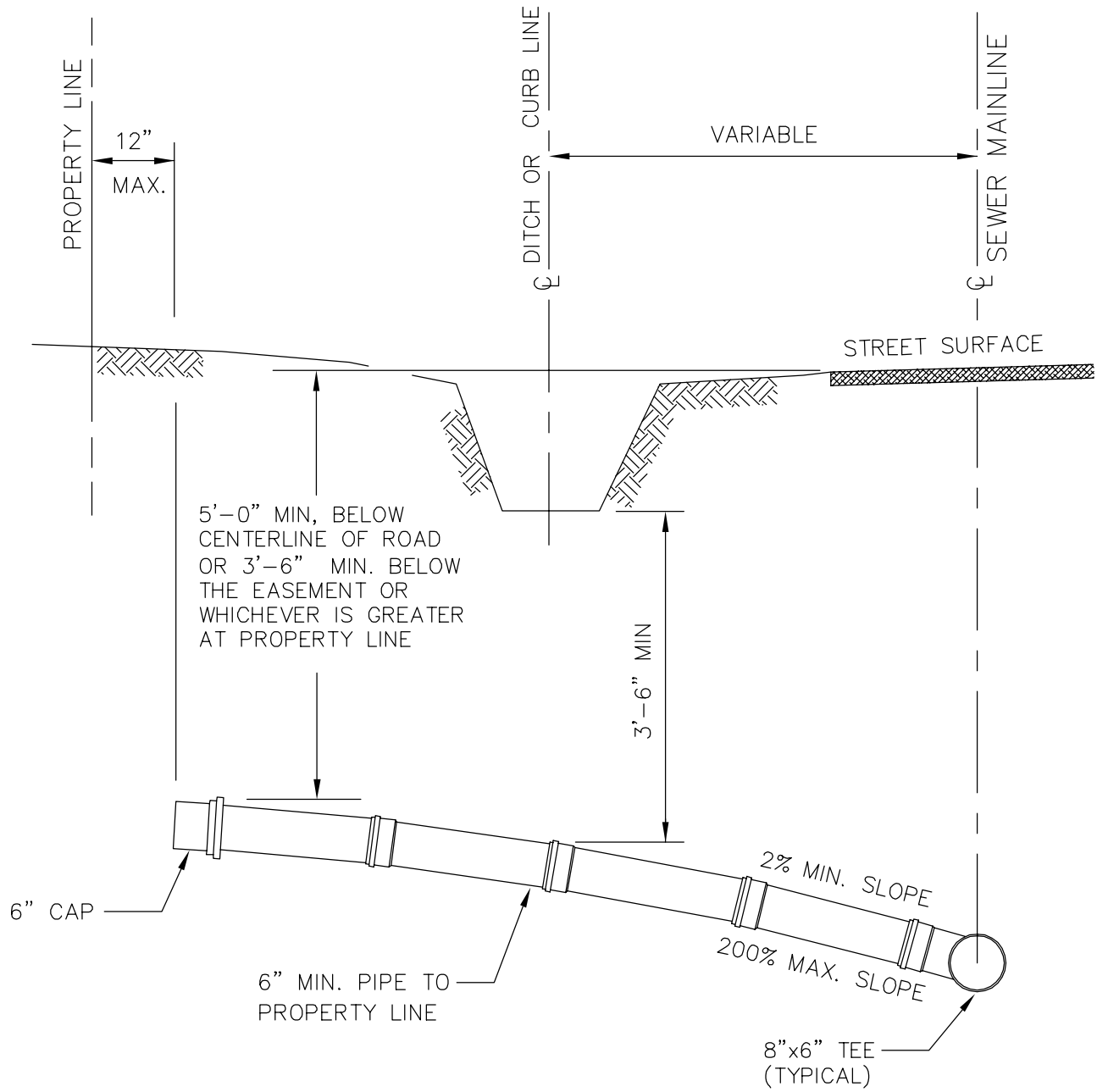


ELEVATION

STUB SERVICE CONSTRUCTION DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-4	S-4



ELEVATION

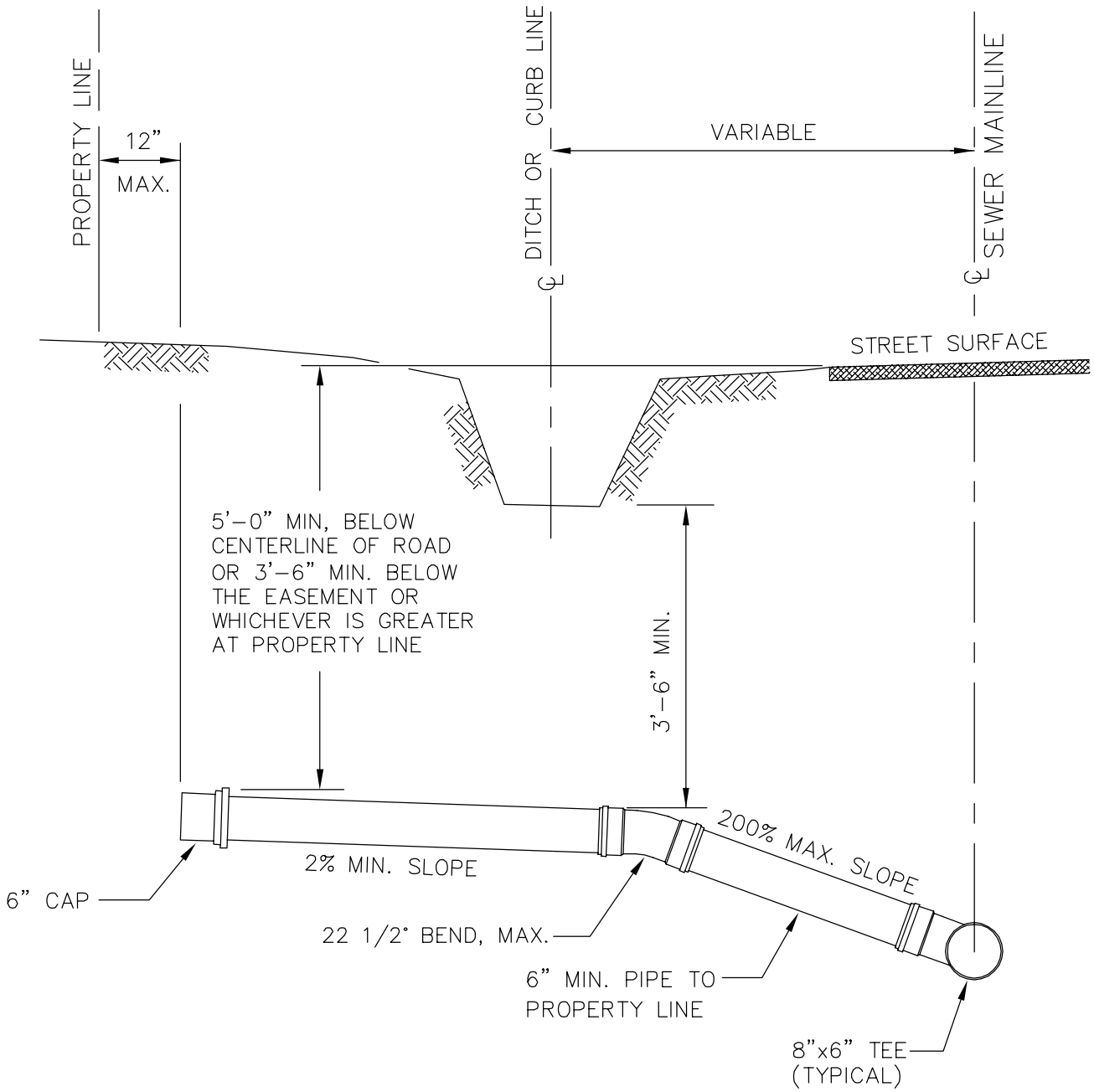
NOTE:

MAXIMUM DEFLECTION PER JOINT NOT OVER 2" PER FOOT, OR 5" PER STANDARD 30" PIPE SECTION. (NOT TO EXCEED PIPE MANUFACTURER'S SPECIFICATIONS)

STANDARD PLAN STUB SERVICE (ALT. NO. 1)

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-5	S-5



ELEVATION

NOTE:

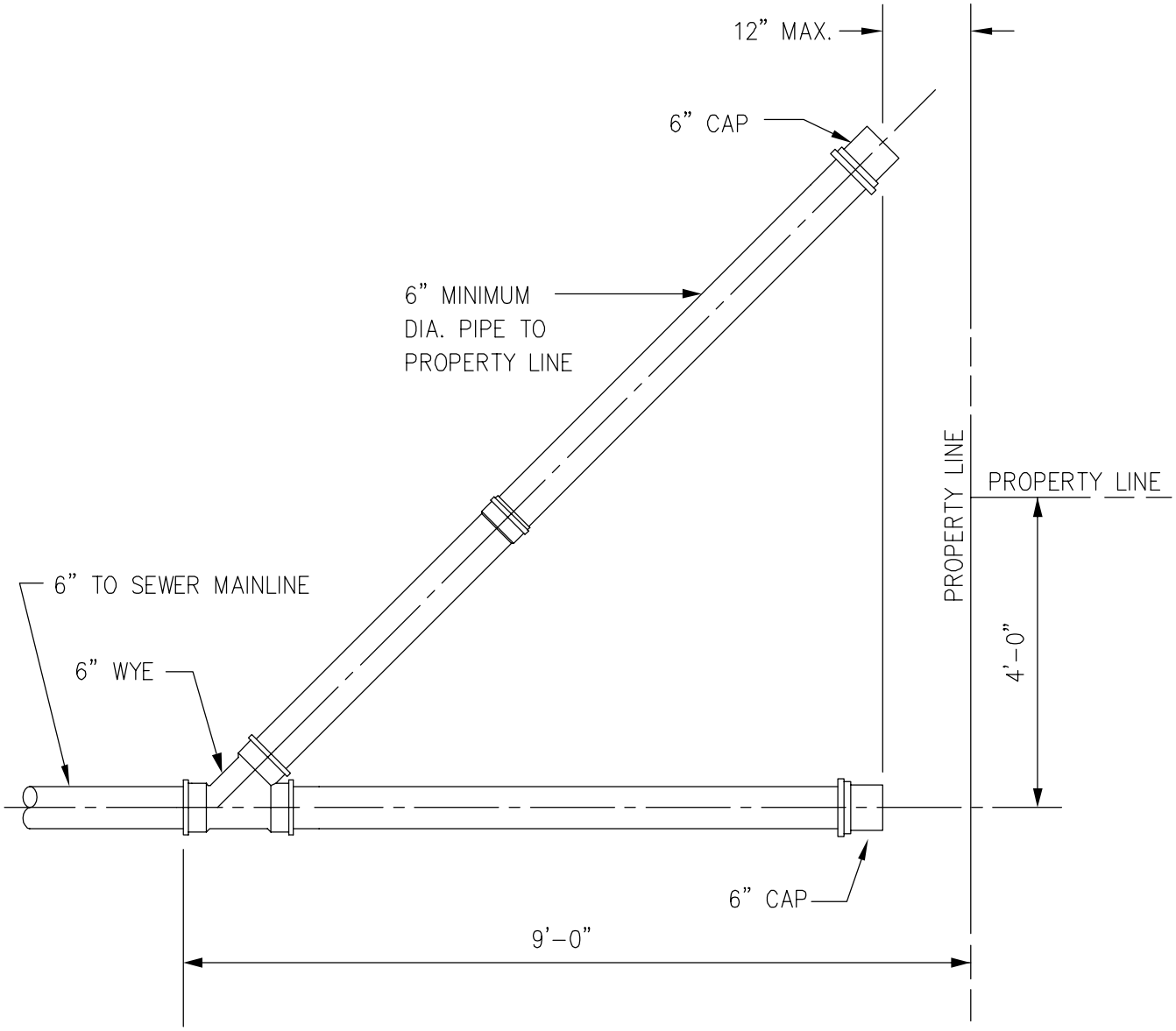
MAXIMUM ALLOWANCE FOR INSTALLATION IS A 22 1/2° MANUFACTURED BEND.

SOOS CREEK WATER & SEWER DISTRICT

STANDARD PLAN STUB SERVICE (ALT. NO. 2)

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-6	S-6



PLAN VIEW

NOTE:
SPECIAL PERMIT REQUIRED FOR USE OF DOUBLE SIDE SEWER PER SCWS DIST.

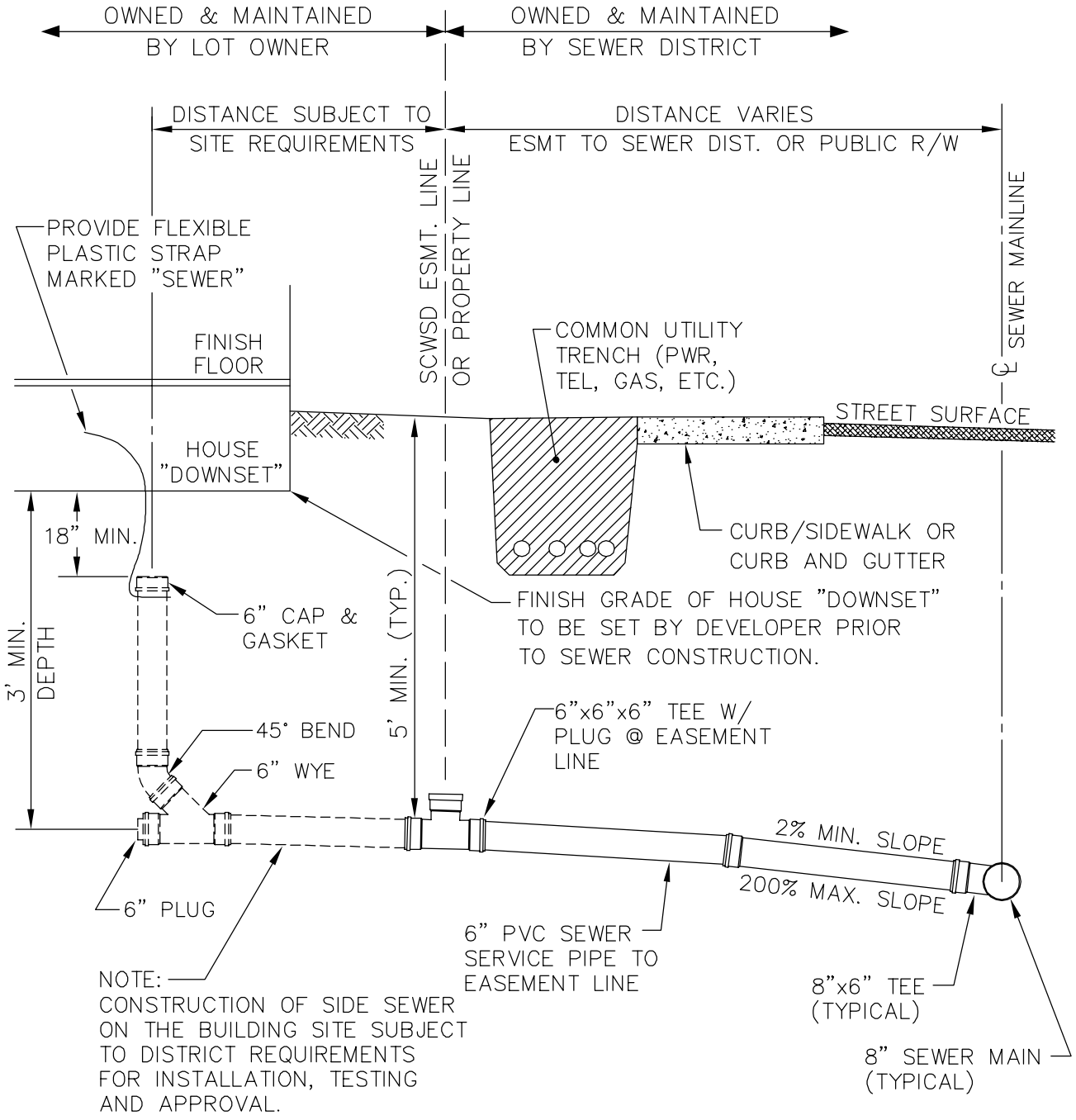
SOOS CREEK WATER & SEWER DISTRICT

STANDARD PLAN
DOUBLE STUB SERVICE

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-7

DWG. NO. S-7



ELEVATION

NOTE:

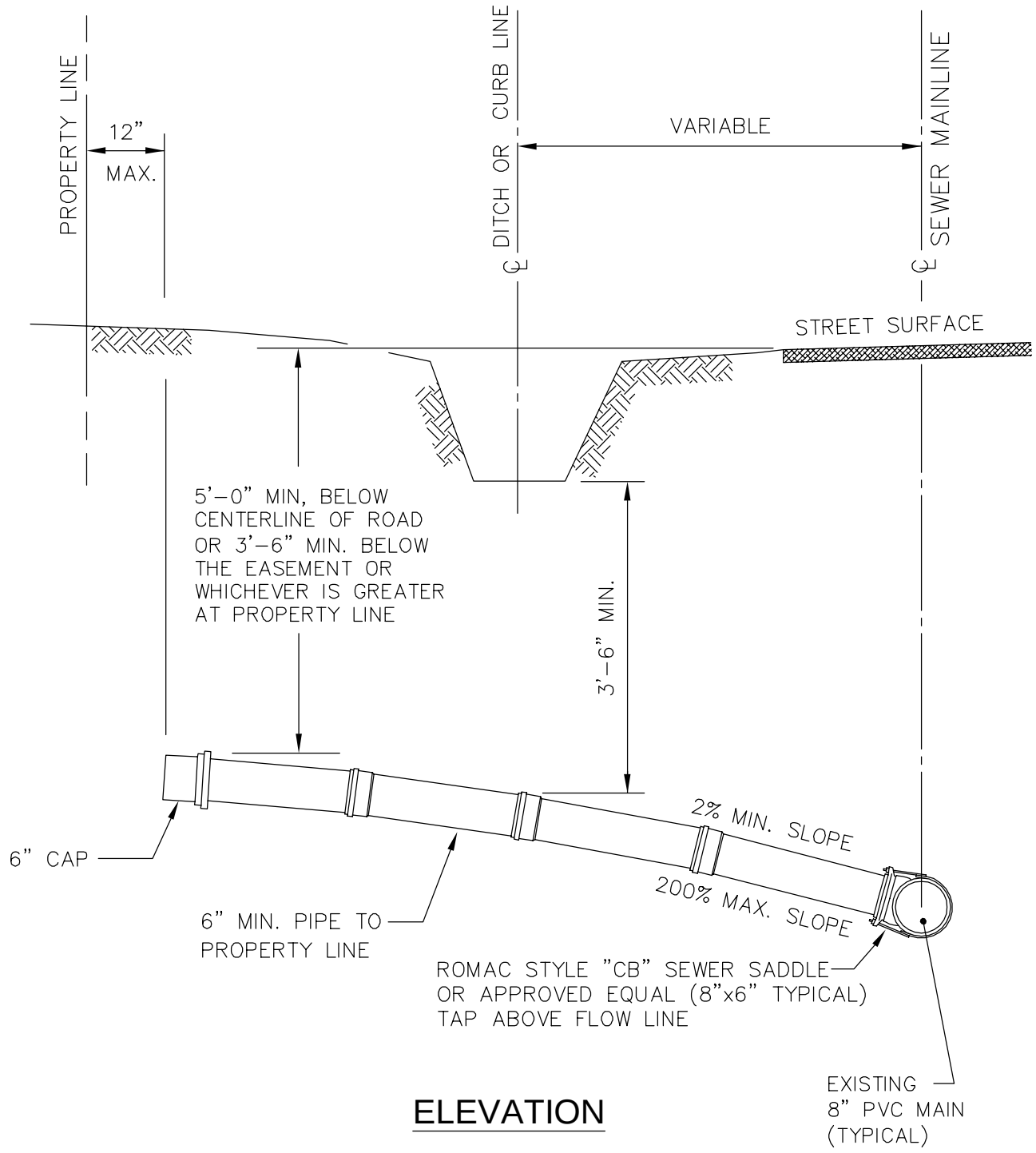
MAXIMUM DEFLECTION PER JOINT NOT OVER 2" PER FOOT, OR 5" PER STANDARD 30" PIPE SECTION. (NOT TO EXCEED PIPE MANUFACTURER'S SPECIFICATIONS)

STANDARD PLAN STUB SERVICE FOR MANUFACTURED HOME

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-8

DWG. NO. S-8



ELEVATION

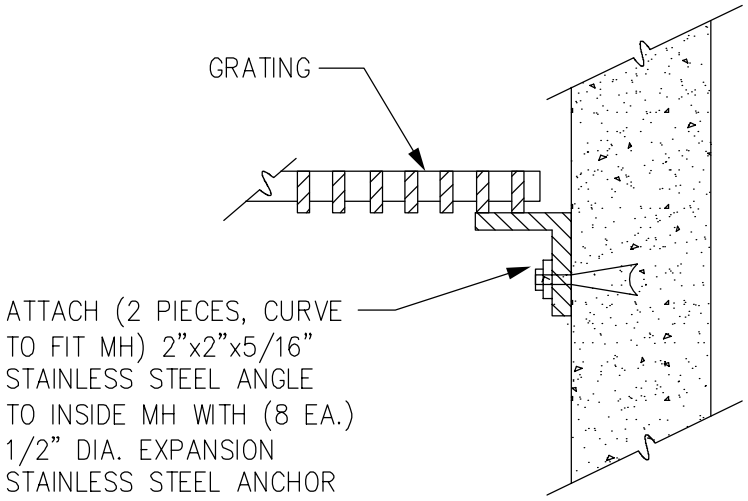
NOTE:

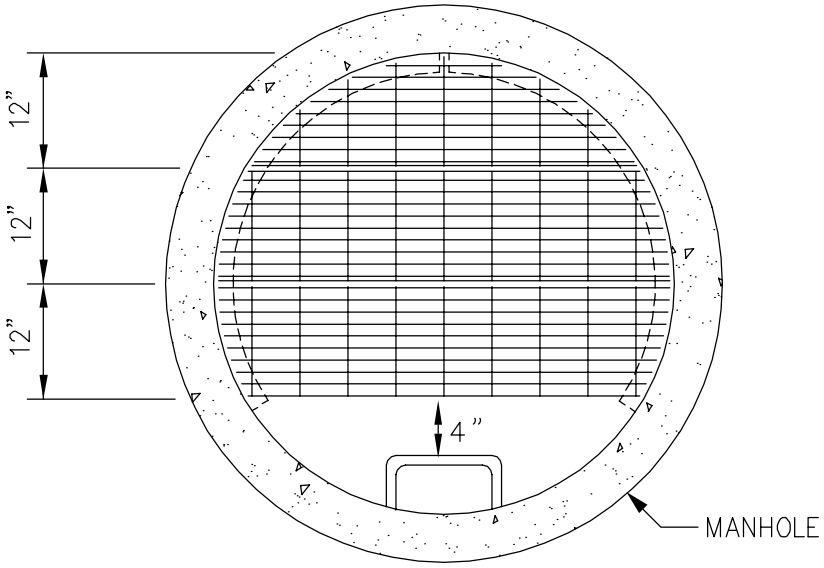
MAXIMUM DEFLECTION PER JOINT NOT OVER 2" PER FOOT, OR 5" PER STANDARD 30" PIPE SECTION. (NOT TO EXCEED PIPE MANUFACTURER'S SPECIFICATIONS)

SADDLE STUB SERVICE CONNECTION TO EXISTING SEWER MAIN

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-9	S-9





PLAN

THREE–PIECE ALUMINUM GRATING:
IRVING "X–BAR" GRATING (OR EQUAL)
TYPE AA: 1–1/4"x 3/16" BEARING
BARS SPACED @ 1–3/16" O.C.
W/ CROSS BARS SPACED @ 4" O.C.

SAFETY GRATE DETAIL

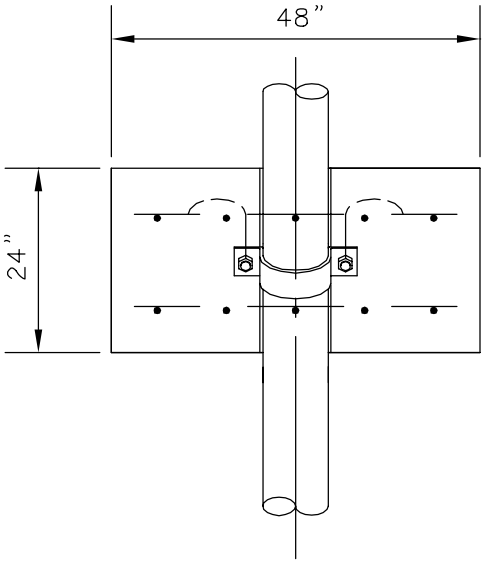
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S–10

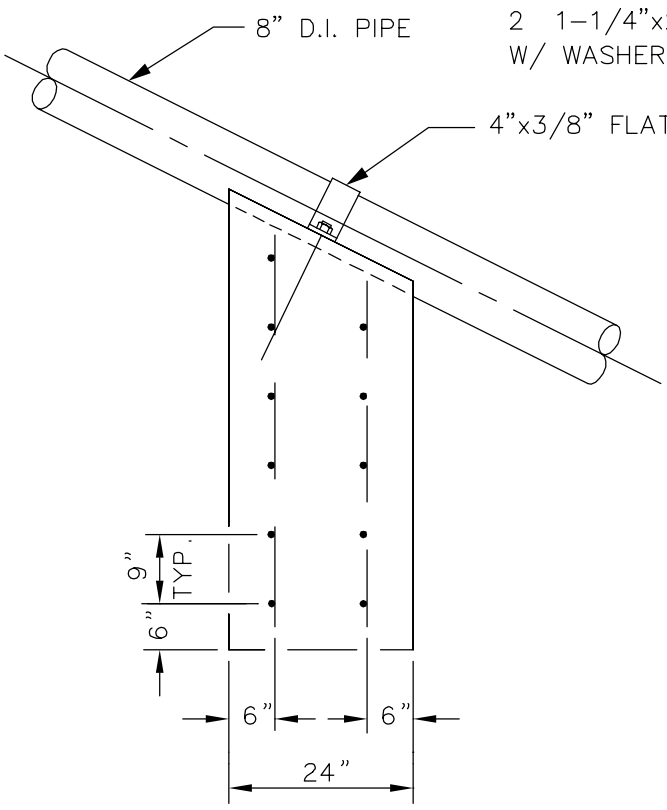
DWG. NO. S-10

NOTES:

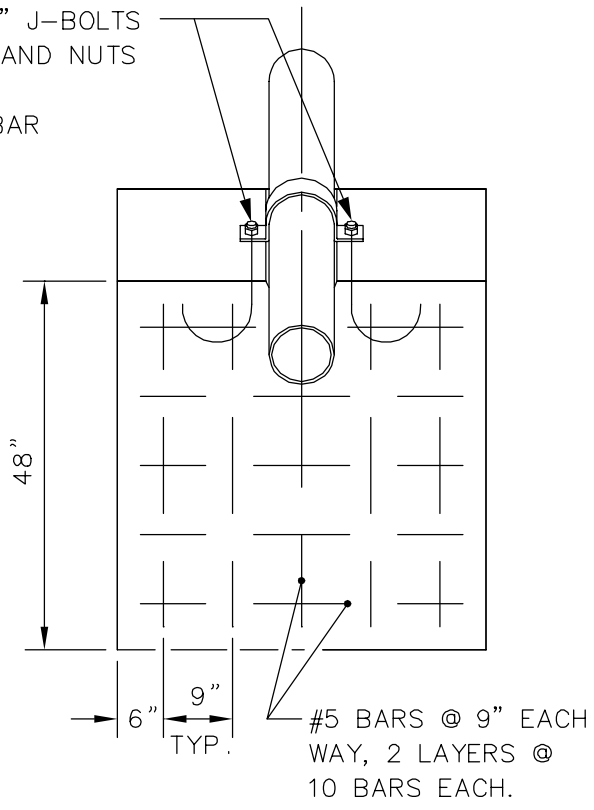
1. SLOPE TOP SURFACE OF PIPE ANCHOR TO MATCH PIPE SLOPE.
2. INSTALL J-BOLTS AT RIGHT ANGLES TO TOP SURFACE OF ANCHOR FOR MAXIMUM CONTACT BETWEEN PIPE AND STRAP.
3. BOLTS, NUTS AND FLAT BAR TO BE HOT-DIPPED GALVANIZED.



