Final Report

City of Klamath Falls

Sewer System Development Charge Study

January 2012

Prepared by:

HDR Engineering, Inc.

January 30, 2012

Mr. Jeff Fritz
Wastewater Division Manager
1200 South Spring Street
Klamath Falls, Oregon 97601

Subject: City of Klamath Falls Sewer System Development Charge

Dear Mr. Fritz:

HDR Engineering, Inc. (HDR) was retained by the City of Klamath Falls to develop cost-based system development charges for the sewer system. Enclosed please find HDR's final report regarding the City's sewer system development charge. The conclusions and recommendations contained within this report should enable the City to implement a cost-based sewer system development charge that meets the City's objectives.

This report has been prepared using "generally accepted" financial and engineering principles. The City's financial, budgeting, planning, and engineering data were the primary sources for much of the information contained in this report. Prior to adoption of the proposed system development charges, HDR would recommend that the City have the report reviewed by its legal counsel for compliance with Oregon State law. Please provide any comments on this draft and we will finalize the report.

HDR appreciates the opportunity to assist the City in this matter. We also would like to thank you and your staff for assistance provided to us. If you have any questions, please call.

Sincerely yours,
HDR Engineering, Inc.

Randall P. Goff
Project Principal

HDR Engineering, Inc.

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Introduction

HDR Engineering, Inc. (HDR) was retained by the City of Klamath Falls (City) to update its sewer system development charges. The purpose of the charge is to bring equity between existing and new customers to the system. The objective of this study was to calculate cost-based fees for new customers connecting to the City's sewer system. The City is implementing this change as major improvements in the sewer system are being planned and constructed. By establishing a cost-based system development charge, the City promotes that "growth pays for growth" and existing utility customers will, for the most part, be sheltered from the financial impacts of growth. The system development charge generates revenue for growth related facilities.

The City has a current system development charge of $1,956 per dwelling for residential. The system development charge has not been reviewed since 2002.

The City is working on major upgrades to the sewage treatment plant (STP) to meet the City's treatment requirements through the end of the planning period. The 2009 Spring Street STP Facility Plan and the 2006 City of Klamath Falls Wastewater Collection System Master Plan were used for treatment and collection capital improvement information. The City is planning $92.8 million in treatment upgrades of which $32.1 million is growth related. The City is planning $10.4 million in collection upgrades of which $3.5 million are growth related.

The City has undertaken this study to bring parity between existing and new utility customers based on the sewer treatment plant upgrades and other System upgrades, along with the recent increases in construction costs.

Summary and Conclusions

The system development charges (SDCs) are calculated in conformance with "generally accepted" rate making practices and are based on the City's system planning and design criteria. A component-by-component approach is taken in developing the charges, as each component can have different planning and design criteria. The calculations also take into account the financing mechanisms of capital improvements. System development charges must be implemented according to the capacity requirement or impact each new development has on the sewer utility system. This way, the system development charge is related to the impact the customer has on the system, and to the benefit they derive from the service provided.

The results of the analyses were presented to the City Council on Jun 7, 2010. The existing charge and maximum allowable charge, as calculated within this report, for a dwelling units and equivalent residential units are presented in Table ES-1.

Table ES – 1
Existing and Maximum Allowable Sewer System Development Charge

Customer Class	Existing Fee (Reimbursement & Improvement)	Reimbursement SDC	Improvement SDC	Total SDC or Maximum Allowable
Single Family Residential	$1,956/DU	$2,560/DU	$4,660/DU	$7,220/DU
Duplex & Multi-Family Residential	1,271/DU	1,660/DU	3,030/DU	4,690/DU
Commercial	1,956/ERU	2,560/ERU	4,660/ERU	7,220/ERU

DU = Dwelling Unit
ERU = Equivalent Residential Unit. Determined based on plumbing and development information provided during the development permit process.

The existing and updated system development charges are based on dwelling unit for residential customers and equivalent residential units for commercial customers. The amounts shown have been rounded for ease of administration.

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Customer Class	Existing Fee (Reimbursement & Improvement)	Reimbursement SDC	Improvement SDC	Total SDC or Maximum Allowable
Single Family Residential	$1,956/DU	$3,120/DU	$4,360/DU	$7,490/DU
Duplex & Multi-Family Residential	1,271/DU	2,030/DU	2,830/DU	4,870/DU
Commercial	1,956/ERU	3,120/ERU	4,360/ERU	7,490/ERU

DU = Dwelling Unit
ERU = Equivalent Residential Unit. Determined based on plumbing and development information provided during the development permit process.

The existing and updated system development charges are based on dwelling unit for residential customers and equivalent residential units for commercial customers. The amounts shown have been rounded for ease of administration.

Section 1
Introduction

1.1 Introduction

HDR Engineering, Inc. (HDR) was retained by the City of Klamath Falls (City) to review and update its sewer system development charges (SDCs). The objective of this study is to calculate cost-based charges for new customers connecting to the City's sewer system. System development charges provide the means of balancing the cost requirements for new (growth-related) utility infrastructure between existing customers and new customers. The portion of existing plant and future capital improvements that will provide service (capacity) to new customers is included in the system development charges. In contrast to this, the City has future capital improvement projects that are related to renewal and replacement of existing plant in service. These renewal and replacement infrastructure costs are typically included within the rates charged to the City's customers, and are not included within the system development charges. By establishing cost-based system development charges, the City attempts to have "growth pays for growth" and existing utility customers will, for the most part, be sheltered from the financial impacts of growth.

> *"By establishing cost-based system development charges, the City attempts to have 'growth pays for growth' and the City's existing utility customers will be, for the most part, sheltered from the financial impacts of growth."*

1.2 Organization of this Report

This report documents the approach that was used to analyze and develop the City's sewer system development charges. This report is divided into five sections. Section 1 provides an introduction of the study. Section 2 provides an overview of system development charges and the criteria and general methodology that should be used to calculate and establish cost-based system development charges. Section 3 provides perspective on the economics of system development charges. Next, Section 4 provides an overview of the requirements under Oregon State law for determining system development charges. Finally, Section 5 presents the City-specific calculations of the cost-based system development charge for the sewer utility.

1.3 Disclaimer

In its calculation of the system development charges presented in this report, HDR has used "generally accepted" engineering and ratemaking principles. This should not be construed as a legal opinion with respect to Oregon State law. HDR recommends that the City have its legal counsel review the system development charges set forth in this report to ensure compliance with Oregon State law.

Section 2
Overview of System Development Charges

2.1 Introduction

An important starting point in establishing system development charges is to have a basic understanding of the purpose of these charges, along with the criteria and general methodology that are used to establish cost-based system development charges. This section of the report presents an overview of system development charge methodology that was used to develop cost-based charges for the City.

2.2 Defining System Development Charges

The first step in establishing cost-based system development charges is to gain a better understanding of the definition of a system development charge. One definition of a system development charge is as follows:

> *"System development charges are one-time charges paid by new development to finance construction of public facilities needed to serve them."*[1]

Simply stated, system development charges (SDCs) are a contribution of capital to either reimburse existing customers for the available system development in the existing system, or to help finance future growth-related capacity improvements. At some utilities, system development charges may be referred to as capacity charges, impact fees, system development charges, plant investment fees, etc. Regardless of the label used to identify them, their objective is the same. That is, these charges are intended to provide funds to the utility to finance all or a part of the capital improvements needed to serve (accommodate) new customer growth.

2.3 Economic Theory and System Development Charges

System development charges are generally imposed as a condition of service. The objective of a system development charge is not merely to generate money for a utility, but to assure that all customers seeking to connect to the utility's system bear an equitable share of the cost of capacity that is invested in both the existing and any future growth-related expansions. Through the implementation of equitable system development charges, existing customers will not be unduly burdened with the cost of new development.

By updating its cost-based system development charges, the City continues an important step in assuring adequate infrastructure to meet growth-related needs while providing this infrastructure to new customers in a cost-based, fair, and equitable manner.

[1] Arthur C. Nelson, System Development Charges for Water, Wastewater, and Stormwater Facilities, Lewis Publishers, New York, 1995, p. 1.

2.4 System Development Charge Criteria

In the determination and establishment of the system development charges, a number of different criteria are often utilized. The criteria often used by utilities to establish system development charges are as follows:

- State/local laws
- System planning criteria
- Financing criteria
- Customer understanding

Many states and local communities have enacted laws that govern the calculation and imposition of system development charges. These laws must be followed in the development of the system development charges. Most states require a "reasonable relationship" between the charge and the cost associated with providing service (capacity) to the customer. The charges do not need to be mathematically exact, but must bear a reasonable relationship to the cost burden imposed. The utilization of the planning criteria, the actual costs of construction and the planned costs of construction provide the nexus for the reasonable relationship requirement.

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The use of system planning criteria is one of the more important aspects in the determination of the system development charges. System planning criteria provide the "rational nexus" between the amount of infrastructure necessary to provide service and the charge to the customer. The rational nexus test requires:
(a) establishing a system development (nexus) between new development and the existing or expanded facilities required to accommodate new development, and
(b) apportioning appropriate cost to the new development in relation to benefits reasonably received. An example using system planning criteria is the determination that a single-family residential customer or equivalent residential unit (ERU) generates an annual average daily weather flow of so many gallons per day, per ERU. The system development charge methodology then charges the customer per equivalent residential unit (ERU) of the cost of plant.

One of the driving forces behind establishing cost-based system development charges is that "growth pays for growth." Therefore, system development charges are typically established as a means of having new customers pay an equitable share of the cost of their required capacity (infrastructure). The financing criteria for establishing system development charges relates to the method used to finance infrastructure on the system and assures that customers are not paying twice for infrastructure – once through system development charges and again through rates. The double payment can come in through the imposition of system development charges and then the requirement to pay debt service within a customer's rates. The financing criteria also reviews the basis under which main line and collection line extensions were provided and assures that the customer is not charged for infrastructure that was provided (contributed) by developers.

The component of customer understanding implies that the charge is easy to understand. This criterion has implications for the way that the fee is implemented and assessed to the customer. For a wastewater system, the fee is generally based on the projection of wastewater flow for the time period under review. This makes it easy for the customer to understand that the level of fee is based on the projection of demand (flow) required to provide service. Use of an equivalent residential unit (ERU) is a method to bring wastewater flow from nonresidential customers into an equivalent measure with residential customers. An ERU is defined as generating average dry weather flow of a system specific measure of gallons per day per ERU. This will be defined for the City later in this report. The other implication of this criterion is that the methodology is clear and concise in its calculation of the amount of infrastructure necessary to provide service.

2.5 Overview of the System Development Charge Methodology

There are "generally accepted" methodologies that are used to establish system development charges. Within the "generally accepted" system development charge methodologies, there are a number of different steps undertaken. These steps are as follows:

- Determination of system planning criteria from Master Plans and City Staff
- Determination of equivalent residential units (ERUs)
- Calculation of system component costs
- Determination of any credits

The first step in establishing a system development charge is the determination of the system planning criteria. This implies calculating the amount of demand (flow) from single-family residential customer. For the wastewater system, average day flow is used.

Once the system planning criteria is determined, the number of equivalent residential units (ERUs) can be determined.

"Once the number of ERUs has been determined, a component-by-component (e.g., treatment, collection, etc.) analysis is undertaken to determine the charge in cost ($) per ERU."

