



DEPARTMENT OF
ECOLOGY
State of Washington

Wastewater Regionalization

*Interim Report to the Legislature
Department of Ecology
Water Quality Program*

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Interim Report to the Legislature Department of Ecology Water Quality Program

by

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Executive Overview

The Legislature directed the Department of Ecology (Ecology) to investigate opportunities for regionalizing wastewater services in the state. The most significant result of Ecology’s investigation is that the majority of these opportunities have already been seized. Ecology found that 150 to 175 regional partnerships have been established or are being seriously considered or planned.

Sewer utilities are always interested in cost savings or efficiencies, and much of the ‘low hanging fruit’ of regionalization has been implemented. Much of the current regional infrastructure has been implemented with permitting and financial support from Ecology.

The pressures that drive a community toward regionalization or decentralization vary depending on the specific community in question. Despite widespread adoption of regional models, Ecology found areas of the state that appear to favor regionalization but have not yet implemented regionalization. New regional opportunities also emerge with the evolution of growth, water quality concerns, treatment technology, and regulatory requirements.

Ecology has identified barriers that may prevent a community from implementing the cost effective regional solution. These could include:

- Local political conflict.
- Difficulty negotiating the regional agreement.
- The extent and location of existing infrastructure.
- Occasionally the Growth Management Act.

The final Ecology report, due June 30, 2009, will further explore the opportunities for public bodies to cooperatively provide wastewater services.

Introduction

A large number of our state’s communities already use a regional approach to provide wastewater services. More than 150 wastewater utilities have inter-connected infrastructure and have benefited from reduced capital and operational costs as a result. Many of these regional partnerships were formed with support from, or have benefited from state and federal financial assistance provided by Ecology (see Appendix A).

Why is this report needed, and how is it organized?

During its 2008 session, the state Legislature directed:

“The department (of Ecology) to conduct a review of statewide community wastewater infrastructure needs and identify communities that would benefit from regional wastewater infrastructure and identify any barriers to regionalization these communities may face. The department must submit an interim report to the appropriate legislative committees and the office of financial management by November 30, 2008, with a final report due by June 30, 2009.”¹

This interim report has been prepared to:

- Identify and clarify the types of regionalization available to public bodies.
- Identify the opportunities, benefits, and barriers to regionalization.
- Lay out a proposed strategy for the final report to identify other communities throughout the state of Washington that would benefit from regionalization.

¹ Section 3004, 2008 Supplemental Capital Budget, Washington State Legislature, 2008 Session.

What is “regional wastewater infrastructure” and “regionalization”

When used in this report, “regional wastewater infrastructure” and “regionalization” refer to independent public bodies sharing the burden of providing wastewater services to their residential, commercial, and industrial customers. The word regionalization will be used in this report for consistency.

There are two ways that communities can share the burden of providing wastewater services:

1. Through sharing their physical infrastructure.
2. Through sharing administrative and operational opportunities.

Shared infrastructure

Public bodies can cooperatively provide wastewater service by physically connecting their sewage collection systems (with pipes and pumps). Centralized treatment for all of the public bodies can reduce costs for construction and operation. This form of regionalization is widespread in Washington State and is usually what people mean when they discuss regionalization. Currently, more than 150 public bodies are partners in shared infrastructure regionalization. (Appendix A contains more specifics on these communities.)

Two different organizational models are possible for communities with shared infrastructure.

- **Shared authority.** Each public body cooperatively forms a single governing body to manage the wastewater treatment facility. An example of this is the Lacey, Olympia, Tumwater, Thurston County Wastewater Alliance (LOTT Alliance). LOTT is also responsible for operating two reclaimed water facilities. Each public body in the

alliance is responsible for operating its own collection system.

- **Centralized authority.** One public body provides wastewater treatment services to one or more other public bodies. The relationship requires less direct cooperation, with public bodies purchasing services from another public body. This type of organization is more common than a shared administrative body. Examples include the city of Yakima and the city of Union Gap; the city of Raymond and the city of South Bend; and King County with the 34 individual jurisdictions that have agreements with King County to treat their wastewater.

Shared administrative and operations staff

Even public bodies with separate infrastructure have opportunities to cooperate and achieve efficiencies when delivering wastewater services. This type of regionalization is most commonly seen in a Public Utility District (PUD), where one public body (the PUD) manages wastewater operations for multiple small communities in its service area. Efficiencies are achieved in administrative tasks (billing, planning, rate setting, or engineering services) and operational tasks (equipment maintenance, sampling, laboratory testing, day-to-day operations). An example of this type of regionalization is the Klickitat County PUD (KCPUD). The KCPUD manages five community sewer systems: Klickitat, Lyle, Roosevelt, Glenwood, and Wishram. It also maintains nine water systems with a common set of operators, a common engineering staff, and a common management board-giving KCPUD a large pool of experience, benefitting all the communities it supports.

Ecology’s approach to regionalization—Identify opportunities

Engineering review of site-specific planning

Ecology engineers review and approve all engineering reports prepared for wastewater treatment infrastructure. These planning documents are required by rule to evaluate alternative ways of providing wastewater services. (WAC 173-240-60 – *Engineering Report*) One alternative that is required by law is consideration of the opportunities to use reclaimed water (RCW 90.48.112 *Plan Evaluation – Consideration of Reclaimed Water*). Ecology regional staff have a strong commitment to encouraging communities to consider regional alternatives in their planning.

For projects without state financing, Ecology regards the decision to regionalize as one best made by local governments. Furthermore, Ecology lacks the statutory authority to mandate any specific technology or management approach.

When communities choose a regionalization option to provide wastewater services, Ecology permits the issues a permit to the entity operating the ‘discharge’. The ‘upstream’ partner is not permitted by Ecology. In the event that compliance issues arise, Ecology enforcement actions are directed to the permitted partner.

Additional review for Ecology-funded projects

When the state does have a direct or potential financial interest in a wastewater project (state funding), Ecology has more latitude to influence the choice of treatment technology and management approach. To receive funding from Ecology, the project proposed must be the “cost-effective alternative” for meeting the local governments wastewater management needs

(WAC 173-98-730 *Cost Effectiveness Analysis for Water Pollution Control Facilities*).

‘Cost-effective’ is not the same as the cheapest solution available. The cost-effectiveness analysis considers life-cycle cost as well as environmental concerns, public involvement, and implementability. The cost-effectiveness analysis is performed during the site-specific planning required for wastewater infrastructure. The analysis is prepared by the public body, its engineering staff, and its consulting engineer. Ecology’s permitting staff review the cost effectiveness analysis.

Ecology funding programs encourage regionalization when a regional model is fiscally responsible, environmentally sound, and incorporates trust and cooperation between public bodies. During the last 20 years, the Ecology funding program has invested \$600 million in regional facilities statewide. This does not include funding from other state or federal sources. (Appendix B lists specific regional projects financed by Ecology programs.)

Regional approaches vs. decentralized approaches

There is no one-size-fits all approach to providing infrastructure that will always produce optimal results. In some areas of the state, a regional partnership with a large centralized treatment facility works best. In other places, smaller decentralized treatment systems may work better.

When regionalization makes sense – economies of scale

Economy of scale is a phrase engineers use to explain why large facilities are overall less expensive to build than small facilities. The fixed costs of construction apply regardless of

the size of treatment plant. Permits, mobilization costs, and overhead cost about the same regardless of the size of the project. Once the forms and rebar are set, pouring a two million gallon concrete tank doesn't cost twice as much as a one million gallon tank.

The other financial advantage of regional facilities is they simply have more customers to share the burden of paying the bills. Administrative and operational costs don't vary much with the size of the plant. Regardless of whether a city has 500 people or 5,000, the city clerk needs to send out bills and balance the books. Whether the plant treats 100,000 gallons a day or 1,000,000 the operator needs to run lab tests every morning. This means each ratepayer in a larger system pays a lower bill for operating the treatment plant.

Regionalization tends to make economic sense in urban areas with high population densities—areas where the city limits have expanded until cities border each other, or where communities are located near each other. The Growth Management Act (GMA) has been a factor in creating the densities required for large scale regionalization to work in the state. Comprehensive regional planning, required by GMA, often identifies regionalization as an option that deserves serious consideration. Comprehensive sewer planning and site-specific facilities planning frequently identify regionalization as the least costly alternative for communities in close proximity to each other. If communities can work together, the option may emerge as the cost-effective, preferred alternative.

Wastewater regionalization may also set an example of cooperation between communities that extends beyond the immediate wastewater management needs. This can be most dramatic where there is a limited history of cooperation between communities. There are many opportunities for cooperation and cost savings

(law enforcement, fire fighting, other infrastructure such as water systems and solid waste facilities, and shared specialty equipment) once communities share one community service.

Decentralized facilities—when local conditions override

Economies of scale at the centralized treatment plant are not the only factor to consider when evaluating regional opportunities. The cost for the pipes and pumps to physically connect the two communities must also be taken into consideration. Constructing large pipelines over long distances and operating pumps capable of moving an entire community's wastewater miles away can be very expensive. It may be that the overall cost savings for a regional plant are canceled out by the expense of moving the wastewater to the regional plant. This usually means that only communities that are relatively close to each other can benefit economically from regionalization, but the distance separating the communities is not the only consideration.