PLAN



END VIEW



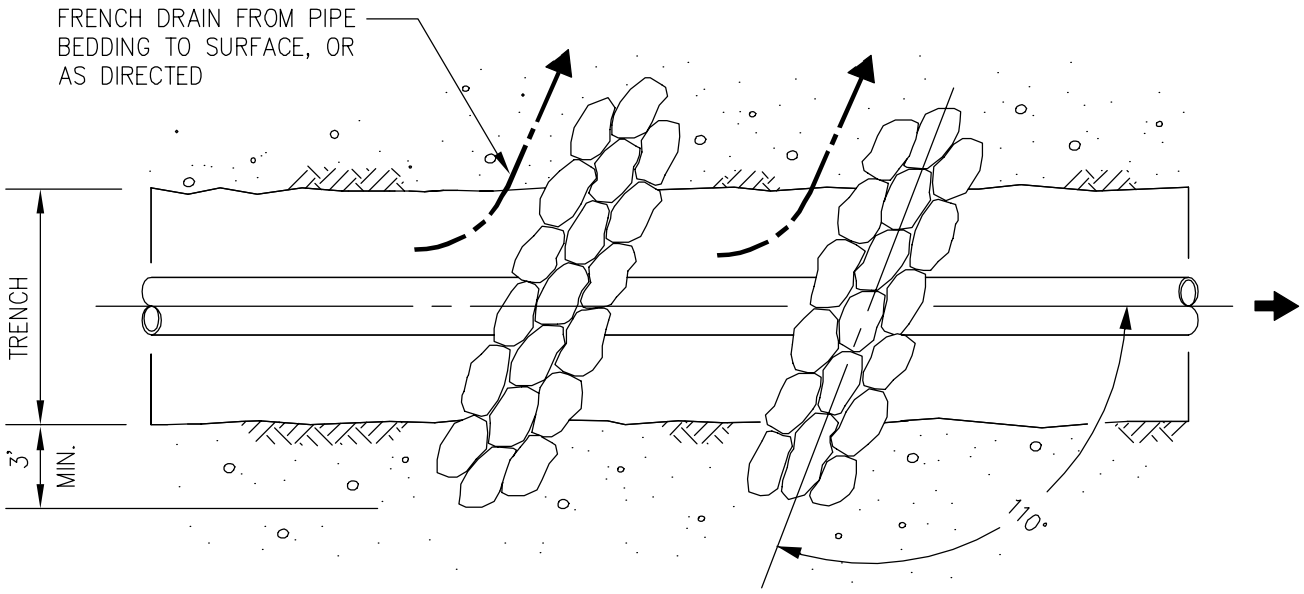
ELEVATION

PIPE ANCHOR DETAIL

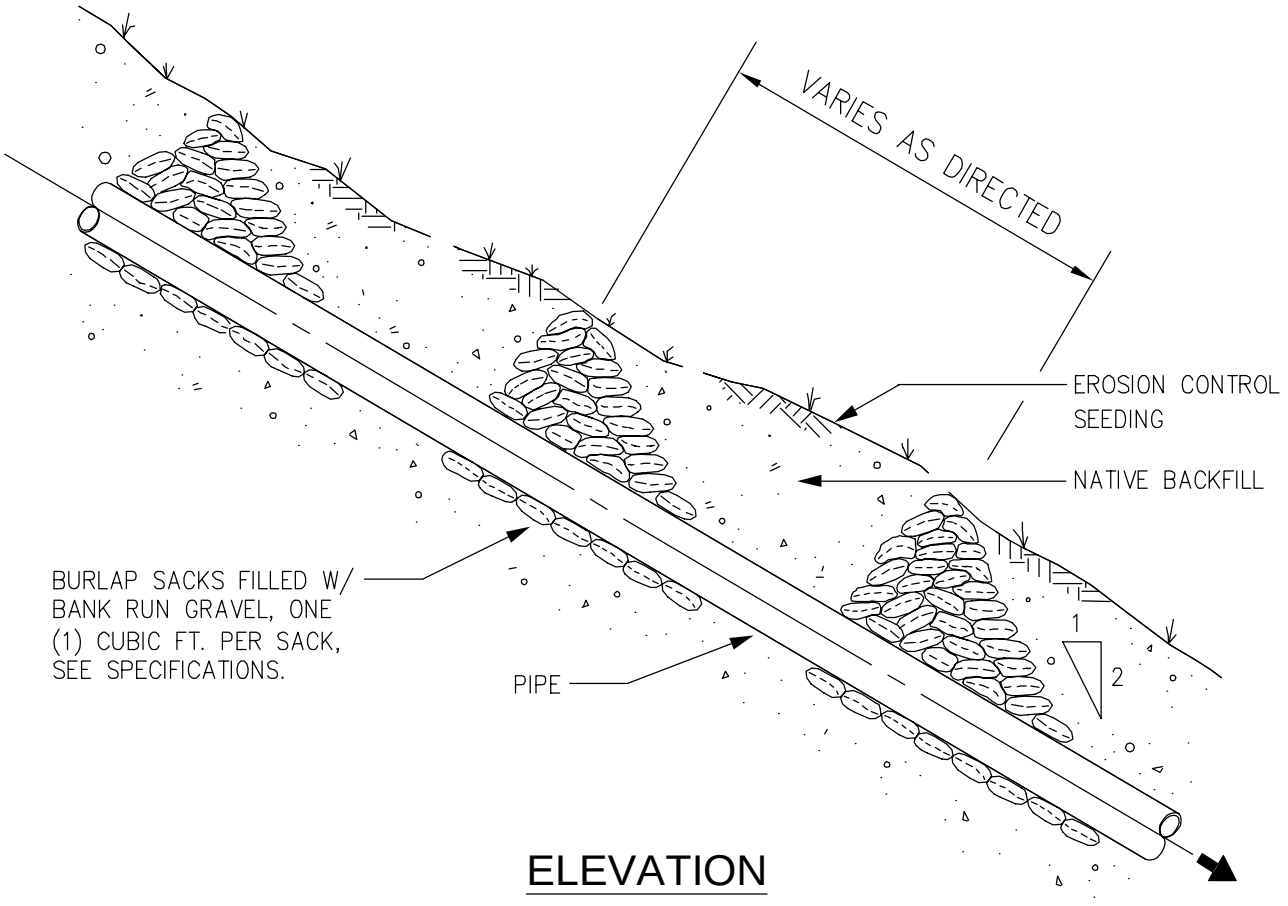
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-11

DWG. NO. S-11



PLAN



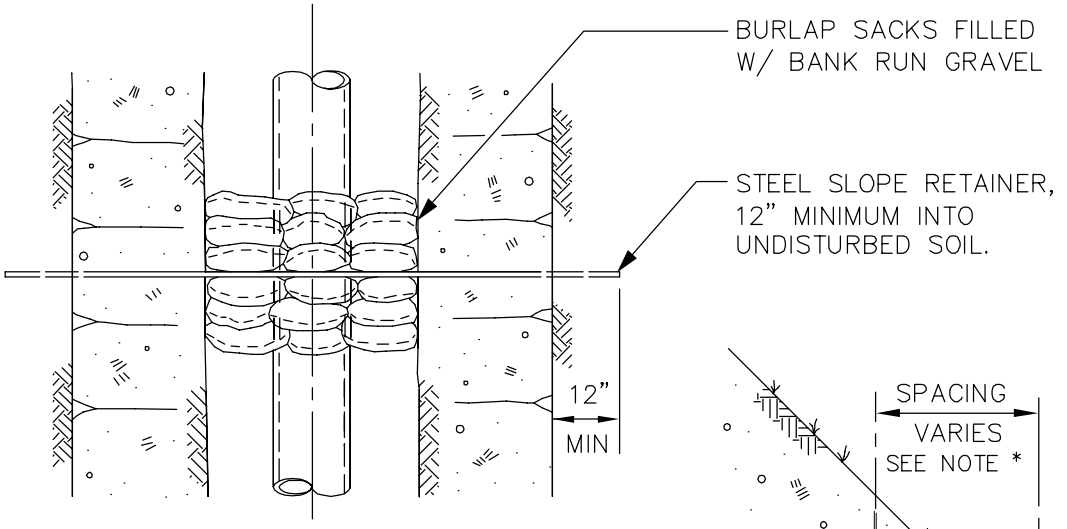
ELEVATION

SACK SLOPE RETAINER

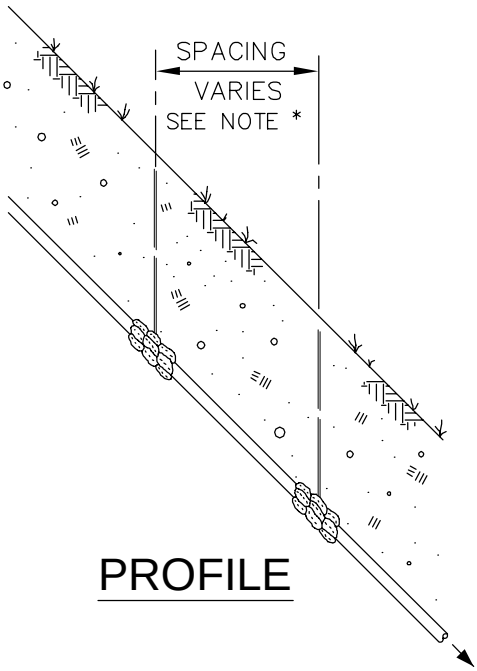
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-12

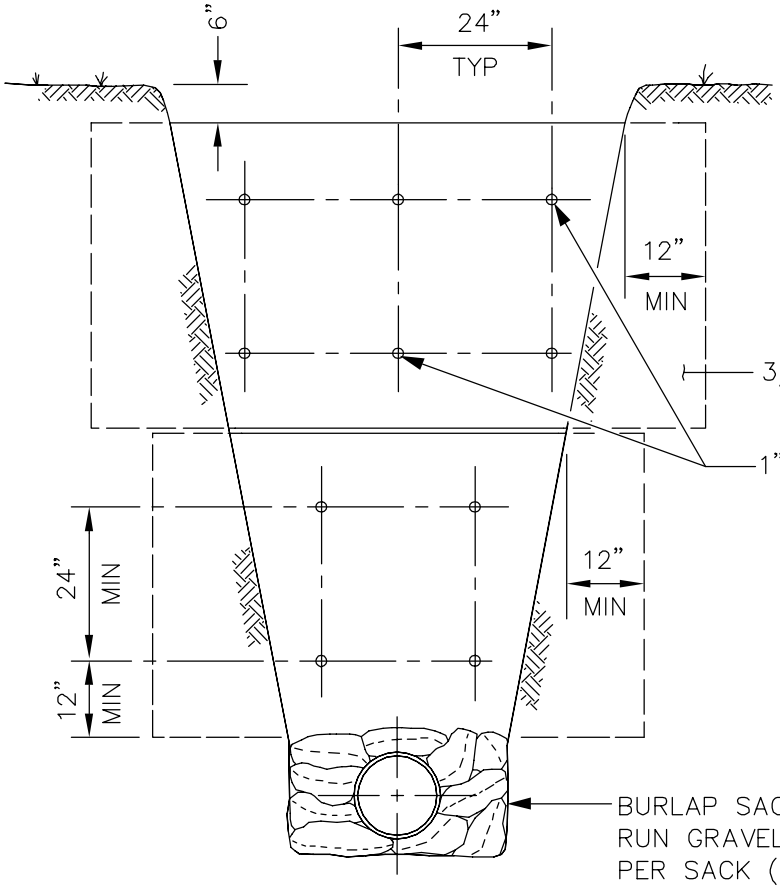
DWG. NO. S-12



PLAN



PROFILE



SECTION

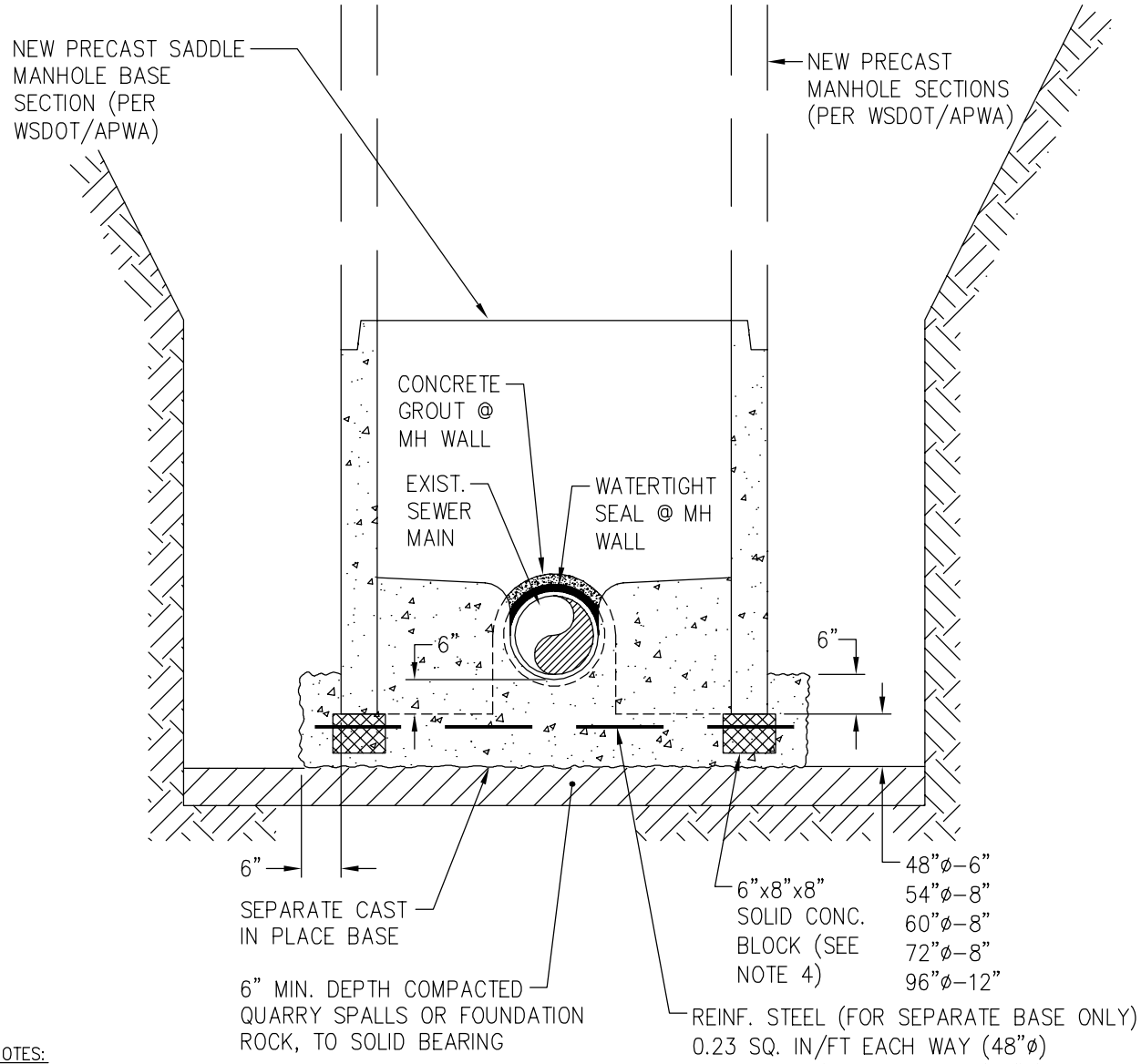
* NOTE:
SPACE ACCORDING
TO ENGINEER'S
REQUIREMENTS.

STEEL SLOPE RETAINER

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-13

DWG. NO. S-13



NOTES:

1. IN GENERAL, SADDLE MANHOLES ARE NOT ALLOWED BY SCWSD. THIS DETAIL SHALL BE USED ONLY AS PRE–APPROVED BY THE DISTRICT.
2. KNOCKOUT OR CUTOUT HOLE SIZE SHALL BE EQUAL TO PIPE OUTER DIAMETER PLUS MANHOLE WALL THICKNESS. MAXIMUM HOLE SIZE IS 36" FOR 48" MANHOLE, 42" FOR 54" MANHOLE, 48" FOR 60" MANHOLE, 60" FOR 72" MANHOLE, & 84" FOR 96" MANHOLE. MINIMUM DISTANCE BETWEEN HOLES IS 12" MIN.
3. ALL BASE REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI & SHALL BE PLACED IN THE UPPER HALF OF THE BASE WITH 1" MINIMUM CLEARANCE FROM ANY SURFACE.
4. RESILIENT CONNECTIONS TO MANHOLES, CONFORMING TO ASTM C 923, ARE NOT PERMITTED.
5. SET BASE SECTION ON 4 EVENLY SPACED 6"x8"x8" SOLID CONCRETE BLOCKS ON QUARRY SPALL FOUNDATION PRIOR TO POURING OF BASE BOTTOM.
6. CAST–IN–PLACE CONCRETE SHALL HAVE A MINIMUM YIELD STRENGTH OF 4,000 PSI.
7. DEWATER EXCAVATION PRIOR TO CONCRETE PLACEMENT. CONTINUE DEWATERING UNTIL CONCRETE HAS SET.
8. EXISTING PIPE SHALL NOT BE CUT UNTIL APPROVED BY DISTRICT.

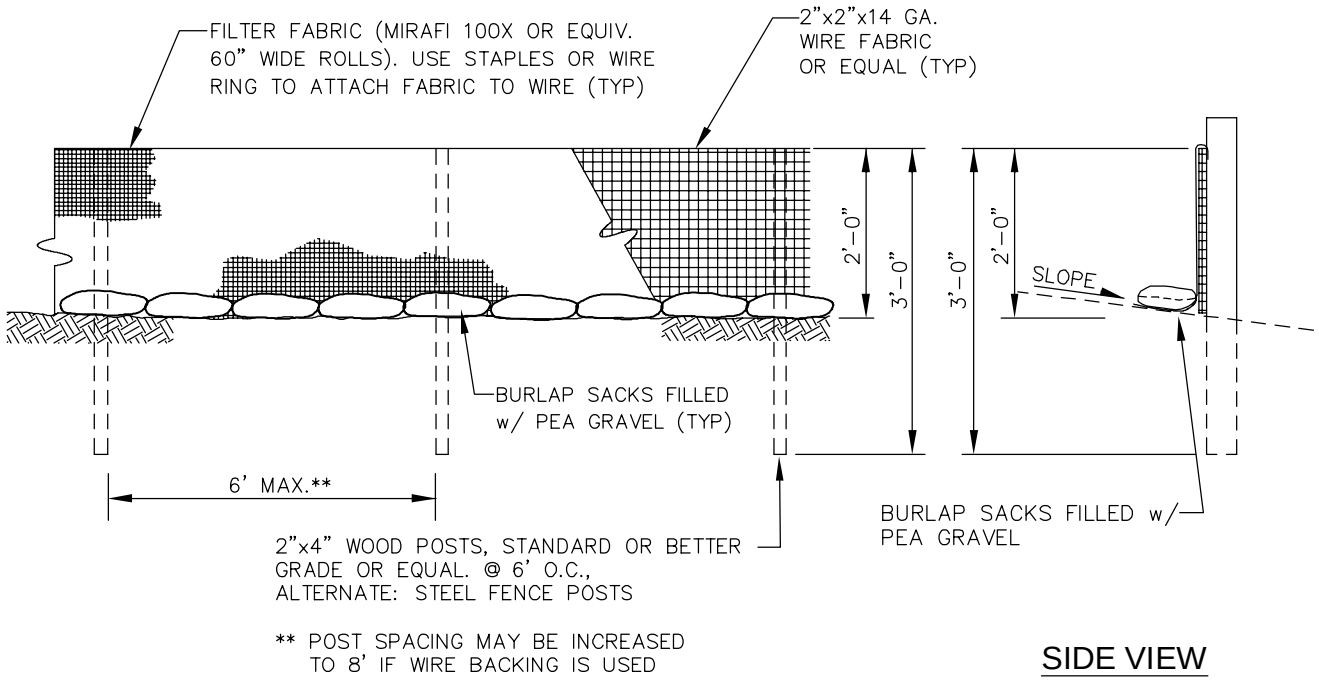
SOOS CREEK WATER & SEWER DISTRICT

SADDLE MANHOLE BASE DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S–14

DWG. NO. S-14



SIDE VIEW

FILTER FABRIC FENCE NOTES:

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6–INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.

2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS (WHERE FEASIBLE). THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 30 INCHES).

3. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY–DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

4. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 30 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.

5. WHEN EXTRA–STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF STANDARD NOTE 5 APPLYING.

6. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

7. FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

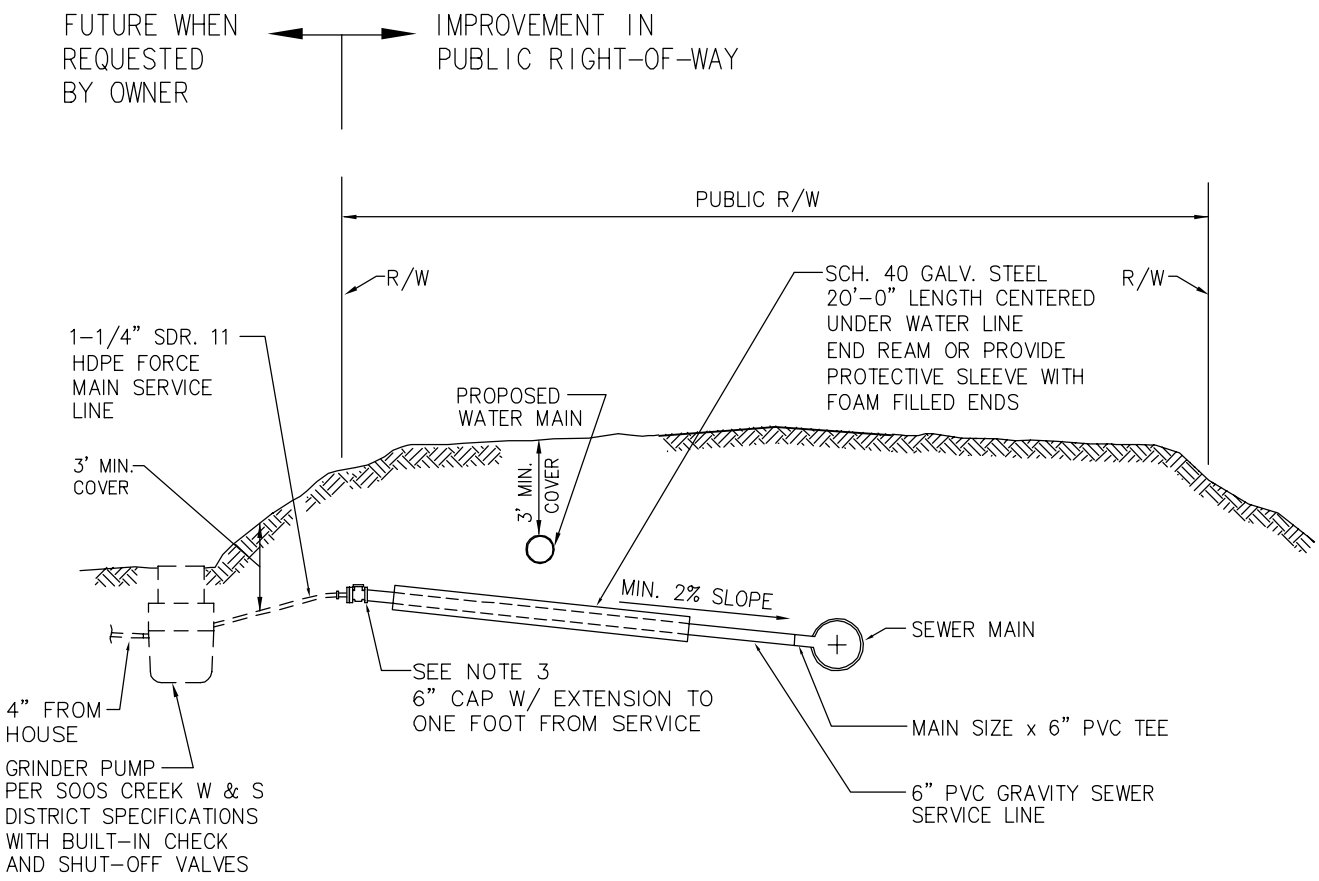
SOOS CREEK WATER & SEWER DISTRICT

FILTER FABRIC FENCE

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S–15

DWG. NO. S-15



GRINDER PUMP SERVICE LINE NOTES

1. INSTALL 16-GAUGE SOLID COPPER TRACER WIRE ALONG TOP OF 6" GRAVITY SEWER SERVICE LINE AND HDPE FORCE MAIN SERVICE LINE WITH WARNING TAPE MARKED "SEWER" 12" ABOVE SERVICE LINE. TRACER WIRE SHALL EXTEND FROM 6" TEE AT RIGHT-OF-WAY LINE TEE TO GRINDER PUMP. TRACER WIRE SHALL TERMINATE AT GRINDER PUMP LID WITH 24" OF EXTRA COIL.

