

APPENDIX E

Capital Facility Plans Review and Analysis

FACILITIES AND SERVICES CFP REVIEW

Sanitary Sewer Systems

In a similar fashion to water, sewer service to the urban areas is generally provided by the jurisdiction associated with each urban area with the exceptions of Vancouver, Battle Ground, Ridgefield and the Three Creeks Special Planning Area. Sewer capital facilities plans provide for sewage collection and treatment to meet the expected needs of the future population. The provision of treatment capacity in some areas may represent a constraint in the timing of urban development, as major expansions to treatment capacity are necessary to accommodate the growth. Some of these constraints have been relieved through regional cooperation between sewer system providers.

Sewer Service Areas

Sewer service is confined to the urban areas (as shown in the Existing Inventories) except where sewer was extended to address declared health emergencies or regional public facilities. For the most part, the jurisdictions associated with particular urban areas are the providers of sewer service.

Clark Regional Wastewater District (District) provides sewer service to the Three Creeks Special Planning Area, the northeastern section of the Vancouver Urban Growth Area and the Ridgefield Urban Growth Area. Treatment for service within the District is provided at the Discovery Clean Water Alliance (Alliance) Salmon Creek and Ridgefield Sewage Treatment Plants and the City of Vancouver's Westside Treatment Plant. The City of Battle Ground conveys all of its wastewater through Alliance transmission system to the Salmon Creek Wastewater Treatment Plant and treatment system. The City of Ridgefield transferred the ownership and operation of its collection system to the District effective January 1, 2014 and the Ridgefield Treatment Plant to the Alliance effective January 1, 2015.

Analysis

The following analysis reviews the required components under RCW 36.70A.070 (3). The county completed a comprehensive review of the resource documents submitted by the service providers which are incorporated by reference in the Resource Document section of this Appendix.

1. Does the CFP contain an inventory of existing publicly owned facilities, with location and capacities?

Discovery Clean Water Alliance, Vancouver and Washougal contain a detailed inventory of publicly-owned facilities, including location and capacities. A summary of current facilities and their associated capacity is listed below.

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Table E.10 | Wastewater Treatment Facilities Inventory

Agency	Type of Treatment	Design Flow Maximum Calendar Month (MGD)*	Actual Flow Average Calendar Month 2015 (MGD)*	Actual Flow Minimum Calendar Month 2015 (MGD)*	Actual Flow Maximum Calendar Month 2015 (MGD)*	Sludge Disposal Method
Discovery Clean Water Alliance						
Salmon Creek Treatment Plant	Secondary Activated sludge treatment	14.95	7.31	6.24	10.73	Land Application
Ridgefield Treatment Plant	Secondary Activated sludge treatment	0.70	0.33	0.23	0.60	Transferred to Salmon Creek Treatment Plant
City of Camas	Secondary Activated sludge treatment	8.42	2.3	1.9	3.1	Land Application
City of La Center	Secondary Activated sludge treatment	0.56	0.27	0.21	0.32	Land Application and Silviculture
City of Vancouver Westside	Secondary Activated sludge treatment	28.3	10.4	8.3	14.5	Incineration at the Westside Plant. Ash disposed at the Boardman Landfill
Marine Park	Secondary Activated sludge treatment	16.0	10.7	8.5	14.9	
Industrial Pretreatment	Secondary Lagoons Facultative treatment	3.2	1.52	0.8	2.6	
City of Washougal	Secondary Activated sludge treatment	2.24	1.2	1.06	1.49	Land Application

*Millions of gallons per day

2. **A forecast of future needs is provided that is consistent with the land use plan that the Board identified on February 23, 2016.**

The cities of **Battle Ground, Camas, La Center, Vancouver and Washougal, Clark Regional Wastewater District and the Discovery Clean Water Alliance** have completed forecasts of future needs for wastewater capital facilities. These plans were based on assumptions of future households and ERUs equal to or greater than the future needs that would result from the Comprehensive Land Use map.

