



Development Impact Mitigation Fee Nexus Study

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City of Redding

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EXECUTIVE SUMMARY

This fee nexus report presents the results of a comprehensive update of the City of Redding's impact fee programs for the following types of facilities:

- Fire protection
- Parks and recreation
- Citywide transportation
- Water
- Wastewater

This report also fully documents the findings necessary for compliance with State of California's Mitigation Fee Act (Government Code 66000 et seq.), which prescribes the means by which public agencies may impose development impact fees, in order to adopt the proposed impact fees.

Background and Study Objectives

The City of Redding adopted its current Comprehensive Impact Fee Program in 2000, establishing impact fees for fire, parks, water, wastewater, storm drain and transportation. The impact fees have been updated since then; most recently the North Redding Traffic Benefit District was created in 2007 to fund transportation improvement costs for the Oasis Road Specific Plan Area, and to establish the fair share cost of improvements applicable to the rest of the City. Also in 2007, the Fire Facilities Impact Fee Update was adopted. In 2004, as part of the Parks, Trails and Open Space Master Plan, park fees were reviewed and updated to reflect the community's investment in park and recreation facilities and to further refine the park level of service.

The City continues to face challenges funding public facilities to accommodate growth. Since the passage of Proposition 13, property tax revenues have been insufficient for capital funding, and federal and state assistance have not replaced the decline in local revenue sources. These funding shortfalls have caused declining facility standards (i.e., the ratio of facility capacity to service population), which have accelerated the rate of facility deterioration, increased operating costs, and reduced efficiency of the City's operating departments. Given these funding difficulties and the impacts new growth has on infrastructure, the City requires new development to pay fees to fund the facilities necessary to maintain City services at current levels.

This report documents the relationship between new development in Redding and the related cost of public facilities to serve growth in the community. It also provides estimates of the cost of facilities necessary for growth and calculates the updated public facilities fees by land use or customer type that would generate revenues equal to these costs. The estimates of public facilities that would be required to serve growth assume that new development will provide facilities that ensure the City can maintain its current level of service standards for these facilities.

The City will rely on its authority to levy public facilities impact fees under the police powers granted by the State Constitution which provides that cities and counties may make and enforce ordinances which are not in conflict with state law. This report provides the documentation and findings necessary for the adoption of proposed public facilities impact and capacity fees.

Population, Housing, and Employment Projections

The population, number of housing units, and employment projections to the year 2030 used in this study are summarized in **Table 1**. However, the planning horizon for the water and wastewater utilities was shortened to 10 years as explained in this report. Residential population growth and employment growth are based on the land use forecast developed for the Shasta County Travel Demand Model in 2004 which was updated in 2011 for this nexus study.

Table 1: Growth Projection Summary

	2013	2030 Projection	Net Growth ²
Population ^{1,2}	90,200	106,666	16,466
Employment ²	44,961	53,288	8,327
Housing	36,137	43,792	7,655

¹ Current population for City of Redding is the California Department of Finance Estimate, Table E-5 as of 1/1/2012

² Housing, population, and employment projections from a memorandum to the Shasta Regional Transportation Planning Agency entitled "Shasta County Forecast Assumptions" dated November 8, 2011.

Fee Schedules and Revenues

Table 2 depicts the proposed City-wide impact fees for several different development types which provide a snapshot of the level of fees resulting from the analyses performed in the preparation of this study. For simplicity and illustrative purposes it is assumed that both residential and non-residential development types would generate the same water and sewer demand (i.e. same size water meter). Non-residential fees for the remaining impact fee categories reflect the following specific uses: commercial shopping center; general office building; and general light industrial building. Fees for actual development projects will, of course, be based the specific use, square footage, and meter size of the project.

Table 2 - Proposed Citywide Impact Fees

Land Use	Fire Protection	Parks ¹	Traffic ²	Water ³	Sewer ⁴	Total
<i>Residential, fee per unit</i>						
Single Family	\$966	\$6,773	\$5,714	\$5,600	\$7,000	\$26,053
Multi-family	\$770	\$5,403	\$3,657	\$5,600	\$7,000	\$22,431
<i>Non-residential, fee per 1,000 square feet</i>						
Commercial	\$636	N/A	\$10,488	\$5,600	\$7,000	\$23,724
Office	\$941	N/A	\$12,958	\$5,600	\$7,000	\$26,499
Industrial	\$509	N/A	\$7,742	\$5,600	\$7,000	\$20,850

¹ See Alternate Fee Schedule in Park Facilities Section 4 for potential park fees for non-residential land uses.

² Citywide traffic impact fee program, non-residential fees shown in table are for only 3 of 22 nonresidential land use types; see Table 5.3 for the complete schedule of traffic fees.

³ Water system impact fees apply to residential and non-residential.

⁴ Sewer fees are based on a standard 5/8 inch water meter serving water to the development.

For comparison purposes, the City's current impact fees (adopted at various times since 2000) are shown in **Table 3**. The fees have not been adjusted for inflation since 2009 at the direction of the City Council. With the exception of proposed fire and parks facilities fees, the proposed fee levels are lower than would be the case if the City had increased fees since 2009 to account for increases in the construction cost index.

Table 3 - Current Citywide Impact Fees

Land Use/Customer Class	Fire Protection	Parks ¹	Traffic ²	Water ³	Wastewater ⁴	Total
<i>Residential, fee per unit</i>						
Single Family	\$866	\$3,996	\$5,582	\$6,889	\$6,920	\$24,253
Multi-family	\$695	\$3,115	\$3,593	\$5,600	\$6,920	\$19,923
<i>Non-residential, fee per 1,000 square feet</i>						
Commercial	\$600	N/A	\$12,669	\$6,889	\$6,920	\$27,078
Office	\$889	N/A	\$9,853	\$6,889	\$6,920	\$24,551
Industrial	\$480	N/A	\$5,068	\$6,889	\$6,920	\$19,357

Fees effective on Jan. 15, 2011

¹ Park fees are for a three-bedroom single-family home and a two-bedroom unit in a multi-family project.

² Citywide traffic impact fee program includes city-wide portion of North Redding Traffic Benefit District fee; actual fee will vary based on the use.

³ Water system capacity fee based on a standard 5/8-3/4 inch meter; not including any additional charges such as per foot frontage charges

⁴ Wastewater system impact fee is for one Household Equivalent (HE) service connection.

Source: City of Redding

Other Potential Mitigation Programs

This study does not address the full impact of every development project in the City of Redding. Any given project due to its size, density, intensity of activity, and location may impose additional burdens upon the City's facilities and services. Based on the findings of a project-specific impact analysis, an applicant for such a development project may be required to construct other improvements, develop or participate in other fee, assessment, and/or special tax programs, or otherwise provide or fund mitigation(s) for those additional impacts. These additional mitigations are independent of the fees set forth in this study, and are designed to address different project-specific impacts. Consequently, payment of the fees set forth in this study may not reduce or eliminate these additional mitigations, and conversely, fulfillment of these additional mitigations may not reduce or eliminate the fees set forth herein.