2. THE LOCATION OF THE STUB SERVICE TERMINATION SHALL BE MARKED BY THE CONTRACTOR WITH 2"x4" TIMBER EXTENDED VERTICALLY FROM THE PLUG END TO A MINIMUM OF 12" ABOVE THE GROUND SURFACE. A 12-GAUGE GALVANIZED WIRE SHALL BE ATTACHED TO THE TIMBER FROM END TO END. NEITHER THE WIRE NOR THE 2"x4" SHALL BE SECURED OR ATTACHED TO THE SEWER PIPE OR PLUG. THE EXPOSED PORTION OF THE 2"x4" SHALL BE PRE-PAINTED TRAFFIC WHITE WITH THE WORDS "GRINDER PUMP SEWER CONNECTION" STENCILED ON WITH BLACK PAINT. THE END OF THE 2"x4" SHALL BE PRE-MARKED IN PERMANENT INK WITH THE LENGTH OF THE TIMBER INSTALLED.

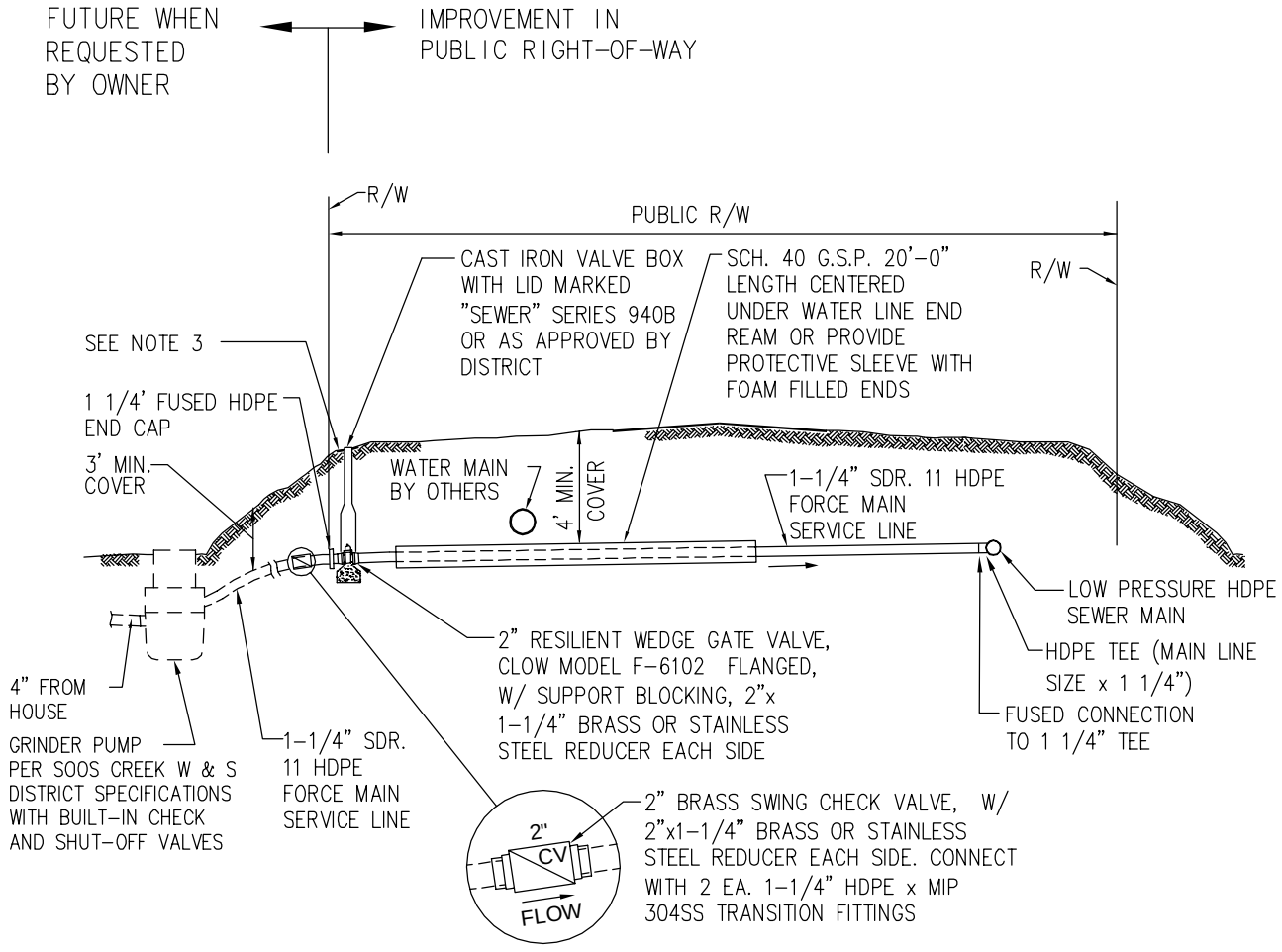
3. 6" TEE AT PROPERTY LINE x 6" MJ CAP AND TAPPED 1-1/4" FIPT.

SOOS CREEK WATER & SEWER DISTRICT

GRINDER PUMP SERVICE LINE FOR PVC OR DI GRAVITY SEWER MAIN IN PUBLIC R.O.W.

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-16	S-16



GRINDER PUMP SERVICE LINE NOTES

1. INSTALL 16-GAUGE SOLID COPPER TRACER WIRE ALONG TOP OF HDPE FORCE MAIN SERVICE LINE WITH WARNING TAPE MARKED "SEWER" 12" ABOVE SERVICE LINE. TRACER WIRE SHALL EXTEND FROM LOW PRESSURE SEWER MAIN TO VALVE AT RIGHT-OF-WAY LINE AND FROM GATE VALVE TO GRINDER PUMP. TRACER WIRE SHALL TERMINATE IN VALVE CAN WITH EXTRA 24" OF COIL AND TERMINATE AT GRINDER PUMP LID.

2. THE LOCATION OF THE STUB SERVICE TERMINATION SHALL BE MARKED BY THE CONTRACTOR WITH 2"x4" TIMBER EXTENDED VERTICALLY FROM THE PLUG END TO A MINIMUM OF 12" ABOVE THE GROUND SURFACE. A 12-GAUGE GALVANIZED WIRE SHALL BE ATTACHED TO THE TIMBER FROM END TO END. NEITHER THE WIRE NOR THE 2"x4" SHALL BE SECURED OR ATTACHED TO THE SEWER PIPE OR PLUG. THE EXPOSED PORTION OF THE 2"x4" SHALL BE PRE-PAINTED TRAFFIC WHITE WITH THE WORDS "GRINDER PUMP SEWER CONNECTION" STENCILED ON WITH BLACK PAINT. THE END OF THE 2"x4" SHALL BE PRE-MARKED IN PERMANENT INK WITH THE LENGTH OF THE TIMBER INSTALLED.

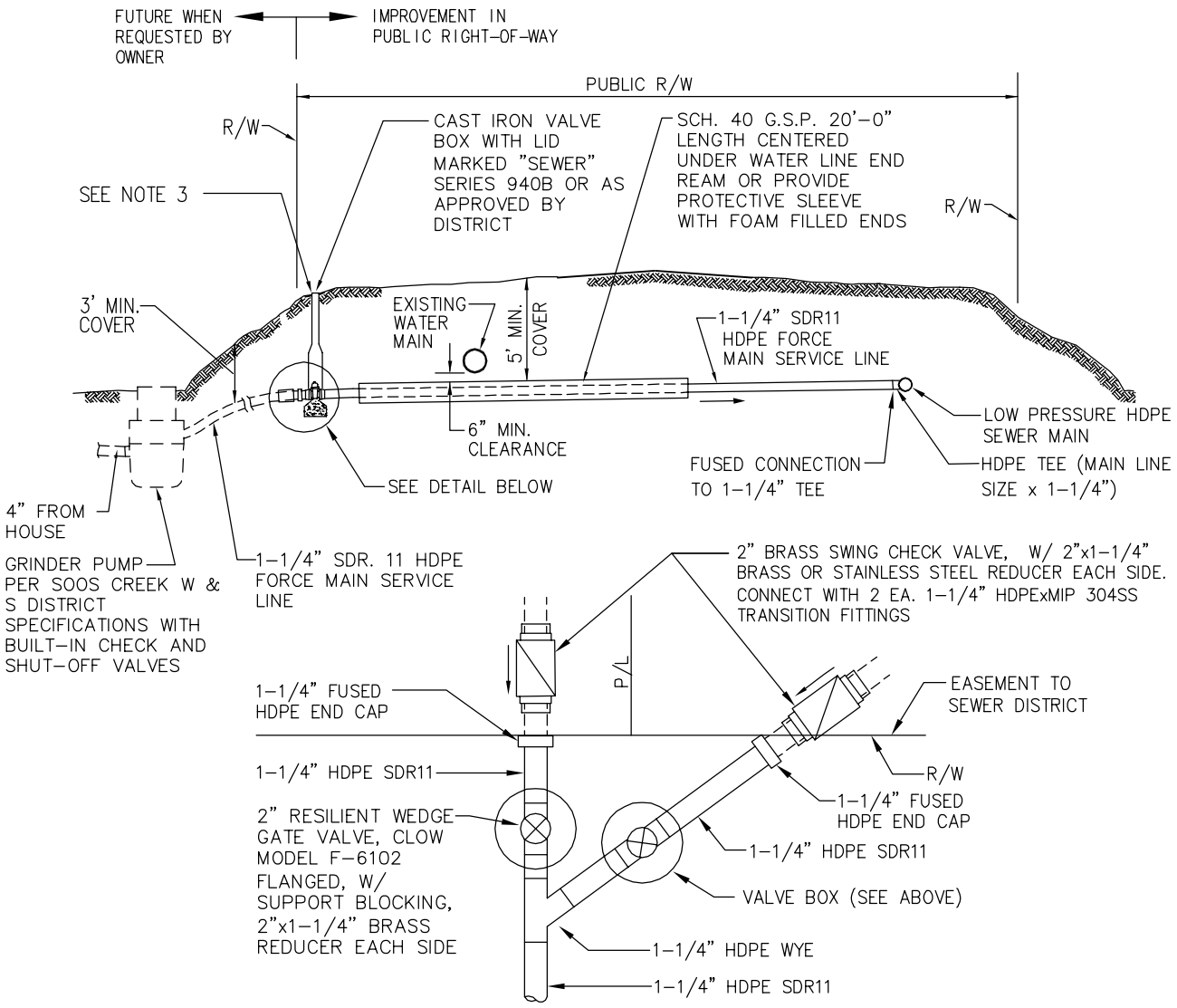
3. INSTALL A 2 FOOT SQUARE x 4" THICK ASPHALT OR CONCRETE PAD AROUND THE VALVE BOX AT ALL VACANT LOTS.

SOOS CREEK WATER & SEWER DISTRICT

GRINDER PUMP SERVICE LINE FOR SMALL DIA. LOW PRESSURE SEWER IN PUBLIC R.O.W.

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-17	S-17



DOUBLE SERVICE DETAIL

GRINDER PUMP SERVICE LINE NOTES

1. INSTALL 16-GAUGE SOLID COPPER TRACER WIRE ALONG TOP OF HDPE FORCE MAIN SERVICE LINE WITH WARNING TAPE MARKED "SEWER" 12" ABOVE SERVICE LINE. TRACER WIRE SHALL EXTEND FROM LOW PRESSURE SEWER MAIN TO VALVE AT RIGHT-OF-WAY LINE AND FROM GATE VALVE TO GRINDER PUMP. TRACER WIRE SHALL TERMINATE IN VALVE CAN WITH EXTRA 24" OF COIL AND TERMINATE AT GRINDER PUMP LID.

2. THE LOCATION OF THE STUB SERVICE TERMINATION SHALL BE MARKED BY THE CONTRACTOR WITH 2"x4" TIMBER EXTENDED VERTICALLY FROM THE PLUG END TO A MINIMUM OF 12" ABOVE THE GROUND SURFACE. A 12-GAUGE GALVANIZED WIRE SHALL BE ATTACHED TO THE TIMBER FROM END TO END. NEITHER THE WIRE NOR THE 2"x4" SHALL BE SECURED OR ATTACHED TO THE SEWER PIPE OR PLUG. THE EXPOSED PORTION OF THE 2"x4" SHALL BE PRE-PAINTED TRAFFIC WHITE WITH THE WORDS "GRINDER PUMP SEWER CONNECTION" STENCILED ON WITH BLACK PAINT. THE END OF THE 2"x4" SHALL BE PRE-MARKED IN PERMANENT INK WITH THE LENGTH OF THE TIMBER INSTALLED.

3. INSTALL A 2 FOOT SQUARE x 4" THICK ASPHALT OR CONCRETE PAD AROUND THE VALVE BOX AT ALL VACANT LOTS. LOTS WITH EXISTING HOMES WILL HAVE PAD INSTALLED BY THE DISTRICT AFTER GRINDER PUMP CONNECTION IS COMPLETED.

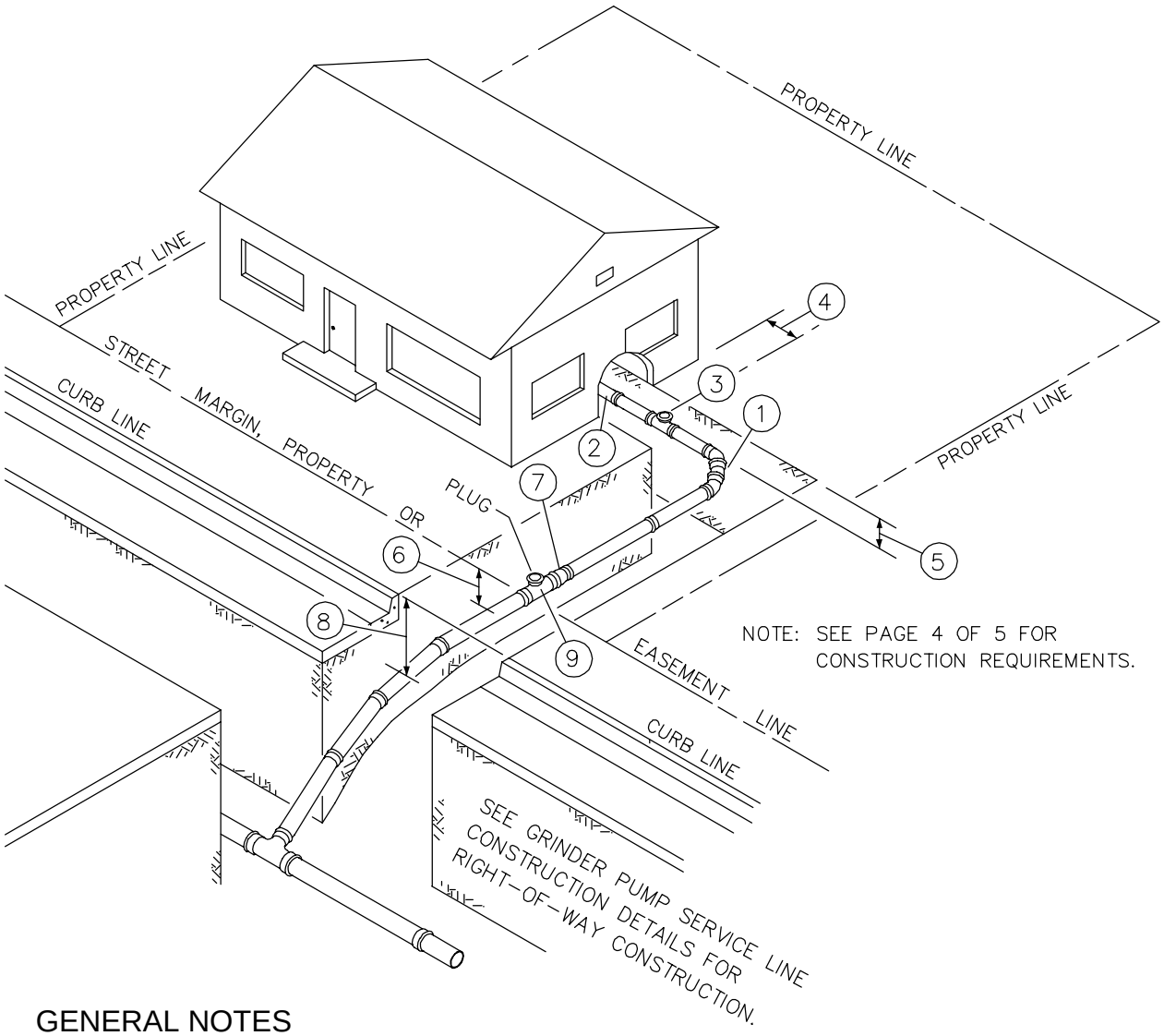
SOOS CREEK WATER & SEWER DISTRICT

GRINDER PUMP DOUBLE SERVICE LINE FOR SMALL DIA. LOW PRESSURE SEWER IN R.O.W.

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-18

DWG. NO. S-18



GENERAL NOTES

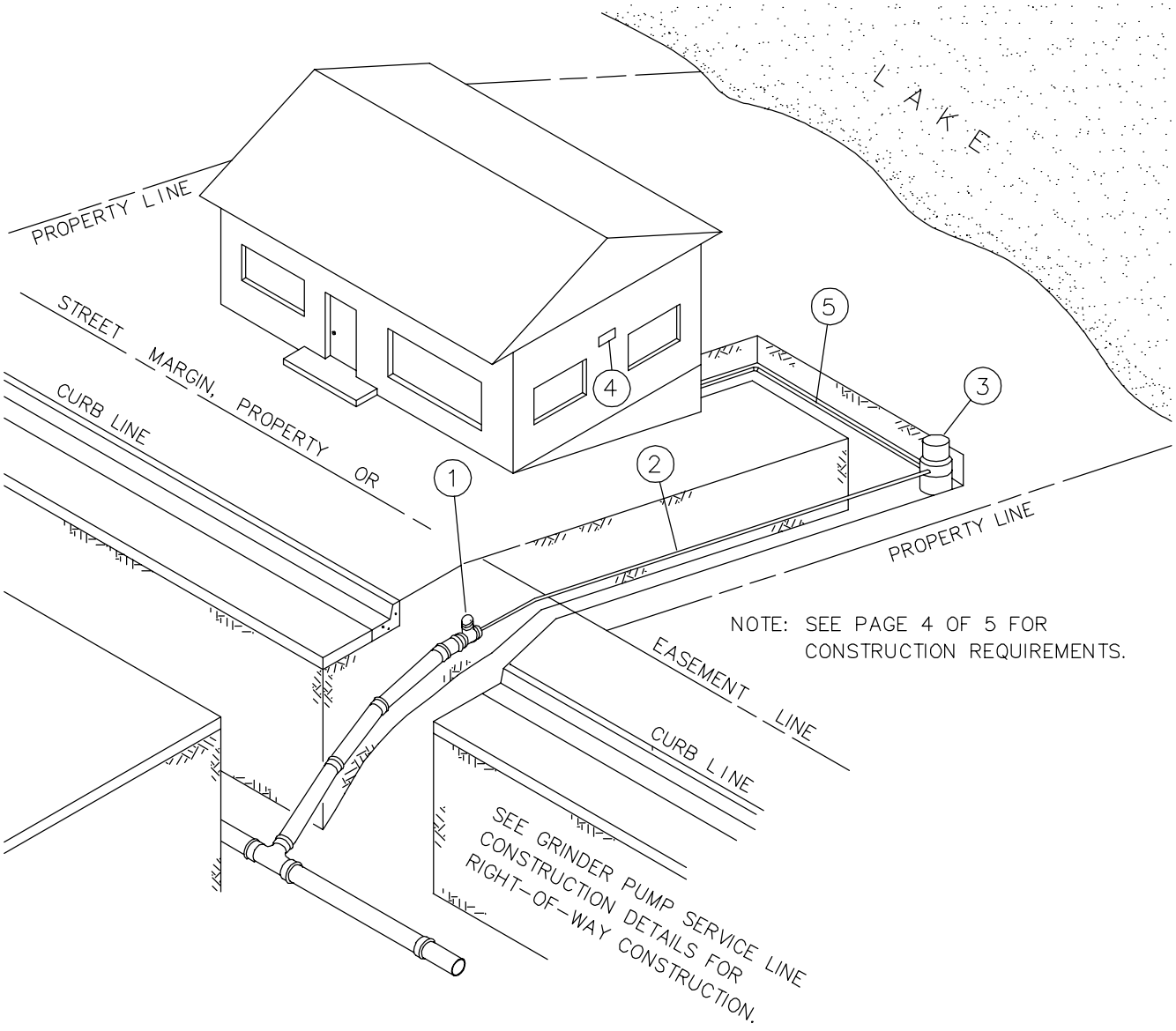
1. 2 – 45° BENDS WITH 24" MIN. SEPARATION BETWEEN BENDS TO EQUAL 90° BEND.
2. CONNECTION TO MAIN STACK FROM SIDE SEWER SHALL BE DUCTILE IRON OR PVC PIPE WITH A FLEXIBLE 2–BAND RUBBER COUPLING.
3. 4" WYE, TEE OR BACKWATER VALVE FOR CLEANOUT AND TESTING.
4. 18" MINIMUM OR 30" MAXIMUM DISTANCE FROM HOUSE. IF ACCESS IS PREVENTED BY PORCH OR DECKS, THEN SURFACE CLEAN–OUT IS REQUIRED (SEE DETAIL NO. 30).
5. 18" MINIMUM COVER.
6. 5'–0" MINIMUM BELOW STREET CENTERLINE OR 3'–6" MINIMUM BELOW EASEMENT LINE ELEVATION, WHICHEVER IS DEEPER @ THE PROPERTY OR EASEMENT LINE.
7. STANDARD 4" TO 6" INCREASER.
8. 6'–0" MINIMUM BELOW ROAD GRADE OR CURB LINE.
9. 6"x6"x6" TEE SHALL BE LOCATED INSIDE PRIVATE PROPERTY.

SOOS CREEK WATER & SEWER DISTRICT

TYPICAL HOUSE CONNECTION FOR GRAVITY SEWER

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S–19A	S-19A



GENERAL NOTES

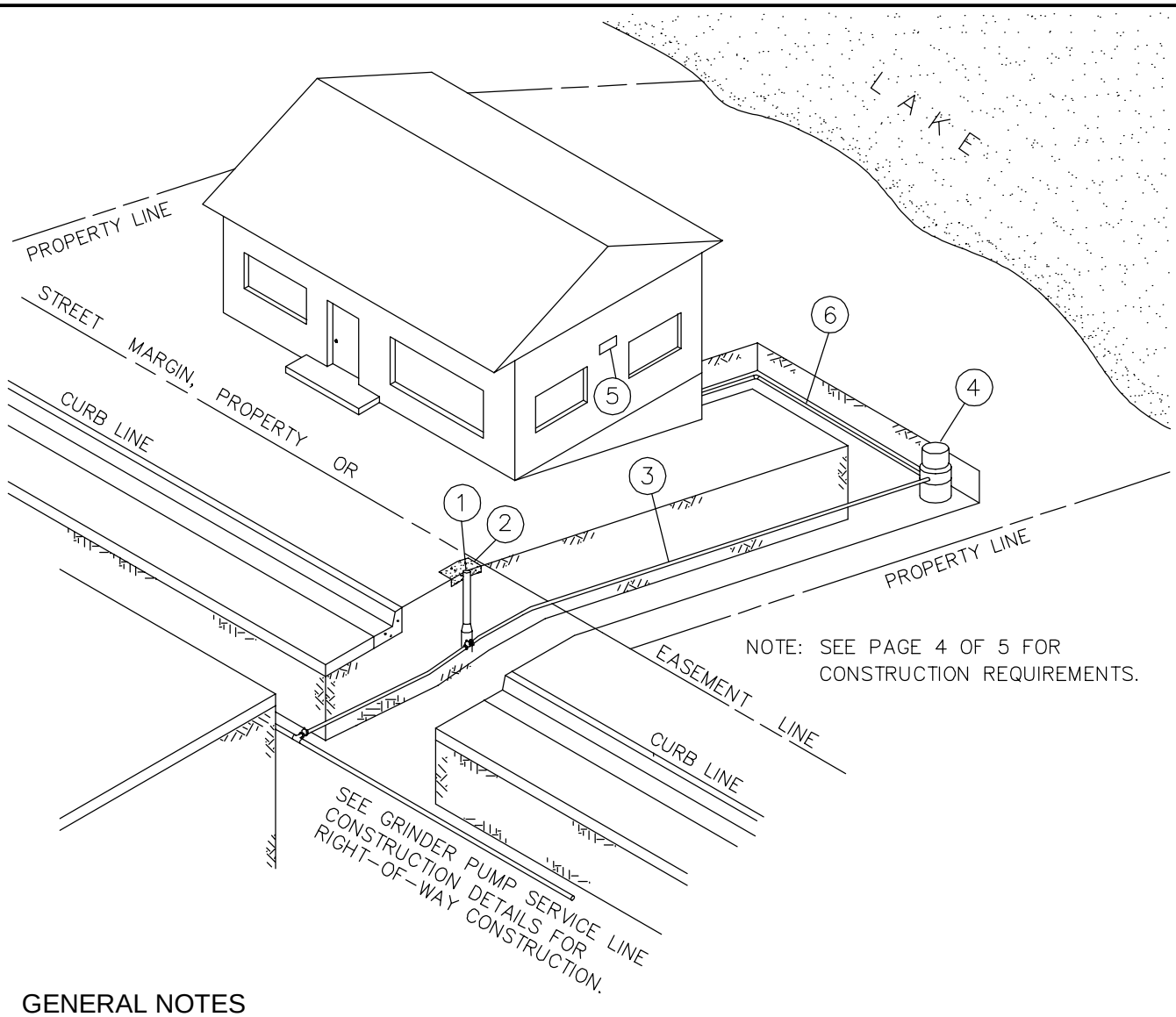
1. 6" TEE x MJ CAP TAPPED WITH 1-1/4" NPT.
2. 1-1/4" HDPE ON-SITE SERVICE LINE WITH 16-GAUGE SOLID COPPER TRACER WIRE ALONG TOP OF HDPE FORCE MAIN AND WARNING TAPE MARKED "SEWER" 12" ABOVE.
3. GRINDER PUMP.
4. PUMP CONTROL PANEL. LOCATION MUST BE IN DIRECT LINE OF SIGHT FROM GRINDER PUMP, 3' MIN., 5' MAX. ABOVE GROUND. CONTROL WIRE TO BE PLACED IN 1" MIN. CONDUIT FROM PANEL TO GRINDER PUMP.
5. GRAVITY HOUSE SERVICE TO GRINDER PUMP.
6. CONTACT THE DISTRICT TO SCHEDULE AN ON-SITE PRECONSTRUCTION MEETING PRIOR TO ANY WORK.