The engineering economic analysis performed to make the decision between regionalization and decentralization is a site-specific calculation that is affected by local conditions. Engineers need to know the distance between the communities, their relative elevations and sizes. How much sewage does each generate? What are its chemical characteristics? What is the local topography? Are there rolling hills, or a mountain ridge, or a gully between them? What are the soil conditions for the interceptor pipeline? Is there deep, well drained soil, or is it rocky? (or shallow bedrock?) Is there local high ground water that can make trenching more difficult and expensive? Are there wetlands or sensitive streams that the pipeline will need to cross? Are the cities on opposite sides of the river? Is enough land available to construct a larger treatment plant? Can easement or right of way be obtained for the best pipeline route, or will it have to go the long way around?

Building a large centralized plant and discharging it into one spot along a water body may not be the best win for the environment. A large single discharge may exceed the natural assimilative capacity of a river, where several smaller discharges along its length would not. The presence of a total maximum daily load (TMDL) watershed cleanup plan for the river may tightly constrain how and where effluent can be discharged and may disallow discharge to the river entirely. There may also be watershed management and in-stream flow benefits from adopting a more decentralized model.

Water reclamation (or re-use) is an option that many communities are exploring for managing their wastewater. Reclamation often works best in systems with decentralized treatment plants, so the reclaimed water can be created near the potential users of reclaimed water.

Potential barriers to regionalization

Regionalization often is the cost-effective common sense approach to managing a community's wastewater. However, once a community has determined it wants to pursue regionalization, there are still barriers.

Intergovernmental conflicts

Local political issues can be a barrier to regionalization. If the public bodies involved simply cannot work together, a regional approach will not be successful. There may be perceptions that the parties will be giving up control of their sewer utility, or that they will be treated unfairly by a larger regional partner.

Community officials may fear a loss of autonomy and independence that owning and managing their own infrastructure allows. Elected officials, public works engineers, and planners are often very passionate about their

vision for their wastewater utility and have legitimate concerns about loss of control.

A related barrier is the misperception that a local government must give up control of its sewer rates to join a regional system. Municipal officials have a clear interest in developing a fair and equitable user charge system, are intensely protective of their customers, and can resist regionalization if they feel their constituents will be treated unfairly.

Operating contracts

Negotiating the interlocal agreement or contract between the regional partners may become a barrier. The details of this document can become very political. The power relationships between the parties and the fairness of the agreement to all parties must be carefully negotiated.

Even in communities committed to cooperation, negotiating the contract is a time consuming and detail oriented job. The operating contract is the economic framework for their community's wastewater system for the next 20 years. Getting adequate involvement and buy-in takes time, staff resources, and patience.

Existing capital facilities

Many communities are in areas that would, on the surface, make it attractive to regionalize (for example, highly urbanized, close proximity to neighboring communities), but are not part of a regional system. Because each community is so heavily invested in existing capital facilities, the cost to replace the entire existing infrastructure with a new regional system may make the regional option cost prohibitive.

The flip side to this barrier is the opportunity that TMDL watershed cleanup process offers. When all the wastewater providers in a river basin are faced with the need to replace their existing facilities, they have a unique opportunity to reconsider regionalization.

The Growth Management Act

The Growth Management Act can serve as a barrier to regionalization. This is usually the case when there is unincorporated land between the potential regional partners. The concern is that the pipeline connecting the two communities will travel through unincorporated areas that are not intended to receive urban level services and that the presence of the sewer pipeline will stimulate growth in areas outside of the urban growth area (UGA) boundary. An example of this occurred at the communities of Tamoshan and Beverly Beach, located in Thurston County. Thurston County (on behalf of the two communities) attempted physically to link their collection systems to the regional LOTT alliance treatment plant in Olympia. In a court case decided before the Western Washington Growth Management Hearings Board, Thurston County was prohibited from implementing the regional option for the communities (Cooper Point Association v. Thurston County). The residents of Tamoshan and Beverly Beach receive wastewater treatment services at a small satellite treatment facility and currently pay a sewer bill of \$95 per month.

Ceiling amounts

There may be inherent and unintentional disincentives to regionalization if financial assistance programs have jurisdictional funding limits. Such limits can be a barrier to cost efficiencies achieved with regionalization. For example, each public body may be able to compete for the funding limit independently, but the regional partnership may be constrained by the same funding limit.

Exploration of opportunities for regionalization

(framework of additional information for the June 30, 2009 final report)

The final report will feature a series of regionalization case studies that highlight

opportunities for the state to support regionalization—both by investing in new or emerging regional systems and by continuing to invest in facilities that are already regionalized.

Ecology will explore the regionalization experiences of several specific communities. (communities considered for inclusion in the final report are briefly discussed in Appendix C).

The final report focuses on:

- Communities that have regionalized (or considered regionalization) in the past. The report will explain their experiences and their reasons for choosing their path.
- Communities that are currently regionalizing or investigating the option. The report will detail barriers they have encountered and their experience overcoming them.
- Areas of the state where regionalization is an attractive option that should be evaluated further.

The final report will support and expand on the general conclusions about regionalization presented here with specific examples. Specific recommendations will be made for state agencies and the Legislature to consider that will encourage regionalization where it is appropriate, help communities desiring to regionalize overcome the barriers to regionalization, and support the operation of existing regional wastewater systems.

**Appendix A – Wastewater Regionalization - 2008 Supplemental Capital Budget
Existing Regionalized Wastewater Treatment Facilities**

Wastewater Treatment (Permitted Facility)	Wastewater Collection System (Tributary)
Ecology's Central Region	
Chelan, City of	Lake Chelan Reclamation District Lake Chelan Sewer District
Cle Elum, City of	Roslyn, City of Ronald, City of South Cle Elum, City of
Yakima, City of	Union Gap, City of Terrace Heights Sewer District Moxee, City of
Bingen, City of	White Salmon, City of
Cowiche Sewer District	Tieton, City of
Ecology's Eastern Region	
Clarkston, City of	Asotin County
Ione, City of	Chippewa Water and Sewer District
Spokane, City of	Airway Heights, City of Spokane County
Ecology's Northwest Region	
Alderwood Water and Wastewater District	Picnic Point, Community of King County (North Creek) King County (Swamp Creek) Everett, City of (portions) sent to King County
Bellingham, City of	Whatcom Water & Sewer District #10
Bremerton, City of	Kitsap County Sewer District #1 Puget Sound Naval Shipyard
Burlington, City of	Samish Water District (Whatcom WD #12) Port of Skagit County Bayview Hills Area Community of
Edmonds, City of	Mountlake Terrace, City of Lynnwood, City of (portions) King County (portions) Ronald Wastewater Management District Olympic View Water and Sewer District

Wastewater Treatment (Permitted Facility)	Wastewater Collection System (Tributary)
	Woodway Shoreline , City of (portions)
Everett, City of	Mukilteo Water District Silver Lake Water District (portions) Alderwood Water and Sewer District (portions)
Everson, City of	Nooksack, City of
Friday Harbor, City of	WA State Department of Transportation Ferry wastewater effluent
Gig Harbor, City of	Wollochet Bay Sewer District
King County Department of Natural Resources and Parks – Wastewater Treatment Division <ul style="list-style-type: none"> • Renton Wastewater Treatment Plant • West Point Wastewater Treatment Plant Flows to either	Bothell, City of Cross Valley Water District Redmond, City of Seattle, City of (portions) Woodinville Water District Alderwood Water and Wastewater District Northeast Sammamish Sewer and Water District Northshore Utility District Val Vue Sewer District (portions) Silver Lake Sewer District Midway Sewer District Bryn Mawr-Lakeridge Sewer District (portions)
King County Department of Natural Resources and Parks – Wastewater Treatment Division <ul style="list-style-type: none"> • Vashon Wastewater Treatment Plant 	Vashon Sewer District (owns and operates entire collections system)
King County Department of Natural Resources and Parks – Wastewater Treatment Division <ul style="list-style-type: none"> • Renton Wastewater Treatment Plant 	Algona, City of Auburn, City of Bellevue, City of Black Diamond, City of Cedar River Water and Sewer District Coal Creek Utility District Issaquah, City of Kent, City of Kirkland, City of Lakehaven Utility District Mercer Island, City of Pacific, City of Renton, City of Soos Creek Water and Sewer District Tukwila, City of Sammamish Plateau Water and Sewer Bryn Mawr-Lakeridge Sewer District (portions)

Wastewater Treatment (Permitted Facility)	Wastewater Collection System (Tributary)
King County Department of Natural Resources and Parks – Wastewater Treatment Division <ul style="list-style-type: none"> West Point Wastewater Treatment Plant 	Seattle , City of (portions) Brier, City of Val Vue (portions) Lake Forest Park, City of Ronald Wastewater District (portions)
King County Department of Natural Resources and Parks – Wastewater Treatment Division <ul style="list-style-type: none"> Beulah Park and Cove Treatment Facility Treatment Plant 	Beulah Park and Cove Communities (O&M by Vashon Sewer District)
Kitsap County Department of Public Works – <ul style="list-style-type: none"> Manchester Wastewater Treatment Plant 	Manchester (Naval) Fuel Depot (includes graywater from ships)
Kitsap County Department of Public Works – Central Kitsap	Poulsbo Silverdale and Keyport Naval Base Kitsap (NBK) Naval Undersea Warfare Center at Keyport
Kitsap County Sewer District #7	Fort Warden Military Base Bainbridge Island, City of (portions) Lynnwood Center Area Connections
La Conner, City of	Swinomish Indian Reservation
Lake Stevens Sewer District	Lake Stevens, City of
Lakehaven Utility District – <ul style="list-style-type: none"> Lakota Wastewater Treatment Plant 	Federal Way, City of (portions) Auburn, City of (portions) Des Moines, City of (portions) Pacific, City of (portions) Tacoma, City of (portions) Milton, City of (portions) King County – unincorporated (portions)
Lakehaven Utility District – <ul style="list-style-type: none"> Redondo Wastewater Treatment Plant 	Federal Way, City of (portions) Auburn, City of (portions) Des Moines, City of (portions) Pacific, City of (portions) Tacoma (portions) Milton, City of (portions) King County - unincorporated (portions)
Lynnwood, City of	Edmonds, City of (portions)
Midway Sewer District	Des Moines, City of (portions) Sea Tac, City of (portions) Burien, City of (portions)