Authority to Impose Other Mitigation Measures

Impact Fees and Other Development Project Mitigation and Funding Measures

The adoption of an impact fee program does not preclude the City's ability to levy other additional fees, taxes, or special assessments or to impose project-specific mitigation measures or exactions including those measures found to be necessary to mitigate ongoing fiscal impacts or impacts to public facilities, if the project-specific mitigation measures provide and/or fund facility improvements or ongoing public services that are not or will not be funded by the impact fee program.

Fee Updates

This impact fee study and the recommended fees assume a given level of development activity over the study period. The development that actually occurs will result in both different impacts and fee revenues than those that are projected in this study. For that reason, regular updates are recommended to adjust the growth impact fees to match the needs created by the rate of actual development.

SECTION 1. INTRODUCTION

This impact fee nexus report presents an overview of the analysis process for development impact fees in the City of Redding. The report is intended to explain the methods used to determine the need for and cost of public facilities to accommodate new development in Redding. This introduction provides the general background and purpose of impact fees and how the fees will be established in Redding. The following topics are included in this section:

- Public Facilities Financing in California
- Authority to Impose Impact Fees
- Mitigation Fee Act and Required Findings
- Organization of the Report
- Facility Standards, Levels of Service, and Deficiencies

Public Facilities Financing in California

The changing fiscal landscape in California during the past three decades has steadily undercut the financial capacity of local governments to fund infrastructure needed for growth. Three dominant trends stand out:

- The passage of a string of tax limitation measures, starting with Proposition 13 in 1978 and continuing through the passage of Proposition 218 in 1996.
- Declining popular support for bond measures to finance infrastructure for the next generation of residents and businesses and related public support for the development community to mitigate impacts of their development projects on community infrastructure.
- Steep reductions in federal and state assistance.

Faced with these trends, many cities and counties have shifted the burden of funding infrastructure expansion from existing rate and tax payers to new development. This funding shift has been partly accomplished by the imposition of development impact fees, also known as public facility, capital facility, and mitigation fees. A majority vote of the City Council is required for adoption.

In most local agencies that have implemented impact fee programs, new development pays close to the full cost required to maintain the existing level of service standards as growth occurs. When local agencies do not collect the full amount, the effect is often a decline in facility standards, though some communities are able to increase other revenue sources such as grants, utility rates, etc. to compensate.

In another typical situation, a city's General Plan may state that, as a policy, a specified level of service shall be maintained for a particular facility. However, the case may be that the current level of service for that facility is less than the stated GP policy. In that case the city will have, in effect, a "deficiency" which cannot be remedied exclusively through development impact. It is a fundamental principle of impact fee analyses that any deficiencies be remedied using funds other than impact fee revenues.

Authority to Impose Impact Fees

The authority for the City of Redding to impose fees for mitigation of impacts to public facilities generated by land development is rooted in its fundamental police powers under Article XI Section 7 of the California Constitution, which provides that cities and counties may make and enforce ordinances which are not in conflict with state law. The City, under its broad authority to protect the public's health and safety, may regulate land development including the right to impose conditions on development which may require direct provision of public improvements, land dedications, and in-lieu fees. The State of California Mitigation Fee Act, discussed below, established the procedures and findings necessary to impose generally applicable development impact fees.

Mitigation Fee Act and Required Findings

As a result of the growing use of impact fees after passage of Proposition 13 and concern over inconsistencies in their application, the State Legislature passed the Mitigation Fee Act, (“Act”) starting with Assembly Bill 1600 in 1988. The Act, contained in California Government Code Section 66000 et seq., establishes ground rules for the imposition and ongoing administration of impact fee programs. The Act became law in April 1989 and requires local governments to document the following when adopting an impact fee. Together, these items constitute a “nexus study” when documented and presented in a report to the City Council:

- Identify the purpose of the fee.
- Identify the use of fee revenues.
- Determine a reasonable relationship between the fee's use and the type of development paying the fee.
- Determine a reasonable relationship between the need for the fee and the type of development paying the fee.
- Determine a reasonable relationship between the amount of the fee and the cost of the facility attributable to development paying the fee.

The impact fee nexus study and this report comply with California Government Code Section 66000 et seq. by providing the required documentation for the above findings and the determinations that establish the basis for the recommended fees. *It is important to note that the City is not required to establish the fee levels documented in the nexus study and may choose to adopt a lower (but not a higher) fee.*

Another fundamental premise of impact fees is that the burden of the fees cannot total more than the actual cost of the public facility needed to serve the development paying the fee, including costs associated with administering the fee program. Also, fee revenues can only be used for their intended purposes. In addition, the Act has specific accounting and reporting requirements both annually and after every five-year period for the use of fee revenues. These requirements are outlined in Section 8 of this report.

Impact fee revenues may not be used for staffing, operations, and maintenance of either existing or new facilities. The cost of the public facilities analyzed does not consider the operational costs of any of these facilities, which, over their life-cycle, will be quite substantial.

Organization of the Report

This report includes a discussion of the population and employment assumptions used in the fee analyses. The facility categories included in this report are:

- Fire Protection
- Parks and Recreation
- Citywide Transportation
- Water
- Wastewater

The nexus study for each facility category is generally organized using the following sections to clearly document the requirements of the Mitigation Fee Act discussed above:

- ***The Purpose of the fee.***
- ***The Existing facilities inventory.*** Where applicable (in fire protection and in parks and recreation) the current investment in these facilities is identified.

- **The Service population.** Defines what type of development requires this type of facility, whether (1) only residents, or (2) residents and businesses (measured by employment). It also projects the service population growth or demand for facility capacity anticipated to occur over the study period – out to the year 2022 or 2030, depending on the particular fee category.
- **The Facility standards and unit costs.** Establishes a reasonable relationship between the need for the fee and the type of development paying the fee. Using common factors such as facility costs per capita, this analysis ensures that each development project pays its fair share of total facility costs.
- **The Facility costs to accommodate growth.** Establishes a reasonable relationship between the use of fee revenues and the type of development paying the fee. This section estimates the total facilities costs associated with new development over the study period. The revenues that would be collected through the impact fee should be approximately equal to the total cost of the facilities needed for growth.
- **The Fee schedule.** Establishes a reasonable relationship between the amount of the fee and the cost of the facility attributable to development paying the fee by basing the fee on the facility's cost per capita, then using household occupancy rates, employment density rates, or dwelling unit equivalence to calculate the fee per development unit.

Facility Standards, Level of Service, and Deficiencies

Throughout this report the words “standard” and “level of service” are used (at times interchangeably) to describe the level of investment in capital facilities that are needed to serve the community. A standard is defined as the adopted policy, or benchmark, that the City would like to achieve for any particular facility. For example, the City of Redding General Plan includes a goal to achieve 10 acres of improved parkland per 1,000 residents. This is the standard set by the City. On the other hand, level of service (LOS) refers to the actual level of benefit that the current population experiences. Level of service may be different from the standard for a given facility. When the existing LOS is less than the standard, a deficiency exists for that facility.