This analysis requires the ERUs be determined for the current period and each year to projected build out of the system. Current period ERUs were determined by taking 2009 average dry weather flow (ADWF) at the treatment plant in million gallons per day and dividing by the average household dry weather flow per day use. Future ERUs were determined in a similar fashion by dividing projected ADWF plant flows, taken from the Spring Street Sewer Treatment Plant Facility Plan, and dividing by the same average household per day use. Since the only projection provided in the Facility plan was 2030, it was assumed that plant flow growth was linear.

Once the number of ERUs has been determined, a component-by-component (e.g., treatment, collection, etc.) analysis is undertaken to determine the component system development charge fee in cost ($) per ERU. Individual plant components are analyzed separately for the sewer system given that the planning criteria differ for the development of the various system components. The calculation of the component system development charge includes both historical assets and planned future assets. Historical and future asset costs include 10 year's worth of interest. This calculation is done to reflect the fact that existing customers have provided for excess capacity in the system and hence need to be reimbursed for not only their initial investment, but also the "carrying cost" on that investment. The reimbursement to existing customers is accomplished by the fact that without system development charges, rates would otherwise be higher than they are with system development charges. Once the

total cost of the capital infrastructure is determined, it is then divided by the appropriate number of ERUs the infrastructure will serve to develop the cost per ERU for the specific plant component.

Each plant component has two element, reimbursement and improvement. The reimbursement element consists of the existing plant components while the improvement element consists of future plant upgrades. After each plant component is analyzed and a cost per ERU is determined, the cost per ERU for each of the plant components is added together to determine the reimbursement and improvement system development charge. The combined reimbursement and improvement SDC provides the "gross system development charge" calculated before any credits for debt service.

Wastewater systems are typically built with reserve capacity to accommodate future growth. This reserved capacity is funded by existing rate payers. The reimbursement portion of the SDC is intended to pay back, or reimburse, existing rate payers for future customers capacity requirements. The improvement portion of the SDC is intended to provide funding for future capital projects that provide additional capacity for new customers. The Oregon Revised Statute that dictates how the reimbursement and improvement portions of the SDC must be used is provided below.

The Oregon Revised Statute (ORS) 223.307 states*: "Authorized expenditure of system development charges. (1) Reimbursement fees may be spent on capital improvements associated with the system for which the fees are assessed including expenditures relating to repayment of indebtness.*

(2) Improvement fees may be spent only on capacity increasing capital improvements, including expenditures related to repayment of debt for such improvements. An increase in system capacity may be established if a capital improvement increases the level of performance or service provided by existing facilities or improves new facilities. The portion of the improvements funded by improvement fees must be related to the need for increased capacity to provide service for future users."

The last step in the calculation of the system development charge is the determination of any credits. This is generally a calculation to assure that customers are not paying twice, once through system development charges and again through debt service included within the sewer rates.

The final system development charge is determined by taking the "gross system development charge" and subtracting any credits. This results in a "net system development charge" stated in dollars per ERU. For the sewer system, an ERU can be defined as a single-family residential dwelling unit. Other types of dwellings or businesses are then assigned ERUs based on flow from design manuals or actual flows.

2.6 Summary

This section of the report discussed the criteria typically used in determining system development charges. In addition, an overview was provided of the "generally accepted" methodology used in calculating system development charges. The next section of the report will provide a perspective on the economies of system development charges.

Section 3
Overview of Utility Industry Practices

3.1 Introduction

Understanding of the purpose and concept of system development charges and the financial objective of those charges is an important starting point in discussing the City's continued implementation of utility system development charges. This section of the report will discuss the concept of system development charges and the "generally accepted" practices of the industry.

3.2 Defining System Development Charges

One must first define a "system development charge" before beginning an assessment and review of the fees. System development charges are also often called system development charges, impact fees, capacity charges, buy-in fees, facility expansion charges, plant investment fees, etc. Regardless of the name applied to the fee, the concept is still the same. Simply stated, system development charges are capital recovery fees that are generally established as one-time charges assessed against developers or new utility customers as a way to recover a part or all of the cost of system capacity constructed for their use. Their application has generally occurred in areas that are experiencing extensive new residential and/or commercial development."[2] The main objective of a system development charge is to assess against the benefiting party, their proportionate share of the cost of infrastructure required to provide them service. Stated another way, system development charges imply that new development creates new or additional costs on the system, and the system development charge assesses that cost in an equitable manner to those customers creating the additional cost.

"System development charges are capital recovery fees that are generally established as one-time charges assessed against developers or new utility customers as a way to recover a part or all of the cost of system capacity constructed for their use."

3.3 Historical Perspective

The financing of infrastructure was historically paid for via long-term debt and "pay as you go" rates. Over the last twenty years, however, the use of system development charges as a method of financing growth and infrastructure has risen sharply. To the best of our knowledge, no clear surveys or data exist to show this change. There are, however, a number of examples that highlight out this phenomenon. For example, a survey of 67 Florida communities was undertaken in 1986 and 1989. Only fifteen communities used system development charges in 1986.

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[2] George A. Raftelis, 2nd Edition, Comprehensive Guide to Water and Wastewater Finance and Pricing (Boca Raton: Lewis Publishers, 1993), p. 73.

By 1989, the number of communities using system development charges had more than doubled to 32.[3] As this funding mechanism gained popularity, legislatures across the U.S developed legislation to provide utilities with the authority to impose system development charges. Typical legislation provides the approach to be used to develop the charges and requires that the charges be used only for growth-related needs and not for current O&M requirements. At this time, the State of Oregon has specific legislation related to system development charges. This specific legislation regarding the charges provides the City with the authority to establish and collect system development charges. Further discussion on the legislation and Oregon code is included in Section 4.

While many utility managers viewed system development charges as an important and alternative source of funding for new capital construction, these charges were also being rationalized from a number of different perspectives. The perspectives included:[4]

- Shifting the fiscal burdens from existing development to new development.
- Synchronizing the construction of new or expanded facility capacity with the arrival of new development.
- Subjecting new development decisions to pricing discipline.
- Responding to locally vocal anti-growth sentiments.

Each of these different perspectives is discussed in more detail below.

Historically, existing development was often subsidized by federal or state resources. As an example, in the early 1970's, many wastewater treatment plants in the U.S. were 90% grant funded by the Environmental Protection Agency (EPA). Today grants have largely been replaced by low-interest state revolving fund (SRF) loans. Therefore, as existing customers were being impacted by the cost of growth, local communities searched for methods to help minimize rates and the impacts of the cost of growth.

Unchecked growth and sprawling expansion is very costly on a per unit basis. In response to this dilemma, many legislative bodies created urban growth boundaries. At the same time, utilities moved towards system development charges and extension policies that assist in managing system growth in an orderly and coordinated manner. As a result, improved planning and cost-based fees have helped utilities manage the costs of growth, while stabilizing rates to existing customers.

Establishing the price of a commodity equal to its cost is a basic economic and market principle. In theory, consumers of a service will make "optimal" consumption decisions when the price of the commodity is equated to its price. By establishing cost-based system development charges, developers should be in a position to make better and more rational decisions concerning new development. At the same time, proper pricing of system development charges also encourages "right sizing" of facilities to serve new development. In other words, given the proper price signal, the developer will properly size their service facilities to meet their needs (e.g. installing a 8" service pipeline versus a 12" service pipeline).

[3] James C. Nicholas, Arthur C. Nelson and Julian C. Juergensmeyer, A Practitioner's Guide to Development Impact Fees (Chicago: Planners Press, 1991) p. 3.
[4] Adapted from: Arthur C. Nelson, System Development Charges for Water, Wastewater and Stormwater Facilities (Boca Raton: Lewis Publishers, 1995) p. 6-7.

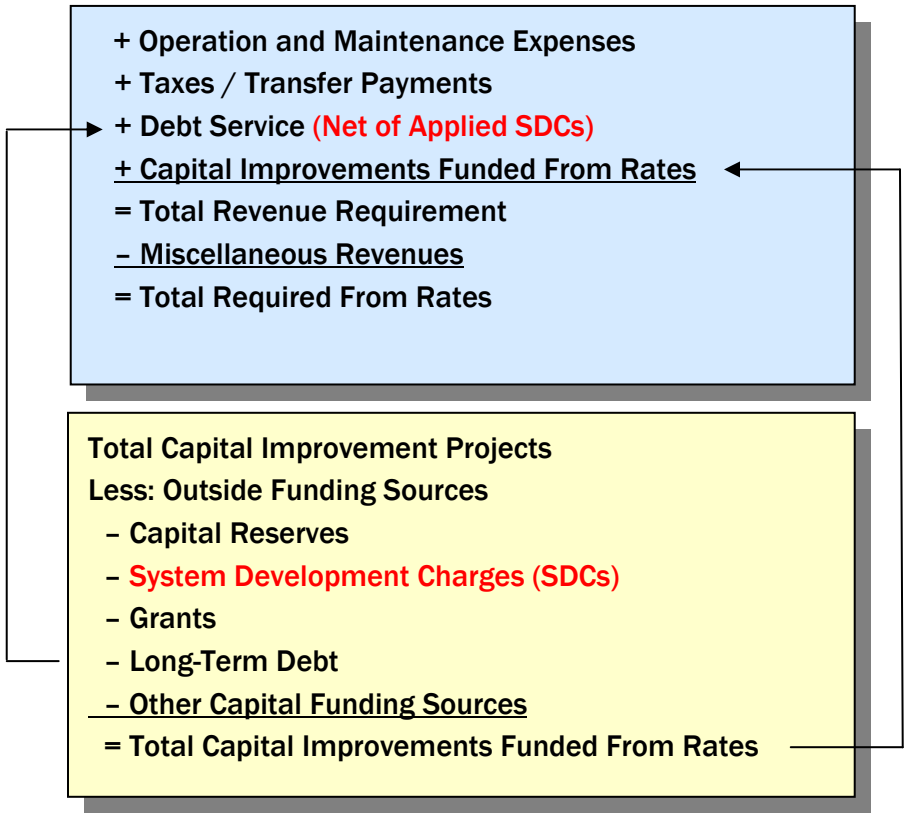
There is a segment of the population that is anti-growth within all communities. Adoption of system development charges, even if only partially cost-based, demonstrates concern and recognition of the anti-growth perspective.

The use of system development charges has changed over time, as historical funding sources such as grants have been reduced or eliminated. Many communities have in response moved towards adoption of cost-based system development charges, particularly in areas of high growth.

3.4 System Development Charges and "Generally Accepted" Practices

System development charges are one input into the rate-setting process. Therefore, it is important to understand how, within the context of "generally accepted" utility industry practices, system development charges may be used. In conducting a comprehensive rate study, three interrelated analyses are typically conducted; a revenue requirement analysis, cost of service analysis and rate design analysis. System development charges are factored into the revenue requirement analysis. A revenue requirement analysis determines the overall funding levels (sources and uses of funds) required for the utility. The revenue requirement methodology used by most municipal utilities is referred to as the "cash basis" approach. Figure 3-1, shown below, provides an overview of the key components of the "cash basis" methodology in developing revenue requirement.

Figure 3-1
Overview of the 'Cash-Basis" Approach to Establishing Revenue Requirement



As can be seen in Figure 3-1, there are two elements to establishing the "cash basis" revenue requirement. The top blue box shows the four basic cost components that are included within the "cash basis" revenue requirement. In contrast, the bottom or yellow box illustrates the various methods used to fund capital infrastructure projects.

It should be noted in Figure 3-1 that system development charges can legally be used in two different ways, each of which has a different impact on the utility's revenue requirements and rates. The first possible use of system development charges is shown in the bottom or yellow box. In that particular case, the system development charges are applied directly against growth or expansion related capital projects. Using the funds in this manner helps to minimize long-term borrowing. One less dollar of long-term borrowing is required for each dollar of system development charges applied in this manner. Typically, total capital improvements funded from rates is established and fixed in the financial planning process. Therefore, applying system development charges to growth-related capital projects typically will not have a significant impact on the amount of capital improvements funded from rates.

