CHAPTER 9.
COST AND FINANCING

FINANCIAL PROGRAM

This financial program was developed to provide options on sources of funding for the construction of the sewer system, develop strategies for repayment by users, and indicate what the resulting impact would be on customers. In addition, a series of policies are noted for discussion as the County moves forward toward implementation. These policies relate to funding decisions and the financing package.

SOURCES OF CAPITAL FUNDING

There are a variety of funding sources that are available to finance the construction of the sewer system. These include federal, state and local programs of grants, loans or some type of bonds.

In the past, it has been possible to receive a federal grant for a new sewer system that would provide the majority of the funds and would not need to be repaid. In current times, this is no longer possible. Instead, it is common to attempt to receive grants for the largest amount possible, matched with companion loans at low-interest rates, and the remainder put together from another low-interest loan or by selling bonds.

Each funding program was developed to provide assistance for different reasons and as such, each program comes with a series of requirements that can be technical, financial, policy-related or programmatic. It is understood that this sewer system will require substantial investment to construct the treatment facilities, the collection system and the on-site improvements required to connect the users to the public system. In order to be successful, new customers must join the system and help with the debt repayment and the on-going operations and maintenance. Funding agencies will not provide the necessary capital without assurance that they will be repaid and will also set requirements to help ensure that the sewer system will be successful for years to come.

TYPES OF CAPITAL FUNDING SOURCES

The primary types of capital funding sources include grants, loans, bonds, other sources, and users.

Grants

Grants do not require repayment and are very popular. Unfortunately, grants are quite limited and are typically targeted to making sewer systems more affordable for residential customers. The programs are competitive and a thoughtful application that addresses the program's target is important. Often, grants are matched with companion loans.

In addition to the programs that are targeted to making the residential sewer costs more affordable, there are a variety of programs that are geared toward economic development, business and job development. Typically, the economic development-type programs require a commitment of specific jobs that will result from the investment.

Department of Ecology (DOE) (grant/loan)

The Washington State Department of Ecology has several water quality grant and loan programs available for wastewater treatment systems. Typical DOE programs have a combined annual application cycle with

applications due in October of each year. The draft offer list is published in January, with the final offer list being published the following June. Successful recipients must have signed agreements within six months. Actual work must begin within 16 months of the final offer list and be completed within five years. The key for DOE is to identify which water quality problems are being addressed. Recently, DOE redefined hardship to include systems where the sewer rate (capital and O&M) is greater than 2 percent of median household income (MHI), up from 1.5 percent. In hardship cases, grants may be available along with reduced interest rates on loans to help make sewer more affordable for residential customers. Any grant would likely be matched with a companion loan at a low interest rate – currently 2.9 percent for a 20-year repayment, but could be as low as 0.0 percent for severe hardship. The maximum grant would be $5 million according to this year's program.

Appendix H of the DOE application package includes the MHI table. For use with Fiscal Year 2010-2011, the MHI for the Port Hadlock/Irondale Census Designated Place (CDP) was $32,202 for the 2000 census. DOE estimated the 2009 MHI to be $41,664. To qualify for hardship, 2.0 percent of the MHI would be $833, or $69.44 per month. Sewer rates between 3 and 5 percent of the MHI would qualify as Elevated Hardship and result in potential 75 percent grant and/or a loan at 20 percent of the market interest rate. The Port Hadlock sewer project would clearly qualify for hardship and likely fall into the Elevated Hardship category.

DOE Reclaimed Water Program (grant/loan)

DOE had a one-time round of Reclaimed Water grants that was authorized by the legislature. Jefferson County submitted an application and was successful in securing grant funding for this project in the amount of $197,000 in 2008. This Pt. Hadlock UGA sewer project was on the funding cut-off line and additional funding may be available if not used by other projects. Jefferson County will be working through appropriate channels to request that the legislature continue funding this program.

US Department of Agriculture-Rural Development (USDA-RD) (grant/loan)

The United States Department of Agriculture has several programs under the Rural Development section. One is available to assist communities make the cost of a new sewer system more affordable to residential customers. This program has an open-cycle where applications can be accepted year-round. Up to a maximum of 45 percent grant would be available and it would be matched with a low-interest loan, currently about 4 percent interest. The national program is targeting 75 percent loans and 25 percent grants as an overall goal and will consider each project on its own merits and the economics of the community being served. The terms of the loan could be stretched up to 40 years to bring down the annual debt service. This program requires assurance that the funds would be benefiting residential customers and this often means requiring mandatory connection in order to satisfy. Another Rural Development – Housing program is available to individuals to assist in paying the connection charges. This would be applied for by individuals based on income levels.

US Economic Development Administration (USEDA)

The United States Department of Commerce Economic Development Administration has a Public Works and Economic Development Program to help support public infrastructure that is necessary to generate or retain private sector jobs and investments, attract private sector capital and promote regional competitiveness.