SOOS CREEK WATER & SEWER DISTRICT

TYPICAL HOUSE CONNECTION FOR ALT. GRAVITY SEWER STUB

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-19B	S-19B



GENERAL NOTES

1. CAST IRON VALVE BOX WITH LID MARKED "SEWER" SERIES 940B OR AS APPROVED BY DISTRICT.
2. INSTALL A 2 FOOT X 4 INCH THICK ASPHALT OR CONCRETE PAD AROUND THE VALVE BOX.
3. 1¼" HDPE ON-SITE SERVICE LINE WITH 16-GAUGE SOLID COPPER TRACER WIRE ALONG TOP OF HDPE FORCE MAIN AND WARNING TAPE MARKED "SEWER" 12" ABOVE LINE.
4. E/ONE EXTREME GRINDER MODEL #DH 071 WITH 70 GALLON CAPACITY. IF MORE CAPACITY IS DESIRED A MODEL #DH 151 WITH A 150 GALLON CAPACITY WILL BE ACCEPTED.
5. SENTRY CONTROL PANEL #SA1A01B1AA MUST BE LOCATED IN DIRECT LINE OF SITE FROM THE GRINDER PUMP 3 FT. MIN. 5 FT. MAX. ABOVE GROUND. CONTROL WIRE SHALL BE RUN UNSPLICED (ORDER LENGTH AS NEEDED) AND PLACED IN 1 INCH MIN. CONDUIT FROM PANEL TO GRINDER PUMP. IF CABLE LONGER THAN 100 FT. IS NEEDED AND SPLICING IS NECESSARY, DISTRICT APPROVAL IS REQUIRED FOR SPECIAL SPLICING REQUIREMENTS. ALL CONTROL PANEL WIRING SHALL BE PER MANUFACTURERS WIRING DIAGRAM LOCATED INSIDE THE DOOR OF CONTROL PANEL.
6. GRAVITY HOUSE SERVICE TO GRINDER PUMP.
7. CONTACT THE DISTRICT TO SCHEDULE AN ON-SITE PRECONSTRUCTION MEETING PRIOR TO BEGINNING ANY WORK.

SOOS CREEK WATER & SEWER DISTRICT

TYPICAL HOUSE CONNECTION FOR ALT. PRESSURE SEWER STUB

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-19C

DWG. NO. S-19C

CONSTRUCTION REQUIREMENTS (STUB SERVICE)

(TO BE CONSTRUCTED BY DISTRICT OR DEVELOPER AS PART OF THE PROJECT)

1. 6" SEWER PIPE REQUIRED IN STREET AT 2% MINIMUM GRADE AND 200% MAXIMUM GRADE.
2. JOINTS MUST BE MADE W/RUBBER TYPE GASKET AS APPROVED BY DISTRICT.
3. ALL STUB SERVICES SHALL BE TESTED IN ACCORDANCE WITH THE DISTRICT'S SPECIFICATIONS PRIOR TO APPROVAL.
4. ALL MATERIALS USED IN THE CONSTRUCTION OF ANY STUB SERVICE SHALL HAVE PRIOR APPROVAL OF THE DISTRICT.
5. ALL CONSTRUCTION OF STUB SERVICES MUST COMPLY WITH SIDE SEWER RESOLUTION ADOPTED BY SOOS CREEK WATER AND SEWER DISTRICT BOARD OF COMMISSIONERS.

CONSTRUCTION REQUIREMENTS (SIDE SEWER)

(TO BE CONSTRUCTED BY PROPERTY OWNER AFTER COMPLETION OF PROJECT)

1. SIDE SEWER SHALL BE CONNECTED TO STUB SERVICE WITH A 6"x6"x6" TEST TEE AND 6"x4" REDUCER, BY PROPERTY OWNER.
2. 4" MINIMUM SEWER PIPE REQUIRED ON PROPERTY. PERMIT REQUIRED.
3. 6" MINIMUM SEWER PIPE REQUIRED ON PROPERTY, FOR JOINT SIDE SEWERS. PERMIT AND JOINT SIDE SEWER AGREEMENT REQUIRED.
4. 2% MINIMUM GRADE (1/4" FALL PER FOOT); 200% MAXIMUM GRADE (24" FALL PER FOOT).
5. JOINTS MUST BE MADE W/RUBBER TYPE GASKET, APPROVED BY DISTRICT.
6. SEE GENERAL NOTES, PAGE 1 OF 5 – TYPICAL HOUSE CONNECTION.
7. CONSTRUCTION ON PRIVATE PROPERTY MAY BE DONE BY OWNER, BUT REQUIRES A PERMIT.
8. ALL MATERIALS USED IN THE CONSTRUCTION OF ANY SIDE SEWER SHALL HAVE PRIOR APPROVAL OF DISTRICT. PIPE TO BE CLASS 50 DUCTILE IRON, OR ASTM D–3034, SDR 35 PVC, OR SDR 11 HDPE FOR ALTERNATIVE SEWER SERVICE.
9. ALL SIDE SEWERS SHALL BE TESTED IN ACCORDANCE WITH THE DISTRICT'S SPECIFICATIONS PRIOR TO APPROVAL BY DISTRICT.
10. CONNECTIONS SHALL BE COMPLETE AT BOTH ENDS BEFORE CALLING FOR INSPECTION.
11. NO DOWNSPOUTS OR OUTSIDE DRAINS SHALL BE CONNECTED TO SANITARY SEWERS.
12. CLEAN–OUTS SHALL BE PROVIDED 18" MINIMUM TO 30" MAXIMUM FROM BUILDING AND SPACED AT 100' (MAXIMUM) INTERVALS UNLESS APPROVED BY DISTRICT.
13. ALL CONSTRUCTION OF SIDE SEWERS MUST COMPLY WITH SIDE SEWER RESOLUTION ADOPTED BY SOOS CREEK WATER AND SEWER DISTRICT BOARD OF COMMISSIONERS.
14. TWO 45° BENDS WITH 24" MIN. SEPARATION BETWEEN BENDS TO EQUAL 90° BEND.

SOOS CREEK WATER & SEWER DISTRICT

TYPICAL HOUSE CONNECTION CONSTRUCTION REQUIREMENTS

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S–19D	S-19D

MATERIALS LIST

1. SDR–11 1–1/4" HDPE PIPE, DR11–55.
2. TRACER WIRE (16 GAUGE SOLID COPPER), NO. WI14BLK–500 OR EQUAL.
3. TRACER TAPE (MARKED SEWER) NO. WWTAPEDET–25.
4. 1–1/4" HDPE BUTT FUSED JOINT.
5. 6" MJ CAP TAPPED 1–1/4" OR 2" IP WITH MJ KIT NO. IFD2MX5L.
6. 2"x1–1/4" STAINLESS STEEL OR BRASS BUSHING.
7. IF PIPE IS 6" 3034 SEWER, A 6" MJ x PSM TRANSITION GASKET NO. IFGMPSMZ WILL BE REQUIRED.
8. 1–1/4" TRANSITION FITTING HDPE SDR11 x MIP 304SS (DRAS–5).
9. 2" BRASS SWING CHECK FIPxFIP (LEGEND VALVE T–451 OR EQUAL).

SUPPLIER

HD FOWLER CO.
(425) 746–8400
BELLEVUE, WA

(THERE ARE OTHER SUPPLIERS THAT MAY CARRY THESE PARTS)

SOOS CREEK WATER & SEWER DISTRICT

GRINDER PUMP INSTALLATION MATERIALS FOR CONNECTION TO GRAVITY STUB

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S–19E	S-19E

SCHEDULE _____ DEPTH AT PROPERTY LINE _____

LATERAL _____

STATION _____ INSPECTION CHECK _____

FOR OFFICE USE ONLY

SIDE SEWER CONNECTION INFORMATION

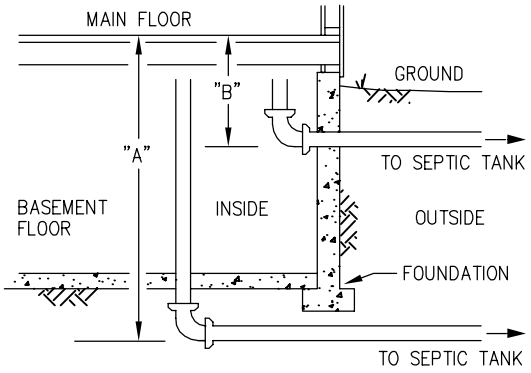
PLEASE ANSWER THE FOLLOWING QUESTIONS AND SUPPLY THE NECESSARY INFORMATION AND DIMENSIONS:

1. ADDRESS OR LOCATION OF PROPERTY INVOLVED _____
2. NAME OF OWNER _____
3. ADDRESS OF OWNER, IF DIFFERENT FROM ITEM 1, ABOVE _____
4. PHONE NUMBER: HOME _____ WORK _____
5. (A). IF YOUR PRESENT SANITARY PLUMBING OUTLET PIPE EXTENDS BELOW THE BASEMENT FLOOR, OR IF YOU PLAN TO INSTALL PLUMBING TO SUCH A DEPTH AT A LATER DATE, MEASURE AND SUPPLY DIMENSION "A" AS SHOWN BELOW.

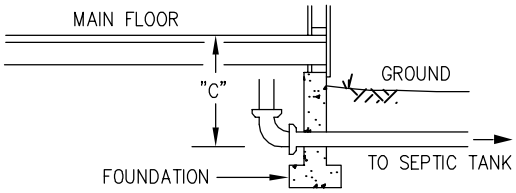
   IF YOUR PRESENT SANITARY PLUMBING OUTLET LEAVES THE HOUSE BETWEEN THE MAIN FLOOR AND THE BASEMENT FLOOR AND YOU DO NOT PLAN TO LOWER IT, MEASURE AND SUPPLY DIMENSION "B" AS SHOWN BELOW.

   (B). IF YOUR HOUSE DOES NOT HAVE A BASEMENT, MEASURE AND SUPPLY DIMENSION "C" AS SHOWN BELOW.

FOR HOME WITH BASEMENT



FOR HOME WITHOUT BASEMENT

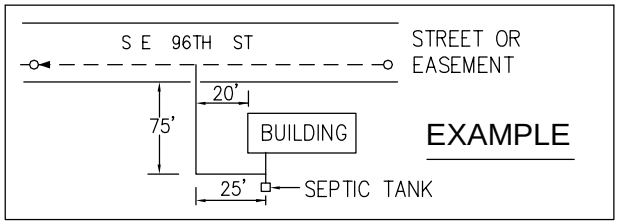


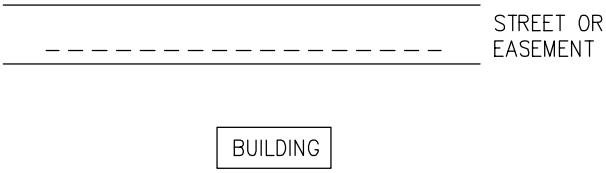
DIMENSION "A": _____ FEET _____ INCHES

DIMENSION "B": _____ FEET _____ INCHES

DIMENSION "C": _____ FEET _____ INCHES

6. ON THE SKETCH BELOW, PLEASE INDICATE THE ROUTE YOU PROPOSE TO FOLLOW WITH YOUR HOUSE SERVICE LINE FROM THE APPROXIMATE POINT YOUR PLUMBING LEAVES THE HOUSE TO THE POINT ON YOUR PROPERTY LINE WHERE YOU WOULD LIKE TO CONNECT TO THE SERVICE CONNECTION PIPE. AN EXAMPLE IS SHOWN TO INDICATE THE DIMENSIONS DESIRED. PLEASE FILL IN THE STREET NAME IF APPLICABLE.





7. ADDITIONAL INFORMATION OR REMARKS: _____

DATE: _____, 19___. SIGNATURE _____

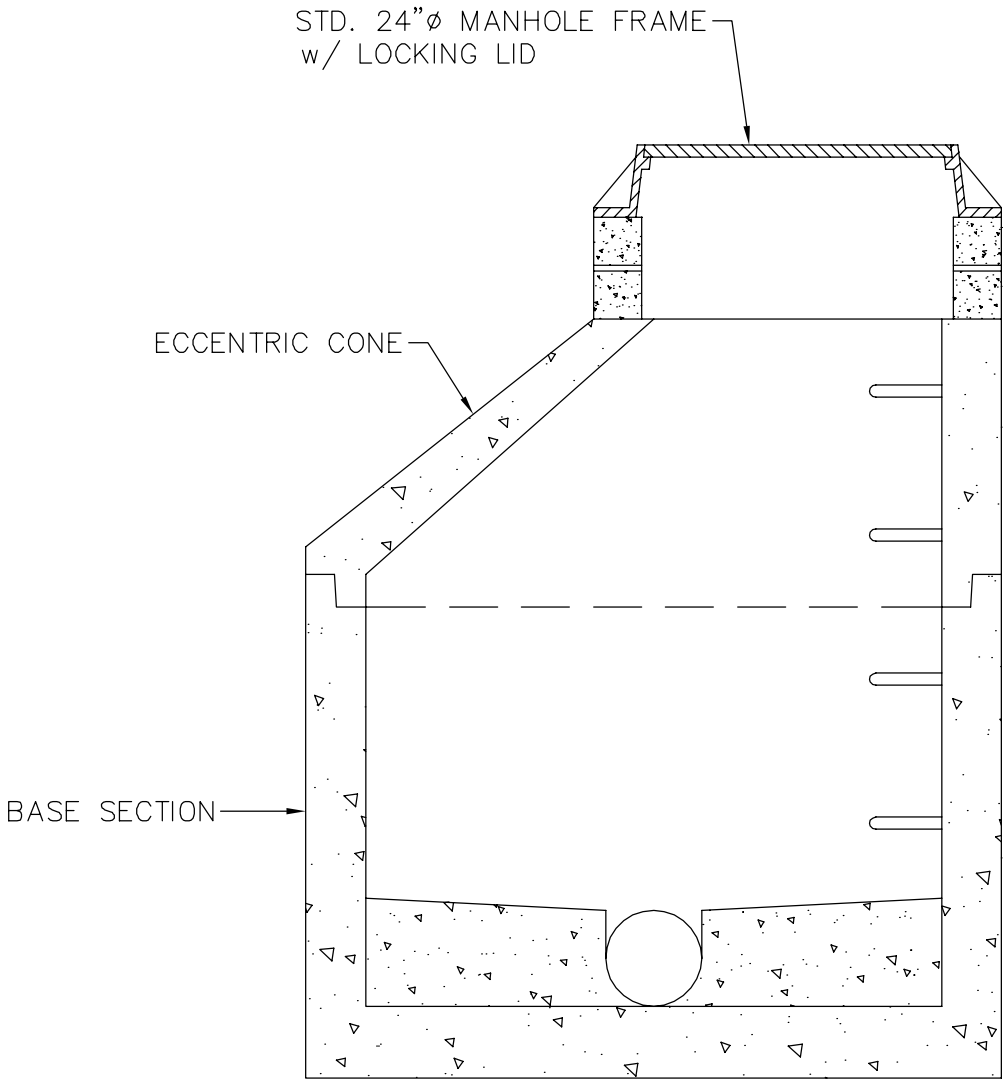
PAGE___ OF___

SIDE SEWER CONNECTION INFORMATION

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-20

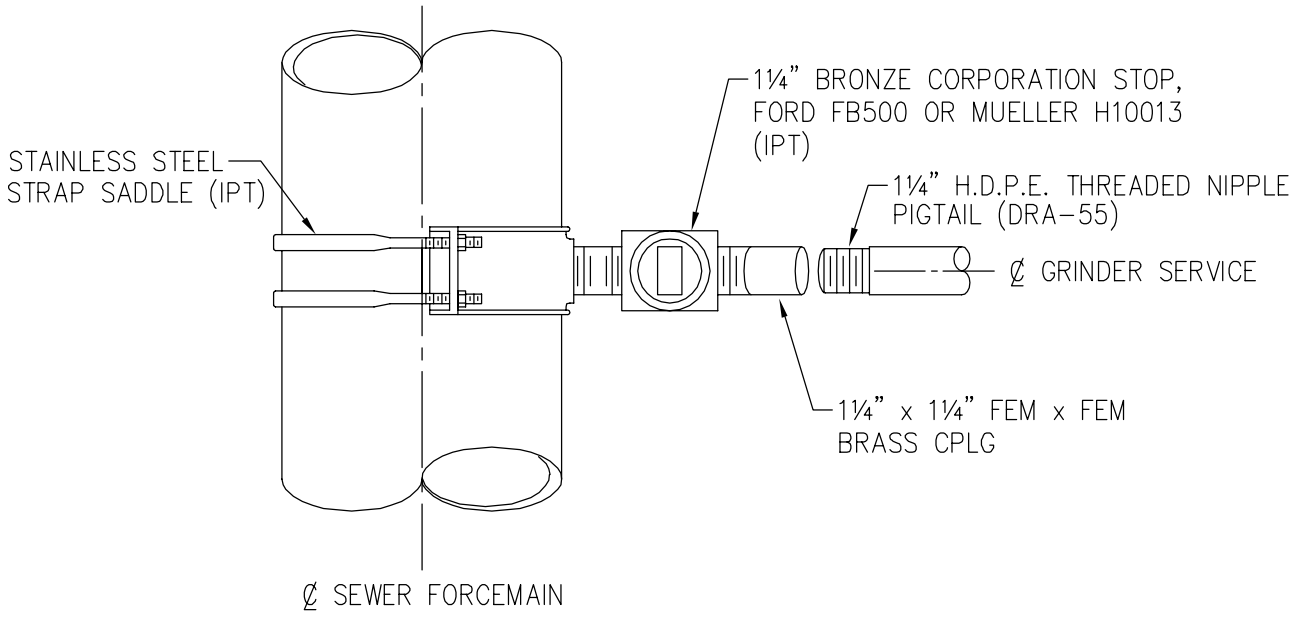
DWG. NO. S-20



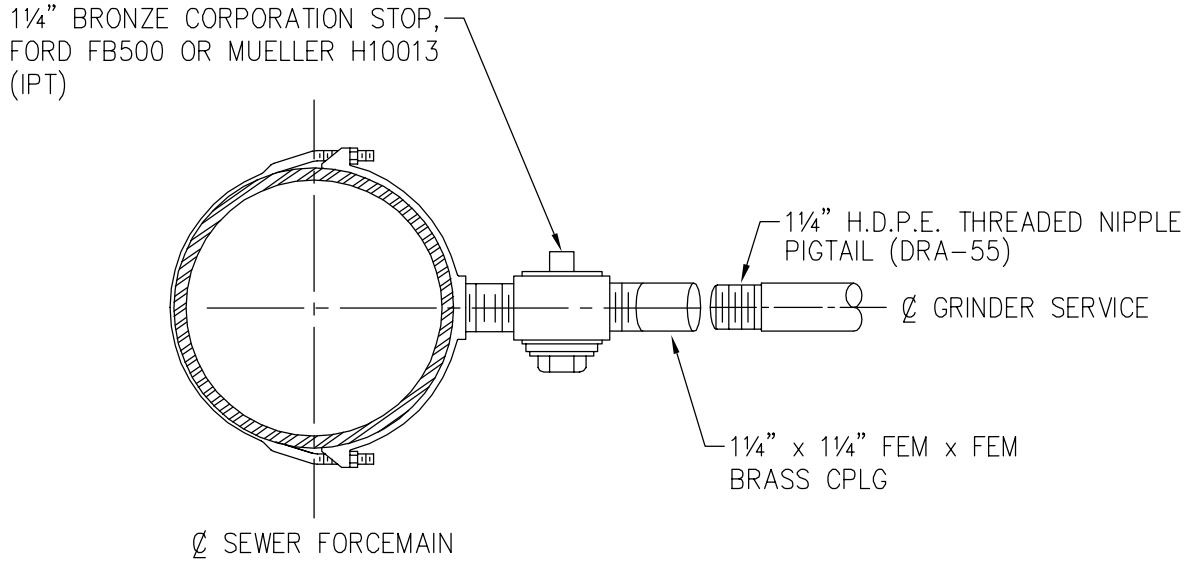
SHALLOW MANHOLE DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-21	S-21



PLAN



ELEVATION

NOTES:

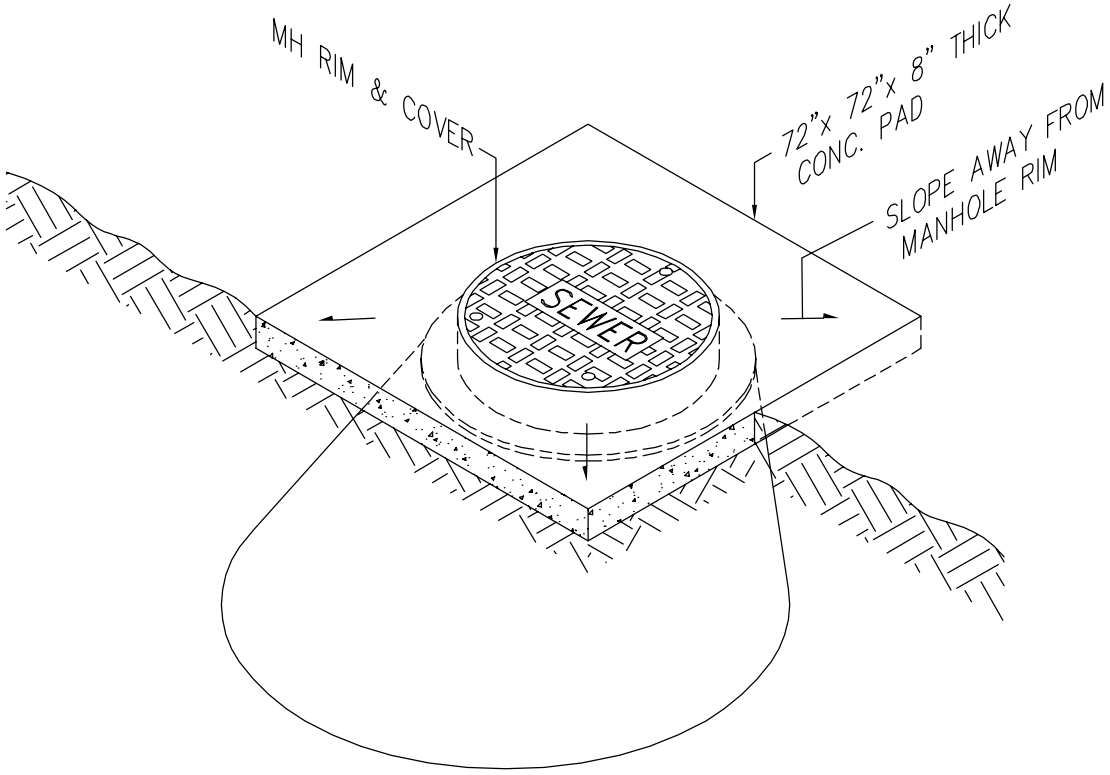
1. GRINDER LINE FITTINGS: ALL FITTINGS SHALL BE CAST FROM WATER WORKS BRASS CONFORMING TO C800-89.
2. MUNICIPAL SERVICE PIPE: IRON PIPE SIZE SDR 11 WITH TRACER WIRE AND WARNING TAPE MARKED "SEWER" 12" ABOVE.
3. FOR HDPE FORCE MAIN, USE SPRING WASHERS ON SADDLE.

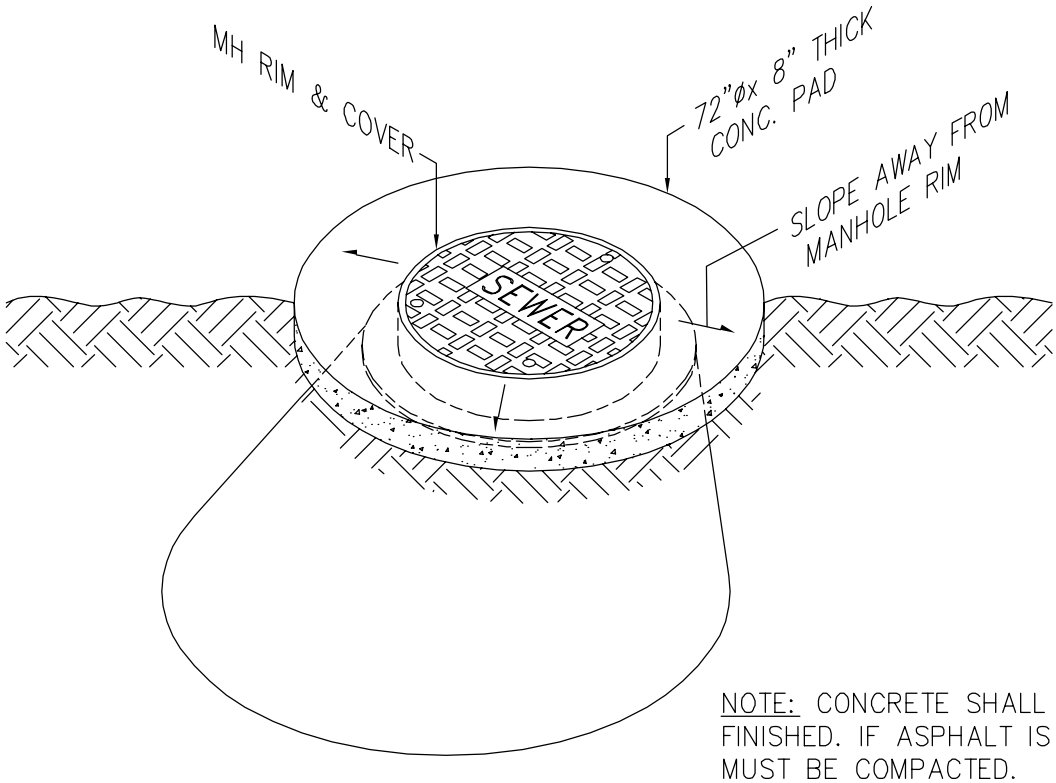
GRINDER SERVICE CONNECTION TAPPED ON EXISTING FORCE MAIN

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-22

DWG. NO. S-22





NOTE: CONCRETE SHALL BE BRUSHED FINISHED. IF ASPHALT IS USED IT MUST BE COMPACTED.