New development alone cannot be asked to improve the LOS provided by those facilities which serve both new and existing development. State law limits impact fees to the cost of maintaining services for new development at the same level as existing development.

Level of Service Methodologies – The methods used to establish the LOS for each facility category fall into three broad headings: the “General Plan LOS” used for traffic, the “Existing Inventory Method” used in the fire protection and parks and recreation fee studies, and the “System Capacity Method” for water and wastewater systems.

Traffic Level of Service – To determine the applicable LOS standard for the transportation impact fees, the existing roadways contained in the City of Redding General Plan Transportation Element were analyzed to establish the current and forecasted LOS terms of volume to capacity ratio (V/C) or intersection delay. The General Plan specifies a LOS C (at the transition between LOS C and D) as the minimum for the majority of transportation element roadways and intersections. Exceptions specifically include “Downtown” streets, the State highway system, and river crossing street corridors. The 2010 update of the Shasta County Travel Demand Model determines the 2010 LOS and 2030 LOS, from which two categories of roadways are identified relative to LOS:

1. Roadways that are currently acceptable (those that operate above LOS C) and will fall below the acceptable LOS with new development (by 2030).
2. Roadways that currently operate below LOS C and will fall farther below the acceptable LOS with new development.

The procedure for assigning the costs to the transportation impact fee program is described in the Transportation Facilities, Section 5 of this report.

Fire Protection and Parks and Recreation Level of Service – The fee studies for fire protection and parks and recreation use what is called the “Existing Inventory Method” to establish the LOS standards for these two categories. With this method, new development funds the expansion of facilities at the same level of service, or current standard, enjoyed by the service population (residents and/or workers) in existing development. By definition, this approach results in no facility deficiencies attributable to existing development. The advantage of the existing inventory method is that it assures new development will fund a LOS that is equivalent to the existing population’s LOS.

Use of the existing LOS in the nexus study does not establish them as City policy, which may only occur through the General Plan process. Indeed, many jurisdictions consider their existing levels of service to be deficient compared to the policies stated in their General Plans.

Currently, Redding does not have a deficiency in fire protection facilities. The existing level of service for parks is below the City’s General Plan goal. Since the existing level of park service is applied, and not the General Plan goal, the nexus study will reflect that by calculating the fees based on the lower existing level of service.

Water and Wastewater Level of Service – In contrast to other services, particularly transportation, both water and wastewater “level of service” are not dependent on the area of the City in which residents and businesses are located. In other words, both utilities provide a consistent level of service to all customers in their systems: (1) clean, potable water under acceptable levels of pressure, and (2) wastewater effluent collection, treatment and disposal. Rather than focusing on the facilities needed to, for example, meet a traffic level of service, the only real question for water and sewer services is whether there is adequate capacity available in the system for new customers.

New water and sewer customers typically cover 100 percent of any specific infrastructure needed to “extend” service to them. For example, a water or sewer main may need to be extended to those new customers and may be solely for the purpose of serving that specific new development. If additional growth is expected to occur in the future, and the size of pipes installed needed to be enlarged to meet the needs of both the current and future development’s needs, the future customers would typically reimburse either the City or the current development for the costs of oversizing that pipeline, depending on which one paid the initial cost of oversizing the pipeline.

Additionally, impact fees (more accurately called capacity fees or system development charges) are based on an equivalent level of capacity such as an equivalent dwelling unit (EDU) or a household equivalent (HE) unit. Water capacity fees are sized to match the number of EDU’s, typically corresponding to meter service sizes (e.g., ¾-inch, 1-inch, 2-inch meters). Sewer capacity fees rely on HE’s, which typically are adjusted to reflect the expected effluent generated by each connection as well as the strength of the effluent.

In performing a detailed analysis of the usage characteristics of existing customers, the City has opted to establish sewer capacity fees based on the size of the water meter provided to each new development project. However, sewer capacity fees for single family residences would be the same regardless of the size of meter. Since the City’s Water Efficient Landscape Ordinance (Chapter 16.70 of the Redding Municipal Code) requires virtually all new multiple family and commercial developments to provide separate meters for landscape purposes, the City believes relying on the water meter capacity for new structures provides a reasonable relationship between water usage and the amount of effluent produced by a given customer. Furthermore, the City determined that effluent strength represented no measureable additional cost component to the sewer collection system and only a minor component of sewer treatment plant costs; therefore, it is more appropriate to capture treatment-related costs through the utility rates.

SECTION 2. POPULATION, EMPLOYMENT, AND HOUSING ESTIMATES

Introduction

The estimate of existing population is a critical factor in the Existing Inventory Method. Redding's current residential population is taken from the California Department of Finance County/City estimate dated January 2012. Current employment (jobs within the city as opposed to employed residents who live in the city but may work elsewhere) are based on an estimate done for the Shasta Regional Transportation Planning Agency for its travel demand model. The table below presents the current estimates and projections for 2030. Estimates of existing and future employment and housing are critical in determining the need for future transportation water, and sewer capacities.

Table 2.1 - Growth Projections

	2012	2030 Projection	Net Growth ²
Population ^{1,2}	90,200	106,666	16,466
Employment ³	44,961	53,288	8,327
Housing ^{2,3}			
Single Family Units	24,837	30,740	5,903
Multi-Family Units	8,272	9,904	1,632
Mobile Homes	2,481	2,481	--
Senior Housing	380	500	120
Recreational Homes	167	167	--
Total	36,137	43,792	7,655
Average Occupancy	2.50	2.44	

¹ Current population for City of Redding is the California Department of Finance Estimate, Table E-5 as of 1/1/2012

² Housing, population, and employment projections are from a memorandum to the Shasta Regional Transportation Planning Agency entitled "Shasta County Forecast Assumptions" dated November 8, 2011.

³ Source of current housing estimates is based on update of the Shasta County Travel Demand Model by the City of Redding and Kittelson & Associates. Estimate of occupied units.

Sources: CA-DOF Demographics Unit; City of Redding

Occupancy Rates

Occupancy rates measure the number of persons in a typical dwelling unit or the number of employees in a certain floor area; in this study, that floor area is 1,000 square feet. The use of occupancy rates ensures a reasonable relationship between the increase in service population and amount of the fee. For residential development it is commonly considered that single-family units impose a greater impact on public facilities than multi-family units, especially if census data is available that documents a higher rate of persons per household in single-family homes. If the data shows a differential in occupancy, and the level of service is stated in per capita terms (i.e., park acreage per 1,000 residents), then the fee charged must vary according to the estimated service population generated by a particular development project.