State of Washington Community Trade & Economic Development (CTED)

State of Washington Community Trade & Economic Development manages several programs targeted toward infrastructure along with community, economic and job development. These include the Community Economic Revitalization Board (CERB) programs to assist in attracting and retaining private

investment and resulting in jobs and increased tax revenue to the community. These may be a portion grant combined with a loan.

Community Development Block Grant (CDBG)

Community Development Block Grant (CDBG) involves federal funds that have been allotted to the State of Washington. This program is housed within the Community Trade & Economic Development Division at the State. Smaller grants may be available on an annual cycle for a planning study, income survey and other tasks that may be required to apply or comply with funding assistance from other programs.

Low-Interest Loans

Most grant programs mentioned above will combine funding packages with a low-interest loan. This ensures that the funds repaid will be available to loan out to future projects. In addition, there are three key programs that are focused on loans.

State of Washington Public Works Trust Fund (PWTF) Construction Program

State of Washington Public Works Trust Fund (PWTF) Construction Program is operated by the Public Works Board within Community Trade and Economic Development. The PWTF includes several loan programs: planning, emergency, pre-construction and construction. The construction loans are offered on an annual competitive cycle with applications due in May and the funds available the following year. The maximum for a jurisdiction is $10 million per biennium (two-year period), and the interest rates currently range from 0.5 percent for a 15 percent local match, up to 2 percent for a 5 percent local match to be repaid over 20 years. The first year of each biennium is the largest construction cycle, with 2009 applications being the next large cycle.

PWTF Pre-Construction Program

PWTF Pre-Construction Program is also operated by the Public Works Board. The Pre-Construction program accepts applications year-round for a maximum of $1 million per jurisdiction per biennium. The interest rates are the same as the construction program and the loans are to be repaid over five years, and extended to 20 years with construction financing. These funds are available for activities prior to construction including engineering, design, permitting, etc.

State of Washington Department of Ecology Clean Water State Revolving Fund (SRF)

This competitive loan program shares the application cycle with DOE's grant program mentioned above. If a grant is awarded due to hardship, it will be matched with a low-interest loan from this program. Stand-alone loans are also possible with this source.

Bonds

Bonds are a financing mechanism that allows a jurisdiction to obtain construction financing in exchange for promises of repayment backed by a variety of sources. The sale of bonds typically requires preparation of an official statement and participation of bond counsel and an underwriter. However, bonds can be sold at any time of year to meet the project schedule with funds obtained at a certain date instead of the following year.

General Obligation Bonds (GO Bonds)

Jefferson County has the authority to sell general obligation bonds that are backed by taxes and general revenue. "Backed" means that the County promises taxes and general revenue to repay the debt, although other sources can be used such as connection charges from new sewer connections.

Revenue Bonds – Future

It is common to use Revenue Bonds to support sewer improvements, however this requires a specific stream of rate revenue to "back" the bonds. Because this is a new sewer system, there are no sewer customers with history to "back" the bonds. This type of bond can perhaps be used in later years after the sewer rate history can be documented. While revenue bonds are a traditional funding source for sewer improvements, it is typically less costly to borrow from subsidized state loan programs.

Other Sources

State and Tribal Assistance Grants (STAG)

Assistance from this grant program is requested directly from the federal congressperson representing the area of the project. Applications or requests are due by April of each year. This requires communicating with your congressperson prior to submitting a request. They have to balance all requests from their district and sponsor the request to go forward. Successful STAG grants are administered by DOE.

Congressional or State Budget Line Items

This alternative refers to discussing the project with both state and federal representatives and congresspersons to gain their support and perhaps have them submit a line item budget request specific to your project. This is expected to be an important element in funding the Port Hadlock Sewer project.

Jefferson County Health Septic Tank Replacement Program

Jefferson County Health Department has been successful in receiving a grant from Washington State Department of Ecology to provide financial assistance to residents to encourage the replacement of failing septic tanks. This program operates like a revolving loan fund where the residents make repayment over a period of time and it is available to loan out to the next round. These funds are intended to be used county-wide and are not specified for the Port Hadlock Sewer project. It is likely that this program could be coordinated with the sewer project to provide an additional source of funding. Additional funds could also be applied for to assist with conversion from septic to sewer for owners of property within this project.

Jefferson County Public Infrastructure Fund (PIF)

The County has a Public Infrastructure Fund that is used for priority infrastructure projects that encourage new jobs by stimulating private investment around the County. The PIF Advisory Board includes representatives from the county, city, PUD, port and two citizens. This Advisory Board reviews applications and makes recommendations to the Jefferson County Board of Commissioners. The use of the PIF is ultimately determined by the Board of Commissioners. Currently, 50 percent of the PIF funds are set aside for this priority Pt. Hadlock Sewer project. Each year, jurisdictions can apply for use of the fund. The total is a couple of hundred thousand dollars so it will not pay for this project. A specific program would have to be designed and submitted for consideration. One example would be to develop a sewer incentive revolving loan program where small business owners or perhaps low to moderate income homeowners could borrow the funds for connection to the sewer (connection charges only, or, could include on-site costs). The loans would be repaid over a specific number of years back into the fund that could be loaned out for more sewer connections. It should be noted that public funds can be used for on-

site costs but require repayment from the property owner. Jefferson County established this PIF in 2005 in order to retain a portion of sales and use tax to increase their rural economy.