The other potential use of system development charges is to apply the fees against growth-related debt service. As shown in the top blue box of Figure 3-1, debt service is shown as net of any system development charges. Instead of applying system development charges directly against the capital project, the charges are applied against debt that is directly related to facilities built to accommodate capacity expansion and growth. Every dollar applied in this manner causes a corresponding dollar decrease in revenue requirements and the resulting rates. This is a very effective method to help minimize rates, but even better at matching the cost of growth to the way in which customer growth and connections occur over time. In other words, a utility may build or expand a facility with sufficient capacity to handle growth over the next ten to twenty years. That growth doesn't occur in the first year, but rather, trickles in over a number of years. Therefore, applying the system development charges against the debt service associated with the project creates a better matching of the cost incurrence (debt payments) to the actual customer growth. However, in using system development charges to pay annual debt service on growth related facilities, it should be recognized that SDC revenues are not a reliable source of funding, and over-reliance upon SDCs to fund this component of the revenue requirements carries certain risks.

3.5 Financial Objectives of System Development Charges

A system development charge is a regulation and not a user fee or revenue raising device. Understanding that new development creates the need for new or expanded facilities rationalizes this perspective. As a result, without payment of system development charges, the utility would have insufficient revenue to provide the facilities, and therefore the community is unable to accommodate new development. With this said, system development charges do have certain financial objectives associated with them. While on the surface it may appear as simply a means to extract revenue from new development, the reality is far more complicated. System development charges help

"A system development charge is a regulation and not a user fee or revenue raising device. Understanding that new development creates the need for new or expanded facilities rationalizes this perspective."

utilities achieve a number of different financial objectives. These objectives tend to lean more towards financial equity between customers, as opposed to simply producing revenue.

Equity is one key financial/rate objective achieved from system development charges. Equity is achieved in two different ways. First, a system development charge establishes equity between existing (old) customers and new customers. For example, assume that a sewer treatment plant is expanded by 5 million gallons per day (MGD) to accommodate growth and the facility is financed over a 20-year period. Without a system development charge, new customers connect to the system and pay for the debt service on the facility via their rates. The customer that connects to the system in year one will contribute to the cost of that facility for 20 years. In contrast, the person who connects in year 10 will only pay for debt service on the facility for ten years, even though the "value" of the capacity was the same for the person connecting in year 1 or year 10. System development charges create equity within the system by addressing the issue of timing and the "value" of the assets and the "value" of the capacity.

System development charges help to create equity in a second way after a facility is paid for. Continuing the example above, after the debt service is fully paid in year 20, and assuming that capacity is still available, a new customer connecting to the system would, in theory, receive their capacity at zero cost, because the debt service is paid in full. All the existing customers connected to the system, over the past twenty years, paid for that customer's capacity. Therefore, a system development charge is also a form of a financial reimbursement to existing ratepayers who paid for those facilities in advance of the new customer connecting to the system.

Based on the above example, system development charges also have an equity perspective associated with the rate-setting process: they are a form of "system buy-in." A properly established system development charge implies that a new customer connecting to the system has bought into the system at its current cost. Therefore, from a rate-setting perspective the utility does not need to have rates for "old" and "new" customers. Again, existing customers have been equitably reimbursed for past investments.

"System development charges are most commonly adopted in high growth areas where infrastructure expansion has strained existing financial resources. Philosophically, many utilities desire to have a policy of "growth paying for growth."

Not all communities have system development charges despite the advantages presented in the above discussion. System development charges are most commonly adopted in high growth areas where infrastructure expansion has strained existing financial resources. Philosophically, many utilities desire to have a policy of "growth paying for growth." System development charges comport with that philosophy, and it is achieved by applying the system development charges either directly against the capital cost of the expansion facilities or against the debt service associated with it.

3.6 Relationship of System Development Charges and New Construction Activity

There are a number of myths surrounding system development charges. In a very broad sense, some may argue that system development charges are bad for economic development. These arguments center around two issues:

- Development will occur on those parcels with lower or non-existent system development charges.
- System development charges raise the cost of doing business and hinder development.

The opposite has been found in research conducted on these topics. A brief explanation of the rebuttal of each assumption is provided below.

". . . a system development charge is also a form of a financial reimbursement to existing ratepayers who paid for those facilities in advance of the new customer connecting to the system."

Developers look at many factors before a parcel is developed. One myth concerns the selection of parcels for development and whether system development charges are applied to the land.

> *"The argument goes that if a developer is choosing between two parcels of land on which to build—where the first parcel is inside a city where SDC's (System Development Charge) are charged and the second is just outside where lower or no SDC's are charged—the developer will choose the second parcel.*
>
> *The trouble is this means that the owner of the first parcel does not make a sale. The landowner must lower the land price to offset the fee in order to make a sale. However, if the landowner does not lower the price, this indicates that the value of future development may be higher on that parcel. Thus, be wary of developers who claim they will choose the second parcel. Chances are they would not have chosen the first parcel anyway. In the meantime, the land market will be holding the first parcel available for higher value development. In effect what might look like a loss in the short term may be a much higher level of development in the long-term."*[5]

It is also a myth that system development charges are bad for economic development. The argument against this position is as follows:

> *"The argument goes that because SDC's raise the price of doing business, they frustrate economic development. However, just the opposite is really true. First, remember that SDC's will be offset by reduced land prices and by enabling the community to more easily expand the supply of buildable land relative to demand.*
>
> *Now, consider what economic development really looks for: skilled labor, access to markets, and land with adequate infrastructure. Competitiveness for economic development will be stimulated by the new or expanded infrastructure paid in part by SDC's. Besides, local governments retain the option to waive SDC's (impact fees) for specific kinds of economic development, such as development locating in enterprise zones. In the competition for certain kinds of development, it will be able to show developers the dollar value of SDC's waived as a solid demonstration of the local government's commitment to such development."*[6]

"System development charges may help to spur growth instead of hindering it, according to Nelson's opinion."

System development charges may help to spur growth instead of hindering it, according to Nelson's opinion. It must be remembered that an important concept associated with system development charges is that the fees are required to develop

[5] Nelson. "System Development Charges for Water, Wastewater and Stormwater Facilities" P. 55.
[6] Nelson, "System Development Charges for Water, Wastewater and Stormwater Facilities" P. 56.

infrastructure in advance of the actual development.

From the developer's perspective, absent impact fees (i.e. a moratorium on new connections) no new development can occur. Therefore, developers are generally supportive of cost-based system development charges, particularly when it provides available capacity and opportunities for development.

A common argument by developers is, as they connect to the system they are also required to upgrade a segment of the existing collection system, so why do they need to pay SDCs? This argument is addressed in the calculation of the SDC. When existing assets are upsized and contributed to the city, those assets are not included in the calculation of the SDC. Additionally, upgrading only a segment of a collection main does not address all the other assets that are inline between the treatment plant and the development. Collection systems are vast networks of interconnected mains and lines.

3.7 Summary

This section of the report has provided an overview of the financial objectives associated with system development charges and some of the issues surrounding them. This section should have provided a basic understanding of the charges such that when the City has policy discussions concerning the implementation of system development charges, the charges can be placed in proper perspective. Given this background, the next section of the report discusses any specific legal criteria that must be used by the City in establishing its sewer system development charge.

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Section 4
Legal Considerations in Establishing SDCs

4.1 Introduction

An important consideration in establishing system development charges is any legal requirements at the state or local level. The legal requirements often establish the methodology around which the system development charges must be calculated or how the funds must be used. Given that, it is important for the City to understand these legal requirements. This section of the report provides an overview of the legal requirements for establishing system development charges or system development charges under Oregon State law.

The discussion within this section of the report is intended to be a summary of HDR's understanding of the relevant Oregon State law as it relates to establishing system development charges. It in no way constitutes a legal interpretation of the state's law by HDR.

4.2 Requirement under Oregon State Law

In establishing system development charges, an important requirement is that they be developed and implemented in conformance with local laws. In particular, many states have established specific laws regarding the establishment, calculation, and implementation of system development charges. The main objective of most state laws is to assure that these charges are established in such a manner that they are fair, equitable, and cost-based. In other cases, state legislation may have been needed to provide the legislative powers to the utility to establish the charges.

> *"The requirement for setting SDCs in Oregon is found in ORS 223.297 to 223.314."*

The purpose of Oregon law for the determination of SDCs is to provide a uniform framework for the imposition of SDCs by local governments for specified purposes, and to establish that such fees be used only for capital improvements. Specifically, the requirement for the calculation of SDCs in Oregon is found in ORS 223.297 to 223.314.

Capital improvements as defined under Oregon law are as follows:

- Water supply, treatment and distribution;
- Wastewater collection, transmission, treatment and disposal;
- Drainage and flood control;
- Transportation; and
- Parks and recreation.

An SDC means a reimbursement fee, an improvement fee, or a combination thereof. As defined under Oregon law, "improvement fee" means a fee for the costs associated with capital improvements to be constructed. "Reimbursement fee" means a fee for costs association with capital improvements already constructed or under construction.

As defined under Oregon law, the methodology setting forth the calculations for reimbursement fees and improvement fees must make the following considerations:

> ***"233.304 Determination of amount of system development charges; methodology; credit allowed against charge; limitation of action contesting methodology for imposing charge; notification request.***
> *(1)(a) Reimbursement fees must be established or modified by ordinance or resolution setting forth a methodology that is, when applicable, based on:*
> *(A) Ratemaking principles employed to finance publicly owned capital improvements;*
> *(B) Prior contributions by existing users;*
> *(C) Gifts or grants from federal or state government or private persons;*
> *(D) The value of unused capacity available to future system users or the cost of the existing facilities; and*
> *(E) Other relevant factors identified by the local government imposing the fee.*
> *(b) The methodology for establishing or modifying a reimbursement fee must:*
> *(A) Promote the objective of future system users contributing no more than an equitable share to the cost of existing facilities.*
> *(B) Be available for public inspection.*
> *(2) Improvement fees must:*
> *(a) Be established or modified by ordinance or resolution setting forth a methodology that is available for public inspection and demonstrates consideration of:*
> *(A) The projected cost of the capital improvements identified in the plan and list adopted pursuant to ORS 223.309 that are needed to increase the capacity of the systems to which the fee is related; and*
> *(B) The need for increased capacity in the system to which the fee is related that will be required to serve the demands placed on the system by future users.*
> *(b) Be calculated to obtain the cost of capital improvements for the projected need for available system capacity for future users.*
> *(3) A local government may establish and impose a system development charge that is a combination of a reimbursement fee and an improvement fee, if the methodology demonstrates that the charge is not based on providing the same system capacity."*

In addition to the definitive requirements of the establishment of a SDC as an improvement fee and/or reimbursement fee, other requirements under Oregon law are as follows:

- The SDC must be based on an approved capital improvement plan, public facilities plan, master plan, or comparable plan which lists the capital improvements that may be funded with the improvement fee revenues and the estimated costs and timing for each improvement.

- Proper administrative review procedures must be followed in the enactment of an SDC resolution or ordinance.

- SDC funds must be spent only on facilities for which they were collected.

- A proper accounting system must be established which provides for an annual accounting of SDCs showing the total amount of revenue collected and the projects that were funded.