Wastewater Treatment (Permitted Facility)	Wastewater Collection System (Tributary)
	Federal Way, City of (portions) Kent, City of (portions) Normandy Park, City of (portions) King County – unincorporated (portions)
Olympus terrace Sewer District	Everett, City of (portions) Mukilteo, City of (portions) Snohomish County Airport
Southwest Suburban Sewer District – • Miller Creek Wastewater Treatment Plant	Des Moines, City of (portions) Burien, City of (portions) Normandy Park, City of (portions) King County – unincorporated (portions) Sea Tac, City of (portions) White Center, Community of
Southwest Suburban Sewer District – • Salmon Creek Wastewater	Des Moines, City of (portions) Burien, City of (portions) Normandy Park, City of (portions) King County- unincorporated (portions) Sea Tac, City of (portions) White Center, City of
Whatcom County Water District #13	Peaceful Valley, Community of Paradise Lakes Country Club Camper’s Paradise, Community of
Ecology’s Southwest Region	
Aberdeen, City of	Cosmopolis, City of
Chehalis, City of	Napavine, City of Lewis County #3 Sewer District
Clark County • Salmon Creek Wastewater Plant	Hazel Dell, City of Battle Ground, City of Meadow Glade, Community of Hochison, Community of Vancouver, City of
Ilwaco, City of	Seaview, Community of
LOTT wastewater Alliance	Olympia, City of Lacey, City of Tumwater, City of
Pierce County • Chambers Creek Plant	Lakewood, City of Steilacoom, City of University Place, City of Fircrest, City of Fredrickson, Community of

Wastewater Treatment (Permitted Facility)	Wastewater Collection System (Tributary)
Sumner, City of	Bonney Lake, City of
Tacoma, City of <ul style="list-style-type: none"> Plant #1 	Pierce County Fife, City of Fircrest, City of Lake Haven Sewer and Water District Milton, City
Tacoma, City of <ul style="list-style-type: none"> Plant #3 	Ruston, City of
Three Rivers Regional Wastewater Authority	Beacon Hill Sewer District Longview, City of Kelso, City of Cowlitz County
Vancouver, City of <ul style="list-style-type: none"> Westside Plant 	Hazel Dell, City of or Sewer District Solids from Vancouver Marine Park

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**Appendix B – Wastewater Regionalization – 2008 Supplemental Capital Budget
Ecology Funding Support for Regionalized Wastewater Treatment Facilities**

FY	Recipient	Project Title	Project Description	Grant	Loan
89	Tacoma, City of	Tacoma North End Treatment Plant Outfall	Extend outfall and install effluent diffuser at Tacoma north end wastewater facility to meet water quality standards		\$175,237
89	Spokane County	North Valley Interceptor, Phase I	Includes the install of a sanitary sewer interceptor, which is necessary to service the northern portion of the Spokane valley that generally lies north of the I-90 interstate highway. Phase 1 is part of the total interceptor needs.		\$928,515
89	Spokane County	University Utility Local Improvement District and North Kokomo Utility Local Improvement District	Project includes installation of sanitary sewers & appurtenant facilities in an urban area of Spokane County, which will serve approx. 600 parcels of land that are currently served by individual on-site septic tanks. Collector systems to be installed connect to existing one.		\$1,255,534
89	Seattle, City of	Southwest Hinds Combined Sewer Overflow Control Project	Purpose of project: to reduce the number of overflows to an average of one per year.		\$457,685
89	Sumner, City of	Sumner - Force Main Replacement	Replace approx 1800 ft of damaged 6 in force main along Fryar Ave from north pump station to Zehnder St with 8 in pipe. Project also involves replacement of one manhole & the crossing of one set of railroad tracks.	\$69,053	
89	Seattle, City of	Step II/III Grant to Construct the 15th Avenue Combined Sewer Overflow Control Project	Purpose of project: to produce approved plans and specifications and complete construction of new detention/flow control systems and associated work along 14th avenue west, between west Boston street and west Newton street, and along 15th avenue west between west Raye street and west Armour street.		\$917,669
89	Seattle, City of	Step II/III Grant for University Street Combined Sewer Overflow in Seattle	Purpose of project: to reduce overflows into Elliott Bay to an average of no more than one per year.		\$918,431
89	Seattle, City of	Diagonal Avenue South Combined Sewer Overflow Control Project	Purpose of project: to design a sewerage and drainage conveyance, and storage and diversion facilities to reduce overflows into the Duwamish.		\$420,270

FY	Recipient	Project Title	Project Description	Grant	Loan
89	Olympia, City of (LOTT)	Engineering Reports for Hydraulic Modifications & Nitrogen Removal	Separate engineering reports for hydraulic improvements and nitrogen removal at the LOTT wastewater treatment facility.		\$102,500
90	Kitsap county SD #7	Wastewater Treatment Plant Engineering Report Implementation	The Kitsap County Sewer District #7 will design and construct a secondary treatment plant. The facility shall be designed in accordance with the Engineering Report approved by the Department on October 9, 1990. Plans and specifications shall be prepared in accordance with the requirements of Chapter 173-240-WAC, RCW 90.48, and the Washington State Department of Ecology Criteria for Sewage Works Design.		\$1,694,445
90	Chehalis, City of	Chehalis Sewer Rehabilitation	The City of Chehalis will prepare plans and specifications (contract documents) for the rehabilitation of sewers in Basins 4078 and 4026. The plans and specifications will be prepared in accordance with the engineering report approved by the Department on May 31, 1989, State of Washington's Criteria for Sewage Works Design, Chapter 178-240 WAC and 90.48.110 RCW.		\$475,979
90	Clarkston, City of	Clarkston Wastewater TRMT	Install variable frequency drives in the influent pump station to reduce peak flows, and increasing the capacity of the pumps installing a rotating drum screen to remove solids which plug pumps and settle out in the aeration basin; two new aeration basins to allow continued operation.		\$67,817
90	Lake Stevens Sewer District	Influent Pipeline Repair Project	Design and construction of a geologically stable route for the Lake Stevens influent pipeline. This includes investigation of possible locations and construction of pipeline in stable location.		\$214,052
90	Bainbridge Island, City of	Construction of a boat Sewage Pumpout at Eagle Harbor.	Goals of project: Construction of a floating boat sewage pumpout station on Eagle Harbor near the City boat pier. An engineering type document and plans and specifications for the boat pumpout were also prepared.		\$27,983
90	Tacoma, City of	West Slopes/Chambers Creek Wastewater Treatment Plant Buy-In	Req. by DOE upgrade to secondary by Feb 91. Appr'd fac plan altern. Transfer western slope's 2.2 MGD of design flow to Chambers Crk WWTP. Pumpg & conveyance fac. for the transfer of flow are currently being constructed/partially funded by federal grt program.		\$3,468,614

FY	Recipient	Project Title	Project Description	Grant	Loan
90	Battle Ground, City of	Wastewater Transmission System	Detention/equalization basin/pumping facilities & 49,000 ft transmission force main discharge into Clark Co salmon creek coll/ trtmt system. no treatment/discharge wasteh20 to woodin creek - treatment provided at co's plant discharge to Columbia river. Design/prep of construction plans/specs for detention.		\$139,125
90	Oak Harbor, City of	WWTP Secondary Upgrade	Constructing diversion pump station at existing trtmt plant a force main, gravity & inverted siphon line to the existing navy seaplane base lagoons, expand and modify the lagoons and extend the existing outfall.		\$3,343,563
90	Olympus Terrace Sewer District	WWTP Phase 2 Exp/Mod	WWTP is extended aeration activated sldg process, ref as oxidation ditch. site approx 4 acres, 1 aeration tank, 2 clarifiers 1 chlorine chmber, 3 sm bldgs. proposal includes the addition of another aeration tank, enlargement of chlorine contact chamber, addition of 3rd clarifier.		\$1,607,849
90	Aberdeen, City of	Sludge Handling - Facilities Modification	The City of Aberdeen will construct an anaerobic digester at the City's wastewater treatment plant in accordance with the facility plan approved by the Department and plans and specifications approved by the Department.		
90	Spokane county	Design & Construction of Sanitary Sewers	The purpose of this project was to prepare plans and specifications and construct sanitary sewers, sewer interceptors and a force main to provide better protection of the Spokane Valley-Rathdrum Prairie Sole Source Aquifer.		\$2,813,773
91	Clarkston, City of	Upgrade WWTP to Meet NPDES Permit/Ecology Compliance Requirements	The Recipient will construct a complete secondary treatment system that will comply with Department of Ecology design criteria and NPDES permit conditions. The major elements to be addressed during this project include: Pump Station Upgrade; Fine Screening; Aeration Basins; Secondary Clarifier; Aeration and Sludge Pumping; Chlorination Equipment; Sludge Digestion and Dewatering Facilities; Sludge Hauling and Disposal Equipment; Remediation of Existing Sludge Seepage Pits.		\$2,153,818
91	Chehalis, City of	Chehalis Sewer Rehabilitation	The City of Chehalis was awarded a 30 percent financial hardship supplement to Federal Grant No. C530-555-05 awarded by EPA for rehabilitation of mainline sewers, manholes, and side sewers from the mainline to the street shoulder or curb line within City rights-of-way in basins 2012, 2004, 3012, and 4082.		\$882,592