Local Infrastructure Financing Tool (LIFT)

A pilot program was established in 2006 by the State legislature with a competitive process through 2008. Applicants would apply to the State to retain a portion of the increased sales tax. Jefferson County was not eligible in 2008, the last year of the pilot program. There may be some legislative activity to extend or enhance the program in coming legislative sessions.

Jefferson County Housing Authority

It is unclear whether the Housing Authority could be helpful in obtaining other funds to assist low-income housing in connecting to the sewer system. This would likely be some kind of loan and would require promises to ensure that the property remained serving low-income residents for a specific period of time.

Users

Utility Local Improvement Districts (ULID/LID)

Local or Utility Local Improvement Districts are authorized by State statute. These mechanisms allow properties within a specific boundary to finance the cost of sewer facilities that benefit the properties. This is a fairly common method of financing the extension or expansion of collection system. A boundary would be set by Jefferson County Commissioners, either by petition of the property owners or by resolution. An appropriate share of the cost of the facilities would be assessed to each property, not to exceed the benefit received. Bonds are sold to finance the construction and the properties repay their assessment over a number of years (10 to 20) plus interest. These bonds are "backed" by the property and improvements.

Connection Charges

Connection charges are one-time fees paid by new connections to the sewer system that represent their fair-share of the cost of the facilities in place to serve them. Connection charges are typically paid upon connection to the system. The use of connection charges is very common. As costs of sewer systems have increased, some jurisdictions allow customers to pay the connection charges over several years by signing an installment agreement. Payment over time is more practical for a utility that already has customers in place with a healthy financial condition (stable stream of revenue sufficient to meet the utilities needs and commitments).

Developer Extensions

Some jurisdictions use developer extensions as a method of expanding the collection system. This means that a developer finances and installs the system necessary to serve his/her property. Upon completion, the facilities are transferred to utility ownership. If, in the future, another property connects to that stretch of sewer line, a latecomer's agreement allows the utility to collect the fair-share (defined in the agreement) and send it to the original developer that financed and installed the line. This method would not be practical for the initial core sewer system but may be available in the future as developers may wish to connect prior to the phased implementation schedule.

Debt Repayment with Monthly Rates

It is common for monthly sewer rates to include debt repayment for construction of major facilities. This works well when you have a customer base to support the debt, along with operation and maintenance

costs. However this method is not as practical when beginning a new utility and building a customer base. There are other ways to handle debt for a new system.

FUNDING INITIAL CAPITAL COSTS

The financial plan focuses on funding the initial capital costs of constructing the sewer system through the year 2015. A financing plan is required for the first six years, and this includes sufficient treatment capacity to serve the Core, Alcohol Plant, Rhody Drive and a portion of Residential Area #1. Phase III of the treatment plant would be added in 2018, with Phase IV in 2024. Table 9-1 summarizes the initial capital costs through 2015. These costs estimates were made in 2008 and escalated to reflect 2009 dollars, the anticipated midpoint of construction. These costs were summarized from estimates presented in Appendix D.

TABLE 9-1.
INITIAL CAPITAL COSTS THROUGH 2015 (IN THOUSANDS)

Est. Capital (2008 estimates escalated to $2009)	2010	2011	2012	2013	2014	2015
General	19,467	-	1,337	2,206	-	-
Local	6,418	-	-	3,140	-	-
On-site Conn.	1,412	247	282	321	367	490
Total Capital By Year	27,297	247	1,619	5,667	367	490
Cumulative Capital	27,297	27,544	29,163	34,830	35,197	35,687
No. of ERU's:	*432*	*502*	*584*	*679*	*789*	*918*

- General Costs: General costs include the treatment, disinfection, effluent discharge/reuse, solids handling/reuse, influent pump station and oversizing of the collection system to accommodate future flows, totaling $23,010,000. Oversizing of capital facilities is described as the amount of additional capacity needed to accommodate flows from upstream areas which is beyond the minimum capacity that would be needed to provide service to the local area. The influent pump station is the main pump station that will pump all sewage to the treatment plant.
- Local Costs: Local costs include the gravity collection system with sewer lines up to 8-inch and any local pump stations that may be required to serve a particular area. Local costs for the period total $9,558,000. Together, these “common/shared” costs total an estimated $32,568,000.
- On-Site Costs: In addition, private/on-site connections include the costs to connect a home or building to the sewer system on private property, totaling $3,119,000. The estimated capital cost through 2015 is $35,687,000.

The number of equivalent residential units (ERU’s) anticipated to connect is shown at the bottom of Table 9-1. Residential connections are assumed to be one ERU per dwelling unit. Commercial connections are assumed to be one ERU per 4,000 gallons of water usage per month. This schedule anticipates that 918 ERU’s will have connected to the sewer system by 2015. To be conservative on the

financing side, this schedule assumes that connection of existing homes/businesses will not be mandatory. New construction would be required to connect to the sewer system when it is available.