The various nonresidential land uses in this study—there are 22 of them—each have a different employee occupancy rate, and therefore impose a different burden on public facilities. Developers pay the fee based on the number of additional housing units or building square feet, so the fee analysis must convert service population estimates to these measures of project size to derive a fee per unit of development. This conversion is done with the occupancy factors by land use category, shown below. The occupancy rates used in this study are shown in **Table 2.2**. This table shows only three of the City's 22 nonresidential uses. See **Table 5.3** in the Transportation Facilities, Section 5 for the complete list.

Table 2.2: Occupant Density Assumptions

Land Use	Occupancy/Density Factor	Employees per 1,000 sf
Residential ¹		
Single Family	2.62 persons per dwelling unit	~
Multi-family	2.09 persons per dwelling unit	~
Nonresidential ²		
Commercial	400 building square feet per worker	2.50
Office	270 building square feet per worker	3.70
Industrial	500 building square feet per worker	2.00

¹ Persons per dwelling unit based on data from the American Community Survey, 2011 for Redding (US Census Bureau) and the California Department of Finance estimate Table E-5.

² Nonresidential floor area per worker factors are based on "Employment Density Summary Report, Oct, 2001" prepared by the Natelson Company for Southern California Association of Governments. This report is widely cited throughout the state and remains one of the best sources of data for employment density factors; these factors were also used in the 2007 Fire Impact Fee update.

Use of Current and Future Estimates

These estimates are used as follows:

- Estimates of future growth are used to provide an estimate of the total amount of public facilities required to accommodate growth over the study period.
- Estimates of existing population and land development are used to determine current facility standards. For example, in this report the following statistics are relevant: value of fire protection assets per capita and number of park acres for 1,000 residents.
- Future employment estimates are used to establish the level of service and facilities that are applicable to future nonresidential development.

Land Use Categories

Measuring the impact of growth requires an identification of land use categories for summarizing the many different types of new development. The general land use categories used in this analysis are defined below.

- **Single-family:** Detached one-family dwelling units.
- **Multi-family:** Attached dwelling units such as condominiums, duplexes, and apartments. For fire protection and parks and recreation facilities, multi-family also includes mobile homes, senior housing, and recreational homes, these types of residential uses are separate in the transportation, water, and wastewater sections.
- **Commercial:** Includes but is not limited to: service commercial, retail, retail-warehouse, educational, and hotel/motel development. In the transportation section these uses are separate.
- **Office:** All general, professional, and medical office development.
- **Industrial:** All manufacturing, fabrication, food processing, warehousing, truck yards, terminals, and distribution centers. This category may also encompass business parks, and research and development space.

Applying the Impact Fees to Development Projects Involving More Than One Land Use

Some developments may include more than one land use category, such as mixed-use development with both residential and commercial uses. In these cases, the impact fee would be calculated, following the City's adopted fee methodology for mixed-use development.

The amount of impact fees are evaluated prior to the issuance of a building permit and are based on the information provided in the permit application including number and type of units, intended occupancy, and floor areas per occupancy. In a single-use structure, the total of the fees would be the sum of each impact fee that applies to the project times the number of units, or the floor area (1,000 sq. ft. increments), in the structure. For a mixed-use project, where more than one use will occupy a single permitted structure, an impact fee calculation should apply the appropriate fee rate to each portion of the structure containing an identified use. For a commercial-residential structure, the applicable residential fee rates shall be applied to each residential unit (the unit may be defined as either a single or multi-family unit depending on the type of construction) and the applicable nonresidential rates will be applied to each unit of nonresidential floor area.

Service Population

Different types of development use public facilities at different rates in relation to each other, depending on the services provided. For each facility type, a specific service population is identified. The service population is calculated by weighting one land use category against another based on each category's demand for services.

Different service populations are used to estimate impacts for different types of fees. In this report the following service populations apply:

- Citywide residents and workers for fire protection.
- Citywide residents for parks and recreation.¹
- Citywide homes and businesses for transportation, water, and wastewater.

The specific service population for each facility category is shown separately in each section of this report. When residents and workers are part of the same service population, it is reasonable to assume that one resident places greater demand on public services and associated facilities than one worker who commutes to his/her job in Redding. Therefore, workers are “factored” for purposes of determining their relative demand and the demand nonresidential development has on public facilities included in this study.

¹ An alternate park fee is included in Parks and Recreation, section 4, which applies a fee to nonresidential uses.

SECTION 3. FIRE PROTECTION FACILITIES

This section summarizes the analysis of the need for fire facilities to accommodate new development and to maintain the current level of protection and emergency services. This section will document a reasonable relationship between new development and the recommended impact fee for funding of such facilities.

Existing Fire Facilities

The Fire Department provides fire protection services, emergency medical services (EMS), rescue services, fire prevention services, and public education services to residential and nonresidential populations within the Redding city limits.

The City of Redding owns and operates the fire stations, firefighting vehicles, and equipment listed below. Firefighting vehicles and equipment are included in the facility costs because they represent integral capital investments needed to provide fire protection services and they have at least a five-year service life.

- 8 fire stations, 1 administrative office, and 1 storage building
- 2 ladder trucks
- 18 engines
- 15 support and response vehicles
- 1 fire rescue boat
- Equipment on apparatus
- Other equipment, including protective clothing, breathing apparatus, fixed air refill station, fire hose radio/communications equipment, office equipment, and fire station contents.

A detailed breakdown of capital investment costs for fire protection is contained in Appendix A. The total estimated value of all fire protection assets is summarized in **Table 3.1**.

Table 3.1 - Fire Protection Facilities Valuation

Item	Total Valuation in 2013 Dollars
Total Existing Stations	\$25,132,777
Insured Contents	\$1,791,062
Fire station sites (land value)	\$3,037,052
Fire protection Vehicles and Equipment on Vehicles, current value	\$12,478,630
New Communications Repeater Stations (3)	\$240,000
Other Equipment	<u>\$2,005,432</u>
Total Valuation	\$44,684,953

Fire Facilities Service Population

The Fire Department serves both residents and workers in the City of Redding. **Table 3.2** below shows the estimated service population for 2013 and the projection for 2030. Nonresidential buildings are occupied less intensively than dwelling units, so it is reasonable to assume that average per-worker demand for fire and EMS services is less than the average demand per-resident. Therefore, in calculating the service population, residents are given a weight of 1.0 and workers are factored at 0.69 to reflect lower per capita service demand.

This factor, which is widely used in California and Arizona, is based on a study done by the City of Phoenix in 2000, which analyzed the number of fire and EMS calls originating from various land uses. The Phoenix analysis, and the factor, is considered generally applicable to urban fire departments.

Table 3.2: Fire Protection Service Population

	Residents	Workers ¹	Adjusted Workers	Service Population ¹
Current (2012)	90,200	44,961	31,023	121,223
New Development (2013-2030)	<u>16,466</u>	<u>8,327</u>	<u>5,746</u>	<u>22,212</u>
Total	106,666	53,288	36,769	143,435
<i>service population weighting factor</i>	1.00	0.69		

¹Service population is the sum of residents and workers adjusted by the weighting factor used in the prior Fire Impact Fee study dated January 2007.