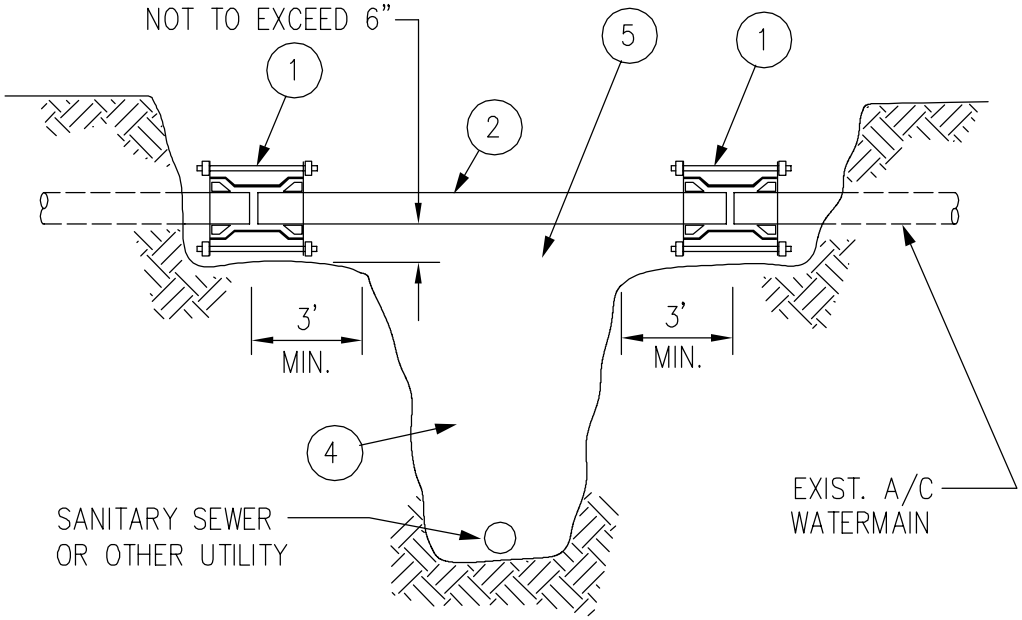
SOOS CREEK WATER & SEWER DISTRICT

MANHOLE RIM AND COVER OFF PAVEMENT

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-23

DWG. NO. S-23



N O T E S :

(1) COUPLING: ASBESTOS–CEMENT (A/C) BY DUCTILE IRON (DUCTILE IRON, ROMAC STYLE 501, OR EQUAL).

(2) DUCTILE IRON PIPE, CL. 52, DIAMETER TO MATCH EXISTING A/C.

(3) BACKFILL EXISTING A/C AND COUPLING WITH PEA GRAVEL TO 1' ABOVE PIPE.

(4) BACKFILL UNDER THE WATERLINE WITH CRUSHED ROCK COMPACTED TO 95% MDD, OR CONTROLLED DENSITY FILL (CDF) PER GOVERNING ROAD AGENCY REQUIREMENTS.

(5) BACKFILL OVER THE TOP OF THE WATERLINE WITH CRUSHED ROCK COMPACTED TO 95% MDD, OR CONTROLLED DENSITY FILL (CDF) PER GOVERNING ROAD AGENCY REQUIREMENTS. BACKFILL OVER THE TOP OF THE WATERLINE WITH NATIVE MATERIAL COMPACTED TO 90% MDD IF LOCATED WITHIN EASEMENT OR UNIMPROVED AREAS.

(6) A/C DISPOSAL PER CURRENT WAC AND PUGET SOUND AIR POLLUTION CONTROL AGENCY REQUIREMENTS.

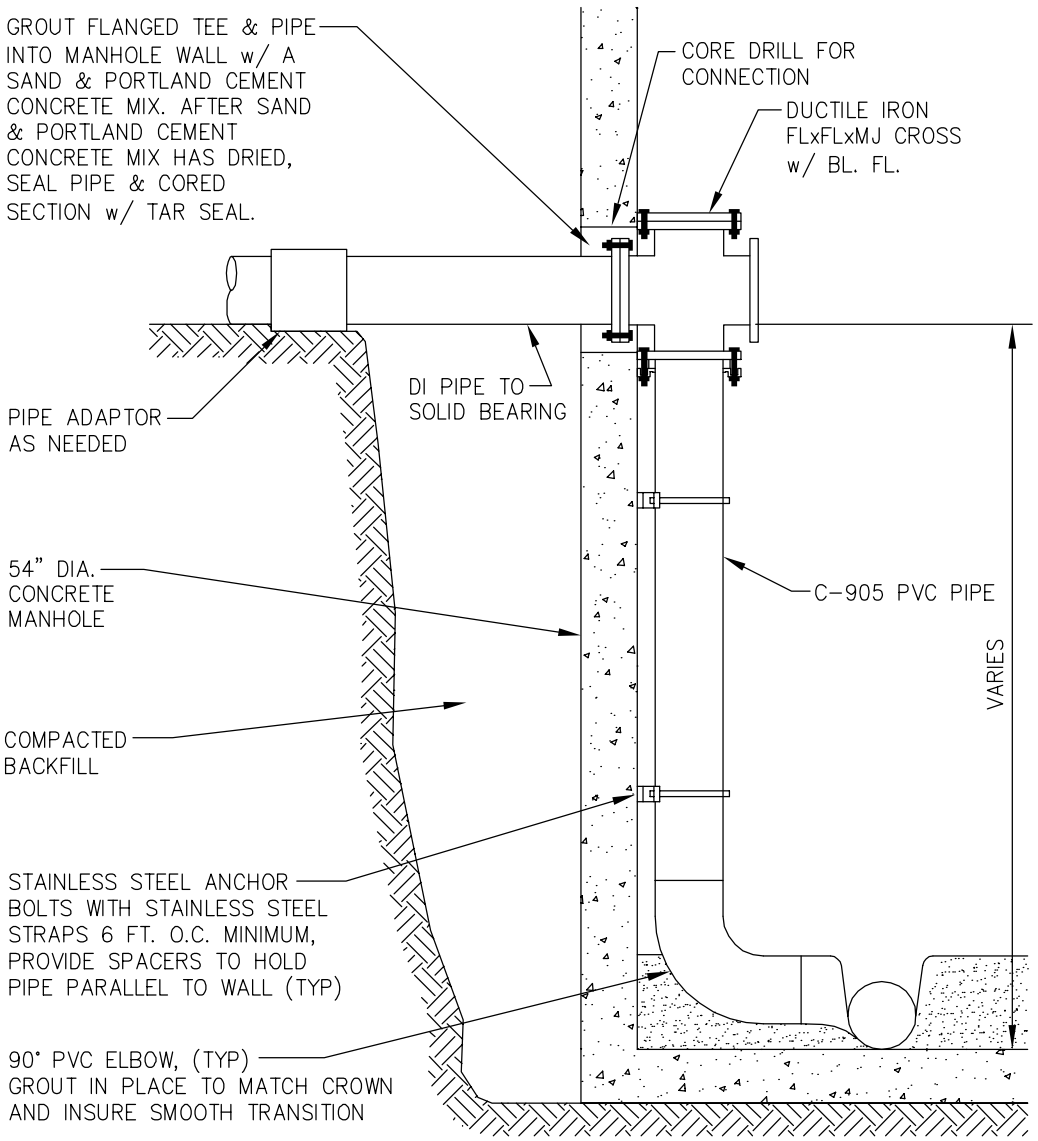
SOOS CREEK WATER & SEWER DISTRICT

A/C WATERMAIN REPLACEMENT AND SANITARY SEWER CROSSING

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-24

DWG. NO. S-24

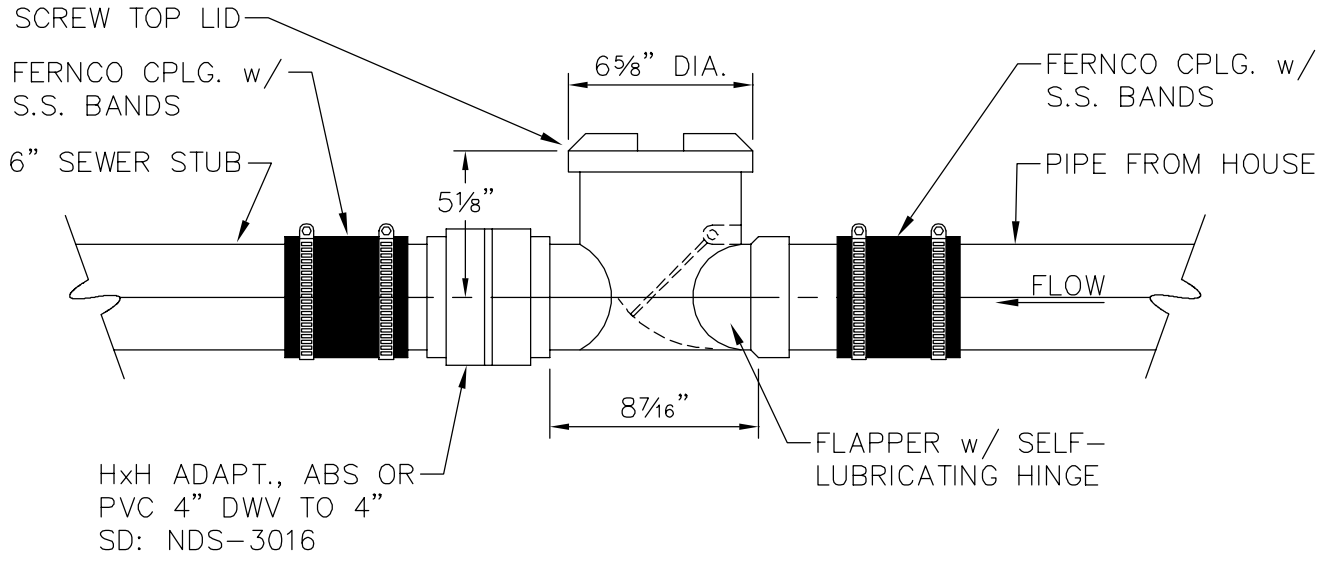


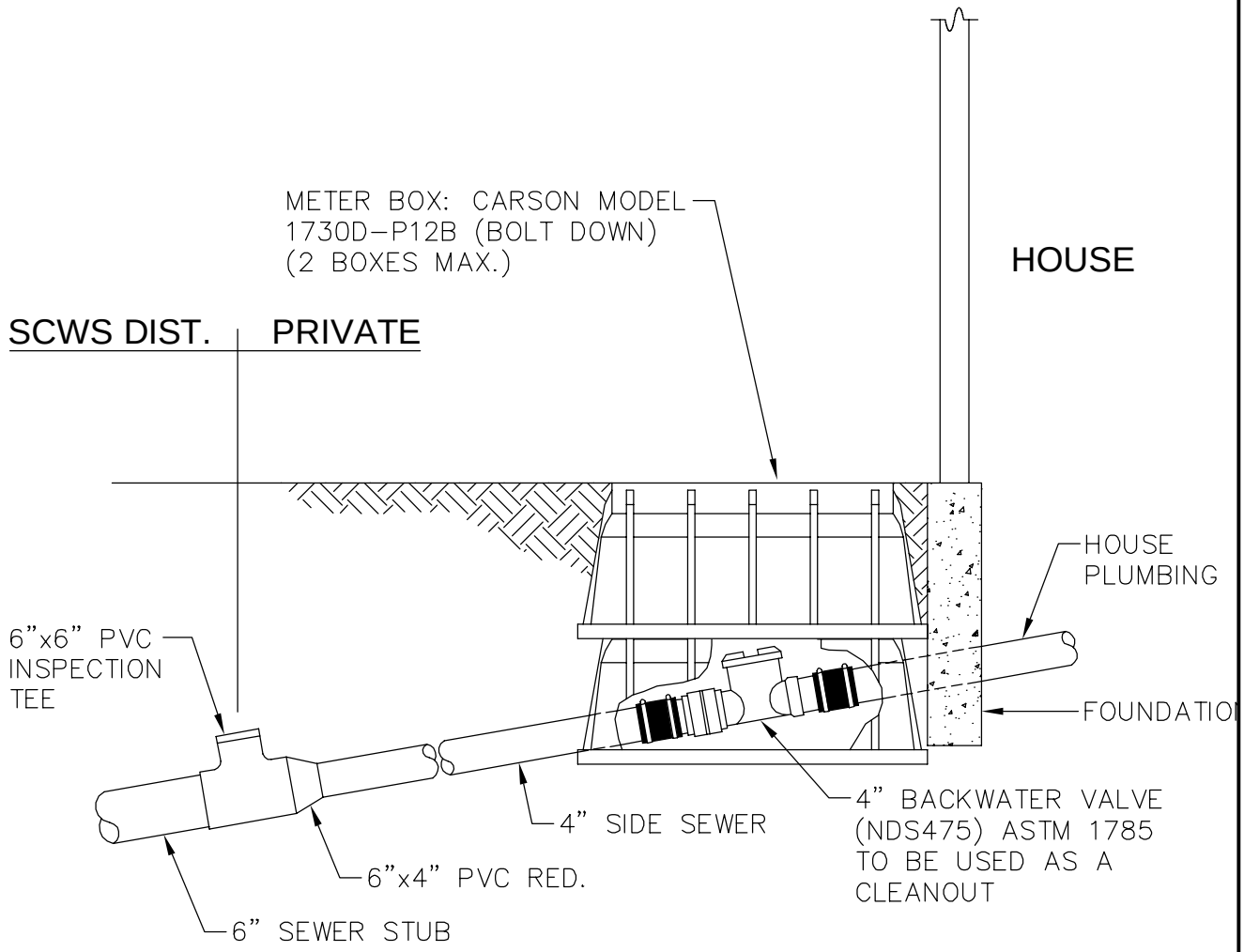
DROP MANHOLE DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-25

DWG. NO. S-25



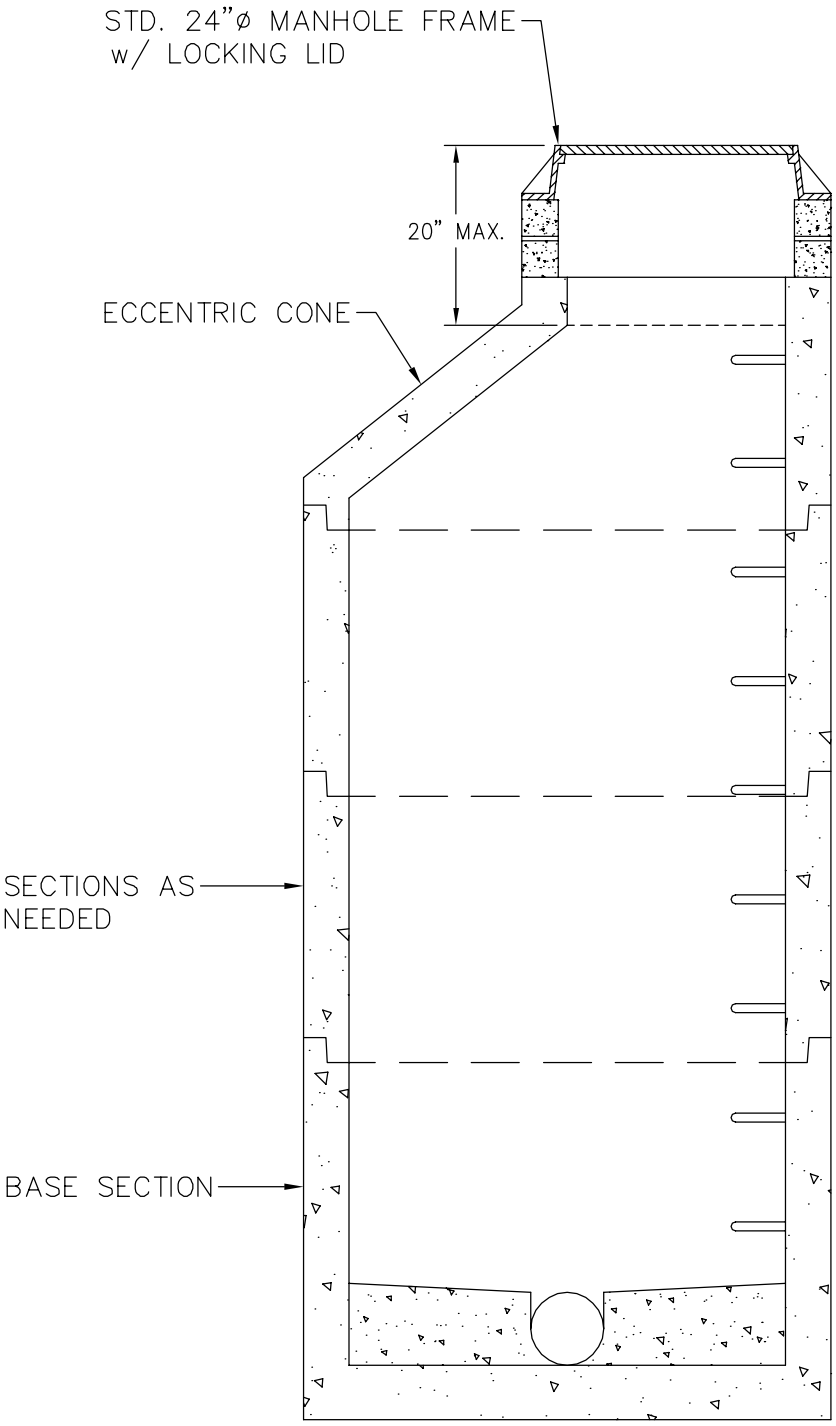


BACKWATER VALVE DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-26

DWG. NO. S-26

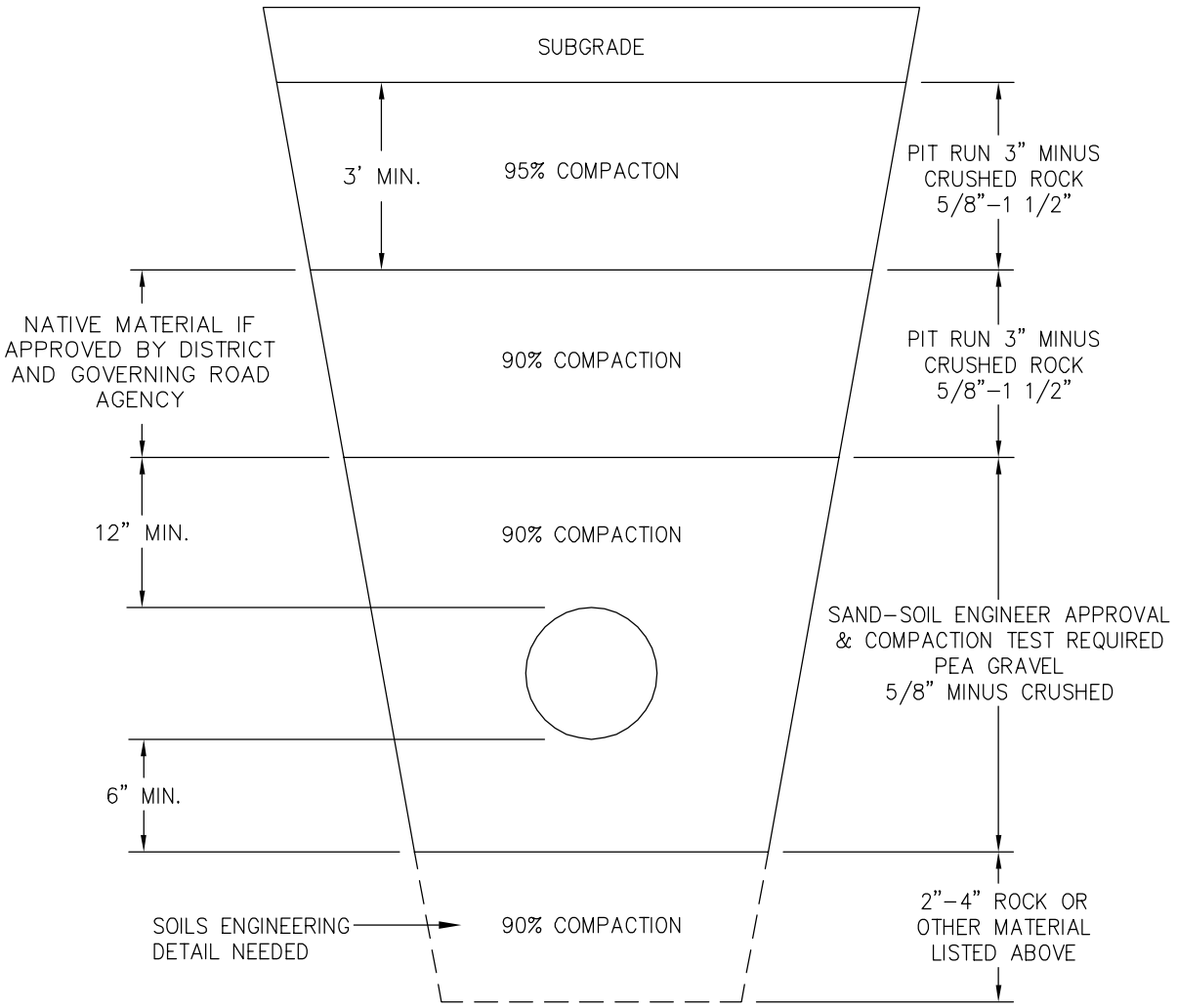


NOTE: A MINIMUM OF ONE ADJUSTMENT RING SHALL BE INSTALLED BETWEEN THE BREAK OF THE CONE AND THE MANHOLE COVER.

STANDARD MANHOLE DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME	DWG. NO.
M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-27	S-27



NOTES:

1. BEDDING REQUIRED IN RIGHT-OF-WAYS, DRIVEWAYS, PARKING LOTS, PAVED AREAS, AND NON-PAVED AREAS.
2. BEDDING FOR RIGID PIPE SHALL BE NATIVE MATERIAL UNLESS JUDGED UNSUITABLE BY THE DISTRICT AND GOVERNING ROAD AGENCY.
3. TRENCH BACKFILL, BEDDING AND MATERIAL TO CONFORM TO GOVERNING ROAD AGENCY SPECIFICATIONS AND DISTRICT STANDARDS.

TRENCH WIDTHS (IN INCHES)			
NOMINAL PIPE DIAMETER	MINIMUM EARTH	MINIMUM ROCK	MAXIMUM
2	18	24	36
3	18	24	36
4	18	24	36
6	21	24	36
8	24	24	36
12	28	28	40

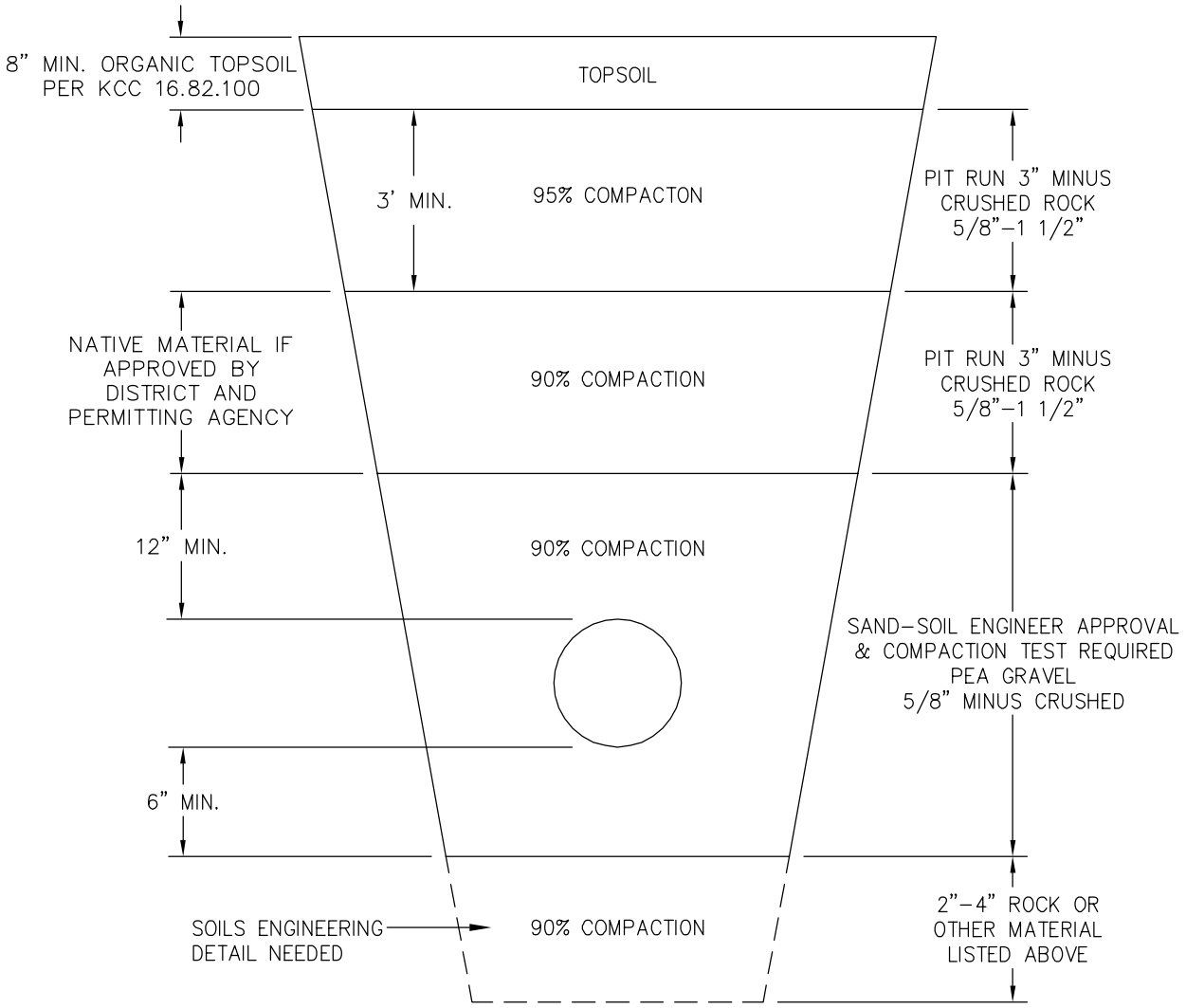
SOOS CREEK WATER & SEWER DISTRICT

TYPICAL TRENCH DETAIL

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-28

DWG. NO. S-28



NOTES:

1. BEDDING REQUIRED IN RIGHT-OF-WAYS, DRIVEWAYS, PARKING LOTS, PAVED AREAS, AND NON-PAVED AREAS.
2. BEDDING FOR RIGID PIPE SHALL BE NATIVE MATERIAL UNLESS JUDGED UNSUITABLE BY THE DISTRICT AND PERMITTING AGENCY.
3. TRENCH BACKFILL, BEDDING AND MATERIAL TO CONFORM TO PERMITTING AGENCY SPECIFICATIONS AND DISTRICT STANDARDS.