Table 9-2 summarizes the costs by category. The general and local costs (collectively called "common/shared costs") total an estimated $32.6 million. The on-site connection costs (also called "private/on-site costs") total $3.1 million. The total estimated capital cost through 2015 is $35.7 million. This cost estimate is current as of July 2008.

TABLE 9-2.
INITIAL CAPITAL COST THROUGH 2015

GENERAL	23,010,196
LOCAL	9,558,200
Subtotal	32,568,396
PRIVATE/ON-SITE	3,119,000
Total Estimated Cost	35,687,396

General costs are treatment-related that should be shared by all sewer customers. Table 9-3 shows the elements and the timing of the improvements anticipated. The improvements in 2010 will provide treatment capacity of 1,000 ERU's. Additional membranes will be added in 2012 and storage will be added in 2013 as the Phase II expansion increases the capacity by another 1,000 ERU's. Solids handling is assumed to begin with contract haul/reuse to delay capital expenditure on this aspect until more customers are connected to the sewer system. This is currently shown in 2013 and may be delayed depending on the economics at the time. This analysis also includes oversizing of collection lines in the general costs. An estimated 10 percent of collection lines will be sized over the standard 8-inch line.

The local collection system is assumed to be installed in the Core and Alcohol Plant areas in 2010 and presumed to be in place in the Rhody Drive area within a few years after system startup. This would include any local pump stations. Expansion of sewer service into the 20-year residential areas is anticipated to begin in the year 2016 and continue to expand as shown in the capital facilities plan through the year 2024 when sewer service will be available through the entire sewer service area. The capital facilities plan shows development of the collection system to continue within the sewer service area and be completed by the year 2030..

A review of the common/shared costs indicates that financing in 2010 will require $26 million. An additional $1.3 million will be needed in 2012, and $5.3 million in 2013. This financing plan focuses on the general and local costs and assumes that the new connections would pay the private/on-site costs on their own property as they connect.

TABLE 9-3.
FINANCING COMMON/SHARED COSTS
(GENERAL AND LOCAL) THROUGH 2015

Common/Shared Costs	2010	2012	2013
General Costs			
Treatment – MBR	13,907,000	1,337,000	774,000
Disinfection	512,000	-	
Solids Handling	84,701	-	1,432,013
Disposal	2,583,682	-	
Oversizing Collection - 10%	879,800		
Influent Pump Station	1,500,000		
Subtotal General	19,467,183	1,337,000	2,206,013
Local Collection Costs			
Core + Alcohol Plant	6,418,200		
Rhody Drive			3,140,000
Total General & Local	25,885,383	1,337,000	5,346,013
Capacity ERU's	*1,000*	*Add membranes*	*Phase 2, 2,000*

Note: There are no additional general or local costs planned for 2014-2015.

Depending on the final financing package, it may be possible to include financing for the private/on-site costs of those connecting when the sewer is available in their neighborhood. If so, these costs would have to be repaid by the property owners but it could be a method of encouraging early connection to the sewer system.

FUNDING EXAMPLE – SHARED CAPITAL COSTS

With common/shared capital costs of $26 million to initiate the sewer system, a common approach is to attempt to receive grants for the largest amount possible. These grants are often matched with companion loans at low-interest rates. The remainder would be generated from another low-interest loan or by selling bonds. Jefferson County would be the jurisdiction making application and promising repayment. The sewer utility would be the department within the County to account for, manage and repay any debt. If sufficient funds were not available, a loan or contribution would be required from the County to the sewer utility to make the payment.

Combination grant/loan packages are possible with both the Department of Ecology (DOE) and US Department of Agriculture-Rural Development (USDA-RD). DOE has an annual application cycle in October of each year, with funds available the following July. The Port Hadlock UGA Sewer Facility Plan must be approved by DOE prior to application and plans/specs must be approved by DOE prior to application for construction funding. There is new state focus on the clean-up of Puget Sound that may result in increased funding or higher prioritization for projects of this type. With Jefferson County being one of the Puget Sound counties, the legislative activity and DOE programs should be monitored closely with this in mind.

The USDA-RD program has an open application cycle. USDA Program Specialists work with the jurisdictions to ensure all criteria are being met and accept applications throughout the year. USDA Area Directors attempt to spread the available funding for the known projects so it is important to work closely with the Program Specialists to remain on the radar screen. It is possible for the Area Directors to request additional assistance from the national program for certain hardship projects. The current interest rate for the loan portion is approximately 4.5 percent and is adjusted quarterly.

For additional loans to complete the 2010 capital funding package, both Public Works Trust Fund (PWTF) and DOE State Revolving Fund (SRF) have low-interest loan programs. Both programs have annual application cycles with PWTF in May and SRF in October of each year. Both programs would have funds available the following year – PWTF around May and SRF after June. The maximum PWTF loan per biennium per jurisdiction is currently $10 million, with interest rates varying from 0.5 percent to 2.0 percent depending on the amount of local match. The current interest rate for the SRF program is 3 percent. For this funding example, an interest rate of 2.5 percent was used for the additional loan.