FY	Recipient	Project Title	Project Description	Grant	Loan
91	Asotin County	Asotin County Capacity Buy-In	Asotin County will use the funds to assist in the retirement of a short term bond issued in the amount of \$925,000 with a maturity date of October 1, 1992. The bonds were issued to partially fund a \$1, 025,000 purchase of capacity from the City of Clarkston wastewater treatment plant as agreed to by the County and the City in an October 23, 1989, Addendum to a June 13, 1977, wastewater treatment and disposal agreement. The Addendum also states that the wastewater treatment plant is owned by the City and that the County is only purchasing capacity as agreed to in the Addendum.	\$322,800	
91	Seattle, City of	Diagonal CSO Construction Project	Purpose of project: to construct a sewerage and drainage conveyance, and storage and diversion facilities to reduce overflows into the Duwamish.		\$2,586,739
91	Cle Elum, City of	Regionalization of Sewage Treatment	The City of Cle Elum will perform sewer system rehabilitation to reduce infiltration and inflow (I/I), and make system improvements to receive sewage flows from the Town of South Cle Elum; Determine amount of exfiltration from existing lagoon system; Monitor I/I to determine the effectiveness of the sewer system rehabilitation, and evaluate the treatment effectiveness of the lagoon system after the sewer system rehabilitation; Use the resulting flow measurements and lagoon evaluation data to choose the most appropriate design alternative, prepare approvable plans and specifications consistent with Special Condition K, and construct sewage treatment plant improvements to accommodate sewage flows from the City and from the Town of South Cle Elum.		\$911,950
91	Cle Elum, City of	Water Pollution Control Facilities – Cle Elum Sewage Treatment Modification	The Recipient will use the funds received to make modifications and repairs to the City's sanitary sewer and wastewater treatment facilities which are to include, but not be limited to the following: Rehabilitation of the sanitary sewer system to include replacement of approximately 5250 feet of collector sewer, 2400 feet of interceptor sewer, 76 manholes and other system repairs; construction of additional capacity in gravity sewer from South Cle Elum leading to the City of Cle Elum's wastewater treatment plant; also modification of the City's wastewater treatment plant to include installation of rapid sand filter, dechlorination facilities, and expanded chlorine contact chamber.	\$834,049	
91	Yakima, City of	Yakima Wastewater Treatment Facility Upgrade	Project goals: to upgrade the existing Yakima wastewater treatment facility to meet federal and state requirements and in accordance with the city's adopted comprehensive sewer plan and updated facilities plan.	\$2,550,559	

FY	Recipient	Project Title	Project Description	Grant	Loan
91	Spokane, City of	Water Pollution Control Grant	The purpose of this project was to prepare an engineering report that identifies the remaining combined sewer overflows in the Spokane wastewater system.		\$250,000
91	Battle Ground, City of	Wastewater Transmission Line	This grant provided for minor improvements to the old clarifiers to remove heavy solids from the flow and pump them to the old lagoon for long term storage. It also provided for improvements to the lagoon, allowing it to be used both for solids storage and as additional flow equalization (Battle Ground has a severe I&I problem).		\$1,510,580
91	LOTT (Olympia, City of)	LOTT Hydraulic Modifications	Construction of new outfall pipeline & improvements to WWTP. Includes: 1)Preloading of portion of outfall alignment to consolidate soils to provide suitable pipeline foundation; 2)Installation of land portion of new outfall; 3)Installation of offshore, submarine pipeline		\$1,541,768
91	Chehalis, City of	Basins 4006 and 2051 Sewer Rehabilitation Project	This project shall develop approvable plans and specifications to rehabilitate sanitary sewers in Basins 4006 and 2051 in accordance with the facility plan approved by the Department May 31, 1989. This project will include the complete rehabilitation of Basins 4006 and 2051 in the City of Chehalis to reduce infiltration and inflow into the sewer system.		\$702,630
91	Asotin County	Section 36 Wastewater Treatment Plant Interceptor & Sludge Management Facility	The proposed project involves preparation of engineering report for wastewater and sludge-handling facilities and interceptor. The treatment facility, located in section 36 of Asotin County, would treat domestic sewage from Laurel and reservoir additions plus small amounts of wash down water.		\$7,500
92	South Cle Elum, Town of	Design of Wastewater Collection System - Hardship Grant	The purpose of this grant was to design a new lift station, metering facility, force main and gravity sewer to connect with the City of Cle Elum's wastewater collection system. This grant was supplemental to G9200114 due to hardship determination.		\$9,102
92	South Cle Elum, Town of	Design of Wastewater Collection System	The purpose of this grant was to design a new lift station, metering facility, force main and gravity sewer to connect with the City of Cle Elum's wastewater collection system.		\$48,683
92	King Co Surface Water mgmt div	Inter-jurisdictional Decant Sediment Plan	The grant enabled king county to formulate a plan for regional handling and disposal of vector wastes; to evaluate options for reuse of vector wastes; and monitor vector liquids and solids for contaminant levels, thereby determining whether they could be disposed of in a conventional landfill or would have to be considered hazardous waste.		\$190,976

FY	Recipient	Project Title	Project Description	Grant	Loan
92	Olympia, City of (LOTT)	LOTT Nitrogen Removal Plant Improvements	The LOTT wastewater treatment facility modified their existing facility and constructed new facilities to increase the hydraulic capacity of the facility and to meet the requirements of their NPDES permit for nitrogen removal	\$36,579,836	
92	Cosmopolis, City of	Infiltration/Inflow Study	The City of Cosmopolis will use the funds to prepare an Infiltration/Inflow study of their sanitary sewer system. The report will address: The requirements of Chapter 173-240 WAC, "Submissions of Plans and Reports for Construction of Wastewater Facilities"; The requirements for compliance with SEPA and all other applicable state laws and regulations; Generally recognized engineering standards and good engineering practices including the requirements described in the most recent addition of the state of Washington's "Criteria for Sewage Works Design"; Justification of need and; Justification of the recommended alternative as the most cost effective alternative based on realistic assumptions and procedures for analysis of cost-effectiveness.		\$82,500
93	LOTT Wastewater mgmt Program	Construct Ultraviolet Disinfection Basin . an SRF Loan have for the remainder of this work.	This \$280,000 grant from the Centennial fund was to fund some of the costs of construction of ultraviolet disinfection at the LOTT wastewater facility. LOTT will be the first large wastewater facility in Washington to use ultraviolet radiation to disinfect its wastewater.		\$280,000
93	King County Metro	West Point Secondary Treatment Facility	Purpose: Eliminate one f the few remaining major primary (raw sewage) discharge to the Puget Sound and meet the requirements of the CWA and their NPDES permit. The upgrade to secondary treatment would greatly improve the effluent quality; provide superior removals for priority pollutant metals and organics. The upgrade would result in decreases of 43,000 tons/year of conventional pollutants, 45 tons/year or priority pollutant metals, and 41 tons/year of priority pollutant organics discharged in Puget Sound. The reductions would reduce the number of fecal coliform violations near West Point and at the adjacent beaches affected by West Point effluent.		
93	Spokane county	North Spokane Interceptor V	The Recipient will construct a new wastewater pump station and force main between the Little Spokane Pump Station and the Fairwood Pump Station in the northern part of Spokane County. This project is part of the ongoing efforts at improving the water quality of the Spokane-Rathdrum Prairie Aquifer and protecting the aquifer from further degradation.		\$514,451