Sources: Table 2.1

Per Capita Standards and Unit Costs

To ensure equity between the level of existing facilities and the facilities that new development should be responsible for, a per capita facility standard is used. For fire protection, the standard is the total per capita cost of the City’s current fire protection assets based on the current asset values. This method uses the existing level of service in terms of per capita asset value. This approach assumes that fire protection facilities and equipment will be needed to serve new development at the current ratio of fire facilities to the total residential and worker populations in terms of total cost per individual.

This method is appropriate when the current facilities are deemed adequate to serve the current population. Use of the existing cost per capita to calculate the impact fee ensures that new development pays only for the facilities that are equivalent to those provided to existing development. The fire protection cost per capita is calculated in **Table 3.3**

Table 3.3 - Fire Protection Cost per Capita

Factor	Cost/Value
Current value of fire protection assets	\$44,684,953
2012 Service Population ¹	121,223
Current fire protection standard (cost) per capita	\$368.62

¹ Includes the current estimated residential and worker populations.

Fire Facilities for New Development/Use of Fee Revenue

A long-range plan for fire protection facilities is currently being developed by the City. Until adoption of the plan, the fire protection impact fee revenues may be placed into a separate fund account for future purchases of land for new stations and equipment. Funds may also be used immediately to: upgrade existing facilities, contribute to the purchase of new equipment that serves future development, and to enhance the utility of existing fire protection systems and/or perform refurbishment within the parameters allowed by Government Code Section 66000. **Table 3.4** presents an estimate of the total fee revenues that would be generated by the projected growth to the year 2030 and therefore applicable to fire protection facilities needed to serve new development.

Table 3.4: Fire Protection Cost for New Development

Facility/Item	Current Fire Station Standard per Capita	Fire Station Cost per Square Foot (Including Land and Contents) ¹	Cost per Capita at Current Standard
Fire stations, including land	0.5171 sq. ft.	\$477.94	\$247.14
Fire protection equipment			\$121.48
Total facilities and equipment cost per capita			\$368.62
Service population growth to 2030			22,212
Total share of the cost of facilities and equipment to new development			\$8,187,787

¹ This cost per square foot represents the total value in 2013 dollars of current stations, administration and storage buildings, contents, and land divided by current service population.

Sources: Table 3.3

Fee Schedule

Table 3.5 calculates the potential fire protection facilities impact fee for new development based on the facilities cost per capita shown in **Table 3.3** above. The fee represents the amount required to fund the facilities needed to accommodate growth based on the existing inventory standard. Citywide residential and nonresidential development would pay the fee based on the service population for the facilities. The potential fee is shown side-by-side with the current impact fee for fire.

Table 3.5: Fire Protection Fee Schedule

Land Use ¹	Costs per Capita	Density ¹	Proposed Fees ²	Current Fees
<i>Residential</i>				
Single Family	\$368.62	2.62	\$965.78	\$867
Multi-family	\$368.62	2.09	\$770.41	\$695
<i>Non-residential³</i>				
Commercial	\$254.35	2.50	\$635.88	\$600
Office	\$254.35	3.70	\$941.10	\$889
Industrial	\$254.35	2.00	\$508.70	\$480

¹ Density factor is persons per dwelling unit for residential land uses and workers per 1,000 square feet for non-residential land uses.

² Per dwelling unit for residential uses and per 1,000 square feet for non-residential land uses.

³ Cost per capita for non-residential is adjusted for workers at 69%.

The proposed fire protection fees are higher than the current fees by 11% for both single-family and multi-family residential, respectively, and 6% higher in each of the nonresidential land uses. The increased fees are due primarily to an increase in valuation of the City's fire protection assets since the most recent facility fee update. Per capita value of the assets has increased 21% since 2007, when the previous Fire Impact Fee Study was completed. About half of that increase is due to increased construction costs and the remainder can be attributed to higher costs for firefighting equipment. However, it should be noted that the proposed fee factors in lower land values for the existing stations than the 2007 fees update.

Single-family and multi-family fees show a higher percentage increase due to changes in the occupancy factors from 2.49 and 2.00 persons per unit in 2007 to an estimated 2.62 and 2.09, respectively, for single and multi-family units today. It is also noted that although the fee was last formally increased in 2007 the fee was adjusted for inflation after 2009. Had the inflationary adjustment been made the proposed increase would be less than a 2 percent.

SECTION 4. PARK FACILITIES

This section summarizes an analysis of the need for parks to accommodate new development and maintain the current level of service. The section will document a reasonable relationship between new development and the recommended fee for funding of such facilities.

The current Redding park system encompasses over 635 acres of total parklands. The park inventory comprises the following classifications of parks and recreation areas:

- Small neighborhood parks
- Large neighborhood parks
- Community parks
- Regional parks
- Special purpose facilities (e.g., boat launches, dog parks)
- Natural area parks
- Trails
- School joint use areas, where long-term agreements are in effect
- Private neighborhood parks

Appendix B contains the complete park facility inventory, and a summary and total of park acreages.

Parks Service Population

For purposes of calculating the fee, the City's park facilities are assumed to only serve the residents of Redding (although there is considerable parks system usage by nonresidents. The current service population and growth from 2012 to 2030 is shown in **Table 4.1** below.

Table 4.1 - Parks and Recreation Service Population

Period	Service Population ¹
Residential Population, 2013	90,200
Growth 2012 -2030	16,466
Total	106,666

¹ Service population consists of residents only.

Park Standards and Unit Costs

This section discusses the standard used to determine the applicable impact fees for park and recreation facilities.

Per Capita Standards – Park standards are typically stated in terms of parkland acres per 1,000 population. Redding's adopted goal is 10 acres of improved parkland per 1,000 residents (Goal R4, *2000-2020 General Plan and Parks, Trails and Open Space Master Plan, 2004*). However, the existing park inventory is approximately 7.04 acres of improved parkland per 1,000 residents. The existing park inventory level of service, not the General Plan goal, is used to determine the impact fee.

Park Cost Estimate – To calculate the cost of new park facilities needed to serve new development, a cost estimate was developed for a model five-acre neighborhood park, conforming to the standards for neighborhood parks established in the City Council adopted *Parks, Trails and Open Space Master Plan, 2004*. The cost estimate for the model park is found in Appendix B.