TRENCH WIDTHS (IN INCHES)			
NOMINAL PIPE DIAMETER	MINIMUM EARTH	MINIMUM ROCK	MAXIMUM
2	18	24	36
3	18	24	36
4	18	24	36
6	21	24	36
8	24	24	36
12	28	28	40

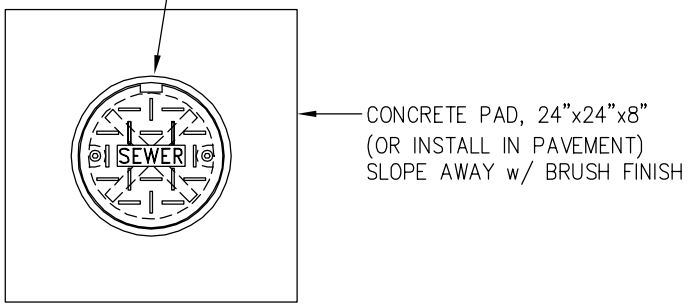
SOOS CREEK WATER & SEWER DISTRICT

TYPICAL TRENCH DETAIL (OUTSIDE ROADWAY)

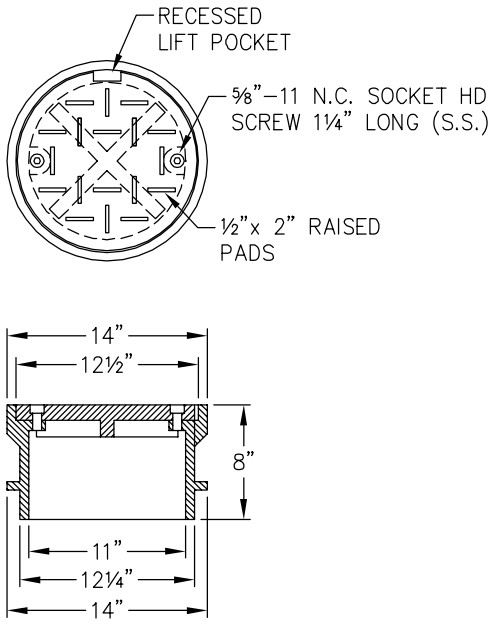
REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-29

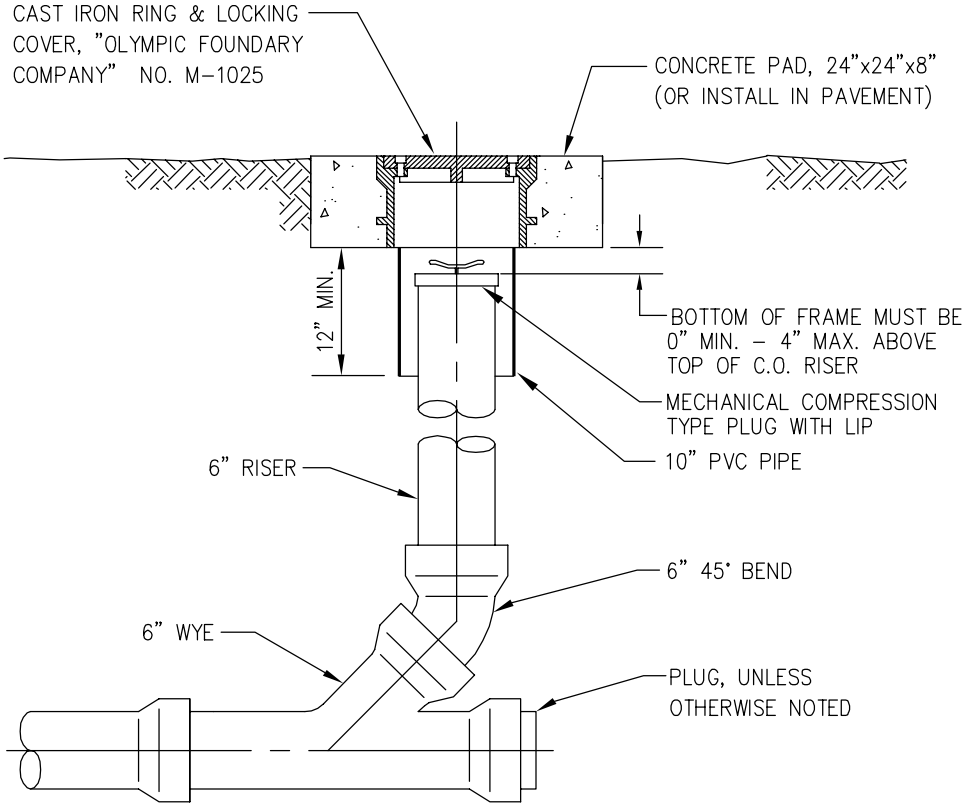
DWG. NO. S-29



PLAN



11"x8" LOCKING CLEANOUT



ELEVATION

SURFACE CLEAN OUT (MAINLINE STUB)

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

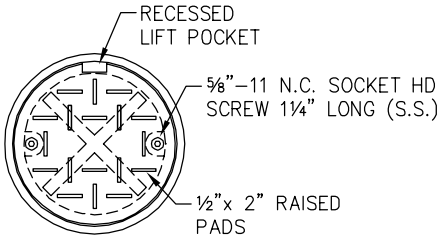
FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S-30

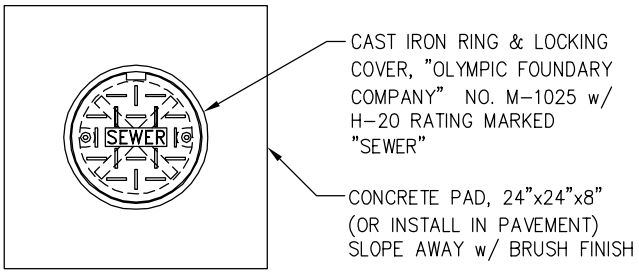
DWG. NO. S-30

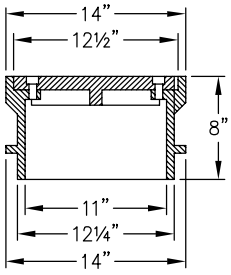
NOTES:

BRING TRACER WIRE WITHIN 1 FOOT OF SURFACE. EXTENSIONS ARE REQUIRED WHEN THE FORCE MAIN IS MORE THAN FOUR (4) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF TWO (2) FEET LONG. ONE EXTENSION IS TO BE USED PER TRACER WIRE RISER.

ALL EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO (2) COATS OF METAL PAINT.

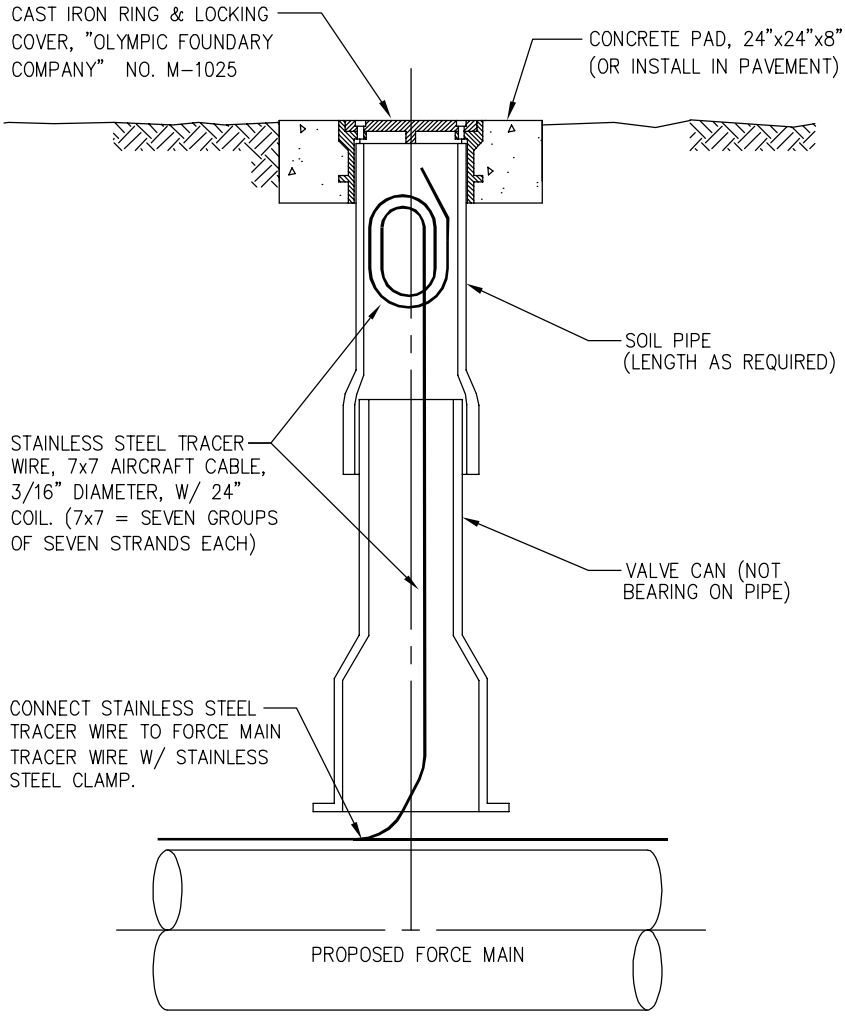






PLAN

11"x8" LOCKING CLEANOUT



SOOS CREEK WATER & SEWER DISTRICT

SEWER FORCE MAIN TRACER WIRE RISER

REVISION DATE	SCALE	DISTRICT APPROVAL	DATE APPROVED
MAY 17, 2011	NTS	K.V.	JUNE 02, 2011

FILE NAME: M:\SOOS CREEK W&S\DESIGN STANDARDS\SWR DTLS\S–31

DWG. NO. S-31

G. SEWER STANDARD PLANS FORMAT

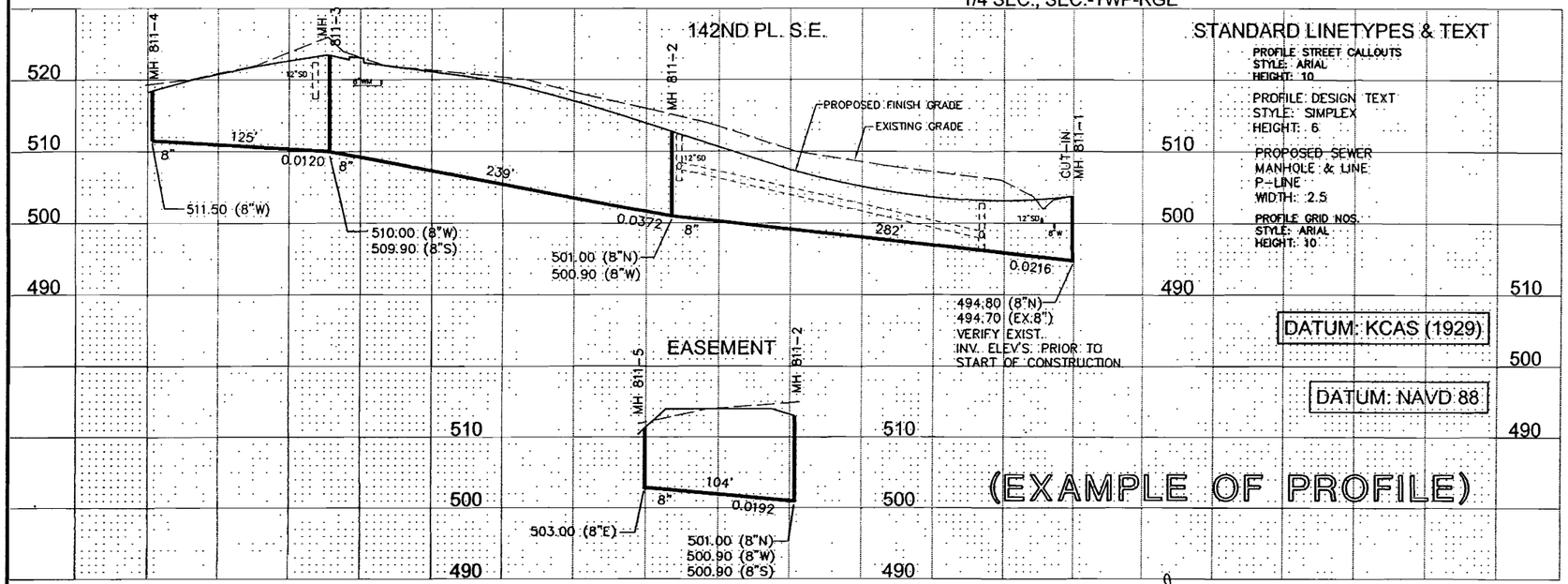
Note: The following 11”x17” figures are half size samples. Standard full size plans are to be 22”x34” per Section 5.

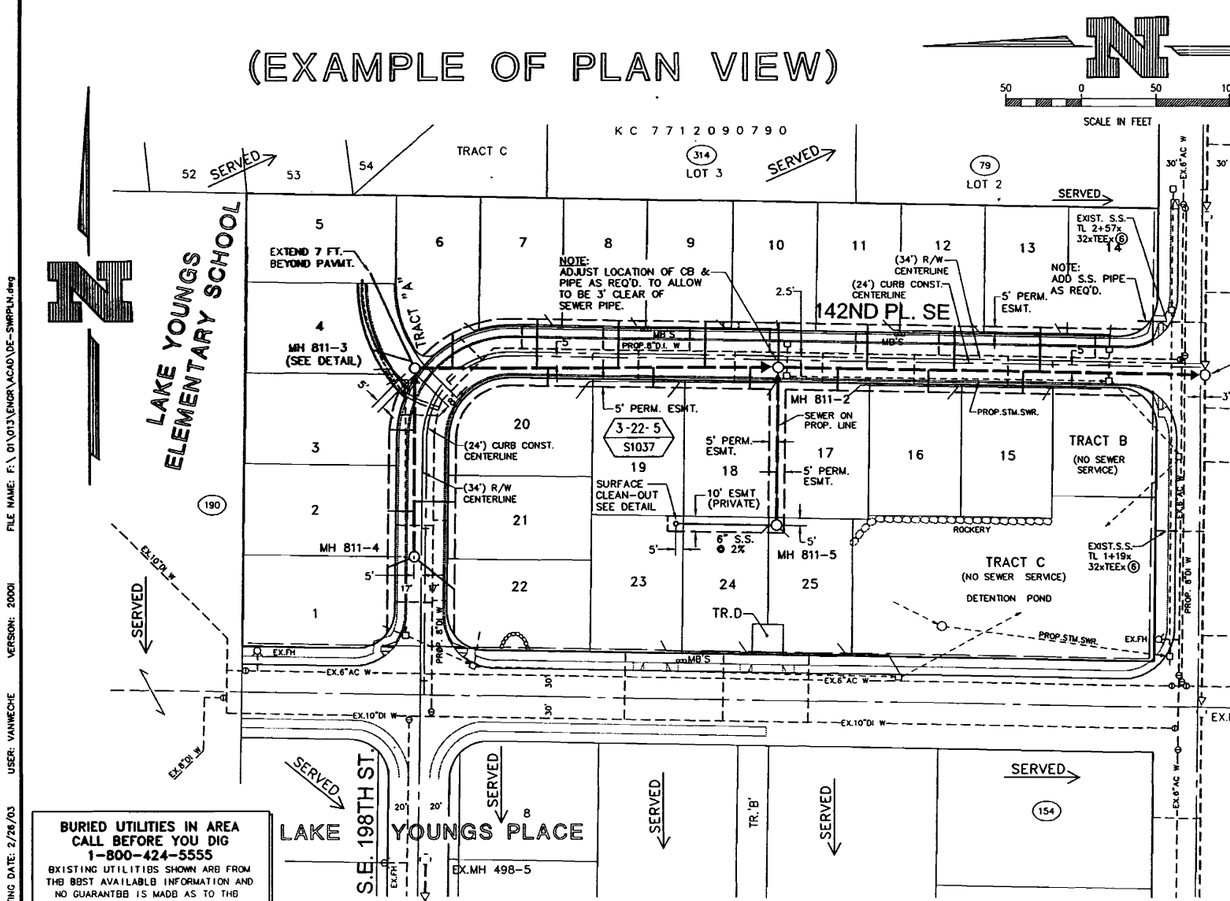
Figure SP-1 Sewer Plan Sheet Format

Figure SP-2 Construction Provisions

Figure SP-3 Materials and Surface Restoration

Figure SP-4 Standard Details





SEWER GENERAL NOTES:

(INSERT THE MOST CURRENT VERSION OF GENERAL NOTES)

EXISTING FEATURES LEGEND

MB	MAIL BOX	14"MP	DECIDUOUS TREE
RS	ROAD SIGN	14"FR	CONIFEROUS TREE
UP	UTILITY POLE		EDGE OF TREES
UB	UTILITY BOX	-x-x-x-x-	FENCE
TB	TELEPHONE BOX	- - - - -	CULVERT
PB	POWER BOX	/// ///	EDGE OF PAVEMENT
EX. SEWER MANHOLE		- - - - -	EDGE OF GRAVEL
CB	CATCH BASIN	— · —	DITCH CENTERLINE
SM	STORM MANHOLE	.....	GRADE BREAK
WBO	WATER BLOW-OFF	- - - - -	STORM SEWER LINE
FH	FIRE HYDRANT	- - - - -	SANITARY SEWER LINE
WV	WATER VALVE	—P—	UNDERGROUND POWER
WM	WATER METER	-T-	UNDERGROUND TELECOM
	SURVEY MONUMENT	—W—	EXISTING WATER LINE
	OWNERSHIP TIE	02+00	PROPOSED SEWER FORCE MAIN W/ STA. NUMBER

STANDARD BLOCKS

EXISTING FLOW ARROW; EXISTING SEWER MANHOLE; EXISTING SEWER MANHOLE W/ARROW; PROPOSED SEWER MANHOLE W/ARROW; EXISTING SEWER MANHOLE W/PROPOSED SEWER ARROW; PROPOSED SEWER MANHOLE

PROPOSED FLOW ARROW; PROPOSED CLEAN OUT; 22-22-5 EASEMENT BLOCK WITH ATTRIBUTES; (12) TAX LOT NO. BLOCK WITH ATTRIBUTE

NOTE:
ALL SYMBOLS, TEXT & LINES SHOWN ARE AT A LTSCALE OF 50.

THESE ARE THE DISTRICT STANDARDS AND WILL HELP TO MAKE REVIEW AND REVISING TO CONSTRUCTION RECORDS EASIER.

THE TEXT HEIGHT IS USED TO KEEP HALF SIZING FOR DISTRICT RECORDS READABLE.

IN THE TITLE BLOCK AREA, JUST USE THE EDIT ATTRIBUTE COMMAND AND EDIT THE TEXT AS NEEDED.

STANDARD LINETYPES & TEXT

(USE THE TEXT, LINETYPE STYLES AND PEN WEIGHTS RECOMMENDED)

PROPOSED SEWER LINE	P-LINE WIDTH: 1.8 LINETYPE: SWR.LIN PEN WEIGHT: 0.012
EXISTING SEWER LINE	P-LINE WIDTH: 1.4 LINETYPE: EXSS.LIN PEN WEIGHT: 0.012
PROPOSED SEWER SERVICE	WIDTH: 0 LINETYPE: CONTIUNUOUS PEN WEIGHT: 0.012
PROPOSED SEWER EASEMENT	WIDTH: 0 LINETYPE: EASEMENT.LIN PEN WEIGHT: 0.012
SEWER DESIGN TEXT	DESIGN TEXT STYLE: SIMPLEX.SHX HEIGHT: 5 PEN WEIGHT: 0.015
PLAT NAME	PLAT NAME CALLOTS STYLE: HM0.SHX HEIGHT: 10 OR 8 PEN WEIGHT: 0.001
SE 240TH ST	STREET NAME CALLOUTS STYLE: HMF1.SHX HEIGHT: 10 PEN WEIGHT: 0.015
12	PROPOSED PLAT LOT NOS. STYLE: ROMAND.SHX HEIGHT: 7 PEN WEIGHT: 0.009
22	EXISTING PLAT NOS. STYLE: SIMPLEX.SHX HEIGHT: 6 PEN WEIGHT: 0.004

SITE

VICINITY MAP

THIS DRAWING REDUCED ONE-HALF (SCALE ACCORDINGLY)

NO. BY DATE DESCRIPTION REVISIONS

DATE APPROVED DESIGN DRAWN CHECKED JOB NO.

OPTIONAL ENGINEER NAME AND LOGO HERE

CST. FLD. BK. NO. PG.

DES. FLD. BK NO. PG.

SCALE HORIZ: 1"=50' VERT: 1"=10'

SOOS CREEK WATER & SEWER DISTRICT

SEWER PLAN AND PROFILE
PROJECT NAME HERE

BASE MAP

SHEET 1 OF 4

DRAWING SP-1

PLOTTING DATE: 2/26/03 USER: VANHECHE VERSION: 2000i FILE NAME: F:\01\013\ENGR\ACAD\DE-SWRPLN.dwg

CONSTRUCTION PROVISIONS (Revised 05-16-11)

1. STANDARD SPECIFICATIONS

ALL WORK, MATERIALS AND TESTING SHALL CONFORM TO THE STANDARDS OF SOOS CREEK WATER & SEWER DISTRICT AND THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION", CURRENT EDITION, AS PREPARED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, AND HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS," EXCEPT AS HEREIN MODIFIED.

2. TRENCH EXCAVATION, BEDDING AND BACKFILL

ALL WORK WITHIN THE RIGHT-OF-WAY SHALL COMPLY WITH ALL PERTINENT PERMITS, THE GOVERNING AGENCY'S CURRENT ROAD STANDARDS, AND THE STANDARD SPECIFICATIONS. ALL MATERIAL FROM CLEARING AND GRUBBING SHALL BE HAULED TO AN APPROVED WASTE DISPOSAL SITE PROVIDED BY THE DEVELOPER/CONTRACTOR.

WHEN TRENCHING THROUGH EXISTING PAVEMENT, THE PAVEMENT SHALL BE CUT ON A NEAT-LINE BY SAW CUTTING. TRENCH SIDES SHALL BE KEPT AS VERTICAL AS POSSIBLE GIVEN THE SOIL CONDITIONS. COMPACTION AND RESTORATION SHALL BE DONE AS DETAILED BELOW AND IMMEDIATELY AFTER THE TRENCH BACKFILL IS PLACED, SO AS TO CAUSE THE LEAST DISRUPTION TO TRAFFIC. ALL PAVEMENT SHALL BE CUT 1 FOOT OUTSIDE THE EDGE OF THE TRENCH ON EACH SIDE.

ANY TRENCH EXCEEDING FOUR FEET IN DEPTH SHALL BE PROVIDED WITH ADEQUATE SAFETY SYSTEMS MEETING THE REQUIREMENTS OF THE WASHINGTON STATE INDUSTRIAL SAFETY AND HEALTH ACT (WISHA), CHAPTER 49.17 RCW, AND ALL REGULATIONS ADOPTED PURSUANT THERETO. THE DEVELOPER/CONTRACTOR SHALL HAVE A STRUCTURAL ENGINEER REVIEW AND STAMP ANY AND ALL SHORING PLANS AND CALCULATIONS. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR WORKER SAFETY AND THE DISTRICT AND THE DISTRICT'S ENGINEER ASSUME NO RESPONSIBILITY.

WHEN NATIVE MATERIAL AT THE TRENCH BOTTOM IS SUITABLE FOR PIPE BEDDING, THE BOTTOM SHALL BE HAND FINISHED TO GRADE SO THAT THE PIPE WILL HAVE UNIFORM SUPPORT ALONG THE BARREL AND BELL. AFTER THE PIPE IS IN PLACE, ADDITIONAL HAND SELECTED NATIVE MATERIAL MEETING THE REQUIREMENTS FOR BEDDING MATERIAL SHALL BE PLACED AND TAMPED AROUND THE PIPE FOR A MINIMUM OF 4 INCHES ABOVE THE CROWN OF THE PIPE.

WHEN NATIVE MATERIAL AT THE TRENCH BOTTOM IS STONY OR OTHERWISE NON-UNIFORM, THE TRENCH SHALL BE OVER-EXCAVATED A MINIMUM OF 6 INCHES BELOW THE SPECIFIED GRADE AND A LAYER OF PIPE BEDDING MATERIAL SHALL BE FURNISHED AND PLACED TO THE SPECIFIED GRADE. AFTER THE PIPE IS IN PLACE, ADDITIONAL HAND SELECTED NATIVE MATERIAL MEETING THE REQUIREMENTS FOR BEDDING MATERIAL SHALL BE PLACED AND TAMPED AROUND THE PIPE FOR A MINIMUM OF 4 INCHES ABOVE THE CROWN OF THE PIPE.

IF THE NATIVE MATERIAL AT THE TRENCH BOTTOM IS UNSUITABLE FOR FOUNDATION PURPOSES OR WILL HAVE DIFFICULTY PROVIDING UNIFORM BEARING FOR THE PIPE, SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH A MINIMUM OF 6 INCHES OF COMPACTED FOUNDATION MATERIAL.

THE BEDDING MATERIAL SHALL BE CARRIED UP EVENLY ON BOTH SIDES OF THE PIPE SIMULTANEOUSLY IN APPROXIMATELY 6-INCH LAYERS AND EACH LAYER THOROUGHLY COMPACTED WITH APPROPRIATE TOOLS IN SUCH MANNER AS TO AVOID INJURING OR DISTURBING THE COMPLETED PIPELINE. ALL BEDDING AND NATIVE MATERIAL SHALL BE STORED AWAY FROM THE EDGES OF EXCAVATION AND OFF THE PAVED ROADWAY AND SHOULDER.

ALL TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED TO 95% OF THE MAXIMUM DENSITY WITHIN THE RIGHT-OF-WAY AND IN ALL AREAS (PAVED AND UNPAVED) WHERE STREETS, ROADWAY SHOULDERS, DRIVEWAYS, SIDEWALKS, OR PARKING LOTS WILL BE CONSTRUCTED OR RECONSTRUCTED OVER THE TRENCH EXCEPT FOR TRENCHES OVER 8 FEET IN DEPTH. WHEN THE TRENCH DEPTH EXCEEDS 8 FEET, TRENCH BACKFILL UP TO 4 FEET FROM THE TOP OF THE TRENCH SHALL BE MECHANICALLY COMPACTED TO 90% OF THE MAXIMUM DENSITY. THE REMAINING TOP 4 FEET OF THE TRENCH SHALL THEN BE MECHANICALLY COMPACTED TO 95% OF THE MAXIMUM DENSITY. IN UNPAVED AREAS AND OTHER AREAS NOT SUBJECT TO VEHICULAR TRAFFIC, TRENCH BACKFILL FROM THE PIPE TO WITHIN 3 FEET OF THE SURFACE SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY. THE UPPER 3 FEET SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY.

ALL DENSITIES SHALL BE DETERMINED BY TESTING PER THE MODIFIED PROCTOR METHOD, ASTM D1557. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DENSITY TEST REPORTS CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON. A MINIMUM OF ONE TEST SHALL BE TAKEN WITHIN EVERY 500 FEET OF TRENCH LENGTH AND AT DEPTHS UP TO 50% OF TRENCH DEPTH, OR AS DIRECTED BY THE DISTRICT'S FIELD REPRESENTATIVE OR THE GOVERNING ROAD AGENCY. COMPACTION OF LATERALS OR SERVICE LINE TRENCHES SHALL BE TESTED WHERE DIRECTED BY THE DISTRICT'S FIELD REPRESENTATIVE OR THE GOVERNING ROAD AGENCY. TESTING OF CDF, WHEN USED AS REQUIRED BY THE GOVERNING ROAD AGENCY, SHALL BE IN ACCORDANCE WITH ASTM 04832.