4.3 Summary

This section of the report reviewed the legal basis for establishing system development charges in Oregon State. The next section of the report provides a detailed discussion of the specific calculation of the sewer system development charge for the City.

Section 5
Determination of the City's Sewer SDC

5.1 Introduction

This section of the report presents the key assumptions and details used in calculating the City's sewer system development charge. The calculation of the City's sewer system development charge is based upon City-specific accounting and planning information. Specifically, the system development charges are based upon the City's fixed asset records, capital improvement plan (CIP), and planning data from the 2009 Spring Street STP Facility Plan and the 2006 City of Klamath Falls Wastewater Collection System Master Plan (Hereafter referred to as City's Sewer System Plan). The City provided other financial and accounting information that was used within this analysis.

To the extent that the cost and timing of future capital improvements change, then the system development charges presented in this section of the report should be updated to reflect the changes.

5.2 Overview of the City's Sewer System

The City's collection system is a mixture of clay, reinforced concrete, asbestos cement and polyvinyl chloride pipe with an abundance of clay pipe dating back to before 1920. The collection system is served by a combination of gravity and twelve lift stations. The majority of the collection system lies within the City limits Including the pump stations. The City does own and maintain lines outside the City limits, but these serve specific areas such as destination resorts. The primary improvement activities for the collection system are renewal and replacements as well as in response to infiltration and inflow.

The City's Spring Street treatment Facility was originally built in 1958 and has been upgraded periodically with the last major upgrade having been done in 2001. The current configuration of the plant is of a conventional activated sludge treatment plant with the effluent flowing to electrical cogeneration plant for cooling make up water before ultimately discharging into Lake Ewauna.

5.3 Present Sewer System Development Charge

The City's present sewer system development charge is shown below in Table 5-1.

Table 5-1
Present Sewer System Development Charge

	System Development Charge
Residential	$1,956 per dwelling
Duplex & Multi-Family Residential	$1,271 per dwelling unit
Commercial	$1,956 per ERU [1]

[1] Equivalent Residential Unit determined by Wastewater Division based on plumbing and facility information.

As shown in Table 5-1, the City's sewer system development charge is based on dwelling unit for residential, and duplex & multi-family residential. Commercial is based on equivalent residential unit as determined by the City's Wastewater Division.

5.4 Calculation of the City's Sewer System Development Charge

As discussed in Section 2, the process of calculating system development charges is based upon a four-step process. In summary form, these steps are as follows:

- Determination of system planning criteria
- Determination of equivalent residential units (ERUs)
- Calculation of the system development charge for system component costs
- Determination of any system development charge credits

Each of these steps is discussed in more detail below.

5.4.1 System Planning Criteria

System planning criteria are used to establish the capacity needs of an equivalent residential unit (ERU). Based upon the City's Sewer System Plan, a volume of 120.0 gallons per capita, per, was established based on planning information. The average household size of 2.3 persons was based on the 2000 Census. This results in 276 gals/day/ERU average day demand. Table 5-2 provides a summary of the planning criteria used to establish the City's sewer system development charges.

Table 5-2
Summary of the Sewer System Planning Criteria

Planning Criteria Description	Gallons/Day/ERU
Average Dry Weather Flow	120.0 gallons/capita/day
Average Household Size	2.30 person
Average Daily Household Flow	276 gallons/ERU

As previously discussed, certain facilities may be planned and sized around different planning criteria. Therefore, the system planning criteria shown above were used for different plant components to determine the cost per ERU for that specific plant component.

5.4.2 Residential Units

The planning horizon of this analysis was 2009 to 2030, which aligns with the planning period of the most recent Sewer System Plan. As a part of this study, a projection of the number of new, additional ERUs per year must be determined, along with the total number of Equivalent Residential Units (ERUs) at 2030. The City's total number of ERUs for each year was determined by dividing the average dry weather flow by the average dry weather monthly household flow. The total average daily flow was based on the projections in the City's Sewer System Plan. Average dry weather flow for future years was projected assuming an equal annual growth rate between the demand projection years.

A summary of the ERUs for 2009 and 2030 are presented below in Table 5-3. Details of the determination of ERUs are provided in Exhibit 1 of the Technical Appendix.

Table 5-3
Sewer System Equivalent Residential Units

Description	Calculated ERUs
Equivalent Residential Units – 2009	12,593 ERUs
Equivalent Residential Units – 2030	22,464 ERUs

Given the development of the total sewer ERUs for each year of the planning period, the focus can shift to the calculation of the system development charge for each plant component. This aspect of the analysis is discussed below.

5.4.3 Calculation of the Sewer System Development Charge for the Major System Components

The next step of the analysis is to review each major functional component of plant in service such as treatment and collection and determine the sewer system development charge for that component. In calculating the sewer SDC, both existing plant assets, along with planned future CIP were included within the calculation. The major components of the City's sewer system that were reviewed for purposes of calculating the system development charge were as follows:

- Treatment
- Collection
- Compliance Cost

A brief discussion of the SDC calculated for each of the functional sewer plant components is provided below.

TREATMENT – To determine the system development charge for treatment plant, the reimbursement portion of the existing system was reviewed, as well as those planned treatment plant improvements as identified in the City's 2009 Facilities Plan. The cost of the existing treatment plant of $20.2 million was adjusted for a maximum of ten years interest to a total of $27.8 million. Existing plant that is eligible to be reimbursed by the SDC was determined to be 35% which was calculated by taking the difference between the current annual average daily flow (ADWF) and ADWF at build out and dividing it by the ADWF at build out. The $27.8 million was then adjusted to account for SDC eligible plant, by 35%, for a total of $9.6 million existing SDC eligible plant. The Calculation for the percent SDC eligible figure is provided in table 5-4 below.

Table 5-4
Treatment Plant Percent SDC Eligible

ADWF Plant Capacity @ Build Out	5.2	mgd
Less 2009 ADWF	3.4	mgd
Additional Future Capacity (ADWF) =	1.8	mgd
Additional Future Capacity (ADWF)	1.8	mgd
ADWF Plant Capacity @ Build Out	5.2	mgd
Percent SDC Eligible =	35%	

The $9.6 million was divided by total remaining ADWF plant capacity of 1.8 mgd (ADWF capacity at build out less 2009 ADWF) resulting in $5.35 per gallon for reimbursement. This multiplied by the total capacity per ERU of 276 gallons results in a total reimbursement treatment SDC of $1,476.60.

Future treatment plant improvements of $92.8 million were adjusted to account for SDC eligible plant, by 35%, for a total of SDC eligible future plant of $32.1 million. These plant improvements are based on Alternative 1 shown in the Facilities Plan. Additional refinements to Alternative 1 have been completed, but the overall estimated cost of improvements has not changed.

The $32.1 million was divided by total remaining ADWF plant capacity of 1.8 mgd (ADWF capacity at build out less 2009 ADWF) resulting in $17.85 per gallon for improvement. This multiplied by the total capacity per ERU of 276 gallons results in a total improvement treatment SDC of $4,926.6.

This results in a gross system development charge (reimbursement plus improvement) for wastewater treatment of $6,403.20 per ERU. Details of the calculation of the treatment system development charge are shown in Exhibit 2 of the Technical Appendix.

COLLECTION –The value of the existing collection system is $19.6 million according to City asset records. The original value was adjusted for a maximum of ten years interest, where applicable, to a total of $26.5 million. Of the total, after being reduced for capital contributions and SDC eligible, $7.7 million were determined to be eligible for the SDC calculation. The total eligible existing plant was divided by the number of ERUs in 2025 (less ERUs at 2009), resulting in a reimbursement system development charge for existing collection plant of $1,645.04 per ERU. The percent SDC eligible calculation used in the analysis is provided in table 5-5.

Table 5-5
Collection System Percent SDC Eligible

ERUs @ Build Out	17,028
Less 2009 ERUs	12,320
Additional Future ERUs =	4,708
Additional Future ERUs	4,708
ERUs @ Build Out	17,028
Percent SDC Eligible =	28%

Future collection capital improvements were reviewed to determine the projects or percentage of projects that would be SDC related. These allocations were taken from figures found in the 2006 City of Klamath Falls Wastewater Collection comprehensive plan. While total future improvements are $10.4 million, the growth-related portion of future collection system was determined to be $3.5 million. This total was then divided by the number of ERUs added from 2009 to 2025, resulting in an improvement system development charge for future distribution and transmission system of $744.19 per ERU. Taken together, the existing and future collection system development charges result in a total component charge of $2,389.22 per ERU. Details of the calculation of the collection plant are provided in Exhibit 3 of the Technical Appendix.

COMPLIANCE COST – The City has a total compliance cost from 2010 to 2014 of $66,836 resulting in an average five year compliance cost of $13,367. The cost of compliance costs divided by the average number of ERUs from 2010 to 2030, resulting in a system development charge for compliance costs of $43.05 per ERU. Details of the general plant system development charge calculation are provided in Exhibit 4 of the Technical Appendix.

5.4.4 Debt Service Credits

The final step in calculating the sewer system development charge was to determine if a credit for payment on debt service is applicable for the utility's outstanding and future planned loans and bonds. The sewer utility currently has two loans as outstanding debt.

"Credits for debt service payments paid through customer rate revenue are determined to prevent charging the customer twice for debt, once through rates and once through system development charges."

Credits for debt service payments paid through customer rate revenue are determined to prevent charging the customer twice for debt, once through rates and once through system development charges. By determining a debt credit, customers pay for debt financed infrastructure through their monthly utility rates and those costs are removed from the SDC calculation. Total debt is compared with projected annual system development charge revenue. Whenever debt payments exceed projected SDC revenue, a credit per ERU is determined. When combining current debt with projected debt service a debt service credit was determined to be $1,402/ERU. Details of the calculations are provided in Exhibit 5 in the Technical Appendix.

5.5 Net Allowable Sewer System Development Charges

Based on the sum of the component costs calculated above, the net allowable sewer system development charge can be determined. "Net" refers to the "gross" system development charge, net of any debt service credits. "Allowable" refers to the concept that the calculated system development charge shown in Table 5-6 is the City's cost-based system development charge. The City, as a matter of policy, may charge any amount up to the allowable system development charge, but not over that amount. Charging an amount greater than the allowable system development charge would not meet the nexus test of a cost-based system development charge related to the benefit derived by the customer. A summary of the calculated net allowable sewer system development charge for the City is shown below in Table 5-4.

Table 5-6
Calculated Net Allowable Sewer System Development Charge

Plant Component	Reimbursement SDC	Improvement SDC	Total SDC or Maximum Allowable
Treatment Plant	$1,476.60	$4,926.6	$6,403.20
Collection Plant	1,645.04	744.19	2,389.22
Compliance Cost	0.00	43.05	43.03
Debt Service Credit	0.00	(1,348.46)	(1,348.46)
Total	$3,121.64	$4,365.38	$7,487.01
System Development Charge	**$3,120**	**$4,360**	**$7,490**

The net allowable charge per ERU is $7,487.01. For ease in administration and in customer understanding it is recommended that the charge be rounded to $7,490 for implementation. This compares to the City's current system development charge for residential of $1,956 per dwelling unit or an increase of $5,534/ERU. A detail of the net allowable system development charge for the City is shown in Exhibit 6 of the Technical Appendix.

5.6 Key Assumptions

In developing the system development charges for the City's sewer system, a number of key assumptions were utilized. These are as follows:

- The City's asset records were used to determine the existing plant assets.
- The City provided the capital improvement plan (CIP) for future improvements, and adjusted projects based on current information.
- The base year for the CIP costs was calculated to be 2010.
- The City determined the portion of future improvements that were growth-related.
- The interest rate used for calculating interest on existing investments was 3.87 percent.
- Ten year's worth of interest was included in the cost of existing plant, as appropriate.