Table 9-4 provides an example of mixing funding sources as described above. It is assumed that 60 percent of the customers are residential, as reflected in the PUD water account summary (see *Chapter 4, Population, Flows and Loads, Commercial Population Projection*). It is further assumed that USDA-RD awards the maximum grant of 45 percent for hardship in this project and matches with a companion loan for the rest of the residential amount. The remainder would come from a low-interest loan from either PWTF or DOE SRF. The annual debt service on this package is shown to be approximately $1.3 million for 20 years. Jefferson County would have to guarantee to the funding agencies that this would be met.

The funding amounts shown in Table 9-4 are large compared to the resources currently available within the funding programs. While the $10.3 million is just over the current PWTF limit, the other programs may be pressed to commit such large amounts to a single project. Three other potential sources would increase the viability of the project – a federal State and Tribal Assistance Grant (STAG) toward the USDA-RD portion shown would help ensure the full project could be funded, potential additional funds or new programs within the State focused on the cleanup of Puget Sound, or possibly a state or federal legislative line item appropriation would leverage the project to viability.

Another approach would be to separate the funding of the treatment portion from the collection system by forming Local Improvement Districts or Utility Local Improvement Districts (LID/ULID) for the collection system. In this method, the County would apply for funds to complete the general treatment portion and LID/ULIDs would be formed by area to finance the local collection systems. This is discussed in more detail later.

Another approach would be for the County to sell general obligation bonds for the portion of the project that is not funded with grants and low-interest loans.

Table 9-5 tests an estimated stream of revenue that would be generated from connection charges to make the annual debt payments on the above example. The annual debt service would begin at $1,322,000. The test is to ensure that the sewer capital investment would be self-supporting and the ending balance does not drop below zero. In each year, the debt payments and future capital improvements are deducted from the connection charge revenue. Additional borrowing is necessary to keep the balance above zero for future capital improvements with $2 million in 2013 and $8 million in 2018 as shown in Table 9-5 Part 1 below.

TABLE 9-4.
EXAMPLE OF MIXING FUNDING SOURCES

Grant/Loan from USDA-RD + Loan from PWTF or DOE	2010 Capital
PROJECT COST	
General / Treatment	19,467,183
Collection Core + Al	6,418,200
Subtotal Project	**25,885,383**
FUNDING SOURCES	
Grant: USDA-RD[a]	6,990,000
Loan: USDA-RD[b]	8,540,000
Loan: PWTF / DOE[c]	10,360,000
Annual Debt (4.5%, 20 yrs)	**657,000**
Annual Debt (2.5%, 20 yrs)	**665,000**
Est. Annual Debt	**1,322,000**

a. Grant assumes 60% of customers are residential and maximum 45% grant is offered.

b. USDA-RD loan assumes companion to grant for rest of residential at 4.5% interest for 20 years. These loans may be spread up to 40 years.

c. Remainder of project funded by a low-interest loan from either PWTF or DOE at an assumed interest rate of 2.5% for 20 years.

TABLE 9-5 PART 1.
ESTIMATED REPAYMENT STREAM THROUGH 2018

Est. Repayment Stream	2010	2011	2012	2013	2014	2015	2016	2017	2018
New Connection ERU's	432	70	82	95	111	129	149	174	202
Connection Charge Revenue	6,519,428	1,061,457	1,234,278	1,435,236	1,668,914	1,940,637	2,256,601	2,624,008	3,051,234
Additional Borrowing				2,000,000					8,000,000
Annual Debt Payments:									
USDA-RD 20 yrs	**657,000**								
PWTF/DOE 20 yrs	**665,000**			$128,294					$513,177
Total Debt Payments	1,322,000	1,322,000	1,322,000	1,322,000	1,450,294	1,450,294	1,450,294	1,450,294	1,450,294
Future Capital Improvements		-	1,337,000	5,346,013	-	-	1,398,000	1,357,000	9,445,454
Ending Balance	5,197,428	4,936,885	3,512,163	279,386	498,006	988,348	396,655	213,368	368,854

Table 9-5 Part 2 continues the test results through 2024, with a column for 2025-2030.

This test was carried out for the 20-year sewer planning period and showed that the debt service payments could be met, and future capital improvements made with additional borrowing of $500,000 in the final year, 2030., The ending balance in 2030 is estimated to be approximately $300,000 that would be programmed to buy down outstanding debt, make annual debt payments or set aside for capital reserves.