Park Development Agreements – The conceptual plan for the model park also incorporates the facilities and types of amenities that are detailed in current agreements the City has with developers of residential projects for the developer to construct new parks. The City has entered into several park fee credit agreements that, combined, require developers to dedicate and construct nearly 48 acres of turnkey parks. Under the terms of these agreements a developer obtains park fee credits by constructing the specified park improvements in accordance with City-approved designs and current construction standards. These developer-provided parks include the following amenities that are typically specified in the agreements:

- Play equipment for two to five years and five to eleven years, with engineered wood play surfaces
- Full-court basketball
- Additional amenities, e.g., bocce ball court, horseshoe pit, or volleyball court
- Concrete trash receptacles
- Concrete picnic areas w/concrete, ADA-compliant picnic tables
- 6-foot wide concrete trails connecting surrounding residential areas to the park
- 4-foot wide trail circuit around park
- Minimum 200'x200' irrigated turf
- Drinking fountains, including water supply and backflow devices
- Concrete mow strip surrounding planting beds
- Restrooms

It is important to note that the City's park fee credit agreements with the developers limit the cost to the developers for constructing the park facilities specified in the agreements to the amount of the park impact fee for the development project. If the estimated cost to construct the facilities called for in a particular development project exceeds the total impact fee obligation for that project then it is possible the list of amenities provided by the developer of that project would need to be reduced.

Park Standards and Amenities – The amenities included in the model park are similar to those found in the City's existing neighborhood parks as well as the future parks to be built by developers per the agreements described above. The cost of the model five-acre park is \$336,864 per acre, not including the land. However, the model park does not include all the park and recreation facilities that the City's current residents now enjoy. This study does not document the current value of the major citywide facilities such as the teen center, recreation center, skate park, and the aquatic center at Caldwell Regional Park, and similar facilities at the City's other regional and community parks, or the specific features found in the City's several special-purpose facilities.

The value of these facilities is substantial and a detailed analysis of their replacement cost is beyond the scope of this nexus study. However, the use of the conceptual model park to estimate the per capita value of park facilities provides a close approximation of the value of the total range of park resources that new development in the City would benefit from. Furthermore, the amenities listed in the model park do not represent an increase in the City's level of service standard for parks since these amenities are typically found in existing parks throughout the city. **Table 4.2** presents the cost per capita of the model park based on this construction cost contained in Appendix B.

Parkland Dedication – A portion of the land for parks is dedicated per the City's Quimby Act ordinance (*RMC Chapter 17.54*). This chapter of the municipal code requires either dedication of land for public parks, or a payment in-lieu of land dedication, as a condition of approval of final maps or parcels maps. The dedication rate is specified in the code at five acres per 1,000 residents (the maximum allowed by the Quimby Act). The existing park level of service is 7.04 acres per 1,000 residents. The City may make up the net difference between the Quimby Act maximum and the existing level of service standard through the impact fee. This net difference is 2.04 acres per 1,000 residents (0.00204 acres per capita). **Table 4.2** includes the additional parkland acquisition cost that is applied to the total cost per capita.

Table 4.2 - Park Facilities Cost Per Capita

Park Acquisition and Development Costs for Growth	Park Standard and Costs
Current Park standard per 1,000 population	7.04 ac.
Park in-lieu fee standard (Quimby Act standard)	5.00 ac.
Net Park Standard per capita	0.00704 ac.
Estimated Park Development cost per acre	<u>\$336,864</u>
Park Development Cost per capita	<u>\$2,371.52</u>
Net Park Acquisition, cost per capita	0.00204 ac.
Park Acquisition cost per acre ¹	<u>\$104,764</u>
Park Acquisition Cost per capita, applied to impact fee	<u>\$213.72</u>
Total Park Cost per Capita	<u>\$2,585.24</u>

¹ The park land acquisition cost was established by City Council Resolution in 2007 and has been adjusted to reflect recent reductions in land values using Shasta County Assessor Data.

Parks for New Development

New development can be required to provide its proportionate share of facilities related to new development at the existing level of service in terms of number of developed park acres per 1,000 population. **Table 4.3** estimates the total park cost for new development based on the existing inventory standard.

Table 4.3 – Total Park Costs for New Development

Park Factor	Cost or Population
Per capita cost for park development	\$2,585.24
Service Population Growth to 2030	<u>16,466</u>
Total Projected Park Cost for new Development:	<u>\$42,568,562</u>

Use of Fee Revenues

The park impact fee revenues may be used to contribute to the acquisition and the development of new park and recreation facilities. Fee revenues may also be used to purchase or construct park amenities such as playground equipment, hard courts, restrooms, ball fields, and area lighting to extend hours of use, and/or perform refurbishment within the parameters allowed by Government Code Section 66000.

Fee Schedule

Table 4.4 shows the proposed parks impact fee for new development based on the facilities cost per capita. The fee represents the amount required to fund the new park facilities needed to accommodate growth based on the existing inventory standard. Citywide residential development would pay the fee based on the service population for the facilities.

Table 4.4: Proposed and Current Park Fees

Development Type	Costs per Capita	Occupancy	Proposed Fee ¹	Current Fee
Single Family	\$2,585.24	2.62	\$6,773.33	\$3,313.15 + \$227.71 per bedroom (typical 3-bdrm. DU: \$3,996.28))
Multi-family	\$2,585.24	2.09	\$5,403.15	\$2,660.05 + \$227.71 per bedroom (typical 2-bdrm. DU: \$3,115.47)

¹ Fee is per dwelling unit

The proposed fee is substantially higher than the current fee for two primary reasons:

- A number of parks projects were completed since the last comprehensive park impact fee study was completed in 2004 as part of the *Parks, Trails and Open Space Master Plan* and the rate of population growth has been slow. The standards reported then were 580 developed acres and a level of service of 6.78 acres per 1,000 residents, compared to today at over 635 acres and a level of service of 7.04 acres per 1,000 residents.
- The costs of land acquisition and park development have also increased since 2004. The *2004 Parks, Trails and Open Space Master Plan* estimated land cost at an average of \$72,000 per acre and park development cost of \$217,000 per acre. In contrast, the cost of land acquisition has risen to \$104,764 per acre, and park development costs to an estimated \$336,865 per acre.

Alternate Fee Schedule

During the review of park fees, the Redding Impact Fee and Utility Rate Study Advisory Group recommended that the City consider applying the parks and recreation impact fee to non-residential development since the widespread use of park facilities by workers, particularly non-resident workers, is apparent at many of Redding’s park facilities.

The Community Services Department prepared a “white paper” on the subject of non-residential park fees, researching other cities’ use of non-residential fees and methodologies for calculating the fee based on the same principles used in this nexus study. The white paper recommended specific park usage adjustment factors applied to workers to derive the service population applicable to parks and recreation. The assumptions and analysis contained in the white paper were reviewed by the project consultants for consistency with the requirements of the Mitigation Fee Act. The employee occupancy factors are the same as used in the Fire Fee analysis and are shown in **Table 4.5**.

Table 4.5 – Employee Occupancy Factors

Land Use	Employee Occupancy Factor ¹	Employees per 1,000 square feet
Nonresidential		
Commercial	400 building square feet per worker	2.50
Office	270 building square feet per worker	3.70
Industrial	500 building square feet per worker	2.00

¹ Factors are the same used for Fire.