5.7 Implementation of the System Development Charges

The methodology used to calculate the system development charges takes into account the value of money, interest charges, and inflation. Therefore, HDR recommends that the City adjust the system development charges each year by an escalation factor to reflect the cost of interest and inflation. The most frequently used source to escalate system development charges is the *Engineering News-Record (ENR) Construction Cost Index,* which tracks changes in construction costs. This method of escalating the City's system development charges should be used for no more than a 4-year to 5-year period. After this time period, HDR recommends that the City update the charges based on the actual cost of infrastructure and any new planned facilities that would be contained in an updated system plan, capital improvement plan or rate study.

The City charges SDCs depending on their customer class. The residential customer SDC is based on dwelling units. The single family dwelling unit charge is equal to one equivalent residential unit. The multi-family dwelling unit is equal to sixty five percent of one equivalent residential unit. Commercial customer SDCs are charged per ERU based on plumbing and facility information provided during the permitting process. Table 5-7 provides a breakdown of the SDCs by customer class. For further breakdown of the SDC by fixture types see exhibit 7 in the appendix.

Table 5-7
Sewer System Development Charge by Customer Class

Customer Class	Reimbursement SDC	Improvement SDC	Total SDC or Maximum Allowable
Single Family Residential	$3,120/DU	$4,360/DU	$7,490/DU
Duplex & Multi-Family Residential	2,030/DU	2,830/DU	4,870/DU
Commercial	3,120/ERU	4,360/ERU	7,490/ERU

DU = Dwelling Unit
ERU = Equivalent Residential Unit. Determined based on plumbing and development information provided during the development permit process.

5.8 Consultants Recommendations

Based on our review and analysis of the City's sewer system, HDR recommends the following:

- The City should revise and update its sewer system development charge for new connections to the sewer system that are no greater than the net allowable system development charges as set forth in this report.
- The City should update the actual calculations for the system development charges based on the methodology approved by the resolution or ordinance setting forth the methodology for system development charges at such time when a new capital improvement plan, public facilities plan, comprehensive system plan, or a comparable plan is approved or updated by the City, or every five years.

5.9 Summary

The sewer system development charges developed and presented in this section of the report are based on the planning and engineering design criteria of the City's sewer system, the value of the existing assets, future capital improvements, and "generally accepted" ratemaking principles. Adoption of the proposed system development charges will provide multiple benefits to the City and will create equitable and cost-based charges for new customers connecting to the City's sewer system.

Technical Appendix

City of Klamath Falls
System Development Charges (SDC)
Determination of ERUs
Exhibit 1

Dry weather Flow per capita Domestic Sewer Flow [1]	120.00	gpcd
Average Household Size [2]	2.30	
Average Daily Household Flow	276.00	gals per ERU

1 - Dry Weather Flow from Spring Street STP Facility Plan Section 5 Page 5-7.
2 - 2000 census

Year	Average Dry Weather Flow (mgd) [1]	ERUs	Additional ERUs
2006	**3.20**	11,594	
2007	3.27	11,831	237
2008	3.33	12,073	242
2009	3.40	12,320	247
2010	3.47	12,571	252
2011	3.54	12,828	257
2012	3.61	13,090	262
2013	3.69	13,358	268
2014	3.76	13,631	273
2015	3.84	13,909	279
2016	3.92	14,194	284
2017	4.00	14,484	290
2018	4.08	14,780	296
2019	4.16	15,082	302
2020	4.25	15,390	308
2021	4.33	15,705	315
2022	4.42	16,025	321
2023	4.51	16,353	327
2024	4.61	16,687	334
2025	4.70	17,028	341
2026	4.80	17,376	348
2027	4.89	17,731	355
2028	4.99	18,094	362
2029	5.10	18,463	370
2030	**5.20**	18,841	377
2031	5.31	19,226	385
2032	5.41	19,618	393
2033	5.53	20,019	401

1 - 2030 ADWF 5.2 mgd from Spring Street STP Facility Plan Section 5, Page 5-12 table 5.4 . The 2006 ADWF was adjusted to 3.2 to reflect actual AWDF at the STP provided by City staff.

City of Klamath Falls
System Development Charges (SDC)
Treatment Plant SDCs
Exhibit 2

Year	Item	Original Cost	Cost $2010 [1]	Percent SDC Eligible[2]	SDC Eligible
Existing Plant					
1956	WT-CONTROL HOUSE BLDG '56	$132,195	$193,249	35%	$66,886
1956	WT-PRIMARY PUMP STATION '56	312,370	456,637	35%	158,047
1956	WT-PRIMARY TANK CLARIFIER '56	747,238	1,092,346	35%	378,074
1956	WT-FINAL CLRIF/CHLOR '56	195,486	285,770	35%	98,909
1956	WT-SECOND DIGESTER '56	215,902	315,615	35%	109,238
1956	WT-PRIMARY DIGESTER '56	241,423	352,923	35%	122,151
1956	WT-CHLORINE CONTACT TANK '56	418,535	611,833	35%	211,763
1957	WT-POR SW4SW4,SEC33, SPRING ST	1,500	2,193	35%	759
1969	WT-SECOND CLARIFIER CMPNTS '69	49,303	72,073	35%	24,945
1969	WT-CHLRN TNK CLARIFIER ASSMBY	11,731	17,149	35%	5,935
1969	WT-PUMPS, CENTRIFUGAL (3) '69	12,746	18,633	35%	6,449
1969	WT-SLUDGE CHAIN-PRIM TANK '69	9,406	13,750	35%	4,759
1969	WT-SLUDGE CHAIN-PRIM TANK '69	5,702	8,335	35%	2,885
1969	WT-CONTROL HOUSE IMPRVMTS '69	17,685	25,853	35%	8,948
1969	WT-PUMPS, BLOWER HOUSE '69	14,235	20,809	35%	7,202
1969	WT-BLOWER HS MOTOR CNTRL CENTR	24,623	35,995	35%	12,458
1970	WT-BLOWER HOUSE BLDG '70	355,754	520,057	35%	179,998
1970	WT-STORAGE BLDG WW PLANT '70	23,989	35,068	35%	12,138
1970	WT-SECONDARY CLARIFIER '70	445,586	651,378	35%	225,450
1970	WT-AERATION BASIN '70	651,791	952,817	35%	329,782
1970	WT-THICKENER TANK & ASMBLY '70	99,475	145,417	35%	50,331
1978	WT-LINE SEWAGE MONITOR '78	26,294	38,438	35%	13,304
1978	WT-MISC EQUIPMENT-WW PLANT '78	24,668	36,061	35%	12,481
1987	WT-FLEX TUBE, BOILER '87	17,870	26,123	35%	9,042
1988	WT-AUTO SAMPLER ISCO (2) '88	10,500	15,349	35%	5,313
1989	WT-GENERATORS, AUXIL (3) '89	90,000	131,566	35%	45,537
1989	WT-GENERATOR 500KW '82	5,000	7,309	35%	2,530
1990	WT-FINE AIR DIFFUSERS '90	23,000	33,622	35%	11,637
1990	WT-RETURN PUMP CONTROL '90	9,330	13,639	35%	4,721
1990	WT-SLUDGE BEDS ASPHALT/REBLD	5,058	7,394	35%	2,559
1991	WT-MISC EQUIPMENT '91	17,386	25,416	35%	8,797
1991	WT-SLUDGE STORAGE-YARD '92	6,160	9,005	35%	3,117
1992	WT-PRIMARY CLARIFIER IMPRV '92	155,390	227,156	35%	78,621
1992	WT-CHANNEL CONVEYOR '92	2,700	3,947	35%	1,366
1992	WT-TROMMEL SCREEN '93	15,725	22,988	35%	7,956
1992	WT-AERATION SYSTEM '93	24,223	35,410	35%	12,256
1992	WT-PUMP, SOLIDS DELTA '93	2,585	3,779	35%	1,308
1993	WT-EMERG GENERATOR-REWIRE'93	8,946	13,078	35%	4,526
1993	WT-IMPELLER & SHAFT '93	6,870	10,043	35%	3,476
1993	WT-FORD F350 DMP W/PL'93 8936	27,627	40,386	35%	13,978
1994	WT-GENERATOR SET '95	5,000	7,309	35%	2,530

Year	Item	Original Cost	Cost $2010 [1]	Percent SDC Eligible[2]	SDC Eligible
1994	WT-GENERATOR REBUILD SL '94	3,946	5,769	35%	1,997
1994	WT-PUMP REBUILD, #2 PRIMARY	3,156	4,614	35%	1,597
1994	WT-PUMP REBUILD, PRIMARY '94	2,576	3,765	35%	1,303
1995	WT-COMPOST FACILITY BLDG	217,105	317,373	35%	109,847
1995	WT-COMPOST FACIL EQUIP '95	62,037	90,688	35%	31,388
1995	WT-REFRIGERATED SAMPLER '96	3,670	5,365	35%	1,857
1995	WT-COMPOST FACIL SITE PREP	202,329	295,774	35%	102,371
1996	WT-LAB EQUIPMENT '96	6,621	9,678	35%	3,350
1996	WT-CONVEYOR BELT '96	5,014	7,330	35%	2,537
1996	WT-FALK SPEED REDUCERS (2)'97	27,048	39,540	35%	13,685
1996	WT-BOBCAT MDL 0763 '96	17,460	25,524	35%	8,834
1996	WT-FORD F SERIES PU '97 7350	21,697	31,717	35%	10,978
1997	WT-AERATION BASIN BLOWER '97	4,073	5,954	35%	2,061
1997	WT-PRIMARY VSD CONT/DRV '97	21,165	30,940	35%	10,709
1997	WT-PLANT SECURITY FENCE '97	6,406	9,364	35%	3,241
1998	WT-GAS MONITORS (4) '98	6,616	9,672	35%	3,347
1998	WT-TREATMENT PLANT IMPRVMTS 98	23,512	34,370	35%	11,896
1998	WT-PLANT IMPROVEMENTS '98	25,755	37,650	35%	13,031
1999	WT-BLOWER BLDG DOORS '00	4,323	6,319	35%	2,187
1999	WT-SSTP BACKUP GENERATOR UPGRA	5,035	7,360	35%	2,548
2000	WT-WW PLANT IMPRVMNT '98-'00	140,647	205,604	35%	71,162
2001	WT-IMAGE RUNNER COPIER '02	6,963	9,800	35%	3,392
2001	WT-CONTROL HS MTR CNTRL CTR'65	8,098	11,397	35%	3,945
2001	WT-AERATION BASIN PIPE/VLVS'69	4,648	6,541	35%	2,264
2001	WT-LOT PIPES/VALVES '69	11,585	16,304	35%	5,643
2001	WT-CHLRN TNK PIPE/VLVS/CRTL'69	3,486	4,906	35%	1,698
2001	WT-DATASONDE4A MONITOR 38689	5,625	7,917	35%	2,740
2001	WT-DATASONDE4A MONITOR 38801	4,953	6,971	35%	2,413
2001	WT-BLOWER CONTROL 460V '02	8,905	12,533	35%	4,338
2001	WT-FURNITURE-WWTP ADMIN '02	19,247	27,087	35%	9,375
2001	WT-MODOC PROPERTY '01	1,270,899	1,788,637	35%	619,069
2001	WT-PUMPS, MOYNO REBUILDS '01	6,198	8,723	35%	3,019
2001	WT-SMOKERCRAFT W/TLR C101 '01	9,347	13,154	35%	4,553
2002	WT-#1 SECONDARY CLARIFR BLDG	565,556	766,296	35%	265,224
2002	WT-AERATION BASIN BLDG '02	848,033	1,149,036	35%	397,695
2002	WT-RAS PUMP STN # CHLRNTOR	195,556	264,967	35%	91,708
2002	WT-DIS,DECH,BLWDWN CNTRL BLDG	245,853	333,117	35%	115,296
2002	WT-EFFLUENT PUMPING STN	114,028	154,501	35%	53,475
2002	WT-AERATION TANKS BLDG '02	196,255	265,914	35%	92,036
2002	WT-#2 SECONDARY CLARIFR BLDG	528,071	715,506	35%	247,645
2002	WT-DAFT BLDG '02	253,553	343,550	35%	118,907
2002	WT-CONTROL BLDG '02	472,646	640,408	35%	221,653
2002	WT-SCADA CONTROL CNTR EQ '02	19,067	25,835	35%	8,942
2002	WT-EFFLUENT VFD PMP RPLC '03	74,293	100,663	35%	34,841