TABLE 9-5 PART 2.
ESTIMATED REPAYMENT STREAM THROUGH 2024 AND 2025-2030

Est. Repayment Stream	2019	2020	2021	2022	2023	2024	2025-2030
New Connection ERU's	235	273	318	369	430	500	633
Connection Charge Revenue	3,548,019	4,125,688	4,797,410	5,578,498	6,486,758	7,542,897	9,552,787
Additional Borrowing							500,000
Annual Debt Payments:							-
USDA-RD 20 yrs							-
PWTF/DOE 20 yrs							32,074
Total Debt Payments	1,963,471	1,963,471	1,963,471	1,963,471	1,963,471	1,963,471	11,780,828
Future Capital Improvements	996,000	361,000	353,000	-	-	5,872,000	11,073,000
Ending Balance	957,402	2,758,619	5,239,558	8,854,585	13,377,872	13,085,297	284,256

STRATEGIES FOR RECOVERING CAPITAL COST FROM USERS

The next piece of the financing puzzle is to develop a strategy for recovering the capital costs from the users of the new sewer system. Three strategies for repayment are described below and include connection charges per connection and usage of the system, formation of a ULID to spread the costs based on benefit, and Assessed Value of property to spread the costs based on property value.

Strategy 1. Connection Charges for General and Local

Connection charges are paid one time by the property owner in exchange for permission to connect to the sewer system. Under this method, the general and local share would be paid when the customer connects to the sewer system. Property owners can select their own method of payment; for example, home equity loan, second mortgage, savings, or credit card.

As is shown in Table 9-5, it appears that, as long as connections come in at the anticipated pace, the sewer utility would have sufficient funds to make the debt payments. The risk would be seen if connections did not keep pace as anticipated and the County would need to loan funds to make the debt payment.

Strategy 2. Utility Local Improvement District (ULID) for Local + Connection Charges for General

ULID assessments are paid over a number of years when sewer lines come to your neighborhood + connection charges are paid for general costs when connecting to the sewer system. This method spreads the local collection system costs among the properties to be served and the general treatment-related costs will be paid upon connection to the sewer system. This recognizes that the ULID method allows the property owners to finance the cost of neighborhood sewer lines over a number of years and still pay the general treatment portion only when connecting. This strategy shares the financial risk between the County, the properties served by the sewer system and those connecting to the system.

A ULID would be formed with a boundary drawn around the properties to be served by the local collection system. All properties would participate and receive an assessment which would be paid over a set period (typically between 10 to 20 years). The assessments cannot exceed the benefit. Bonds can be sold for the ULID costs, or could possibly be funded by grants or loans, and the assessments would be strictly designated for repayment of the bonds.

Strategy 3. Assessed Value (AV) for General and Local

This third method spreads the general and local costs of constructing the sewer system over the value of the property to be served. The property owners would pay annually based on the property value assigned by the Jefferson County Assessor for real estate tax purposes. Undeveloped property would pay much less than developed property. This method would allow the County to sell bonds backed by the property assessments collected specifically to fund the debt repayment.

Jefferson County used this method when establishing the Port Ludlow Drainage District. It is not as common to use for sewer systems but could be used to spread the costs across the entire 20-year area if desired. The assessment would be set as a rate per $1,000 of assessed value per year.

COST IMPLICATIONS OF USER RECOVERY STRATEGIES

All three strategies are possibilities for the Irondale/Port Hadlock sewer system. The first two are more typical for sewer applications. These are compared and described more fully in Table 9-6.

TABLE 9-6.
COMPARE USER RECOVERY STRATEGIES

Pay Upon Connection	Without Grant	With Grant (Residential)
1. CONN CHG for GENERAL & LOCAL		
Connection Charge per ERU	$17,400	$9,570
+ Average On-Site	$3,500	$3,500
Est. New Connection	**$20,900**	**$13,070**
Pay Local thru ULID & General thru Connection charge	Without Grant	With Grant (Residential)
2. ULID FOR LOCAL + CONN CHG FOR GENERAL		
Connection Charge per ERU	$9,300	$5,115
+ ULID Assessment per ERU	$8,100	$4,455
+ Average On-Site	$3,500	$3,500
Est. New Connection	**$20,900**	**$13,070**

The examples show the anticipated costs without and with a potential grant. The potential grant is described earlier in the funding example where a maximum 45 percent grant would apply to residential customers. There is no guarantee that this level of grant would be achieved, however USDA-RD will want to be assured that the grant is benefiting residential customers to make the cost more affordable.

Residential customers are assumed to be 1 ERU per dwelling unit. For commercial customers, the number of ERU's is determined by the monthly water usage, where one ERU is equal to 4,000 gallons of water per month.

The first example above with connection charges for general and local results in a connection charge of $17,400 per ERU + average on-site cost of $3,500 for a total estimate of $20,900 without any grant assistance. The $17,400 is calculated to reflect the 20-year general and local costs divided by 4,201 ERU's (the total number of ERU's forecasted to be connected to the sewer system at the end of the 20-year period). Approximately 15 percent was added to reflect the potential cost of financing and rounded to the nearest thousand dollars.