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93	South Cle Elum, Town of	Construction of Sewer System Improvements	This project is to construct wastewater facilities improvements for the Town of South Cle Elum. The facilities to be constructed will include but not be limited to: Sewer system rehabilitation to correct inflow and infiltration in the existing system; A new lift station and metering facility; A new force main and gravity sewer to transmit sewage to the regional wastewater treatment facility owned and operated by the City of Cle Elum; Improvements at the City of Cle Elum treatment facility, to provide capacity to treat sewage from the Town of South Cle Elum; Reclamation of the existing South Cle Elum wastewater treatment lagoon.		\$321,715
93	Bellingham, City of	Construction of Secondary Treatment Plant at Post Point Site	Purpose of project: to upgrade the existing facility to secondary treatment, modify the existing plant, and expand capacity.		\$21,927,441
93	Spokane, City of	Wastewater Facility Plan Extension Project	Purpose: Development and preparation of a Wastewater Facilities Plan which provides recommendation for future management and operational improvements for both the wastewater collection system and the SAWTP.		\$394,101
93	Spokane county	North Spokane Interceptor - IV	Purpose of Project: This project, referred to as Construction Package No. 4 of the North Spokane Interceptor project, was for the installation of a gravity interceptor along Waikiki Road from Hawthorne Road to the Fairwood Pump Station.		\$102,522
93	Spokane county	North Spokane Interceptor - III	The Recipient will construct a pump station at Fairwood in accordance with the plans and specifications approved by the Department on March 25, 1992.		\$349,689
94	Northshore Utility District	Totem Lake Utility Local Improvement District 13/Manhole 9 Emergency Repairs	The purpose of the grant was to repair a portion of the sewer main under Totem Lake boulevard near Totem Lake. In June, 1993, the district's maintenance crew discovered a sheared section of pipe, between two manholes. The 120 foot section of pipe was between peat and hard clay and badly out of alignment. The site is near a wetland.		\$154,818
94	Spokane, City of	Glennaire Sewage Lagoon Elimination Project	The Recipient shall prepare an approvable engineering report that will investigate the feasibility of constructing a new trunk sewer to intercept and eliminate the existing Glennaire sewage lagoon system.		\$23,377
94	Bingen, City of	Bingen/White Salmon Wastewater Treatment Facility Improvements	The purpose of this project is to expand and upgrade Bingen's wastewater treatment facility to meet all of the requirements of their enforcement order and to protect the quality of the area's ground and surface water.		\$1,020,597

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94	Ilwaco, City of	Ilwaco Wastewater Treatment Facility Improvements	The City of Ilwaco will use the funds received for this project to design and construct infiltration/inflow repairs and a new secondary wastewater treatment facility consisting of sequencing batch reactors and aerobic sludge digestion. This project will improve the quality of the wastewater effluent discharging into the Columbia River.	\$4,652,404	
94	Kitsap County SD #7	Wastewater Facility Construction	The scope of the project was to design and construct a new collection and wastewater treatment facility meeting current water quality standards.	\$1,772,496	
94	Clarkston, City of	Clarkston Wastewater Outfall Project	The purpose of the project is to correct the outfall deficiencies by replacing and extending the existing outfall; constructing a proper diffuser section for the new outfall; providing protection for and burying the new outfall and diffuser section to protect it from dredging damage; and constructing a new dechlorination facility.	\$529,570	
94	Gig Harbor, City of	Wastewater Treatment Plant Expansion	Purpose: The project comprised of expansion of the City's wastewater treatment plant in order to make it possible to connect existing on-site sewer systems to the expanded plant and reduce non-point Sources of pollution to Gig Harbor.	\$890,851	
94	Bingen, City of	Design of WWTF Upgrade to Bingen/White Salmon Regional Facility.	The goal of the grant agreement was for Bingen to develop approvable plans and specifications for the upgrade to their wastewater treatment facility. The facility serves the City of White Salmon as well as Bingen. Bingen is the owner/operator.		\$89,346
95	Edmonds, City of	Wastewater Treatment Plant Dechlorination Facility	Purpose of project: to produce plans and specifications and construct a dechlorination facility to reduce the chlorine toxicity into Puget Sound.		\$21,783
95	Edmonds, City of	Treatment Plant Outfall Line Replacement	This project will correct effluent leakage which flows to a recreational beach (Olympic Beach) prior to reaching the dilution zone. This will reduce the risk of human contact with fecal coliform. The salinity of the tidal zone will be increased back to its natural state and result in a more ideal condition for the marine habitat.		\$303,601
95	Clark Co Public Works Department	Salmon Creek WWTP Expansion	Prepare an approved facilities plan that will allow for expansion of the Salmon Creek Wastewater Treatment Plant which will prevent the potential pollution of Woodin Creek, a 303(d) stream in the Battle Ground area.	\$1,221,508	

FY	Recipient	Project Title	Project Description	Grant	Loan
95	Bremerton, City of	Callow Avenue Basin CSO Reduction-Phase I	The City of Bremerton will prepare an approvable set of plans and specifications. The plans and specifications shall be prepared for the construction of the following: Approximately 9783 lineal feet of storm sewer pipe; Approximately 1211 lineal feet of sanitary sewer/combined sewer pipe; overflow improvements to include approximately 227 lineal feet of pipe and 4 manholes; various manholes, catch basins and structures; miscellaneous Utility relocations, approximately 2135 lineal feet. The purpose is to reduce the number of CSO events per year from 93 to an average of one per year. The design generally includes the initial portion of a separate storm Sewer system in Montgomery Avenue, Farragut Avenue, and SR304 between 6th and the existing outfall in the Puget Sound Naval Shipyard side lines in Rodger Street and Coontz Street, together with the new SR304 outfall Improvements as described in Callow CSO reduction engineering report. This is the first step in achieving reductions of CSOs from this basin to Sinclair Inlet.	\$726,774	
95	Tacoma, City of	North End Wastewater Treatment Facility Improvements	The Recipient shall use the funds to upgrade the North End Wastewater Treatment Facility. This upgrade will consist of headworks modifications, flow monitoring, standby power, sludge storage facility, upgrade influent pump station, modification of grit removal facilities, replace miscellaneous piping, bypass for existing grit tank, miscellaneous site improvements, replacement of clarifier center feed wells, the addition of a biological filter device, and a pump station for the filter. The plans and specifications were approved by the Department on February 24, 1994, with a final construction eligibility percentage of 80.2 percent.		\$1,900,000
96	Bremerton, City of	Callow Avenue Basin CSO Separation - Phase 2	The City of Bremerton is constructing Phase 2 of Section 1 of the Callow Avenue Basin Separation Project. This project will reduce combined sewer overflows from the Callow Avenue Basin, which discharges contaminated water into Sinclair Inlet.	\$2,500,000	
96	Des Moines, City of	Barnes Creek Biofiltration Wetland/Detention Facility	The City of Des Moines will purchase land and complete facility planning to construct a wetland/detention facility on Barnes Creek at the confluence of its two forks. Permitting and site survey work will also be performed.	\$192,500	

FY	Recipient	Project Title	Project Description	Grant	Loan
96	La Conner, City of	La Conner Wastewater Treatment Plant Upgrade	The purpose of the project was to complete a major renovation at the La Conner treatment facility. These improvements included headworks improvements, influent pump station, additional secondary clarifier, additional aerobic digester, improved methods of disinfection, additional sludge de-watering and handling facilities, and a non-storage capable septage receiving facility.	\$418,250	
96	Lynnwood, City of	Lynnwood Treatment Facility Improvements	The purpose of the project is to modify the wastewater treatment plant to accommodate the increased loading to the wastewater treatment facility. The modifications include, replacing the existing and leaky outfall with a new outfall adjacent to the existing location, modifying the headwork's to prevent the hydraulic backup at the flow measurement and sampling locations, providing improved operation of the facility and modifying the odor control system to minimize odor complaints in the vicinity of the wastewater treatment facility.	\$2,053,974	
96	Bremerton, City of	Wastewater Treatment Plant Dechlorination System	The City of Bremerton will construct a dechlorination facility to reduce chlorine residual from the City's wastewater treatment plant to meet the limitations established in the City's NPDES permit.		\$118,250
97	Lake Chelan Reclamation District	Northshore Interceptor Reliability Improvement Project	The project will design and build reliability improvements to the Northshore Sewer Interceptor at Lift Stations 1-3 to help eliminate sewage discharges into Lake Chelan. The improvements to the lift stations will include two emergency storage tanks, and electrical upgrades to allow the use of emergency generators.	\$134,200	
97	Clarkston, City of	Outfall Line	To construct a complete secondary wastewater treatment plant that will comply with the Department of Ecology design criteria and NPDES permit conditions. The major elements of construction covered by this loan were: ultraviolet disinfection and wastewater treatment plant outfall.	\$494,148	
97	Bremerton, City of	Callow Avenue Basin CSO - Priority 2	The purpose of the project is to reduce the amount of overflows to the Sinclair Inlet and the Washington Narrows through separation of the storm water from the wastewater. This will be done by installing approximately 6,500 Linear feet of 12 inch through 24 inch storm sewer pipe. Approximately 1,700 linear feet of 8 inch through 15 inch SDR 3034 PVC storm drain lateral pipe, manholes, catch basins, surface restoration, erosion control, Relocation of existing water lines sewer service connection and attach basin connection.	\$465,431	