City of Klamath Falls
System Development Charges (SDC)
Treatment Plant SDCs
Exhibit 2

Year	Item	Original Cost	Cost $2010 [1]	Percent SDC Eligible[2]	SDC Eligible
2002	WT-SSWWTP INFRA UPGRADES '02	3,131,683	4,243,252	35%	1,468,641
2002	WT-AERATION BASIN EQUIP'02	769,330	1,042,398	35%	360,787
2002	WT-#1 SEC CLARIFIER EQUIP'02	140,000	189,692	35%	65,655
2002	WT-RAS PUMP STN CHL EQUIP'02	130,000	176,143	35%	60,965
2002	WT-CHLORINE CONT TNK EQUIP'02	110,000	149,044	35%	51,586
2002	WT-AERATION BLWR/PMP EQUIP'02	451,909	612,311	35%	211,928
2002	WT-DIS,DECH,BLWDWN CNTL EQUIP	280,086	379,501	35%	131,350
2002	WT-EFFLUENT PUMP STN EQUIP	449,473	609,010	35%	210,786
2002	WT-AERATION TANKS EQUIP'02	605,794	820,816	35%	284,094
2002	WT-#2 SEC CLARIFIER EQUIP'02	851,665	1,153,958	35%	399,399
2002	WT-DAFT BLDG EQUIPMENT '02	1,015,477	1,375,914	35%	476,220
2002	WT-CONTROL BLDG EQUIP'02	592,326	802,568	35%	277,778
2002	WT-ELECTRICAL SWITCHGEAR '02	142,038	192,453	35%	66,610
2003	WT-WWTP LAB BUILDOUT '03	125,979	164,334	35%	56,878
2003	WT-EQUIPMENT FAILURES'03/04	47,476	61,930	35%	21,435
2003	WT-F350 4X4 (MAINT)'03 2784	27,630	36,042	35%	12,475
2003	WT-ELECTRIC SYS COMPONENTS'05	25,804	33,661	35%	11,650
2004	WT-INFLUENT PUMP #1 UPGRD'04	22,821	28,660	35%	9,920
2004	WT-WWTP TELEMETRY INSTALL'04	151,025	189,666	35%	65,646
2004	WT-PISTON PUMP '04	61,004	76,613	35%	26,517
2004	WT-BLOWER #3 '04	16,371	20,560	35%	7,116
2004	WT-CATERPILLAR WHEEL LOADER'05	246,379	309,417	35%	107,093
2005	WT-ROOTS BLOWER '05	10,110	12,224	35%	4,231
2005	WT-INFLUENT LIFT STN'05	32,415	39,191	35%	13,565
2005	WT-VFD ON RAS PUMP #1'06	5,251	6,349	35%	2,197
2005	WT-DIGESTER STAIRS '05	17,813	21,537	35%	7,454
2005	WT-METHANE LINE '05	52,953	64,023	35%	22,159
2006	WT-ROOTS BLOWER MOTOR/VFD'06	27,781	32,337	35%	11,192
2006	WT-BELT PRESS '06	168,980	196,696	35%	68,079
2006	WT-WWTP SANITARY DRAINS EMERG	175,811	204,647	35%	70,831
2007	WT-SAMPLERS '07	11,539	12,931	35%	4,476
2007	WT-GRAVITY THICKENER REBLD'07	37,354	41,861	35%	14,489
2007	WT-GRIT CHANNEL DRIVE RBLD'07	21,963	24,613	35%	8,519
2007	WT-FORD F150 4X4 '07 1468	16,890	18,927	35%	6,551
2007	WT-FORD F150 '07 9935	17,577	19,698	35%	6,818
2008	WT-VIBRATION ANALYZER'08	4,297	4,636	35%	1,604
2008	WT-REMOTE POWER MAIN CBL '08	24,607	26,549	35%	9,189
2009	WT-+GRIT CHANNEL CONCRETE '09	9,785	10,164	35%	3,518
Total Existing Plant		$20,183,455	$27,798,380		$9,621,356

City of Klamath Falls
System Development Charges (SDC)
Treatment Plant SDCs
Exhibit 2

Year	Item	Original Cost	Cost $2010 [1]	Percent SDC Eligible[2]	SDC Eligible
Future Treatment Plant [3]					
	Liquid Stream - IPS/Headworks Upgrades	$7,400,000	$7,921,458	35%	$2,741,712
	Liquid Stream - Primaries Upgrades	11,300,000	12,096,280	35%	4,186,669
	Liquid Stream - Aeration Basin Upgrades	15,600,000	16,699,289	35%	5,779,826
	Liquid Stream - Tertiary Treatment Additional Year Round	8,700,000	9,313,065	35%	3,223,364
	Liquid Stream - Effluent Disinfection Upgrades	3,300,000	3,532,542	35%	1,222,655
	Liquid Stream - Effluent Piping Modifications	7,000,000	7,493,271	35%	2,593,512
	Ancillary - Plant Water Pumps Upgrade	570,000	610,166	35%	211,186
	Liquid Stream - RAS Pumps Upgrades	1,370,000	1,466,540	35%	507,587
	Ancillary - Maintenance Building Upgrades	1,330,000	1,423,721	35%	492,767
	Liquid Stream - Effluent Pump Station - Onsite	5,000,000	5,352,336	35%	1,852,508
	Effluent Discharge - Effluent Pump Station - Offsite	8,000,000	8,563,738	35%	2,964,013
	Effluent Discharge - Outfall, Final Aeration, and Effluent Polishing	5,000,000	5,352,336	35%	1,852,508
	Solids - Sludge Thickening Upgrades	3,260,000	3,489,723	35%	1,207,835
	Solids - Sludge Digestion Upgrades	6,300,000	6,743,944	35%	2,334,160
	Solids - Sludge Dewatering Upgrades	1,960,000	2,098,116	35%	726,183
	Solids - Composting Area Upgrades	640,000	685,099	35%	237,121
Total Future Plant			$92,841,624		$32,133,609
Total Existing & Future Plant			$120,640,005		$41,754,965
ADWF at Build out less 2009 ADWF (mgd) [4]					1.80
Cost per Gallon for Reimbursement					**$5.35**
Cost per Gallon for Improvement					**17.85**
Total Cost per Gallon					**$23.20**
Capacity per ERU (gallons/ERU)					276.00
Reimbursement Treatment SDC					**$1,476.60**
Improvement Treatment SDC					**4,926.60**
Total Treatment Plant SDC					**$6,403.20**

1 - Existing assets to 2010 include interest at 3.87% (Current Interest on Debt) to a maximum of 10 years
Future cost increase from May 2008 to June 2010 by the 20 City Average increase in the Engineering News Record Construction Cost Index.

2 - The Pecent Eligible Plant calculation is performed as follows,

ADWF Plant Capacity @ Build Out	*5.2*	*mgd*
Less 2009 ADWF	*3.4*	*mgd*
Additional Future Capacity (ADWF) =	*1.8*	*mgd*
Additional Future Capacity (ADWF)	*1.8*	*mgd*
ADWF Plant Capacity @ Build Out	*5.2*	*mgd*
Percent SDC Eligible =	*35%*	

3 - Table 9.4 & 9.5 of Spring Street STP Facility Plan pages 9-4, 9-5
4- Spring Street STP Facility Plan Section 5 Page 5-12 table 5.4, ADWF 5.2 mgd

City of Klamath Falls
System Development Charges (SDC)
Collection System SDCs
Exhibit 3

Year	Item	Original Cost	Cost $2010 [1]	Percent SDC Eligible[2]	SDC Eligible
Pumping					
1956	WT-SHIPPINGTON LIFT BLDG '56	$67,884	$99,236	28%	$34,347
1969	WT-PUMPS, CAL/NEV LIFT (2)'69	4,938	7,219	28%	2,498
1970	WT-CALIF/NEVADA LIFT BLDG '70	153,122	223,841	28%	77,474
1970	WT-LOT 9 BLK 45 CALIF LIFT	1,500	2,193	28%	759
1978	WT-LYNNEWOOD LIFT STATION '78	26,541	38,799	28%	13,429
1978	WT-MOORE LIFT STATION '78	26,541	38,799	28%	13,429
1981	WT-LAKEPORT/PRL GEN BLDG '81	11,346	16,586	28%	5,741
1981	WT-HANKS/CALIF GEN BLDG '81	11,346	16,586	28%	5,741
1981	WT-GENERATOR LAKEPT/PEARL '81	19,720	28,828	28%	9,978
1981	WT-HANKS/CAL GEN PWR PNL '81	29,135	42,591	28%	14,741
1981	WT-HANKS/CAL LIFT PIPE/FTGS'81	15,725	22,988	28%	7,956
1981	WT-LAKEPORT/PEARL LIFT STATION	15,764	23,045	28%	7,976
1981	WT-HANKS/CALIF LIFT STATION	15,284	22,343	28%	7,733
1981	WT-PUMPS, LKPFT/PRL LIFT(3)'81	18,735	27,388	28%	9,479
1981	WT-PUMPS,HANKS/CAL LIFT(3)'81	16,590	24,252	28%	8,394
1983	WT-STEWART/LENNOX GEN BLDG '83	139,047	203,265	28%	70,353
1983	WT-LINK RIVER GEN BLDG '83	164,750	240,839	28%	83,357
1983	WT-GENERATOR SET, STEW/LNX '83	45,000	65,783	28%	22,768
1983	WT-STEW/LNX LIFT STATION EQ'84	15,500	22,659	28%	7,842
1983	WT-STEW/LNX GEN BLDG EQUIP'84	21,000	30,699	28%	10,625
1983	WT-GENERATOR SET LINK RIVER'84	45,000	65,783	28%	22,768
1983	WT-LINK RIVER GEN BLDG EQ '84	16,500	24,120	28%	8,348
1983	WT-LINK RIVER L/S EL EQ '84	8,000	11,695	28%	4,048
1983	WT-ORINDALE RD LIFT STN LAND	1,500	2,193	28%	759
1983	WT-PUMPS, STEW/LNX LIFT(2)'84	5,600	8,186	28%	2,833
1983	WT-PUMPS,LINK RIVER LIFT(3)'84	8,600	12,572	28%	4,351
1983	WT-LINK RIVER L/S MOTORS(3)'84	3,500	5,116	28%	1,771
1986	WT-POR LOT 10 SHIPPINGTON LIFT	1,500	2,193	28%	759
1989	WT-MOTORS, ELECT 40HP (3) '89	5,400	7,894	28%	2,732
1989	WT-PUMPS, CORNELL (3) '89	7,626	11,148	28%	3,858
1992	WT-PUMPS: GORMAN,QP,DELTA '92	9,838	14,382	28%	4,978
1992	WT-CALIF/NEV LIFT ELEC MOTOR	3,000	4,386	28%	1,518
1992	WT-PUMP, CAL/NEV LIFT ITT '92	9,120	13,332	28%	4,614
1993	WT-COMPRSSR HANKS GEN BLDG'93	3,562	5,208	28%	1,802
1993	WT-DIESEL TANKS & PADS '93	5,445	7,960	28%	2,755
1994	WT-SOUTH SIDE LIFT BLDG '94	19,604	28,658	28%	9,919
1994	WT-KINGSLEY LIFT/PUMP BLDG	34,640	50,638	28%	17,527
1994	WT-KINGSLEY MAIN & PUMP '94	136,054	198,889	28%	68,838
1995	WT-CAL/NEV LIFT REFURB '95	30,244	44,212	28%	15,302
1996	WC-SNOW PLOW, BASIN EQUIP '97	$3,449	$5,042	28%	$1,394
1997	WT-KINGSLEY PUMP STATION '97	42,400	61,982	28%	21,453
2000	WT-CALIF LIFT STATION IMPR '00	500,859	732,178	28%	253,416
2001	WC-PUMP ON '99 FLUSHER '01	3,591	5,054	28%	1,398
2001	WT-LINKRIVER LIFT IMPRVMT '01	100,315	141,181	28%	48,864
2002	WT-KINGSLEY PUMP STATION'02	2,060,596	2,791,991	28%	966,342