If the maximum grant were received from USDA-RD, it is assumed it would apply to the connection fee and likely not to the average on-site cost. The average on-site cost is estimated to be $3,500 per connection for the gravity system. This will be higher for properties where the house is set farther back from the street, have mature landscaping or paving/walkways that must be disturbed and replaced. While a commercial customer may be equal to 3 ERU's for water and sewer, the on-site cost will not necessarily be 3 times the average cost.

In the second example above, the general and local costs are separated and spread in different manners, either by connection charge or by ULID assessment. The average on-site cost also applies. The totals are the same but the timing of payment is very different for the two examples.

WHEN TO PAY FOR SEWER

A major difference between the two strategies has to do with when the customers pay for sewer. The connection charges are paid only when connecting to sewer. ULID assessments are filed on all properties served when the sewer lines come to the neighborhood and can be paid annually over a number of years. Table 9-7 illustrates the differences.

Residents or businesses that have recently installed a septic system may prefer the first option of paying only when connecting to the sewer system. Others may prefer the second alternative because it allows the property owner to finance a good portion of their obligation over 10-20 years. The ULID assessment will be paid in annual installments and filed as a lien on the property, to be paid off when the property is sold. Customers will also have an opportunity to pre-pay the assessment to avoid any interest or financing costs. The County and community will have detailed discussions of the policy implications of the financing alternatives and sewer ordinance prior to making application for grants and loans.

TABLE 9-7.
COMPARE ALTERNATIVES – WHEN TO PAY FOR SEWER

	Residential		Commercial	
When To Pay For Sewer	Assessed When ULID Comes to Neighborhood	+ Pay When Connect	Assessed When ULID Comes to Neighborhood	+ Pay When Connect
1. Conn. Chg. for GENERAL & LOCAL				
Pay GENERAL & LOCAL When Connect		**$9,570**		**$17,400**
+ On-site to connect		**$3,500**		**$3,500**
Est. New Connection		$13,070		$20,900
2. ULID for LOCAL + Conn. Chg. for GENERAL				
Pay LOCAL When ULID Comes to Neighborhood	**$4,455**		**$8,100**	
+ Pay GENERAL upon connection		**$5,115**		**$9,300**
+ On-site to connect		**$3,500**		**$3,500**
Est. New Connection	$4,455	$8,615	$8,100	$12,800

* Assumes 45% Grant for Residential

CURRENT SEWER EXPANSION EXAMPLES

For those new to sewer systems, these costs likely feel high. For those of us working in the industry, the costs per connection are reasonable compared to other current examples. Table 9-8 shows three other current examples. As costs for sewer have risen, and as a tool to encourage early connection, some jurisdictions have invited customers to jointly finance on-site costs if connecting early. Thus, in Table 9-8, there are two columns to the right – comparing General and Local costs or also including on-site costs.

TABLE 9-8.
CURRENT SEWER EXPANSION EXAMPLES

Est. Cost to Connect to Sewer	General + Local	General + Local + On-Site
Pt. Hadlock/Irondale		
With Grant (Residential)	$9,350	$12,850
Without Grant	$17,000	$20,500
Langley	$15,558	
Ronald WW District		$33,000
Bainbridge Island		$30,000

The City of Langley recently decided to fund expansion of the collection system to encourage homes to connect to the sewer system and increase the ratepayer base supporting the treatment plant. Previously, the collection lines were expanded only by developer extension without sufficient activity. The connection charges were increased substantially to reflect this change in policy.

Ronald Wastewater District in King County recently constructed sewer lines for several neighborhoods with existing homes. An established district, Ronald allows customers to sign installment agreements to finance their connection fees over time. The District obtained a PWTF low-interest loan and allowed the customers to include the on-site costs in the financing if connecting right away.

Bainbridge Island recently filed the final assessments for the South Island Sewer LID. The funding source was PWTF low-interest loans. The treatment plant is operated by another jurisdiction that developed a latecomer agreement to allow the new customers to connect and fund the necessary improvements. The assessments ranged from a low of $8,000 for customers not connecting at this time, up to $30,000 for one neighborhood.

As you can see, each project is unique in the details of who owns and operates the treatment plant, collection lines and how the new customers participate and finance the construction. The Port Hadlock/Irondale sewer project, with its own arrangement of details, will hopefully be able to attract the necessary financing. These estimates have attempted to average and spread the costs over the 20-year planning horizon and anticipated number of connections.

Some may ask why the Port Hadlock/Irondale estimates are so much lower than the other examples? Is this because we have selected the highest examples? The answer is no, we have selected current examples that we have been involved with in a variety of capacities over the past year.

OPERATIONS AND MAINTENANCE COST – MONTHLY RATES

The engineering cost estimates included ongoing operations and maintenance costs by year to match the phasing of the treatment plant and collection system, and anticipated usage. These estimates were made on an annual basis. Additional costs were added in this financing portion to reflect the costs of billing and collection, state tax and administration of the sewer utility. Table 9-9 shows the estimated O&M Costs per ERU.