TRENCH BACKFILL SHALL BE PLACED IN UNIFORM LOOSE LAYERS NO MORE THAN 12 INCHES THICK AND MECHANICALLY COMPACTED AS SPECIFIED. IN ANY TRENCH WHERE THE SPECIFIED COMPACTION CANNOT BE ACHIEVED WITH NATIVE BACKFILL, THE TOP 4 FEET SHALL BE REPLACED AND COMPACTED TO 95% OF THE MAXIMUM DENSITY WITH IMPORTED BANK RUN GRAVEL. THE DISTRICT'S FIELD REPRESENTATIVE RESERVES THE RIGHT TO REQUEST A COMPACTION TEST AT ANY TIME ON THE BACKFILL MATERIAL.

IN CUTS TRANSVERSE TO THE ROAD ALIGNMENT AND AT ALL UTILITY CROSSINGS, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH CRUSHED SURFACING. BACKFILL SHALL BE PLACED AND MECHANICALLY COMPACTED IN 12-INCH MAXIMUM LIFTS.

AFTER BACKFILL AND COMPACTION, AN IMMEDIATE COLD MIX PATCH SHALL BE PLACED AND MAINTAINED IN A MANNER ACCEPTABLE TO THE GOVERNING ROAD AGENCY UNTIL REPLACED WITH PERMANENT SURFACING.

ALL PIPE AND FITTINGS SHALL BE LAID "IN THE DRY" UNLESS OTHERWISE APPROVED BY ENGINEER. TRENCH EXCAVATIONS SHALL BE DEWATERED BY USING WELL POINT SYSTEMS, SUMPS WITH PUMPS OR OTHER METHODS APPROVED BY THE DISTRICT. DEWATERING SYSTEMS SHALL BE USED IN ACCORDANCE WITH GOOD STANDARD PRACTICE AND SHALL BE EFFICIENT ENOUGH TO LOWER THE WATER LEVEL IN ADVANCE OF THE EXCAVATION AND MAINTAIN IT CONTINUOUSLY TO KEEP THE TRENCH BOTTOM AND SIDES FIRM AND DRY. DEVELOPER/CONTRACTOR SHALL SUBMIT THE DEWATERING PLAN TO THE DISTRICT FOR REVIEW AT LEAST 10 DAYS PRIOR TO COMMENCING ANY DEWATERING WORK. ALL DEWATERING EFFLUENT SHALL BE ROUTED THROUGH A DEWATERING POND PRIOR TO RELEASE.

GROUNDWATER SHALL BE CONTROLLED SUCH THAT SOFTENING OF THE BOTTOM OF EXCAVATIONS OR FORMATION OF "QUICK" CONDITIONS OR "BOILS" DURING EXCAVATION SHALL BE PREVENTED AND NO SOIL SHALL BE ERODED INTO THE EXCAVATION FROM THE SIDES OF EXCAVATION. DEWATERING SYSTEMS SHALL BE DESIGNED AND OPERATED SO AS TO PREVENT REMOVAL OF THE NATURAL SOILS. THE DEVELOPER/CONTRACTOR SHALL AT ALL TIMES HAVE ON HAND SUFFICIENT PUMPING EQUIPMENT AND MACHINERY IN GOOD WORKING CONDITION FOR ALL ORDINARY EMERGENCIES, INCLUDING POWER OUTAGES, AND SHALL HAVE AVAILABLE AT ALL TIMES COMPETENT WORKERS FOR THE OPERATION OF SAID EQUIPMENT.

DEVELOPER/CONTRACTOR SHALL CONTROL SURFACE RUNOFF SO AS TO PREVENT ENTRY OR COLLECTION OF WATER IN EXCAVATIONS AND SHALL MAINTAIN THE UNDISTURBED STATE OF THE FOUNDATION SOILS AND ALLOW THE PLACEMENT OF ANY BACKFILL TO THE REQUIRED DENSITY. THE RELEASE OF GROUNDWATER TO ITS STATIC LEVEL SHALL BE PERFORMED IN SUCH A MANNER AS TO MAINTAIN THE UNDISTURBED STATE OF THE NATURAL FOUNDATION SOILS, PREVENT DISTURBANCE OF COMPACTED BACKFILL, AND PREVENT FLOTATION OR MOVEMENT OF STRUCTURES AND PIPELINES.

DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL PERMIT REQUIREMENTS AND PROVISIONS FOR MONITORING AND MANAGING WATER DISCHARGED FROM THE EXCAVATION.

3. CONNECTION TO EXISTING SEWER SYSTEM

CONNECTIONS TO EXISTING LINES SHALL BE MADE ONLY WITH THE WRITTEN APPROVAL OF SOOS CREEK WATER & SEWER DISTRICT. THE DEVELOPER/CONTRACTOR SHALL NOTIFY THE DISTRICT'S FIELD REPRESENTATIVE AND OTHER UTILITIES AT LEAST 48 HOURS IN ADVANCE OF ANY CONSTRUCTION AND MAKE THE NECESSARY ARRANGEMENTS WITH THE DISTRICT'S FIELD REPRESENTATIVE FOR THE CONNECTION TO THE EXISTING SEWER SYSTEM. THE DEVELOPER/CONTRACTOR SHALL FURNISH ALL MATERIAL, EQUIPMENT AND LABOR NECESSARY FOR MAKING THE CONNECTION UNDER THE SUPERVISION OF THE DISTRICT. THE 48-HOUR NOTICE REQUIREMENT SHALL NOT COUNT SATURDAYS, SUNDAYS, AND HOLIDAYS.

WORK SHALL NOT BE STARTED UNTIL ALL OF THE MATERIAL, EQUIPMENT AND LABOR NECESSARY TO PROPERLY COMPLETE WORK IS ASSEMBLED ON THE SITE. ONCE WORK IS STARTED ON A CONNECTION, IT SHALL PROCEED CONTINUOUSLY WITHOUT INTERRUPTION AND AS RAPIDLY AS POSSIBLE UNTIL THE CONNECTION IS COMPLETED. BEFORE ORDERING MATERIALS FOR ANY CONNECTION TO AN EXISTING MANHOLE, DEVELOPER/CONTRACTOR SHALL EXCAVATE THE MANHOLE AND VERIFY OUTSIDE DIAMETER OF ALL PIPES FOR DETERMINING TYPES OF FITTINGS TO BE USED. ALL WORK SHALL BE COORDINATED WITH THE DISTRICT'S FIELD REPRESENTATIVE. THE EXISTING SEWERS SHALL REMAIN IN SERVICE AT ALL TIMES.

CONNECTIONS TO SANITARY SEWER MANHOLES SHALL BE MADE USING A SAND COLLAR, A CONCRETE COUPLING OR A KOR-N-SEAL BOOT. THE PIPE TO MANHOLE CONNECTION SHALL BE WATERTIGHT. ANY LEAKS IN THE COUPLINGS OR OTHER AREAS CREATED WHILE CONNECTING TO THE EXISTING MANHOLE SHALL BE SEALED WITH STRATA TECH ST-520 INJECTION RESIN OR APPROVED EQUAL.

DEVELOPER/CONTRACTOR SHALL RE-CHANNEL EXISTING MANHOLES AS NECESSARY TO SMOOTHLY DIRECT THE FLOW INTO THE EXISTING SYSTEM.

ALL WATER AND/OR CONSTRUCTION DEBRIS SHALL BE REMOVED FROM NEW SEWERS AND NOT BE PERMITTED TO ENTER THE EXISTING SYSTEM. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR FLUSHING OUT AND CLEANING ANY EXISTING SEWERS INTO WHICH GRAVEL, ROCKS OR OTHER DEBRIS HAS ENTERED AS A RESULT OF THE DEVELOPER'S/CONTRACTOR'S OPERATIONS, AND SHALL PAY FOR REPAIR TO LIFT STATIONS OR OTHER FACILITIES DAMAGED BY SUCH DEBRIS. ALL FLUSHING WATER SHALL BE PUMPED FROM UPSTREAM MANHOLES OR SEWER LINES AND SHALL NOT BE ALLOWED TO ENTER THE EXISTING SEWER.

4. SEPARATION OF UTILITIES

MINIMUM SEPARATION BETWEEN SEWER AND WATER MAINS SHALL CONFORM TO SECTION C1-9.1 OF THE "CRITERIA FOR SEWAGE WORKS DESIGN", CURRENT EDITION, AS PUBLISHED BY THE DEPARTMENT OF ECOLOGY. MINIMUM SEPARATION BETWEEN OTHER UTILITIES SHALL BE 6 INCHES WITH A SAND CUSHION.

PUGET SOUND ENERGY VAULTS, HAND HOLES AND LIGHT STANDARDS SHALL BE LOCATED NO CLOSER THAN 10 FEET FROM ANY SEWER MAINS AND STUB SERVICES. DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF VAULTS, HAND HOLES, AND LIGHT STANDARDS WITH THE SEWER STUB SERVICES. NO CONSTRUCTION SHALL START UNTIL THE DEVELOPER/CONTRACTOR HAS FURNISHED THE DISTRICT WITH A WORK SKETCH FROM PUGET SOUND ENERGY OR A SIGNED HOLD HARMLESS AGREEMENT (FORM SUPPLIED BY THE DISTRICT) IS PROVIDED..

5. THRUST BLOCKING

WHEN DIGGING NEAR FITTINGS ON EXISTING PIPELINES, TEMPORARY BLOCKING SHALL BE INSTALLED TO PREVENT BLOWOUTS. BLOCKING SHALL ALLOW FOR ANY CONNECTIONS TO THE FITTING TO BE REMOVED WITHOUT DAMAGING THE FITTING. THRUST BLOCKING SHALL CONFORM TO THE STANDARD DETAILS. WHERE UNFAVORABLE GROUND CONDITIONS ARE ENCOUNTERED, SPECIAL BLOCKING MAY BE REQUIRED AS DIRECTED BY THE DISTRICT IN THE FIELD.

6. SEWER MAIN TESTING

GRAVITY SEWERS AND APPURTENANCES SHALL BE TESTED AFTER BACKFILLING BY THE LOW-PRESSURE AIR METHOD IN ACCORDANCE WITH SECTION 7-17.3(2) OF THE STANDARD SPECIFICATIONS, EXCEPT WHERE THE GROUND WATER TABLE IS SUCH THAT THE DISTRICT MAY REQUIRE THE INFILTRATION TEST. FINAL ACCEPTANCE OF THE SEWER MAIN INSTALLATION WILL BE SUBJECT TO THE DISTRICT'S RESOLUTION NO. 1904-S, WHICH ALLOWS A MAXIMUM PONDING DEPTH OF 3/4-INCH. IN THE EVENT OF CONFLICTS BETWEEN THE STANDARDS ESTABLISHED IN RESOLUTION NO. 1904-S AND THE STANDARDS SPECIFIED IN SECTION 7-17.3(2) OF THE STANDARD SPECIFICATIONS, THE STANDARDS OF THE RESOLUTION WILL TAKE PRECEDENCE.

7. REPAIR OF PIPELINE FAILURES

BROKEN OR OTHERWISE DEFECTIVE PIPE SHALL BE REMOVED AND REPLACED. REPAIR BANDS OR CLAMPS SHALL NOT BE USED TO REPAIR BROKEN PIPE.

8. JACKED CROSSING

AT LOCATIONS AS REQUIRED BY THE DISTRICT OR GOVERNING ROAD AGENCY, OR AS PROPOSED BY THE DEVELOPER/CONTRACTOR, SEWER MAIN CROSSINGS OF ARTERIAL STREETS SHALL BE MADE BY JACKING, DRIVING, OR AUGURING A STEEL CASING PIPE BENEATH THE SURFACE. ALIGNMENT AND GRADE OF CASINGS FURNISHED SHALL BE SUCH THAT NO ADDITIONAL FITTINGS ARE NECESSARY TO MAKE THE CONNECTION. IF THE CASING DOES NOT MEET THIS REQUIREMENT, IT SHALL BE ABANDONED BY FILLING THE CASING WITH MOIST SAND AND A NEW CASING INSTALLED TO MEET THE LINE AND GRADE REQUIREMENTS. NO OPEN EXCAVATION SHALL BE MADE CLOSER THAN 6 FEET FROM THE EDGE OF PAVEMENT.

DIAMETER OF CASING PIPE SHALL BE SUFFICIENT TO ALLOW INSTALLATION OF THE SEWER. WALL THICKNESS SHALL BE SUFFICIENT TO WITHSTAND INSTALLATION FORCE AND HIGHWAY LOADING WITH A MINIMUM THICKNESS OF ¼-INCH. AFTER THE SEWER MAIN HAS BEEN ADJUSTED TO GRADE, MOIST SAND SHALL BE TAMPED INTO THE CASING PIPE SO THAT ALL VOIDS WILL BE FILLED. MANUFACTURED CASING SPACERS THAT PROHIBIT MOVEMENT OF THE PIPE IN ANY DIRECTION WITHIN THE CASING MAY BE USED IN LIEU OF FILLING THE VOID BETWEEN THE SEWER MAIN AND THE CASING WALL WITH SAND.

10. EXISTING UTILITIES

EXISTING UTILITIES SHOWN ON ANY REFERENCE DRAWINGS PROVIDED BY THE DISTRICT HAVE BEEN PLOTTED FROM THE BEST INFORMATION AVAILABLE TO THE DISTRICT. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES WELL ENOUGH IN ADVANCE OF THE EXCAVATION TO PREVENT DAMAGE DURING CONSTRUCTION. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM HIS OPERATIONS ON THE PROJECT.

11. WARRANTY PERIOD

THE DEVELOPER MAKING THE APPLICATION FOR A LINE EXTENSION SHALL BE RESPONSIBLE FOR THE MATERIALS AND FOR SATISFACTORY OPERATION OF THE FACILITY FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE COMPLETED PROJECT AND THE BILL OF SALE TO THE DISTRICT.

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REVISIONS

DATE APPROVED
PRINCIPAL APPROVAL
DESIGN
DRAWN
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JOB NO.

OPTIONAL ENGINEER
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NO.
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SCALE
HORIZ.:
VERT.:

SOOS CREEK WATER
& SEWER DISTRICT

SEWER MAIN EXTENSION
PROJECT NAME HERE
CONSTRUCTION PROVISIONS

BASE MAP

SHEET 2 OF 4

DRAWING FIG. SP-2

MATERIALS (Revised 05-16-11)

1. PIPE

GRAVITY SEWERS AND SERVICES SHALL BE CONSTRUCTED OF PVC PIPE CONFORMING TO SECTION 9-05.12 OF THE STANDARD SPECIFICATIONS UNLESS REQUIRED OTHERWISE BY THE DISTRICT. PVC GRAVITY SEWER MAIN AND PVC GRAVITY SEWER SERVICE PIPE SHALL BE CONSIDERED FLEXIBLE CONDUIT. PVC COMPOUND SHALL MEET THE REQUIREMENTS OF ASTM D 1784 FOR CLASS 12454-B PVC.

DUCTILE IRON PIPE (CLASS 52) MAY BE USED IN LIEU OF PVC PIPE PROVIDED THE DUCTILE IRON PIPE IS LINED WITH EPOXY, POLYURETHANE, OR SEWPERCOAT AS MANUFACTURED BY KERNEOS ALUMINATE TECHNOLOGIES OR APPROVED EQUAL. ALL LININGS SHALL BE APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS.

A. LINED DUCTILE IRON PIPE SHALL HAVE THE LINING APPLIED TO ALL EXPOSED INTERIOR SURFACES PER THE MANUFACTURER'S RECOMMENDATIONS.

B. POLYURETHANE LININGS SHALL CONSIST OF POLYISOCYANATE RESIN AND POLYOL RESIN MIXED AT A 1:1 RATIO AT THE TIME OF THE APPLICATION AND APPLIED TO A DRY FILM THICKNESS OF 40 MILS (0.040 INCHES). COATING THICKNESS WITHIN THE BELL SOCKET INTERIOR AND ON THE SPIGOT END OF THE PIPE EXTERIOR SHALL BE 8 MILS (0.008 INCHES) NOMINAL WITH A MAXIMUM THICKNESS OF 10 MILS (0.010 INCHES) IN ORDER TO MINIMIZE POTENTIAL DIMENSIONAL ASSEMBLY PROBLEMS. THICKER COATS MAY BE ALLOWED PROVIDED FINAL DIMENSIONS ARE WITHIN ALLOWABLE TOLERANCES AFTER THE COATING. THE LINING SHALL PROVIDE AN ASTM D16 TYPE V SYSTEM.

C. SEWPERCOAT IS A CALCIUM ALUMINATE MORTAR MADE OF FUSED CALCIUM ALUMINATE AND CALCIUM ALUMINATE AGGREGATES. THE LINING SHALL BE APPLIED TO A THICKNESS OF 125 MILS (0.125 INCHES) FOR 12-INCH AND SMALLER DIAMETER PIPES AND 3/16 INCHES FOR PIPES LARGER THAN 12 INCHES IN DIAMETER. CRACKS IN THE LINING, OTHER THAN CLOSED HAIRLINE CRACKS AND/OR FINE CRAZING ARE NOT ACCEPTABLE. A SEAL COAT SHALL BE APPLIED TO ANY SEWPERCOAT LINING.

D. THE EXTERIOR OF ALL DUCTILE IRON PIPES SHALL BE COATED WITH 1 MIL (0.001 INCHES) OF BITUMINOUS PAINT ACCORDING TO ANSI/AWWA C151/A21.51.

2. SIDE SEWER SERVICES

ALL SIDE SERVICES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SECTION 7-18 OF THE STANDARD SPECIFICATIONS AND THE RESOLUTIONS OF THE DISTRICT, WHICH ARE INCORPORATED HEREIN BY REFERENCE. SIDE SERVICE CONSTRUCTION SHALL FOLLOW THE INSTALLATION OF MAIN LINES AS CLOSELY AS PRACTICAL IN THE OPINION OF THE DISTRICT.

CONTRACTOR SHALL INSTALL THE PIPE TO A MINIMUM DEPTH AT THE PROPERTY LINE OF 5 FEET BELOW THE FLOOR TO BE SERVED OR 5 FEET BELOW THE STREET CENTERLINE WHICHEVER IS DEEPER. IN CASES OF VACANT PROPERTIES OR PROPERTIES VACANT BEYOND 150 FEET FROM SEWER MAIN, THE SIDE SEWER SHALL BE CONSTRUCTED WITH A MINIMUM SLOPE OF 2% FROM THE TEE, UNLESS OTHERWISE APPROVED BY THE DISTRICT IN WRITING.

ALL STUB SERVICES SHALL TERMINATE WITH A 6-INCH WATERTIGHT CAP AT THE PROPERTY AND/OR EASEMENT LINE, OR 10 FEET PAST AT THE OPTION OF THE DEVELOPER. ALL ENDS OF STUB SERVICES SHALL BE MARKED BY A 12-GAUGE GALVANIZED WIRE AND A 2-INCH BY 4_INCH TIMBER. THE WIRE SHALL EXTEND VERTICALLY FROM THE CAPPED END TO THE GROUND SURFACE AND SHALL BE ATTACHED TO THE TIMBER FROM END TO END. THE TIMBER SHALL EXTEND FROM THE CAPPED END TO A MINIMUM OF 12 INCHES ABOVE THE GROUND AND SHALL BE PAINTED TRAFFIC WHITE WITH THE WORD "SEWER" STENCILED ON WITH BLACK PAINT. THE END OF THE TIMBER SHALL BE MARKED IN PERMANENT INDELIBLE INK WITH THE LENGTH OF THE TIMBER INSTALLED. NEITHER THE WIRE NOR 2" X 4" TIMBER SHALL BE SECURED OR ATTACHED TO THE SEWER PIPE.

ALL SIDE SERVICES SHALL BE TESTED FOR ACCEPTANCE AT THE SAME TIME THE MAIN LINE SEWER IS TESTED FOR ACCEPTANCE.

ALL 6-INCH STUBS INTO MANHOLES TO MATCH CROWNS.

3. MANHOLES

MANHOLES SHALL BE PRECAST CONCRETE UNLESS REQUIRED OTHERWISE BY THE DISTRICT AND SHALL CONFORM TO STANDARD PLAN B-23A EXCEPT WITH ECCENTRIC REDUCING CONES. POURED IN PLACE BASES SHALL NOT BE ALLOWED. MAXIMUM ALLOWABLE DIMENSION FROM THE BREAK OF CONE TO TOP OF CASTING SHALL BE 20 INCHES.

INTERNAL CONCRETE CHANNELS, BENCHES AND FILLETS SHALL BE FORMED USING LOW SHRINKAGE CLASS 4000D 5 SACK MIX WITH PEA GRAVEL TO 5/8-INCH (MAX SIZE) AGGREGATE CONFORMING TO SECTION 6-02.3 OF THE STANDARD SPECIFICATIONS. THE WATER-CEMENT RATIO SHALL NOT EXCEED 0.38. A WATER-REDUCING ADMIXTURE SHALL BE INCLUDED IN THE MIX.

LADDER RUNGS SHALL BE 1-INCH DIAMETER DEFORMED BAR, GALVANIZED OR POLYPROPYLENE SAFETY-TYPE STEPS MEETING THE REQUIREMENTS OF ASTM C478, AASHTO M-199, AND ALL WISHA AND OSHA SPECIFICATIONS. POLYPROPYLENE STEPS, CONFORMING TO ASTM D 4101, SHALL BE INJECTION MOLDED AROUND A 1/2-INCH ASTM A 615 GRADE 60 STEEL REINFORCING BAR.

COVERS SHALL BE OLYMPIC FOUNDRY MODEL NO. MH30A D/T OR APPROVED EQUAL AND SHALL BE 24-INCH DIAMETER CAST IRON OR DUCTILE IRON WITH THREE 5/8-INCH DIAMETER X 1 1/2-INCH LONG COUNTERSUNK N.C. STAINLESS STEEL SOCKET HEAD CAP SCREWS AND SINGLE 1-INCH DIAMETER LIFT HOLE LOCATED APPROXIMATELY 3 INCHES FROM THE OUTSIDE EDGE OF THE COVER. PROVIDE 5/8-INCH X 2 1/2-INCH STAINLESS STEEL CARRIAGE BOLT INSTALLED IN MANHOLE LIFT HOLE. LIDS SHALL HAVE A NON-SKID PATTERN CAST INTEGRALLY ON TOP WITH THE WORD "SEWER" CAST IN 3-INCH RAISED LETTERS. RING AND COVER SHALL HAVE ONE OF THE LOCK DOWN BOLTS CENTERED DIRECTLY OVER THE ACCESS LADDER.

ALL MANHOLE COVERS LOCATED IN SIDEWALKS OR DRIVEWAYS SHALL BE OLYMPIC FOUNDRY NO. MH30A D/T SMOOTH DESIGN OR APPROVED EQUAL WITH LOCKING LID AND 6-INCH CASTING RING AND THE WORD "SEWER" CAST INTEGRALLY ON TOP IN 3-INCH RAISED LETTERS.

MANHOLE SECTIONS SHALL HAVE RUBBER GASKET JOINTS CONFORMING TO ASTM C 443. ALL MANHOLE JOINTS AND PICK HOLES SHALL BE SEALED FROM THE INSIDE AND THE OUTSIDE WITH A SAND AND PORTLAND CEMENT CONCRETE MIX.

CONTRACTOR SHALL PROVIDE AN 8-INCH THICK BY 6-FOOT WIDE ASPHALT OR CONCRETE COLLAR AROUND THE RIMS OF ALL MANHOLES LOCATED IN UNIMPROVED AREAS, LANDSCAPED AREAS, EASEMENTS, AND ALL OTHER UNPAVED AREAS. THE ASPHALT OR CONCRETE COLLAR SHALL SLOPE AWAY FROM THE MANHOLE RIM.

4. IMPORTED GRAVEL MATERIAL

PIPE BEDDING SHALL CONFORM TO SECTION 9-03.12(3) OF THE STANDARD SPECIFICATIONS. FOUNDATION GRAVEL SHALL CONFORM TO SECTION 9-03.17 OF THE STANDARD SPECIFICATIONS. BANKRUN GRAVEL FOR TRENCH BACKFILL SHALL CONFORM TO SECTION 9-03.19 OF THE STANDARD SPECIFICATIONS, EXCEPT AT TRANSVERSE CUTS TO THE ROAD ALIGNMENT OR AT UTILITY CROSSINGS, WHICH SHALL BE BACKFILLED WITH CRUSHED GRAVEL SURFACING OR AS REQUIRED BY THE GOVERNING ROAD AGENCY. DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ANY EXCESS EXCAVATED SOIL MATERIAL AT AN APPROVED DISPOSAL SITE.

5. CRUSHED GRAVEL SURFACING

CRUSHED GRAVEL SURFACING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 9-03.9(3) OF THE STANDARD SPECIFICATIONS.

6. ASPHALT CONCRETE PATCH AND OVERLAY

ASPHALT CONCRETE SURFACING FOR PATCHING AND OVERLAY SHALL CONFORM TO SECTION 5-04.2 AND 5-04.3 OF THE STANDARD SPECIFICATIONS. ASPHALT CONCRETE SURFACING SHALL MEET CLASS ½-INCH, P.G, 58-22 GRADING REQUIREMENTS, OR AS REQUIRED BY THE GOVERNING ROAD AGENCY.

SURFACE RESTORATION (Revised 05-16-11)

1. OFFSITE SURFACE RESTORATION

ALL PAVED OR UNPAVED SURFACES OR EASEMENTS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION. ALL TREES, SHRUBS AND OR OTHER IMPROVEMENTS SHALL BE SAVED, RELOCATED, OR REPLACED BY DEVELOPER/CONTRACTOR UNLESS NOTED OTHERWISE ON THE DRAWINGS OR IN THE EASEMENT STIPULATIONS. RESTORATION SHALL BE TO THE SATISFACTION OF THE DISTRICT, PROPERTY OWNER, OR GOVERNING ROAD AGENCY. PRECONSTRUCTION PHOTOGRAPHS SHALL BE USED TO APPROVE RESTORATION.