FY	Recipient	Project Title	Project Description	Grant	Loan
97	Aberdeen, City of	Chehalis River Sewage Force Main Crossing	The Aberdeen project will replace an aging, failing sewer force main which crosses the Chehalis River near the Highway 101 Bridge. A recently discovered leak showed the need for emergency replacement of this pipe to prevent a more catastrophic break. Such a break in the pipe would result in the closure of numerous commercial shellfish operations in Grays Harbor.	\$306,283	
97	Des Moines, City of	Barnes Creek Wetland/Detention Facility	The City of Des Moines has purchased land and done facilities planning and an engineering report for the construction of a wetland/detention facility on Barnes Creek at the confluence of its two forks. The City produced a 90 percent Plans and Specifications document under this loan.	\$70,500	
97	Hazel Dell Sewer District	Wildwood Line Slope Failure	The Hazel Dell Sewer District will use this money to cover costs incurred in January of this year for emergency stabilization of a sliding slope in order to protect an 8" sewer line. Failure of this sewer line could have caused a severe water quality impact to Cougar Creek.		\$34,574
97	Lake Chelan Reclamation District	Northshore Interceptor Reliability Improvement Project	The project will design and build reliability improvements to the Northshore Sewer Interceptor at Lift Stations 1-3 to help eliminate sewage discharges into Lake Chelan. The improvements to the lift stations will include two emergency storage tanks, and electrical upgrades to allow the use of emergency generators.		\$115,800
97	Aberdeen, City of	Chehalis River Sewage Force Main Crossing	The Aberdeen project will replace an aging, failing sewer force main which crosses the Chehalis River near the Highway 101 Bridge. A recently discovered leak showed the need for emergency replacement of this pipe to prevent a more catastrophic break. Such a break in the pipe would result in the closure of numerous commercial shellfish operations in Grays Harbor.		\$306,283
98	Swinomish Indian Tribal Community	Swinomish Wastewater Collection/Transmission/Treatment	The grant and loan will be used to purchase capacity at the LaConner wastewater treatment facility that will soon be upgraded and expanded for the Tribal Community and other users. The loan will also refinance the local share of the wastewater collection improvements for the Tribal Community and Skagit County Sewer District No. 1	\$961,047	
98	Lake Chelan Sewer District	South Shore Sanitary Sewer Replacement	The Lake Chelan Sewer District will use the money to replace approximately 3.5 miles of deteriorating in-lake sewer collection line that was installed in 1959.	\$2,719,900	

FY	Recipient	Project Title	Project Description	Grant	Loan
98	King County Metro	Secondary Treatment Facilities	The funds for this extended grant project will be used for construction, installation and startup of secondary treatment facilities in a manner which maintains operation of the existing primary facilities during construction in accordance with plans and specifications approved by the Department for the following: Off-site support facilities; Site work; Pretreatment and primary modification; Solid processes; Secondary facilities-liquid stream; and, on-site, non-process facilities.		\$175,144,044
98	Whatcom Co Water District #10	Sudden Valley Detention Basin	Whatcom County Water District #10 will use the money to construct a sewage detention basin to provide capacity for infiltration/inflow containment in the District's sewage collection system, thereby reducing the chances of overflows of untreated sewage into Lake Whatcom.	\$952,866	
98	Whatcom Co Water District #10	Lake Louise Road Interceptor	Whatcom County Water District #10 will use the money to construct an interceptor that will have the capacity to handle flows associated with excessive infiltration/inflow in the District's sewage collection system and serve future growth of the area.	\$268,943	
98	Whatcom Co Water District #10	Lake Louise Road Interceptor	To provide a second sewage interceptor between Whatcom County Water District 10's Sudden Valley and Geneva service areas and the City of Bellingham Silver Beach Trunk Sewer.	\$3,041,820	
98	Whatcom Co Water District #10	Sudden Valley Detention Basin	Whatcom County Water District #10 will use the money to construct a sewage detention basin to provide capacity for infiltration/inflow containment in the District's sewage collection system, thereby reducing the chances of overflows of untreated sewage into Lake Whatcom		\$420,800
98	Swinomish Indian Tribal Community	Swinomish Buy-In To La Conner Wastewater Facilities Upgrade	The grant and loan will be used to purchase capacity at the LaConner wastewater treatment facility that will soon be upgraded and expanded for the Tribal Community and other users. The loan will also refinance the local share of the wastewater collection improvements for the Tribal Community and Skagit County Sewer District No. 1.		\$1,129,440
99	Cosmopolis, City of	Infiltration And Inflow Reduction	The City of Cosmopolis will use the money to design and construct the replacement of 2,100 feet of sewer pipe to address infiltration and inflow problems believed to be causing the majority of raw sewage by-passes, to improve and protect the water quality of the Chehalis River.	\$405,322	

FY	Recipient	Project Title	Project Description	Grant	Loan
99	Asotin, City of	Asotin General Sewer/Facility Plan	City of Asotin staff will use the money to initiate a study and produce a Facility Plan/General Sewer Plan evaluating the City's general sewer requirements including issues of population growth, wastewater treatment plant capacity, and NPDES permit requirements.	\$47,277	
99	Burlington, City of	Burlington Wastewater Treatment Plant Upgrade	The City of Burlington will upgrade and expand its wastewater treatment plant to provide adequate treatment capacity for projected flows and loads based on planning required under the state Growth Management Act. The plant has been designed to meet new National Pollutant Discharge Elimination System permit conditions to ensure compliance with state water quality standards, the lower Skagit River Total Maximum Daily Load Water Quality Study, treatment plant reliability, wastewater reuse within the plant, and new federal regulations regarding sludge/biosolids quality.		\$2,500,000
99	Roslyn, City of	Comprehensive Sewer & Wastewater Facility Plan	The City of Roslyn will use the money to develop a long-term plan to provide sewer service within its Urban Growth Area. The plan will include an infiltration/inflow study, an evaluation of wastewater treatment, disposal, water reuse alternatives, and a capital improvement and financial plan to fund the necessary improvements.	\$38,671	
99	Burlington, City of	Burlington Wastewater Treatment Plant Upgrade	The City of Burlington will upgrade and expand its wastewater treatment plant to provide adequate treatment capacity for projected flows and loads based on planning required under the state Growth Management Act. The plant has been designed to meet new National Pollutant Discharge Elimination System permit conditions to ensure compliance with state water quality standards, the lower Skagit River Total Maximum Daily Load Water Quality Study, treatment plant reliability, wastewater reuse within the plant, and new federal regulations regarding sludge/biosolids quality.	\$5,392,566	
00	Wollochet Harbor Sewer District	Sanitary Sewer System Improvements	The immediate purpose of the project was to eliminate the inadequate Wollochet Harbor treatment plant by intercepting it to an existing larger municipal sewerage system at Gig Harbor. The water quality goal was to remove the Largest source of contamination from the inner waters of Wollochet Harbor, thus removing a significant obstacle to the possible recertification of shellfish harvest areas there.	\$134,640	

FY	Recipient	Project Title	Project Description	Grant	Loan
00	Olympus Terrace Sewer District	Open Channel UV Disinfection System	Olympus Terrace Sewer District will use the money to replace its existing chlorination disinfection system with a new ultraviolet disinfection system. This new disinfection system will allow the District to meet its discharge permit limits and keep harmful chlorine residuals from its wastewater effluent from entering Possession Sound.	\$500,000	
00	King Co Dept of Natural Resources	West Point Secondary Treatment Upgrade Refinancing	Purpose: Eliminate one of the few remaining mahor primary (raw sewage) discharges to the Puget Sound and meet the requirements of the CWA and their NPDES permit. The upgrade to secondary treatment would greatly improve the effluent quality; provide superior removals for priority pollutant metals and organics. The upgrade would result in decreases of 43,000 tons/year of conventional pollutant, 45 tons/year of priority pollutant metals, and 41 tons/year of priority pollutant organics discharged into Puget Sound. The reductions would reduce the number of fecal coliform violations near West Point and at the adjacent beaches affected by West Point effluent.	\$13,838,279	
00	Bremerton, City of	Callow CSO Design - Final Priorities	The City of Bremerton will use the money to design improvements to reduce CSO's events from the Callow Avenue Basin to one per year per outfall as required for compliance with state regulations, Department of Ecology consent orders, and court orders.	\$575,000	
00	Bremerton, City of	Bremerton CSO Reduction Plan Update	The City of Bremerton will use the money to update its Combined Sewer Overflow Reduction Plan, Targeting those basins that require CSO reduction improvements as required for compliance with state Regulations, Department of Ecology consent orders, and court orders.	\$245,000	
00	Bremerton, City of	Bremerton CSO Reduction Plan Upgrade	The City of Bremerton will use the money to update its Combined Sewer Overflow Reduction Plan, Targeting those basins that require CSO reduction improvements as required for compliance with state Regulations, Department of Ecology consent orders, and court orders.		\$191,250
00	Wollochet Harbor Sewer District	Sanitary Sewer System Improvement	The immediate purpose of the project was to eliminate the inadequate Wollochet Harbor treatment plant by intercepting it to an existing larger municipal sewerage system at Gig Harbor. The water quality goal was to remove The largest source of contamination from the inner waters of Wollochet Harbor, thus removing a significant obstacle to the possible recertification of shellfish harvest areas there.		\$1,411,886