Town of Yacolt does not have a public sanitary sewer system. Residents use individual onsite wastewater treatment and disposal systems—septic systems. There are 395 septic systems within the community. Septic system discharge risks contaminating groundwater—the drinking water supply for the town. Use of septic systems has stymied development at urban densities in the community. In 2012 the Town completed a Facility Plan for the future public sanitary sewer system and received approval from the Department of Ecology on August 1, 2012. This facility plan was incorporated into the Town’s Comprehensive Plan in 2013 and is consistent with the land use plan the Board identified on February 23, 2016.

3. **A listing is provided of proposed expansions to capital facilities or new capital facilities that are capable of providing for the needs identified in the forecast. This should be a "20-year listing" since the land use plan covers a 20-year period.**

Discovery Clean Water Alliance Capital Facilities Plan (2014) has provided a 20-year list of proposed capital projects that are capable of providing for the needs identified in the forecast.

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The total program cost is identified at \$100,560,000 in 2014 dollars. Salmon Creek Wastewater Treatment Plant (SCWTP) Phase 5 and 6 improvements, line extensions and pump stations necessary to serve the urban expansion areas are identified and costs for providing these facilities have been estimated.

Clark Regional Wastewater District has provided a 20-year list of proposed capital facilities that are capable of providing for the needs identified in the forecast. The total program cost is \$122,989,428 **102,485,000** within the unincorporated Vancouver urban growth area and \$36,890,000 **40,640,000** in the Ridgefield Urban Growth Area. Line extensions and pump stations necessary to serve the urban expansion areas within its service district are identified and costs for providing these facilities have been estimated.

City of Battle Ground's Plan includes a list of proposed projects totaling \$19,170,000 in 2015 dollars, to accommodate 20-year growth projections. The city may also share in the costs of SCWTP capacity improvements for Phases 5 and 6, since their growth is dependent upon plant expansion.

City of Camas's Plan includes a \$24.2 million list of expansions and new wastewater capital projects proposed as part of the city's 20-year CFP. The listing does not address any major expansion of capacity for the wastewater treatment plant, which is expected to reach capacity in 2015. Currently, Camas is working on preliminary engineering for the wastewater facility upgrade that will provide capacity for at least the next 20 years. The city is in the process of securing a public work trust fund loan to build the expansion.

City of La Center's Plan contains a list of 20-year system improvements and capacity upgrades that total \$34,697,000 to accommodate La Center's 2036 population growth. The city is planning for future commercial and industrial development at the La Center I-5 Junction. The city has the treatment capacity to serve the Junction but does not have the collection system in place.

City of Vancouver's Comprehensive Plan shows planned sewer improvements through 2021. The city's Comprehensive Plan indicates existing sewer system meets all federal and state standards and has adequate capacity for existing and future demands. The city's sanitary sewer capital programs and projects consist of \$73 million of public projects of the next 20 years.

City of Washougal's CFP has collection system improvements and treatment facilities totals equaling \$39,267,000 to accommodate additional growth over the next 20 years.

Town of Yacolt's Comprehensive Growth Management Plan contains a 20-year list of wastewater management projects including the estimated costs and financing methods to be used. Long-term costs for Yacolt's wastewater management program were estimated to be \$4,752,000 - \$5,017,000 through year 2029.

- A 6-year financial plan is developed for funding those expansions or new capital facilities that are expected to be needed within the first 6-years of the plan. That financial plan must be fully balanced. The identified needs must have known funding sources (even if those funding sources may require voter approval).***

Clark Regional Wastewater District ~~2016 adopted Budget~~ **Comprehensive General Sewer Plan (GSP)** contains a 6-year program of system improvements for the period of ~~2016-2021~~ **2017-2022**. The District service area includes the unincorporated Vancouver Urban Growth area and the Ridgefield Urban Growth Area. A listing of capital improvement projects to provide for service to each urban growth area is included. The ~~2013 Amended General Sewer Plan~~ **(2017 GSP)** shows

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improvements and estimated costs. System components needed to support the proposed growth include: interceptor sewers, trunk sewers, 8” and smaller service lines, pump stations, and related appurtenances. Table E.11 shows the 6-yr Capital Improvement program costs. The district’s funding sources for capital improvements include but are not limited to the following: revenue bonds, utility local improvement districts, connection charges, **rates**, developer contributions and extensions, grants and loans.