2. ROAD SHOULDER RESTORATION WITHIN RIGHT-OF-WAY

THE EXISTING SURFACING OF DISTURBED ASPHALT SHOULDERS SHALL BE REMOVED TO A MINIMUM DEPTH OF 6 INCHES BELOW ORIGINAL STREET GRADE TO PROVIDE FOR PLACEMENT OF THE NEW SUBGRADE AND PAVING. THE SUBGRADE SHALL BE CONSTRUCTED OF 1-1/4-INCH MINUS CRUSHED SURFACING BASE COURSE PLACED TO A COMPACTED THICKNESS OF 2-1/2 INCHES, FOLLOWED BY 5/8-INCH MINUS CRUSHED SURFACING TOP COURSE PLACED TO A COMPACTED THICKNESS OF 1-1/2 INCHES. ASPHALT CONCRETE PAVING SHALL THEN BE PLACED AND COMPACTED IN 2-INCH LIFTS UP TO A MAXIMUM 4-INCH THICKNESS TO MATCH EXISTING PAVEMENT THICKNESS. MINIMUM THICKNESS SHALL BE 2 INCHES. THE SHOULDER SHALL BE REPLACED TO THE EXISTING FOG LINE IN AREAS WHERE THE EXISTING ASPHALT SHOULDER IS SERIOUSLY DISTURBED, OR AT THE DISCRETION OF THE DISTRICT OR THE GOVERNING ROAD AGENCY.

RESTORATION OF GRAVEL SHOULDERS SHALL INCLUDE A MINIMUM OF 1-1/2 INCHES OF CRUSHED SURFACING TOP COURSE AND 2-1/2 INCHES OF CRUSHED SURFACING BASE COURSE.

3. ASPHALT SURFACE RESTORATION WITHIN RIGHT-OF-WAY

THE EXISTING ASPHALT SURFACE SHALL BE CUT ON A NEAT LINE BY SAWCUTTING PRIOR TO EXCAVATION TO PROVIDE A CONTINUOUS LINE. FOLLOWING PROPER BACKFILL AND COMPACTION OF THE TRENCH, THE EDGES OF THE SURFACING SHALL BE RE-TRIMMED 12 INCHES WIDER THAN THE EXCAVATION WITH STRAIGHT VERTICAL EDGES FREE FROM IRREGULARITIES. A 1-1/4-INCH MINUS CRUSHED SURFACING BASE COURSE SHALL BE PLACED TO A COMPACTED THICKNESS OF 4-1/2 INCHES, FOLLOWED BY 5/8-INCH MINUS CRUSHED SURFACING TOP COURSE PLACED TO A COMPACTED THICKNESS OF 2 INCHES.

ASPHALT CONCRETE PAVING SHALL THEN BE PLACED AND COMPACTED IN 2-INCH LIFTS TO MATCH THE EXISTING THICKNESS AND GRADE OF THE ORIGINAL SURFACE. ASPHALT PATCH SHALL HAVE A MINIMUM THICKNESS OF 2 INCHES AND A MAXIMUM THICKNESS OF 4 INCHES. THE ASPHALT PATCH SHALL THEN BE OVERLAID WITH A MINIMUM OF 1-1/2 INCHES COMPACTED ASPHALT CONCRETE. ASPHALT OVERLAY SHALL BE PRE-LEVELED AS DETERMINED BY THE DISTRICT'S FIELD REPRESENTATIVE. NO OVERLAY SHALL BE REQUIRED IF THE FINAL TRIMMED EDGE OF THE ASPHALT PATCH DOES NOT ENCROACH INSIDE THE FOG LINE OR, IN LIEU OF A FOG LINE, WITHIN 12 FEET FROM THE EXISTING CENTERLINE OF THE ROAD. THE DISTRICT OR GOVERNING ROAD AGENCY RESERVES THE RIGHT TO REQUIRE AN OVERLAY ON ANY SECTION. IF THE EDGE OF THE ROAD IS CURB AND GUTTER, THEN THE ASPHALT PATCH SHALL EXTEND TO THE EDGE OF THE CURB UNLESS INDICATED OTHERWISE BY THE DISTRICT OR GOVERNING ROAD AGENCY. ALL ASPHALT JOINTS SHALL BE SEALED WITH APPROVED SEALER. DEVELOPER/CONTRACTOR SHALL REPLACE EXISTING STRIPING AND PAVEMENT MARKINGS AS REQUIRED BY THE GOVERNING ROAD AGENCY.

DEVELOPER/CONTRACTOR SHALL MAINTAIN TEMPORARY COLD OR HOT MIX ASPHALT PATCHES DAILY DURING CONSTRUCTION TO THE SATISFACTION OF THE GOVERNING ROAD AGENCY AND THE DISTRICT'S FIELD REPRESENTATIVE UNTIL SAID PATCH IS REPLACED WITH A PERMANENT HOT PATCH. THE PERMANENT PATCH SHALL BE PLACED AND SEALED WITH PAVING GRADE ASPHALT WITHIN 30 CALENDAR DAYS.

CONCRETE PAVEMENT SHALL BE RESTORED CONSISTENT WITH SECTION 5-01 OF THE STANDARD SPECIFICATIONS. ANY CONCRETE PAVEMENT TRAFFIC LANE AFFECTED BY THE TRENCHING SHALL HAVE ALL AFFECTED PANELS REPLACED. CEMENT CONCRETE PAVEMENT SHALL BE RESTORED WITH AN 8-SACK MIX, USING EITHER TYPE II OR TYPE III CEMENT WITHIN 30 CALENDAR DAYS.

4. CURBS, GUTTERS, AND SIDEWALKS

EXISTING CURBS, GUTTERS, AND SIDEWALKS DAMAGED BY CONSTRUCTION OF THE PROJECT OR THE DEVELOPER'S/CONTRACTOR'S USE AND ACTIVITY, SHALL BE REPAIRED TO THE SATISFACTION OF THE PROPERTY OWNER, THE DISTRICT, OR THE GOVERNING ROAD AGENCY, AND TO ITS ORIGINAL CONDITION OR BETTER.

5. NON-PAVEMENT RESTORATION WITHIN RIGHT-OF-WAY

CULTIVATED LAWNS SHALL BE RESTORED WITH SOD. RESEEDING OF CULTIVATED LAWNS WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL OF PROPERTY OWNER AND DISTRICT. UNCULTIVATED LAWNS, PASTURE AND VACANT LAND SHALL BE RESTORED WITH A PASTURE GRASS MEETING THE FOLLOWING REQUIREMENTS.

SEED MIX: 40% PERENNIAL RYEGRASS
10% WHITE CLOVER
30% FESCUE
20% RED CREEPING FESCUE
APPLY AT THE RATE OF 100 POUNDS PER ACRE

MULCH: SILVA FIBER MULCH APPLIED AT 1500 TO 2000 POUNDS PER ACRE.

FERTILIZER: COMMERCIAL MIX 10/20/20 OF NITRATE, PHOSPHATE AND POTASH APPLIED AT RATE OF 450 POUNDS PER ACRE.

6. FINAL UTILITY ADJUSTMENT TO FINISH GRADE

ALL UTILITY COVERS, WHICH ARE LOCATED ON PROPOSED ASPHALT ROADWAYS, SHALL BE TEMPORARILY PLACED AT SUB-GRADE ELEVATION PRIOR TO PLACING CRUSHED SURFACING MATERIAL. FINAL ADJUSTMENT OF ALL COVERS AND ACCESS ENTRIES SHALL BE MADE FOLLOWING FINAL PAVING BY SAWCUTTING OF THE PAVEMENT AROUND LIDS AND COVERS. OPENING SHOULD NOT BE LARGER THAN 12 INCHES BEYOND THE RADIUS OF THE COVER. DEVELOPER/CONTRACTOR SHALL THEN REMOVE BASE MATERIAL, SURFACING COURSE, AND FRAME; ADD RAISING BRICKS; AND REPLACE FRAME AND COVER TO FINISH GRADE. FILL AND MECHANICALLY COMPACT AROUND THE STRUCTURE AND FRAME WITH CRUSHED SURFACING MATERIAL. FINISHED SURFACING SHALL BE TWO, 2-INCH COURSES OF ASPHALT CONCRETE SURFACING, COMPACTED AND SEALED TO PROVIDE A DENSE, UNIFORM SURFACE. FINAL ADJUSTMENT OF ALL COVERS AND ACCESS ENTRIES SHALL BE COMPLETED WITHIN 30 DAYS OF FINAL PAVING.

7. FINAL CLEANUP

THE DEVELOPER/CONTRACTOR SHALL CLEANUP ALL ADJACENT AREAS IN COMPLIANCE WITH SECTION 1.11 OF THE STANDARD SPECIFICATIONS. STREETS AND ROADWAYS SHALL BE CLEANED AND SWEPT BOTH DURING AND AFTER THE INSTALLATION WORK. DISTURBED SOILS SHALL BE FINAL GRADED, SEEDED, AND MULCHED AFTER INSTALLATION OF THE SEWER MAIN. IN LIMITED AREAS SEEDING AND MULCHING BY HAND, USING APPROVED METHODS, WILL BE ACCEPTABLE. DITCH LINES WITH ERODIBLE SOIL OR SUBJECT TO RAPID FLOWS MAY REQUIRE SEEDING, JUTE MATTING, NETTING, OR ROCK LINING TO CONTROL EROSION. ANY SILTING OF DOWNSTREAM DRAINAGE FACILITIES, WHETHER DITCHES OR PIPE AND CATCH BASINS, WHICH RESULTS FROM THE SEWER MAIN INSTALLATION SHALL BE CLEANED OUT AND THE WORK SITE RESTORED TO A STABLE CONDITION AS PART OF SITE CLEANUP.

8. TRAFFIC CONTROL

THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR INTERIM TRAFFIC CONTROL DURING CONSTRUCTION ON OR ALONG TRAVELED COUNTY ROADWAYS. TRAFFIC CONTROL SHALL FOLLOW THE GUIDELINES OF SECTION 1-07.23 OF THE STANDARD SPECIFICATIONS. ALL BARRICADES, SIGNS, AND FLAGGING SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD MANUAL. SIGNS SHALL BE LEGIBLE AND VISIBLE AND SHOULD BE REMOVED AT THE END OF EACH WORKDAY IF NOT APPLICABLE AFTER CONSTRUCTION HOURS.

WHEN ROAD CLOSURES CANNOT BE AVOIDED, THE DEVELOPER/CONTRACTOR SHALL POST "TO BE CLOSED" SIGNS A MINIMUM OF FIVE DAYS PRIOR TO THE CLOSING. THE TYPES AND LOCATIONS OF THE SIGNS SHALL BE SHOWN ON A DETOUR PLAN. A DETOUR PLAN MUST BE PREPARED AND SUBMITTED TO THE DISTRICT'S FIELD REPRESENTATIVE AND APPROVED BY THE GOVERNING ROAD AGENCY PRIOR TO CLOSING ANY ROADWAYS. IN ADDITION, THE DEVELOPER/CONTRACTOR MUST NOTIFY IN WRITING ALL LOCAL FIRE, SCHOOL, LAW ENFORCEMENT AUTHORITIES, METRO TRANSIT, AND ANY OTHER AFFECTED PERSONS AS DIRECTED BY THE DISTRICT'S FIELD REPRESENTATIVE AT LEAST FIVE DAYS PRIOR TO THE ROAD CLOSURE.

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REVISIONS

DATE APPROVED
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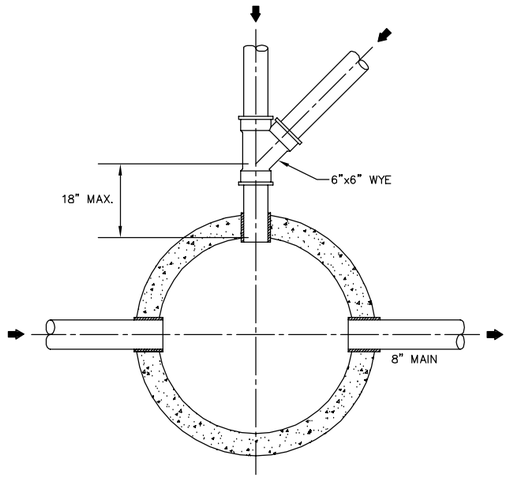
SOOS CREEK WATER
& SEWER DISTRICT

SEWER MAIN EXTENSION
PROJECT NAME HERE
MATERIALS & SURFACE RESTORATION

BASE MAP

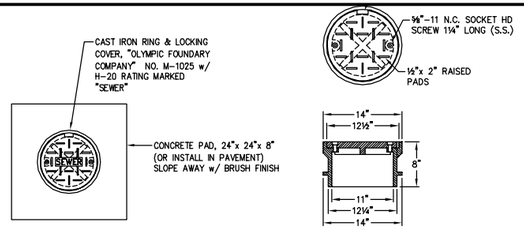
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DRAWING FIG. SP-3



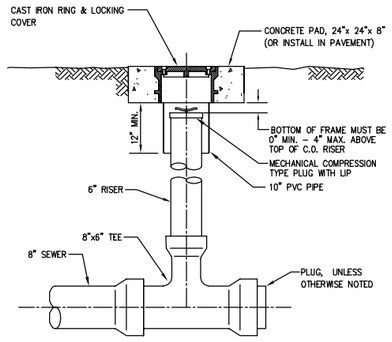
PLAN VIEW

S 2 MANHOLE DETAIL
NTS



PLAN

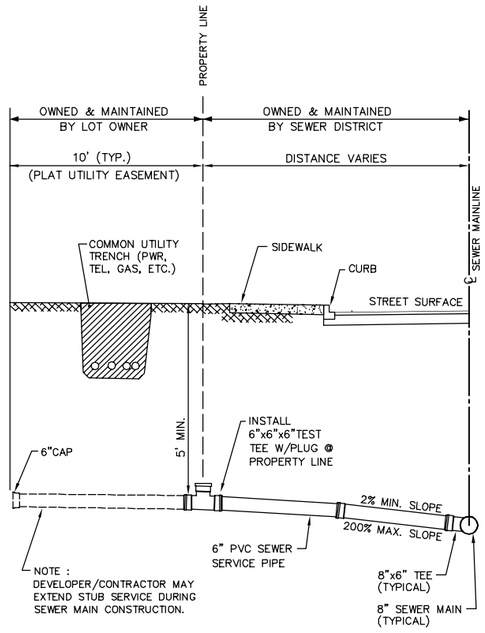
11"x 8" LOCKING CLEANOUT



ELEVATION

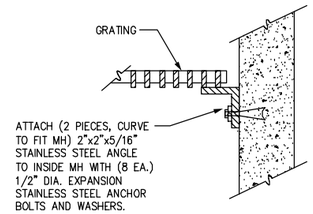
SURFACE CLEAN OUT (MAINLINE STUB)

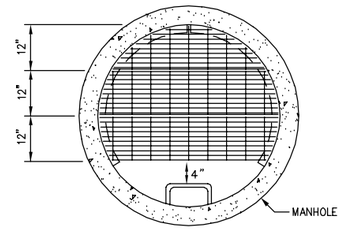
S 3
NTS



ELEVATION

S 4 STUB SERVICE CONSTRUCTION DETAIL
NTS

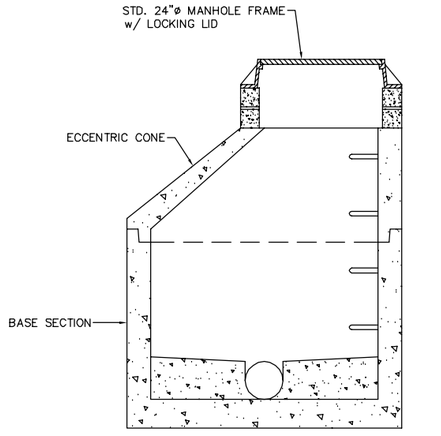




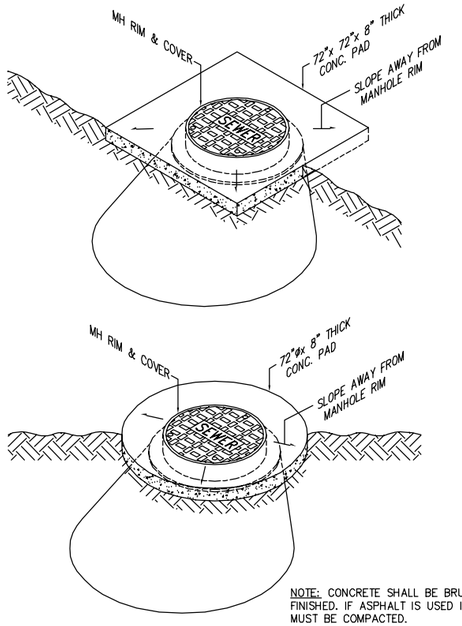
PLAN

THREE-PIECE ALUMINUM GRATING:
IRVING "X-BAR" GRATING (OR EQUAL)
TYPE AA: 1-1/4"x 3/16" BEARING
BARS SPACED @ 1-3/16" O.C.
W/ CROSS BARS SPACED @ 4" O.C.

S 10 SAFETY GRATE DETAIL
NTS

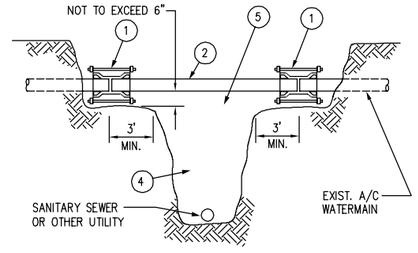


S 21 SHALLOW MANHOLE DETAIL
NTS



NOTE: CONCRETE SHALL BE BRUSHED FINISHED. IF ASPHALT IS USED IT MUST BE COMPACTED.

S 23 MANHOLE RIM & COVER-OFF PAVING
NTS



NOTES:

1. COUPLING: ASBESTOS-CEMENT (A/C) BY DUCTILE IRON (DUCTILE IRON, ROMAC STYLE 501, OR EQUAL).
2. DUCTILE IRON PIPE, CL. 52, DIAMETER TO MATCH EXISTING A/C.
3. BACKFILL EXISTING A/C AND COUPLING WITH PEA GRAVEL TO 1' ABOVE PIPE.
4. BACKFILL UNDER WATERLINE WITH CRUSHED ROCK COMPACTED TO 95% MDD, OR CONTROL DENSITY FILL (CDF) PER KING COUNTY MATERIAL REQUIREMENTS.
5. BACKFILL OVER THE TOP OF THE WATERLINE SHALL BE CRUSHED ROCK COMPACTED TO 95% MDD, OR CONTROL DENSITY FILL (CDF) PER KING COUNTY MATERIAL REQUIREMENTS, WITHIN COUNTY ROAD TRAVEL SURFACE. BACKFILL OVER THE TOP OF THE PIPE WITH NATIVE MATERIAL COMPACTED TO 90% MDD IF LOCATED WITHIN EASEMENT OR UNIMPROVED AREA.
6. A/C DISPOSAL PER WAC173-400-075, WAC 296-65, PUGET SOUND AIR POLLUTION CONTROL AGENCY REQUIREMENTS.

A/C WATER MAIN REPLACEMENT @ SANITARY SEWER CROSSING

S 24
NTS

NOTE:

THIS IS A SAMPLE SHEET ONLY. THE DEVELOPER SHALL USE THE APPROPRIATE STANDARD DETAILS FOR EACH SPECIFIC PROJECT.

NO.	BY	DATE	DESCRIPTION / REVISIONS

DATE APPROVED
PRINCIPAL APPROVAL
DESIGN
DRAWN
CHECKED
JOB NO.

OPTIONAL ENGINEER NAME AND LOGO HERE

CST. FLD. BK. NO. PG.
DES. FLD. BK. NO. PG.
SCALE HORIZ.: VERT.:

SOOS CREEK WATER & SEWER DISTRICT

SEWER MAIN EXTENSION
PROJECT NAME HERE
STANDARD DETAILS

BASE MAP

SHEET 4 OF 4

DRAWING FIG. SP-4

APPENDIX G

PLANNING PROJECTIONS BY SEWER BASIN AND TRANSPORTATION ANALYSIS ZONE

Total Households Forecasts

Service Area/Basin	2010	2020	2030	2040	Ultimate
A	2,259	2,484	2,769	3,104	3,539
B	5,096	5,836	6,599	7,543	8,142
C	1,684	1,948	2,221	2,550	6,206
D	255	319	376	429	185
E	3,957	4,475	5,037	5,617	6,697
F	1,522	1,960	2,344	2,743	2,033
G	168	214	253	289	468
H	496	624	734	834	2,103
J	2,483	3,120	3,629	4,252	8,808
K	3,741	4,236	4,762	5,381	7,040
L	3,793	4,563	5,158	5,948	9,112
M	416	454	504	564	706
N	746	828	926	1,049	1,866
P	336	378	427	479	1,200
Q	1,541	2,007	2,418	2,844	2,752
R	675	855	1,010	1,150	2,729
S	858	1,088	1,285	1,466	1,976
T	1,169	1,476	1,732	1,999	16,110
V	1,924	2,333	2,771	3,288	10,416
W	283	357	420	477	856
X	97	123	144	170	10
Total	33,499	39,677	45,517	52,175	92,955
		18%	15%	15%	
King County Total	33,318	36,941	40,564		
		11%	10%		

Total Multi Family Households Forecasts

Service Area/Basin	2010	2020	2030	2040
A	682	754	842	941
B	1,031	1,175	1,329	1,516
C	635	731	832	954
D	20	25	29	33
E	339	378	423	467
F	136	174	207	239
G	14	17	20	23
H	8	10	12	13
J	128	162	189	222
K	820	922	1,033	1,161
L	247	312	365	431
M	147	161	180	201
N	194	215	240	271
P	13	14	15	17
Q	328	424	508	591
R	121	153	182	207
S	64	81	96	109
T	105	134	158	181
V	9	11	13	15
W	4	5	6	7
X	13	17	20	23
Total	5,056	5,875	6,697	7,626
		16.21%	13.99%	13.86%

*** Future growth projections based off data from the Puget Sound Regional Council.**

Total Single Family Households Forecasts

Service Area/Basin	2010	2020	2030	2040
A	1,577	1,730	1,927	2,163
B	4,065	4,661	5,270	6,026
C	1,049	1,217	1,389	1,596
D	235	294	346	395
E	3,618	4,097	4,614	5,149
F	1,386	1,786	2,137	2,504
G	155	197	232	265
H	488	614	723	821
J	2,356	2,959	3,441	4,030
K	2,921	3,314	3,729	4,220
L	3,546	4,251	4,793	5,517
M	269	292	324	363
N	552	614	687	778
P	323	364	412	462
Q	1,213	1,583	1,910	2,253
R	554	701	828	942
S	794	1,007	1,189	1,357
T	1,063	1,342	1,573	1,818
V	603	728	860	1,015
W	279	351	413	469
X	84	106	124	146
Total	27,131	32,207	36,921	42,292
		18.71%	14.64%	14.55%

Population Forecasts

Service Area/Basin	2010	2020	2030	2040	Ultimate
A	5,947	6,286	6,749	7,311	9,025
B	14,232	15,759	17,227	19,004	20,762
C	4,093	4,551	4,991	5,546	15,825
D	698	839	950	1,043	471
E	11,739	12,767	13,851	14,910	17,077
F	4,244	5,255	6,054	6,838	5,183
G	460	561	638	702	1,194
H	1,530	1,867	2,123	2,334	5,363
J	7,530	9,133	10,247	11,578	22,460
K	10,321	11,231	12,154	13,244	17,953
L	10,924	12,699	13,815	15,299	23,240
M	1,119	1,181	1,268	1,371	1,800
N	2,101	2,265	2,453	2,678	4,759
P	958	1,047	1,145	1,236	3,059
Q	4,437	5,558	6,446	7,319	7,017
R	1,978	2,416	2,747	3,021	6,960
S	2,409	2,942	3,346	3,679	5,040
T	3,516	4,284	4,843	5,396	41,081
V	5,539	6,480	7,431	8,513	26,523
W	876	1,069	1,216	1,338	2,183
X	273	331	372	421	26
Total	94,924	108,522	120,067	132,781	236,999
2005 Forecasts	88,192	96,028	101,168		
	6,732	12,494	18,899		
	8%	13%	19%		
		14.33%	10.64%	10.59%	
		8.89%	5.35%		
King County Total	89,636	99,382	109,129		
		10.87%	9.81%		

Employment Forecasts

Service Area/Basin	2010	2020	2030	2040	Ultimate
A	785	930	1,068	1,225	1,018
B	1,538	1,788	2,043	2,340	339
C	2,069	2,332	2,597	2,917	3,961
D	41	52	64	80	-
E	681	783	905	1,058	449
F	391	456	533	626	-
G	38	47	56	67	-
H	335	393	455	528	68
J	925	1,077	1,238	1,438	4,957
K	1,472	1,567	1,662	1,795	1,801
L	1,048	1,237	1,440	1,689	3,702
M	170	200	230	264	-
N	243	283	325	373	155
P	43	49	56	66	-
Q	303	370	445	538	254
R	304	367	436	513	1,000
S	278	336	397	466	715
T	451	535	626	731	9,927
V	269	347	499	537	7,888
W	192	226	262	304	35
X	56	65	75	87	-
Total	11,633	13,439	15,411	17,643	36,271
	17,773	20,818	23,424		
		16%	15%	14%	
King County Total	36,824	41,959	47,094		
		14%	12%		

Black Diamond Addition

City	2010	2020	2030	2040	Ultimate
Multifamily	14	23	35	43	137
SingleFamily	492	593	698	828	3075
Total Households	507	616	733	872	3212
Population	1444	1689	1937	2219	8175
Employment	128	165	262	259	6407

MPDs					Ultimate
Lawson Hills					
Multifamily	22	34	52	65	204
SingleFamily	144	173	204	242	899
Total Households	182	221	263	312	1151
Population	518	605	694	795	2930
Employment	9	12	19	18	457
The Villages					
Multifamily	91	143	221	275	864
SingleFamily	456	549	647	767	2849
Total Households	624	758	903	1073	3953
Population	1777	2078	2384	2731	10061
Employment	19	24	39	38	945

Total	2010	2020	2030	2040	Ultimate
Multifamily	127	200	309	383	1205
SingleFamily	1093	1316	1549	1838	6823
Population	3739	4372	5015	5746	21166
Households	1312	1594	1899	2257	8316
Employment	156	202	319	316	7810

Donut Hole Forecast	2010	2020	2030	2040	Ultimate
Multifamily	0	0	0	0	0
SingleFamily	0	205	410	615	615
Total Households	0	205	410	615	615
Population	0	522	1044	1566	1566
Employment	0	0	0	0	0

Donut Hole Calc

SF	Zoning	Surrounding	Reduction	Reduced	Ultimate	Ultimate Pop
6873301	UR-SO	R-6	0.35	102.5630315	615	1566

Acres	Units Per Acres
157.7892792	6

*** Data from these tables are based off data from 'The Villages Master Planned Development' and 'Lawson Hills Master Planned Development' Environmental Impact Statements. Prepared by Parametrix for the City of Black Diamond.**