FY	Recipient	Project Title	Project Description	Grant	Loan
00	Olympus Terrace Sewer District	Open Channel UV Disinfection System	Olympus Terrace Sewer District will use the money to replace its existing chlorination disinfection system with a new ultraviolet disinfection system. This new disinfection system will allow the District to meet its discharge permit limits and keep harmful chlorine residuals from its wastewater effluent from entering Possession Sound.		\$500,000
00	Spokane, City of	CSO Reduction Basin Planning (Basins 6, 12, 15, 33 A-D, 34)	The City of Spokane will use the money to determine and schedule the physical improvements needed in order to meet the federal and state regulations and/or guidelines for CSO reduction and the requirements of the city's national pollutant discharge elimination system permit.	\$876,940	
01	Clark County Dept of Public Works	De-Watering Facility For Vactor Waste - Phase 2	The Clark County Department of Public Works will use the money to add an additional 30' by 40' dewatering pad and three additional settling vaults to the existing facility. All dewatering pads and setting vaults will be covered to allow them to process wastes much more quickly.		\$206,000
01	Cle Elum, City of	Interim Wastewater Treatment Facilities	The City of Cle Elum will use the money to construct ultraviolet disinfection facilities, provide for aerators in lagoons 1 and 2, modifications to the headworks and the addition of influent and effluent samplers. The City is also pursuing additional regionalization of its municipal sewage treatment facilities.		\$524,928
02	Chippewa Water & Sewer District	Chippewa Lift Station Replacement	The Chippewa Water and Sewer District will use the money to update a failing lift station.	\$15,997	
02	Spokane, City of	Cochran Basin "I & I" Facility Plan (Step 1 - Planning)	The city will use the money to develop a facilities plan that will identify infiltration and inflow sources, as well as propose appropriate cost-effective solutions to reduce extraneous flow within the Spokane cochran basin.	\$790,000	
02	Chippewa Water & Sewer District	Chippewa Lift Station Replacement	1) Replacement of the primary Chippewa Water and Sewer District lift station pumping District wastewater to the Town of Lone Wastewater Collection System, , and 2) prevention and elimination of sanitary sewer overflow due to inadequate pumping capacity at the lift station.	\$9,587	
02	Bremerton, City of	Trenton Pump Station Improvements Project	The project is expected to bring the CSO number 7 in compliance with the state regulations. Several of the City's CSO projects have now been completed. As a result, there has been a significant reduction in frequency And quantity of CSOs and as a result, the classification of some closed shellfish beds in Dyes Inlet has been upgraded to "conditionally approved" by the Washington State Department of Health.	\$1,000,000	

FY	Recipient	Project Title	Project Description	Grant	Loan
02	Bremerton, City of	Anderson Cove CSO Reduction Facilities SRF Refinance Loan	The Project consisted of planning, design, and construction of facilities to reduce Combined Sewer Overflow (CSO) events as required for compliance with state regulations, court orders, and improvement of Puget Sound water Quality. This project planned, designed, and constructed all required CSO reduction facilities within the Anderson Cove Basin, with the exception of upgrading pump station CW-4 and the associated flow diversion.	\$640,427	
02	King County Wastewater Trtmt Div	Denny Way/Lake Union CSO Project	King County will use the money to refinance a portion of the CSO Project at 1.5% for 20 years. The CSO Project is a joint effort of King County and the City of Seattle to control combined sewer overflows to Lake Union and Elliott Bay, including the Denny Way CSO, which is the largest CSO in the King County system. The project will control the CSO's by storing the flows during moderate storms and transferring them to the West Point Treatment Plant after the storms subside, and by providing at-site treatment at the Elliott West site, with discharge of treated flows through a new outfall during heavy rain conditions.	\$14,207,000	
02	Chippewa Water & Sewer District	Chippewa Lift Station Replacement	The Chippewa Water and Sewer District will use the money to update a failing lift station.		\$41,182
02	Monroe, City of	Wastewater Treatment Plant - Phase 2	The City of Monroe will use the money for modification its treatment plan from a submerged biological contactor to an activated sludge system.	\$6,165,707	
03	Bremerton, City of	Tracyton Beach CSO Reduction Improvements	The purpose of the project was to reduce CSO events to an average of one per year as required by WAC 173-245. The project consisted of design and construction of upgrades to Pump Station EB-6.	\$593,176	
03	Bremerton, City of	Cherry/Trenton CSO Reductions	To reduce CSO events to an average of one per year per CSO site as required by WAC 173-245.	\$1,000,000	
03	King Co Dept of Natural Res & Parks	Denny Way CSO - Elliott West Pipelines	Deliver combined sewer flows from the Denny regulator (weir device to control flow into the Elliott Bay Interceptor) to the new Elliott West CSO Control Facility for disinfection, and either store flows in the new Mercer Tunnel for ultimate transfer to the West Point Treatment Plant, or disinfect the flows and (after dechlorination) direct them to the new outfall 400-feet offshore.	\$12,549,757	
03	King Co Dept of Natural Res & Parks	Southwest Interceptor - Kent & Auburn Section	This agreement provides SRF loan funding for the preparation of a facility plan for the southwest interceptor, a pipeline that would parallel existing King County trunk sewers in Algona, auburn, and Kent.	\$2,230,000	

FY	Recipient	Project Title	Project Description	Grant	Loan
04	Spokane county	Spokane County Regional Wastewater Treatment Plant	This loan provides \$8.5 million of the total estimated eligible project cost of \$73.4 million for the new Spokane County Regional Wastewater Treatment Plant. As the design/build project progresses, the loan amount will be increased incrementally up to \$73.4 million in future funding cycles based on cash flow projections provided by Spokane County and availability of funds appropriated by the Legislature.	\$8,500,000	
04	Bremerton, City of	Cherry/Trenton CSO Reduction - Final Improvements	The City will use the money to construct the Cherry Avenue Basin Beach main improvements that will provide conveyance capacity to the City's Combined Sewer Overflow treatment plant, and allow cleaning of the beach main. The Trenton Avenue portion of the project will provide for an 18-inch Shore Drive slip line that will allow a safeguard for a critical pipeline. These improvements are a critical part of the City's aggressive CSO program that will reduce CSOs which discharge into the Port Washington Narrows and Sinclair Inlet portions of the Puget Sound. Combined Sewer Overflows can introduce untreated sewage and stormwater into waterways and create potential public health concerns in areas with human consumption of shellfish and seaweed, as well as, contaminate recreational use areas.	\$1,075,000	
04	Chehalis, City of	Chehalis Regional Water Reclamation Facility	The recommended solution to the water quality problem is to construct a new water reclamation facility to produce reclaimed water to be used for poplar tree irrigation and groundwater recharge during the low flow conditions in the river. This project consists of the purchase of property for the wastewater reclamation facility.	\$328,679	
04	Kitsap County Public Works	Kingston Wastewater Treatment Plant & Outfall	The Kitsap county public works department will use the money to build a new activated sludge wastewater treatment plant (WWTP) to serve current and expanded community service areas. The existing WWTP will be demolished, and the construction of a new discharge outfall into deeper waters of appletree cove.	\$10,173,093	
04	Tacoma, City of	Tacoma Central Treatment Plant Upgrade	The City of Tacoma will use the money to improve the following areas of the wastewater treatment facility: influent screening, influent pumping, grit removal, installing ballasted sedimentation, effluent pumping, chlorination, and solids handling.	\$52,000,000	
04	Chehalis, City of	Chehalis Regional Water Reclamation Facility Project	The City will use the money to purchase property and construct a reuse facility which will produce reclaimed water to be used for poplar tree irrigation and ground water recharge during low flow conditions in the Centralia Reach portion of the Chehalis River.	\$2,775,165	

FY	Recipient	Project Title	Project Description	Grant	Loan
05	LOTT Wastewater Alliance	Hawks Prairie Reclaimed Water Satellite	The project includes a 2-million-gallons-per-day (MGD) reclaimed water satellite treatment plant, constructed wetland ponds, ground water recharge basins, and reclaimed water distribution pipelines. The project will produce Class A reclaimed water for beneficial use, divert loadings from Budd Inlet, and provide wastewater treatment services in urbanized North Thurston County.	\$29,224,000	
05	Seaview Sewer District	Lift Stations Improvements	The Seaview Sewer District will use the money to make improvements to six sewage lift stations which will significantly reduce the potential for raw sewage overflows to occur and prevent public health and water quality problems.	\$481,050	
05	Asotin, City of	Wastewater Treatment Plant Improvements	The City of Asotin will use the money to upgrade its existing current wastewater treatment facility which will result in an improvement to the treated effluent that discharges into the Snake River.	\$1,000,153	
05	Chehalis, City of	Chehalis Regional Water Reclamation Facility Project	The City of Chehalis will use the money to construct a new wastewater treatment plant capable of producing class A reclaimed water to irrigate a poplar tree plantation, reconstruct the two largest wastewater pump stations to meet new hydraulic requirements, and construct a force main to convey treated wastewater to the poplar plantation.	\$32,572,175	
05	Chehalis, City of	Chehalis Regional Water Reclamation Facility Project	The City of Chehalis will use the money to construct a new wastewater treatment plant capable of producing class A reclaimed water to irrigate a poplar tree plantation, reconstruct the two largest wastewater pump stations to meet new hydraulic requirements, and construct a force main to convey treated wastewater to the poplar plantation.		\$5,000,000
06	King County	Murray CSO Control Project Facilities Plan	The King County Wastewater Treatment Division will use the money to develop a facility plan that will control sewer overflows, which will also meet regulatory requirements by reducing the introduction of untreated chemicals and pathogens into the environment.	\$593,435	
06	King County	North Beach CSO Control Project Facilities Plan	The King County Wastewater Treatment Division will use the money to develop a facility plan that will control sewer overflows, which will also meet regulatory requirements by reducing the introduction of untreated chemicals and pathogens into the environment.	\$470,915	
06	Olympus Terrace Sewer District	Big Gulch Sanitary Sewer Repair Project	The Olympus terrace sewer district will use the money to design a new trunk line that will withstand future foreseen changing conditions of Big Gulch Creek. The project will involve stabilizing and protecting the sewer line from damage and creek rehabilitation to manage existing high flows.	\$1,125,785	