Table E-11 | Clark Regional Wastewater District 2016-2021 6-Year Capital Program Summary

Capital Facility Project Type	Number of Projects	Cost	Funding
General Facilities	49	\$18,089,100	\$18,089,100
District Installed Infrastructure	4	\$1,000,000	\$1,000,000
Septic Elimination Program	4	\$750,000	\$750,000
Developer Reimbursement	13	\$9,460,000	\$9,460,000
CIP – Fleet & Facilities	2	\$220,000	\$220,000
R&R – Gravity	8	\$5,366,500	\$5,366,500
R&R – Pump Stations & Force Mains	9	\$2,440,100	\$2,440,100
R&R – Fleet & Facilities	13	\$1,922,000	\$1,922,000
Total	66	\$39,247,700	\$39,247,700

	(MILLIONS OF \$)					
	R&R PROJECTS		CAPITAL PROJECTS		TOTAL COST	FUNDING
	Number of Projects	Cost	Number of Projects	Cost		
6-YEAR CIP (2017-2022)	16	10.34	34	36.76	47.10	47.10
<i>Salmon Creek Service Area</i>	<i>15</i>	<i>8.19</i>	<i>33</i>	<i>36.13</i>	<i>44.32</i>	<i>44.32</i>
<i>Vancouver UGA</i>	<i>13</i>	<i>7.73</i>	<i>19</i>	<i>22.08</i>	<i>29.81</i>	<i>29.81</i>
<i>Ridgefield UGA</i>	<i>2</i>	<i>0.46</i>	<i>14</i>	<i>14.05</i>	<i>14.51</i>	<i>14.51</i>
<i>Westside Service Area (WVUGA)</i>	<i>1</i>	<i>2.15</i>	<i>1</i>	<i>0.63</i>	<i>2.78</i>	<i>2.78</i>

City of Battle Ground has identified capital facility needs, costs and funding sources for the proposed expansion areas shown in the Comprehensive Plan Land Use map. Several funding sources exist in addition to those listed in Table E.12 below such as local improvement district, connection charges, revolving loan fund program, developer funding and State/Federal funding programs.

Table E.12 | Battle Ground 2016-2021 6-Year CFP Sewer Summary

Capital Facility Project Type	Number of Projects	Cost	Funding
Mainline Repairs	7	\$1,270,000	\$1,270,000
Pump Stations Rehabilitation or Replacements	2	350,000	350,000
General Facilities	4	670,000	670,000
TOTAL	13	\$2,290,000	Revenue Bonds and Public Works Trust Fund

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City of Camas has indicated in their adopted March 2004 capital facilities plan sewer facility costs. Table E.13 lists capital needs, costs and funding sources for their projects. The last line item in table below shows costs associated with the October 24, 2006 expansion.

Table E.13 | Camas 2016-2021 6-Year CFP Sewer Summary

Capital Facility Project Type	Number of Projects	Cost	Funding
Main Lift Station Upgrade	1	\$1,352,000	\$1,352,000
Step System	3	3,767,000	4,217,000
Sewer Main Repair & Replacement	3	225,000	225,000
Joy Street Sewer Main Extension	1	1,338,480	1,338,480
Treatment, pumping, trunk collection lines	N/A	12,700,000	12,700,000
TOTAL	8	\$19,382,480	System Development and Developer Financing

City of La Center has assumed responsibility from Clark Public Utilities for their sewer system. The city has proposed system improvements to accommodate proposed growth in the February 23, 2016 map. La Center has several funding options for capital improvements such as local improvement districts, bonds, connection charges, revolving loan fund program, developer financing and state and federal funding programs. Table E.14 displays capital needs and costs. At this time, financing system projects will require La Center to acquire debt.