TABLE 9-9.
ESTIMATED MONTHLY SEWER RATE

Estimated Monthly Rate For O&M/Admin Costs	
O&M per ERU per Mo	$50.00
Add Billing/Collection/State Tax/ Administration	$10.00
= Estimated Monthly Sewer Rate	$60.00

This is the estimated beginning monthly rate for the first several years, to be evaluated for customer growth, meeting the O&M needs and building a replacement reserve. It is difficult to recommend a sewer rate including full depreciation or full replacement funding on a new system with only a few customers. It is more practical to set the beginning rate to ensure that operating costs can be met with the anticipated customers. As more connections come in those first years, a replacement reserve will begin building.

After five years, a review of the financial plan and rates should be done to ensure the rate is sufficient. This review should include further developing the replacement funding strategy.

DOE's measure of hardship at 2.0 percent of median household income is $69.44 per month. The test of hardship, however, also includes the capital costs that would be in addition to the monthly rate. The Port Hadlock Sewer project would clearly exceed the measure of hardship and make it eligible for potential grant funding and lower interest rates on loans for the Department of Ecology programs.

WHAT DOES IT MEAN?

This sewer system will be expensive and financial assistance will be required to help bring the costs down to a more affordable level for the low to moderate income residents of the area, as well as the small local businesses. Overall the sewer system should benefit the area by enhancing the local commercial environment and protecting the water quality in Chimacum Creek and the shellfish beds in Port Townsend Bay. Additionally, the community has voiced its interest in replacing and potentially augmenting any flows to Chimacum Creek with a high quality reclaimed water source as the area's septic tanks are replaced with sewer pipes.

The "art" of financing will be an important element of implementation of the sewer system. This refers to the ability to attract financial assistance in a manner that will further the system on behalf of the citizens of the area. The current capital cost estimate is $20,900 per ERU without any grants. This would be reduced to an estimated $13,070 if the maximum 45 percent grant were achieved for residential customers through the USDA-RD grant program. With additional financial assistance, it is hoped that this could be further reduced, or certainly for low to moderate income residents and small businesses. There are no guarantees with the "art" of financing.

This capital cost would be in addition to the $60.00 per month per ERU for operations and maintenance.

HOW TO CONTINUE TO MOVE FORWARD AND REDUCE COSTS

The current cost estimates are not set in stone. As the engineering side moves toward design, further refinement will result in adjustment to the costs. It is the intention of the estimators in this Sewer Facility Plan to be reasonably conservative to help ensure that the project can be implemented within the costs outlined. Upon completion of the Sewer Facility Plan, the County can begin the process of applying for financial assistance. Toward this goal, County staff and consultants will:

- Continue to meet with funding program administrators about this project. This work needs to continue to ensure that the hoops and trade-offs of the funding programs are recognized.
- Become more familiar with programs and develop alternatives for low-income assistance through the USDA-Housing program, the Health Department septic replacement loan program and seek to create specific assistance with grant funding.
- Find out more about legislators and opportunities to meet and discuss projects and progress. Let your federal and state legislators know about the project and how much additional grant assistance would mean to implementing the sewer system.
- Pay attention to the state legislature and DOE programs related to the clean up of Puget Sound. Specifically let state legislators know about the timing of this project as an example for future funding.
- Discuss and finalize financial policies and methods of distributing costs. Explore opportunities for O&M savings.

- Continue to seek ways to provide incentive and maximize initial participation in the sewer system.

The implementation phase of the Irondale/Port Hadlock Sewer Project begins with DOE approval of the Sewer Facility Plan. Financial assistance and County implementation policies will be significant components of the implementation phase.

POLICY ISSUES FOR FUTURE DISCUSSION

Following are a number of key policy decisions that must be made in the implementation phase of developing the sewer system and ensuring its financial viability. The policies should be discussed and decisions made prior to applying for funding. These will consider the impact on customers, financial risks involved for the County and the funding agencies as well.

- Will connection be mandatory when sewer lines come to the neighborhood? This policy is important to ensure financial viability of the long-term sewer system and is often preferred by USDA-RD and potentially other funding agencies.
- Can on-site costs be included in the financing package for those connecting in the first several months? Depending on the funding scenario, this may or may not be allowable or practical but the approach would be to encourage more connections early by allowing the costs to be financed over time.
- Will customers be allowed to pay connection fees over time? Perhaps this option is held for low to moderate income property owners that cannot qualify for connection charge assistance with the USDA-housing program. This would encourage and assist property owners to connect that may have trouble raising the necessary funds. This is a good example of developing a program to be funded by the Jefferson County Infrastructure Fund.
- How will future capital cost escalation be reflected in the connection charges? There are a variety of ways this can be achieved. One method would be to increase the amount by the interest rate paid for each year after the loan or bonds are obtained. This policy is another method of encouraging early connection to the system.
- Will multi-family connections be treated any different than single family connections where each dwelling unit is equal to 1 ERU? This can be different for connection fees and for monthly rates. Any reductions in one class of customer would be spread among the other users.
- Will there be reductions for the monthly rates of senior low-income customers? Any reductions in one class of customer would be spread among the other users unless there were to be a contribution from other County funds.