Year	Item	Original Cost	Cost $2010 [1]	Percent SDC Eligible[2]	SDC Eligible
2003	WC-LINK RIVER L/S TELEM '03	13,471	17,572	28%	4,859
2003	WC-CALIF LIFT TELEM '03	11,118	14,503	28%	4,010
2003	WC-KINGSLEY LIFT TELEM EQP'03	8,762	11,429	28%	3,160
2003	WC-CALIF LIFTSTN VFD PUMP'04	16,041	20,924	28%	5,786
2003	WT-WINGS WAY PUMP STN '03	147,582	192,515	28%	66,632
2005	WC-MONITORING STATION '05	18,050	21,824	28%	6,035
2005	WC-CALIF LIFT STN REHAB'05	23,496	28,408	28%	7,855
2005	WC-HANKS ST SCADA '05	18,506	22,375	28%	6,187
2007	WC-HANKS L/S GENERATOR '07	31,220	34,987	28%	9,674
2007	WC-KINGLEY FORCE MN VLV'07	7,480	8,382	28%	2,318
2008	WC-FORCE MAIN VALVE REPLC'08	47,030	50,741	28%	14,031
2008	WC-VIBRATION ANALYZER'08	4,297	4,636	28%	1,282
2008	WC-FLOW METERING WCRC'08	31,697	34,198	28%	9,456
2008	WC-GENERATOR 60HZ 200KW '08	41,743	45,036	28%	12,453
2008	WC-+GENERATOR CONVERSION'09	7,770	8,383	28%	2,318
2008	WC-+LINK RIVER L/S SCADA'09	4,730	5,103	28%	1,411
2008	WC-+STEWART LENNOX L/S SCADA	26,568	28,664	28%	7,926
2009	WC-+SHIPPINGTON L/S SCADA'09	13,054	13,559	28%	3,749
Mains					
1929	WT-POR LOT 1 BL 3 MAIN/LINK RV	$1,500	$2,193	28%	$759
1961	WT-POR LOT 7 DAHLIA/HWY 97	1,500	2,193	28%	759
1974	WT-POR LOT 8B LAKESHORE GDNS	1,500	2,193	28%	759
1981	WT-LKPRT/PRL PIPE/FTTNGS'81	15,725	22,988	28%	7,956
1988	WT-POR NW4SW4 SEC 20 LAKEPORT	1,500	2,193	28%	759
1990	WT-POR NE4NE4 SEC 35 BASIN VW	1,500	2,193	28%	759
1990	WT-POR NE4NE4, SEC 35 BASIN VW	1,500	2,193	28%	759
1990	WT-POR SE4NE4. SEC 35, N HILLS	1,500	2,193	28%	759
1990	WT-LOT 1 BLK 2 N HILLS	1,500	2,193	28%	759
1990	WT-LOT 10 BLK 1 N HILLS	1,500	2,193	28%	759
1992	WC-SYSTEM IMPRV '93	35,219	51,485	28%	14,236
1993	WC-SYSTEM IMPRV '94	24,733	36,156	28%	9,998
1994	WC-SOUTH SIDE W.W. LINE	25,247	36,907	28%	10,205
1994	WC-SOUTH SIDE SEWER	96,168	140,582	28%	38,873
1994	WC-SOUTH SIDE W.W. LINE	135,822	198,551	28%	54,902
1994	WC-KINGSLEY W.W. MAIN	212,515	310,663	28%	85,902
1994	WC-KINGSLEY MAIN & PUMP '94	332,668	486,309	28%	134,470
1995	WC-O.I.T. W.W. LINE '95	140,352	205,173	28%	56,733
1995	WC-DOUGLAS/CLEVELAND W.W. LINE	39,406	57,605	28%	15,928
1995	WC-SYKES MT W.W. LINE	22,746	33,251	28%	9,194
1995	WC-GRANT STREET W.W. LINE	15,691	22,938	28%	6,343
1996	WC-SWAN CT W.W. LINES	109,378	159,893	28%	44,212
1997	WC-CORVALLIS STREET W.W. LINE	13,372	19,548	28%	5,405
1997	WC-NINETH/PROSPECT W.W. LINE	23,535	34,405	28%	9,513
1997	WC-N 3RD ST RECNSTCT W.W. LINE	224,912	328,787	28%	90,914

Year	Item	Original Cost	Cost $2010 [1]	Percent SDC Eligible[2]	SDC Eligible
1997	WC-LINCOLN STREET W.W. LINE	24,359	35,609	28%	9,846
1999	WC-ROSS RAGLAND W.W. LINE	5,876	8,590	28%	2,375
2000	WC-FERNDALE 2ND ADDN W.W. LINE	91,770	134,153	28%	37,095
2001	WC-ESI SANITARY SEWER '02	136,677	192,356	28%	53,189
2002	WC-MEMORIAL DR/HWY 140 '02	4,245	5,752	28%	1,590
2002	WC-ESPLANADE/ALAMEDA MANHL'02	32,139	43,547	28%	12,041
2002	WC-KINGSLEY TO SPRING MNS'02	2,722,904	3,689,381	28%	1,020,159
2002	WC-A-CANAL SEWER RELOCAT '03	10,425	14,125	28%	3,906
2003	WC-WINGS WAY SEWER '03	205,410	267,949	28%	74,091
2003	WC-SPRING ST SANITARY SWR '03	7,301	9,524	28%	2,634
2003	WC-ERIE/KIT CARSON SS MNS'04	140,608	183,418	28%	50,717
2004	WC-MANHOLES RAISED'04	45,541	57,193	28%	15,815
2005	WC-PERSHING WAY SAN '05	485,506	587,010	28%	162,316
2005	WC-MISC SAN SEWER RPLCMT'05	510,088	616,731	28%	170,534
2005	WC-CALIF LIFT STN PIPE '05	63,054	76,236	28%	21,080
2007	WT-LOT 48 TRACT 1439 PRAIRE M	27,500	30,818	28%	10,666
2008	WC-SO 6TH SANITARY SEWER '08	1,173,714	1,266,318	28%	350,153
2008	WC-SANITARY SEWER IMPRV 07/08	226,352	244,210	28%	67,527
General Plant Equipment					
1990	WT-FLOW METERS PORTABLE (2)	$4,990	$7,295	28%	$2,525
1990	WT-WHITE/VOLVO DMP'ST"90 6919	56,714	82,907	28%	28,695
1991	WC-CASE BACKHOE 580K '90	35,802	52,337	28%	14,472
1991	WC-FORD FLUSHER TRUCK '91 2594	75,301	110,079	28%	30,438
1992	WC-CASE BACKHOE 580K HYDRAULIC	1,995	2,916	28%	806
1992	WT-CAL/NEV DEZURIK HYD VLVS'92	3,265	4,773	28%	1,652
1993	WC-SIDEWALKS & ASPHALT '94	9,050	13,229	28%	3,658
1996	WC-FORD F250 UTILITY '97 3656	25,317	37,010	28%	10,234
1997	WT-TV MINI CAM & TRANSPORTER	9,851	14,400	28%	4,984
1997	WT-DS4 MULTIPROBES (8) '97	45,723	66,839	28%	23,134
1998	WC-INTERNTL FLSHR TRK '99 4441	163,726	239,342	28%	66,181
1998	WT-GAS MONITORS-FIXED (2) '98	6,243	9,126	28%	3,159
2000	WC-TRIPEX PMP-JET RODDER '00	9,057	13,239	28%	3,661
2001	WC-COGEN PIPELINES '02	6,732,483	9,475,157	28%	2,619,999
2001	WC-IFA VAULT/CONDUIT INSTL'02	10,332	14,541	28%	4,021
2003	WC-FORD F350 4X4 '03 2783	30,253	39,464	28%	10,912
2003	WC-FORD F150 4X4'03 WC-8563	19,469	25,397	28%	7,022
2004	WC-CREGAN PARK STW/LENX EASEM	3,500	4,396	28%	1,215
2004	WC-UTILITY TRAILER '03 3867	1,550	1,947	28%	538
2004	WC-INT'L FLUSHER CRANKSHAFT	8,071	10,136	28%	2,803
2006	WC-FORD EXPLORER'SC' '06 8239	25,043	29,150	28%	8,060
2006	WC-CCTV VAN '07 ...9537	196,575	228,817	28%	63,271
2006	WC-SEWER REPLACEMENTS '06	75,105	87,424	28%	24,174
2007	WC-CANON COPIER IRC2880I'07	1,800	2,017	28%	558
2007	WC-FORD F350 '08 7555	26,302	29,476	28%	8,150

City of Klamath Falls
System Development Charges (SDC)
Collection System SDCs
Exhibit 3

Year	Item	Original Cost	Cost $2010 [1]	Percent SDC Eligible[2]	SDC Eligible
2007	WC-INTERNATION VAC ON'07 2771	227,567	255,023	28%	70,517
2008	WC-GIS ESRI ARC INFO/VIEW LIC	11,411	12,311	28%	3,404
2009	WC-+INTL FLUSHER '99 ENGINE'09	13,643	14,171	28%	3,918
Total Existing Collection System		**$19,582,618**	**$26,527,980**		**$7,745,622**
ERUs at 2025 less ERUs at 2009					4,708
Existing Collection System SDC					**$1,645.04**
Capital Contributions Credit [3]					
	Contributions in Aid of Construction	$0	$0	28%	$0
ERUs at 2025 less ERUs at 2009					4,708
Capital Contributions SDC Credit per ERU					**$0**
Future Collection System Additions [4]					
	Basin 1	$2,049,033	$2,193,423	7%	$144,506
	Basin 2	210,785	225,638	0%	0
	Basin 3	995,407	1,065,551	72%	765,654
	Basin 5	140,058	149,928	0%	0
	Basin 6	356,887	382,036	0%	0
	Basin 10	1,197,506	1,281,891	2%	29,959
	Basin 11	799,005	855,309	19%	166,053
	Basin 12	316,416	338,713	60%	204,379
	Basin 15-18	764,616	818,496	100%	818,496
	Basin 20	2,905,875	3,110,644	44%	1,374,958
Total Future Collection System Additions		$9,735,588	$10,421,628		$3,504,005
Additional 2009-2025 ERUs					4,708
Reimbursement Collection System SDC					**$1,645.04**
Improvement Collection System SDC					**744.19**
Total Collection System SDC					**$2,389.22**

1 - Existing assets to 2009 include interest at 3.87% to a maximum of 10 years.
Future cost increase from May 2006 to June 2009 by the 20 City Average increase in the Engineering News Record Construction Cost Index.