Table E.14 | La Center 2016-2021 6-Year CFP Sewer Summary

Capital Facility Project Type	Number of Projects	Cost	Funding
Treatment plant design, general sewer plan	2	\$15,880,000	\$5,880,000
New pump stations and sewer lines	12	\$11,051,000	\$11,051,000
Construct treatment plant	1	\$6,850,000	\$6,850,000
TOTAL	15	\$33,781,000	General obligation

City of Vancouver sanitary sewer capital programs and projects are listed in Table E.15 below. Conversations with city staff indicate that identified capital programs and projects can provide service for the proposed growth in the Comprehensive Plan Land Use map. The table below shows capital needs from 2016 to 2021.

Table E-15 | Vancouver 2016-2021 6-Year CFP Sewer Summary

Capital Facility Project Type	Cost	Funding
Westside Sewer Treatment	\$4,735,000	\$4,735,000
Marine Park Sewer Treatment	620,000	620,000
Both Westside and Marine Park Sewer Treatment	3,480,000	3,480,000
Sewer Collection	13,672,000	13,672,000
TOTAL	\$22,507,000	System Development and Developer Financing

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City of Washougal's July Sewer System Capital Facility Plan lists improvements that can serve the proposed growth in October 24, 2006 map. Table E.16 below shows the city's capital needs. Washougal estimates that they will have to finance approximately \$19 million over the next six years.

**Table E.16 |
Washougal 2016-
2021 6-Year CFP
Sewer Summary**

Capital Facility Project Type	Number of Projects	Cost	Funding
Pump station upgrade and force main	2	\$2,063,000	\$2,063,000
Trunk sewer	1	838,000	838,000
Relief sewer	1	1,116,000	1,116,000
Stiles Road interceptor	1	1,916,000	1,916,000
Interceptor upgrades	1	326,000	326,000
Treatment plant expansion	3	23,490,000	23,490,000
TOTAL	9	\$29,749,000	System Development and Developer Financing

Town of Yacolt lists capital expenses for 2013-2018 in their 2013 Comprehensive Growth Management Plan. Yacolt has proposed adding Urban Reserve to the February 23, 2016 map. According to the GMA, sewer service must be provided in urban areas. Therefore, GMA regulations do not apply for this proposed urban reserve area.

**Table E.17
Yacolt
2016-2021
6-Year CFP
SEPTIC
Summary**

Capital Facility Project Type	Cost	Funding
Applications for wastewater management program funding	\$26,000	\$26,000
Collection system engineering report	24,000	24,000
Treatment plan facility plan	88,000	88,000
Install septic tank inspection ports	217,500	217,500
Septic Tank Inspection Study	21,600	21,600
TOTAL	\$377,100	Grants and Loans

Discovery Clean Water Alliance lists the projected 6-year capital improvements required for the regional treatment plants and transmission system in their Capital Plan. The Alliance provides services to the District and City of Battle Ground at the Salmon Creek and Ridgefield Treatment Plants.

**Table E.18 |
Discovery Clean Water
Alliance 2016-2021
Capital Plan Summary**

Capital Facility Project Type	Cost	Funding
Regional Treatment	\$17,700,000	\$17,700,000
Regional Conveyance	\$2,590,000	\$2,590,000
TOTAL	\$20,290,000	\$20,290,000

RESOURCE DOCUMENTS

City of Battle Ground

1. City of Battle Ground, Comprehensive Water System Plan, May 2013.
2. City of Battle Ground, 2015 General Sewer Plan, November 2015.
3. City of Battle Ground, Stormwater Management Plan, 2015-2035, August 2015.
4. City of Battle Ground, Fire Capital Facilities Plan, Adopted September 1999, Update April 2005.
5. City of Battle Ground, Transportation System Plan Update, 2015-2035, June 2015.