The white paper analysis applies two adjustment factors to determine the park use generated by these non-resident users. One factor, derived from census data, is used to differentiate between workers living

and working in Redding as opposed to workers living outside Redding and commuting into the City for purposes of work. The first factor calculates that non-resident employees comprise 40.2% of the Redding workforce. Thus, this distinguishes between resident workers who have contributed to the funding of the park system versus non-resident workers who have not. **Table 4.6** calculates the number of non-resident vs. resident workers per 1,000 sq. ft. of commercial, office and industrial floor area.

Table 4.6 – Non-Resident and Resident Workers

Land Use	Employees per 1,000 square feet	Non-Resident Employees ¹	Resident Employees ¹
Commercial	2.50	1.0050	1.4950
Office	3.70	1.4874	2.2126
Industrial	2.00	0.8040	1.1960

¹ Non-resident workers are assumed to comprise 40.2% of all workers; resident workers are 59.8%. Based on estimates of the daily influx of workers who do not live in Redding.

The second factor accounts for the potential usage of park facilities by these non-resident workers relative to the general population. This factor is 23% and calculated as shown in **Table 4.7**. This table shows that a resident of Redding will use park facilities an estimated 44 hours per week, while a non-resident worker only 10 hours (10/44 = 0.23).

Table 4.7 - Park Usage Factor by Workers

Park User/Factor	Maximum Weekend Hours	Maximum Mid-week Hours ¹	Maximum Hours per Week	Percentage of Household Population in the Workforce ²	Percentage of Employees Living Outside of Redding	Weekly Person-Hours of Park Usage
Resident Park User						
Employed Resident	20	0	20	51.9%		10.38
Non-employed Resident	20	50	70	48.1%		<u>33.67</u>
Weighted Hours for Residents						44.05 (a)
Employee Park User						
Employee	0	10	10		100%	<u>10.00</u> (b)
Employee Park Usage Factor						0.23 (b)/(a)

¹ For non-employed residents: assumes maximum 10 hours of use per weekday; for employed residents only weekend use at 10 hours per day is considered to avoid double-counting. Non-resident workers are assumed to use park facilities two hours per day during the week.

² Percentage of employed residents (over 16 years of age) from 2010 American Community Survey, US Census Bureau. This percentage multiplied by the maximum hours per week of use provides the number of potential weekly person-hours of park use by employed residents.

The employee park usage factor in Table 4.7 is combined with the number of non-resident employees per 1,000 sq. ft. for each land-use, and the single-family occupancy rate (persons per household) to arrive at a factor which represents the equivalency of park use by the non-resident employees to park use by the occupants of a single-family home. The employee equivalent dwelling unit factors for parks (park EDU) is calculated in **Table 4.8**.

Table 4.8 – Employee Equivalents to a Single Family Dwelling Unit

Land Use	Non-Resident Employees per 1,000 sq. ft. (a) (Table 4.6)	Employee Park Usage Factor (b) (Table 4.7)	Park User per 1,000 sq. ft. (c) (a x b)	Single Family Occupancy (persons per household) (d) (Table 2.2)	Employee Equivalent Dwelling Unit Factor (c/d)
Commercial	1.0050	0.23	0.2312	2.62	0.0882
Office	1.4874	0.23	0.3421	2.62	0.1306
Industrial	0.8040	0.23	0.1849	2.62	0.0706

¹ Non-residential workers are assumed to comprise 40.2% of all workers; resident workers are 59.8%. Percentages based on estimates of the daily influx of workers who do not live in Redding.

Table 4.9 multiplies the park EDU by the single-family fee to arrive at the non-residential fee for each land-use. This fee represents the park-use benefit to the non-resident workers within each 1,000 sq. ft. unit of floor area.

Table 4.9 – Proposed Park Fees for Non-Residential Land Uses

Land Use	Employee Equivalent Dwelling Unit Factor (Table 4.8)	Single Family Fee per Unit (Table 4.4)	Non-Residential Fee per 1,000 sq. ft.
Commercial	0.0882	\$6,773.33	\$597.41
Office	0.1306	\$6,773.33	\$884.60
Industrial	0.0706	\$6,773.33	\$478.20

Finally, if the proposed fees on non-residential land use above are adopted, the residential fees should be off-set to account for the park fee revenues collected from non-residential development. The fee off-set is equal to the estimated percentage increase in daytime population due to workers commuting into Redding. Based on 2000 Census data, and adjusting for the relative population growth in the City versus Shasta County as reported in the 2000 census, it is estimated that the daytime population increases by 12.8%. Therefore, the residential fees are reduced by 12.8% to reflect the park benefit accruing to the non-resident workers. The off-set residential fees are calculated in **Table 4.10**.

Table 4.10: Residential Fee Off-Set

Residential Type	Costs per Capita	Occupancy	Proposed Residential Fees (Table 4.4)	Fee with 12.8% non-resident employee off-set ¹
Single Family	\$2,585.24	2.62	\$6,773.33	\$5,906.34
Multi-family	\$2,585.24	2.09	\$5,403.15	\$4,711.55

¹ The proposed residential fee is reduced by 12.8%--the estimated net percentage increase in daytime population from workers who do not live in Redding.

The proposed alternate park fee schedule for both residential and non-residential land uses is shown in **Table 4.11**. The fee would be charged per unit for residential and per each 1,000 square feet of floor area for non-residential uses.

Table 4.11: Alternate Parks and Recreation Impact Fees

Land Use	Proposed Fee ¹	Current Fee
Single Family	\$5,906.34	\$3,313.15 + \$227.71 per bedroom (typical 3-bdrm. DU: \$3,996.28)
Multi-family	\$4,711.55	\$2,660.05 + \$227.71 per bedroom (typical 2-bdrm. DU: \$3,115.47)
Commercial	\$597.41	N/A
Office	\$884.60	N/A
Industrial	\$478.20	N/A

¹ Fee is per dwelling unit for residential and per 1,000 sq. ft. of floor area for non-residential

SECTION 5. TRANSPORTATION FACILITIES

This section summarizes an analysis of the need for roadway and intersection improvements in the City of Redding. These transportation facilities are needed specifically and exclusively to accommodate new development for the analysis period 2010–2030. This section documents a reasonable relationship between new development and the proposed impact fee for funding of these road improvements.

Background

The City of Redding adopted the current Citywide Transportation Development Impact Fee Program (TIF) as part of the comprehensive fee study in 2000. Between 2000 and 2009 the transportation fees were increased to reflect inflation and the projects prioritized for construction scheduling. However the fees have not been adjusted since that time based on actions taken by the City Council. This nexus study represents the first comprehensive fee program update since adoption. The program was updated through the following:

- The Shasta County Travel Demand Model (Traffic Model) was utilized to determine the Level of Service (LOS) for roadways within the City based on anticipated growth and general plan land use;
- Roadways not meeting accepted LOS standards were identified and improvements to roadways and intersections were developed to mitigate;
- The road improvement projects included in the current TIF program were reviewed to determine continued need for the projects based on current and future traffic demand;
- Project cost estimates were prepared for new projects or updated for the current program projects to reflect the general increase in construction costs over the last 10 years;
- The anticipated growth in land development has changed substantially since the original adoption of the transportation fee both in the amount, location and nature of expected future development.