2 - The Pecent Eligible Plant calculation is performed as follows,

ERUs @ Build Out (2025)	*17,028*
Less 2009 ERUs	*12,320*
Additional Future ERUs =	*4,708*
Additional Future ERUs	*4,708*
ERUs @ Build Out (2025)	*17,028*
Percent SDC Eligible =	*28%*

3 - Contributed Assets were not included in the Existing Collection System

4 - Future Plant and % Growth Related from Table 8-1, from 2006 City of Klamath Falls Wastewater Collection System Master Plan

System Development Charges (SDC)
Compliance Costs
Exhibit 4

Year	Annual Compliance Expense	Percent SDC Eligible	SDC Eligible
2010	$25,000	100%	$25,000
2011	10,000	100%	10,000
2012	10,300	100%	10,300
2013	10,609	100%	10,609
2014	10,927	100%	10,927
Total 5 Year Cost			$66,836
Five Year Average Compliance Cost			**$13,367**
2010 to 2030 Average ERUs			311
Average Compliance Cost per Average ERUs			$43.05

City of Klamath Falls
System Development Charges (SDC)
Debt Service Credit
Exhibit 5

Year	Total Existing Debt	New Debt Service [1]	Total Debt Service	SDC Revenue	Net Debt Service	ERUs	Debt/ ERU	Debt/ERU ($2010)
2010	$863,079	$0	$863,079	$1,885,665	$0	12,571	$0.00	$0.00
2011	937,619	0	937,619	1,948,252	0	12,828	0.00	0.00
2012	942,419	0	942,419	2,012,916	0	13,090	0.00	0.00
2013	941,219	1,045,992	1,987,211	2,079,727	0	13,358	0.00	0.00
2014	885,825	2,091,983	2,977,808	2,148,755	829,053	13,631	60.82	52.25
2015	883,025	2,091,983	2,975,008	2,220,074	754,934	13,909	54.27	44.89
2016	867,375	2,719,578	3,586,953	2,293,761	1,293,193	14,194	91.11	72.55
2017	866,253	3,347,173	4,213,426	2,369,893	1,843,533	14,484	127.28	97.57
2018	864,113	3,347,173	4,211,286	2,448,552	1,762,734	14,780	119.27	88.02
2019	870,618	3,347,173	4,217,791	2,529,821	1,687,969	15,082	111.92	79.52
2020	865,680	3,347,173	4,212,853	2,613,788	1,599,065	15,390	103.90	71.08
2021	869,650	3,347,173	4,216,823	2,700,543	1,516,281	15,705	96.55	63.59
2022	866,005	3,347,173	4,213,178	2,790,176	1,423,002	16,025	88.80	56.30
2023	866,355	3,347,173	4,213,528	2,882,785	1,330,744	16,353	81.38	49.67
2024	870,505	3,347,173	4,217,678	2,978,467	1,239,211	16,687	74.26	43.64
2025	863,255	4,811,561	5,674,816	3,077,325	2,597,491	17,028	152.54	86.30
2026	0	6,275,950	6,275,950	3,179,464	3,096,485	17,376	178.20	97.07
2027	0	6,275,950	6,275,950	3,284,994	2,990,956	17,731	168.68	88.46
2028	0	6,275,950	6,275,950	3,394,026	2,881,924	18,094	159.28	80.41
2029	0	6,275,950	6,275,950	3,506,677	2,769,273	18,463	149.99	72.90
2030	0	6,275,950	6,275,950	3,623,067	2,652,883	18,841	140.81	65.89
2031	0	6,275,950	6,275,950	3,743,320	2,532,630	19,226	131.73	59.35
2032	0	6,275,950	6,275,950	3,867,564	2,408,386	19,618	122.76	53.24
2033	0	5,229,958	5,229,958	3,995,932	1,234,026	20,019	61.64	25.74
2034	0	4,183,967	4,183,967	4,147,028	36,938	20,430	1.81	0.73
2035	0	4,183,967	4,183,967	4,303,838	0	20,852	0.00	0.00
2036	0	3,556,372	3,556,372	4,466,577	0	21,283	0.00	0.00
2037	0	2,928,777	2,928,777	4,635,469	0	21,726	0.00	0.00
2038	0	2,928,777	2,928,777	4,810,748	0	22,179	0.00	0.00
2039	0	2,928,777	2,928,777	4,992,654	0	22,644	0.00	0.00
2040	0	2,928,777	2,928,777	5,181,439	0	23,121	0.00	0.00
2041	0	2,928,777	2,928,777	5,377,362	0	23,609	0.00	0.00
2042	0	2,928,777	2,928,777	5,580,693	0	24,110	0.00	0.00
2043	0	2,928,777	2,928,777	5,791,713	0	24,623	0.00	0.00
2044	0	2,928,777	2,928,777	6,010,713	0	25,149	0.00	0.00
2045	0	1,464,388	1,464,388	6,237,993	0	25,688	0.00	0.00
Total Debt Service Credit ($ per ERU)								**$1,348.46**

1 - New Debt Service Provided by the City Management
Assumed new debt issues consisted of:
2013 Revenue Bond $25.0 Million
2016 Revenue Bond $15.0 Million
2025 Revenue Bond $35.0 Million

City of Klamath Falls
System Development Charges (SDC)
Proposed SDCs
Exhibit 6

Plant Component	Reimbursement SDC	Improvement SDC	SDC Calculation Results
Treatment Plant	$1,476.60	$4,926.60	$6,403.20
Collection System	1,645.04	744.19	2,389.22
Compliance Cost		43.05	43.05
Debt Service Credit		(1,348.46)	(1,348.46)
Total	$3,121.64	$4,365.38	$7,487.01
System Development Charge	**$3,120**	**$4,360**	**$7,490**

System Development Fees

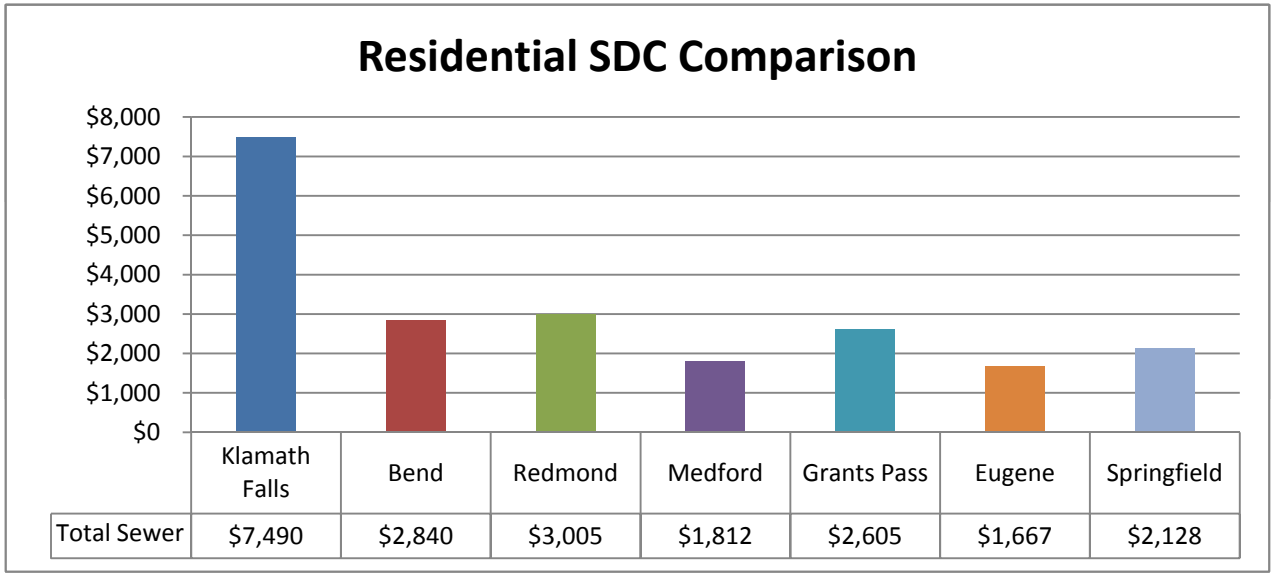
Meter Size	Reimbursement SDC	Improvement SDC	SDC
Single Family Residential	$3,120 /DU	$4,360 /DU	$7,490 /DU
Duplex & Multi-Family Residential	2,030 /DU	2,830 /DU	4,870 /DU
Commercial	3,120 /ERU	4,360 /ERU	7,490 /ERU

DU = Dwelling Unit
ERU = Equivalent Residential Unit. Determined based on plumbing and development information provided during the development permit process.

City of Klamath Falls
System Development Charges (SDC)
Proposed SDCs by Fixture Count
Exhibit 7

	ERUs	$/Unit	Unit Description
Single Family Residence	1.000	$7,490	Each per unit
Multi-Family Residence	0.650	4,869	per dwelling unit
Mobile Home Space in a Mobile Home Park	0.650	4,869	per space
Recreatioal Vehicle Waste Dumping Station	0.650	4,869	per station
Schools	0.030	225	per student capacity
Churches	0.640	4,794	per 100 seats
Hospitals - General	1.000	7,490	per bed
Convalescent Hospitals	0.500	3,745	per bed
Residential Care/Boarding Facilities	0.250	1,873	per bed
Hotels and Motels (Additional For Restaruant or Tavern Etc.,)	0.250	1,873	per room to motel unit
Food Preparation and/or Serving Areas	0.150	1,124	.15 100 square feet
Vehicle Wash			
Self-Service Wash	1.170	8,763	per bay
Full-Service Wash	15.660	117,293	per bay
Laundries & Laundromats	0.300	2,247	per 100 square feet
Commerical, Office and Dry Industrial			
Bath tub w/or w/o Shower	0.130	974	per Installed
Dental Unit or Cuspidor	0.100	749	per Installed
Dishwasher	0.100	749	per Installed
Disposal	0.100	749	per Installed
Drinking Fountain	0.050	375	per Installed
Floor Drain	0.013	97	per Installed
Foutain/Backwash	0.100	749	per Installed
Kitchen Sink	0.080	599	per Installed
Laundry Tray	0.080	599	per Installed
Lavatory	0.050	375	per Installed
Service Sink	0.080	599	per Installed
Shower (each head)	0.130	974	per Installed
Swimming Pool/Backwash	0.100	749	per Installed
Urinal	0.170	1,273	per Installed
Urinal Trough (for each 2 foot section)	0.170	1,273	per Installed
Wash Sink (for each faucet)	0.080	599	per Installed
Washing Machine	0.070	524	per Installed
Water Closet	0.330	2,472	per Installed

City of Klamath Falls
System Development Charges (SDC)
Comparison Chart
Exhibit 8



	Klamath Falls	Bend	Redmond	Medford	Grants Pass	Eugene	Springfield
Total Sewer	$7,490	$2,840	$3,005	$1,812	$2,605	$1,667	$2,128