City of Camas

1. City of Camas, Comprehensive Plan, March 2016.
2. City of Camas, Capital Facilities Plan 2004-2009 & 2010-2023, March 2004.
3. City of Camas, Water Systems Plan, June 2010.
4. City of Camas, General Sewer/Wastewater Facility Plan, May 2007, revised November 2009.

City of La Center

1. City of La Center, General Sewer Plan, March 2013.
2. City of La Center, Final Draft General Sewer Plan, March 2013.
3. City of La Center, Comprehensive Plan, March 1, 2016.
4. City of La Center, Transportation Capital Facilities Plan, December 2004.
5. City of La Center, letter from Jeff Sarvis, La Center Public Works Director to the then Clark Board of County Commissioners, dated July 10, 2014.

City of Ridgefield

1. ~~City of Ridgefield, General Sewer Plan, Volumes I and II, March 2013.~~
2. City of Ridgefield, Comprehensive Plan, 2016-2035.
3. City of Ridgefield, Water System Plan Update, September 2013.
4. City of Ridgefield, Transportation Improvement Program, 2016-2021.

City of Vancouver

1. City of Vancouver, Comprehensive Water System Plan, December 2015.
2. City of Vancouver, Capital Facilities Plan, 2015-2018.
3. City of Vancouver, Comprehensive Plan 2011-2030.
4. City of Vancouver, Capital Improvement Program for Water, Sewer, Surface Water 2016-2021, July 13, 2015.
5. City of Vancouver, Transportation Improvement Program (TIP), 2016-2021.

City of Washougal

1. City of Washougal, Sewer System Capital Facility Plan, Update July 2006.
2. City of Washougal, Water System Plan Update, June 2012.
3. City of Washougal, Draft Transportation Capital Facilities Plan and associated Traffic Impact Fees, Update July 2006.
4. City of Washougal, Capital Facilities Plan 2006.

City of Woodland

1. City of Woodland, Comprehensive Plan (Capital Facilities Plan Element), October 2005.

Town of Yacolt

1. Town of Yacolt, Comprehensive Growth Management Plan Update, April 2013.

C-TRAN

1. 20 Year Transit Development Plan: A Comprehensive Strategy to Meet Public Transportation Needs for Clark County Residents, June 8, 2010.

Clark Public Utilities

1. Clark Public Utilities Water System Plan, February 2003, Updated CFP project lists, March 2004 and March 2007.

Clark Regional Wastewater District

1. Clark Regional Wastewater District, Comprehensive General Sewer Plan Amendment (Final), ~~March 2013~~ December 2017.
2. ~~Clark Regional Wastewater District, Capital Facilities plan, June 2006.~~
3. ~~Clark Regional Wastewater District, Six Year Capital Program 2014-2019.~~

Clark County Environmental Services

1. Stormwater Management Plan 2016, March 2016.
2. Stormwater Capital Program 2013-2018.

Clark County General Services

1. Capital Inventory 2015.

Clark County School Districts

1. Battle Ground School District Capital Facilities Plan 2015-2021, May 2015.
2. Evergreen School District Capital Facilities Plan 2015-2021, May 2015.
3. Ridgefield School District Capital Facilities Plan 2015-2021, June 2015.
4. Camas School District Capital Facilities Plan 2015-2021, May 2015.
5. Vancouver School District Capital Facilities Plan 2015-2021, May 2015.
6. Hockinson School District Capital Facilities Plan 2015-2021, May 2015.
7. La Center School District Capital Facilities Plan 2015-2021, June 2015.
8. Green Mountain School District Capital Facilities Plan 2015-2021, May 2015.
9. Washougal School District Capital Facilities Plan 2015-2021, May 2015.

Clark County Parks

1. Clark County Parks, Recreation and Open Space Plan, July 2015.

Clark County Public Works

1. Clark County Transportation Improvement Program (TIP) 2016-2021, November 2015.
2. Clark County Road Log 2015.

Clark County Water Utility Coordinating Committee

1. Clark County Coordinated Water System Plan Update, Regional Supplement, November 2011.