FY	Recipient	Project Title	Project Description	Grant	Loan
06	King County	Barton Combined Sewer Overflow (CSO) Control Project Facilities Plan	The King County Wastewater Treatment Division will use the money to develop a facility plan that will control sewer overflows, which will also meet regulatory requirements by reducing the introduction of untreated chemicals. And pathogens into the environment.	\$1,143,247	
06	King County	Vashon Island Treatment Plant Upgrade	The King County will use the money to expand its Vashon Island treatment plant to include a new oxidation ditch, headworks, two clarifiers, an administration building, lab, and standby generator. The expansion will meet current and future wastewater treatment requirements while eliminating untreated overflows to Gorsuch Creek and the marine waters of Puget Sound.	\$5,000,000	
07	Tacoma, City of	Tacoma Central Treatment Plant Upgrade	The City of Tacoma will use the money to improve the following areas of the wastewater treatment facility: influent screening, influent pumping, grit removal, installing ballasted sedimentation, effluent pumping, chlorination, and solids handling.	\$21,237,895	
07	King County Dept. of Natural Resources & Parks - Wastewater Treatment Division	Brightwater Marine Outfall	The Brightwater Marine Outfall will discharge treated effluent from the Brightwater treatment plant into the Puget Sound at Point Wells (Portal 19). The outfall will extend offshore for approximately 5,200 feet (near shore and offshore length). Open trench construction will be used through the on-shore and near shore areas. The pipeline will be placed directly on the seafloor offshore, and the 500 foot diffuser will be installed along with the offshore pipeline at an approximate depth of 600 feet. Design-Build Pilot funded based on cash flow projection: FY07: \$947,246 FY08: \$4,002,626 FY09: \$11,628,181 FY10: \$7,288,247	\$947,246	
07	Hazel Dell Sewer District	Salmon Creek Wastewater Treatment Improvements	This facility project expands the Salmon Creek Wastewater Management System, including treatment and regional conveyance, which is nearing capacity. The expansion will allow growth and failing septic systems to be connected to sewerage, providing the infrastructure to support the implementation of the Lower Columbia and Salmon Creek Watershed TMDLs.	\$1,000,000	
07	Bremerton, City of	Bremerton Combined Sewer WWTP Upgrade	Sewer Treatment Plant upgrade to address the critical needs of the WWTP by replacing aging components beyond their useful life, assuring reliability, accommodating additional combined sewage flow, and creating redundancy where there is none to prevent pollution to Sinclair Inlet and contiguous waterways within 22 square miles of critical habitat.	\$1,000,000	
08	Lake Stevens Sewer District	Sunnyside Wastewater Treatment Facility (Construction)	Construction of a new wastewater treatment plant using Membrane Bioreactor technology will allow the District to move the existing, vulnerable, and critical public facility out of the flood plain and concurrently provide capacity for 20	\$13,969,445	

FY	Recipient	Project Title	Project Description	Grant	Loan
			years of growth while improving water quality in the Snohomish River.		
08	King County DNR - WWT Div.	Brightwater Marine Outfall	The Brightwater Marine Outfall will discharge treated effluent from the Brightwater treatment plant into the Puget Sound at Point Wells (Portal 19). The outfall will extend offshore for approximately 5,200 feet (near shore and offshore length). Open trench construction will be used through the on-shore and near shore areas. The pipeline will be placed directly on the seafloor offshore, and the 500-foot diffuser will be installed along with the offshore pipeline at an approximate depth of 600 feet. design-Build Pilot funding based on cash flow projections are FY07 \$947,246, FY08 \$4,002,626 (Ecology Loan Request value estimated from original FY07 request minus FY07 funding awarded), FY09 \$11,628,181, FY10 \$7,288,247.	\$4,002,626	
08	Clark Co Regional Sewer Cooperative	Wastewater treatment	Description not yet provided.		\$4,000,000
09	Lake Stevens Sewer District	Sunnyside Wastewater Treatment Facilities Project	The District will construct a Membrane Bioreactor wastewater treatment facility (capable of producing Class A Reuse Water) between Sunnyside Boulevard and SR 204 at 9th Street SE which will allow the District to remove the existing facility from the floodplain, providing for 20 years of growth while improving water quality in the Snohomish River.	\$25,970,567	
09	King County DNR-WWT DIV.	Brightwater Marine Outfall	The Brightwater Marine Outfall will discharge treated effluent from the Brightwater treatment plant into the Puget Sound at Point Wells (Portal 19). The outfall will extend offshore for approximately 5,200 feet (near shore and offshore length). Open trench construction will be used through the on-shore and near shore areas. The pipeline will be placed directly on the seafloor offshore, and the 500-foot diffuser will be installed along with the offshore pipeline at an approximate depth of 600 feet. Design-Build Pilot funded based on cash flow projection: FY07: \$947,246, FY08: \$4,002,626, FY09: \$11,065,940.	\$11,065,940	
TOTALS				\$351,641,524	\$248,955,752

**Appendix C - Wastewater Regionalization 2008 Supplemental Capital Budget
Regionalized Opportunities for study in the final report**

Target Public Body	Overview
Current Regional Opportunities	
Hoodsport / Skokomish Tribe / Potlatch State Park	The unincorporated area around Hoodsport is developing a sewer system to eliminate septic tanks that are adversely affecting the water quality of Hood Canal. The Hoodsport community; the Potlatch area (which includes Potlatch State Park) and the core of Skokomish Native American Tribal Reservation considered a regional approach using shared infrastructure. The "Three Party Consortium" is currently implementing the cost effective solution to the areas wastewater needs: construction of three separate treatment facilities, with shared administrative and operational efforts provided by the Mason County PUD.
South Bend – Raymond	South Bend and Raymond both need to upgrade their wastewater infrastructure. The communities are currently designing a regional solution with a centralized treatment plant located in Raymond. The communities have been negotiating the regional framework for almost three years. They will be ready to proceed with the regional infrastructure as soon as funding is available.
Wenatchee Basin	Communities in the Wenatchee River basin are all facing requirements for improved treatment for their wastewater utilities. Affected communities include Leavenworth, Peshastin, Dryden, Cashmere, and Monitor. The communities are coordinating a regionalization feasibility study to investigate the cost-effectiveness of various regional configurations.
Current and Past Regional Facilities	
King County	King County has historically provided regional wastewater service throughout the incorporated areas of King County and parts of Pierce and Snohomish County. This large, integrated system provides treatment at two centralized treatment plants (the West Point treatment plant and the South Plant), and the soon to be completed Brightwater treatment plant. The King County wastewater system is the largest regional treatment system in the state providing wastewater services to 1.4 million people.
LOTT	The LOTT Alliance provides wastewater treatment to the cities of Lacey, Olympia, Tumwater, and unincorporated Thurston County. This regional model provides each jurisdiction full control over their individual collection systems, but it also provides centralized treatment for the wastewater prior to discharge to Budd Inlet. Because of stringent discharge limits at Budd Inlet treatment plant, LOTT is also building reclaimed water scalping plants, which LOTT owns and operates, that are physically separate from the centralized Budd Inlet treatment plant. These reclaimed water satellite plants allow reclaimed water to be generated near potential users, and divert wastewater flows from overloading the centralized plant.

Spokane	The city of Spokane has traditionally provided wastewater service to the city of Airway Heights, unincorporated Spokane County, and the recently incorporated City of Spokane Valley in a centralized regional treatment plant. The city of Spokane cannot provide sufficient capacity to serve the future needs of these regional partners at the existing treatment plant site, initiating a push for more decentralized treatment in the region. Airway Heights has completed design for a treatment plant to accommodate its future growth. Spokane County is also building a new treatment plant, scheduled for completion in 2012. This new treatment plant will provide service to unincorporated Spokane County and the city of Spokane Valley using a regional model. The Spokane River TMDL has also played a role in the shift to more decentralized treatment in the area.
Public Utility Districts	In areas where centralized wastewater treatment is not cost effective, due to the distance between communities, PUDs can provide regional efficiencies through regional operation and administration. Klickitat County PUD, Chelan County PUD, Stevens County PUD, and Mason County PUD all provide centralized expertise, administration, and operational and engineering staff for the individual treatment plants that they operate and maintain. For example, the Klickitat County PUD manages five community sewer systems: Klickitat, Lyle, Roosevelt, Glenwood, and Wishram; they also maintain nine water systems using a common set of operators, a common board, and a pool of experience from which to draw.
Cle Elum/ South Cle Elum/ Ronald/Roslyn	The communities of Cle Elum, South Cle Elum, Ronald, Roslyn and parts of unincorporated Kittitas county (The Suncadia Resort) are served by a regional wastewater system. The regional treatment plant was constructed in 2005. The interceptor sewer conveying sewage from Ronald and Roslyn was completed in 2007.
Non Regional Facilities	
Chehalis/Centralia	Chehalis and Centralia both constructed new treatment plants in 2006. The treatment plants are only 4 miles apart, which presented an opportunity for regionalization. Both communities considered the option of regionalizing, but both communities decided independently that it was more cost-effective for them to maintain separate treatment facilities.
Outlook, Community of	The community of Outlook, in unincorporated Yakima County is unsewered and needs wastewater services. Yakima county prepared a feasibility study, on behalf of the residents of Outlook, to investigate sewerage the community and forming a regional partnership with the city of Sunnyside. The study concluded that a regional solution with the city of Sunnyside was more cost effective than developing a community large on-site septic system, but the project was too expensive for the property owners in the community.