There are a number of issues related to the calculation of the TIF that generally do not apply to other types of impact fees. These include peak versus average daily traffic volumes, trip diversion, trip substitution, trip length, vehicle miles travelled, and the sources of trip generation data. Most land uses generate traffic throughout the day, but it is the traffic that is generated during peak hours when adjacent roads are least able to accommodate additional trips that is critical to determining the demand for additional roadway or intersection capacity created by new development for which the impact fee will be charged. With the exception of safety improvements, new trips generated during off-peak hours when capacity is ample will have little impact, create no need for additional capital improvements, and do not enter the calculation of impact fees in this study.

Traffic Level of Service

The transportation improvements needed to accommodate new development are based on a LOS analysis that involves the modeling of traffic operations on existing roadways and intersections throughout the City of Redding. As stated in the introduction, this nexus study must show a reasonable relationship between impact fees on new development and the demand for new or upgraded facilities generated by the development paying the fee. For traffic facilities this relationship is shown by comparing the current LOS of specific roadways with the LOS that would result by adding the growth in vehicle trips associated with the projected new land development.

This “before and after” comparison indicates where improvements are needed to mitigate the impacts of the projected development. In the traffic modeling process impact mitigation measures in the form of road widening, intersection improvements, or new road segments added to the existing road network to achieve the adopted LOS standard for all modes of travel including pedestrian and bicycle facilities. This procedure ensures that the measures result in the adopted LOS standard, or in the maintenance of the LOS, that the City generally experiences today. By identifying these specific mitigation measures, and

basing the impact fee on the cost of these measures, this procedure also maintains the relationship between the impact fee and the purpose of the fee revenues.

Traffic Demand from New Development

The first step in the transportation fee nexus study is to estimate the traffic generated by new development and the “demand” for transportation facilities by that new development. Traffic demand is based on the following factors:

- Total trips generated by given land uses based on evening peak-hour trip generation rates (the rates which were used in the traffic impact modeling process and consequent impact mitigation measures required during the 2010–2030 study period).
- Net "new" trips are calculated for each land use category. Net new trips are determined by taking the trip ends determined by the Traffic Model and applying a factor that accounts for the percentage of primary trips to the land use as opposed to those that stop as they are passing by (“pass-by” trips) a use on the way to a final destination. Because the vast majority of trips that end at the home are primary trips, all residential uses are given a primary trip factor of 1.00.
- Each land use is associated with an average trip length, or the distance from the trip generator, typically the home, and the given land use type that is a final destination. These trip length factors have been adjusted to mirror the rates used in the Traffic Model, in order to reflect localized conditions. For this study, trip lengths for each trip purpose were calculated for the travel model transportation analysis zones (TAZ) within the City of Redding only, rather than using averages applicable on a county wide basis.

These factors vary by land use type. To estimate the total demand for new transportation facilities across all land use types a dwelling unit equivalent (DUE) factor is calculated that sets the demand from a single-family dwelling unit at 1.00 DUE. DUE factors for all other land uses are calculated relative to the demand of a single-family unit by dividing the average vehicle miles traveled for each land use by the vehicle miles traveled by a single family unit. Vehicle miles traveled is calculated by multiplying the PM Peak Hour trip rate by the percentage of new trips (pass by rate) by the average trip length for the land use as produced by the Traffic Model. The trip rate and pass by percentages are based on industry standard data contained in the Institute of Transportation Engineers (ITE) Trip Generation Manual. This calculation generates a DUE rate per unit of development for each land use.. For example, multi-family units generate approximately 64% of the afternoon peak-period vehicle-miles traveled that a single-family home does (based on ITE data); therefore, the DUE of a multi-family unit is 0.64.

Base Level Land Development and 2030 Projection

A base-level 2010 land use for Redding was developed using a detailed land use inventory created in 2004 for the Shasta County travel demand model. The number of housing units in 2004 was compiled from census data at the census block level for the year 2000, to which 2000–2004 building permit information was added. Nonresidential land use was estimated using employment data and standard floor area per employee factors. The 2004 data was then augmented by the actual development that occurred between 2004 and 2010 using building permit data. There were an estimated 36,137 housing units in the City of Redding in 2010 (including approximately 2,481 mobile home units and 167 recreational units, numbers which are not expected to increase by 2030). Nonresidential floor area was estimated to be approximately 26.6 million square feet in 2010.

The change in land use projected to occur between 2010 and 2030 is based on information of known and potential development projects provided by the City of Redding Development Services Department, and updated in 2011. The amount of each development included in the 2030 forecast was adjusted so that total growth in the city would match overall population and employment growth forecasts assumed for the 2030 Shasta County travel demand model. Total housing units in 2030 is projected to be 43,792, or an

increase of 7,655 units. Nonresidential uses are projected to grow by nearly 3 million square feet to approximately 29.6 million square feet by 2030.

Table 5.1 summarizes the traffic demand estimated to be generated by new development from 2010 to 2030. The table shows only the three housing types and the ten broad nonresidential categories of land use that are projected in the travel demand model to increase between 2010 and 2030. To implement this fee program, the City will develop a comprehensive list of land uses that further breakdown these broad categories consistent with the ITE and the Shasta County Travel Demand model to establish individual DUE's.

Table 5.1 – Traffic Demand Projection (2010–2030)

Land Use ¹	Existing Dwelling Units or 1,000 Square Feet (2010)	Total 2030 (units or 1,000 sq. ft.)	Growth 2010-2030 (Units or 1,000 sq. ft.)	DUE Factor ²	New DUEs
<i>Residential (in units)</i>					
Single Family	24,837	30,740	5,903	1.00	5,903
Multi-family	8,272	9,904	1,632	0.64	1,050
Mobile Home/MH Park	2,481	2,481	-	0.61	-
Senior Housing	380	500	120	0.29	34
Recreational Homes	167	167	-	0.31	-
Sub-total	33,489	41,144	7,655		6,987
<i>Non-residential (in thousand sq. ft. units)</i>					
Industrial	1,351	1,438	86.58	1.35	118
Retail	3,352	5,046	1,694	1.84	3,109
Retail Warehouse	1,071	1,317	246	2.42	596
Office	3,133	3,238	105	2.27	238
School	2,581	2,995	413	0.96	395
Hospital	562	754	192	1.10	212
Residential Care	538	645	107	1.04	111
Hotel	382	452	70	1.25	88
Restaurant	497	505	8	5.19	41
Government	993	1,054	61	0.92	56
Sub-total	14,460	17,444	2,983		4,964
				Total	11,951

¹ See Section 2 for land use type definitions. Growth is measured in dwelling units for residential uses and 1,000 square feet for non-residential uses.

² DUE means "dwelling unit equivalent," or traffic generation by land use per unit compared to a single-family dwelling unit (approximately 6.2 peak-period vehicle-miles per unit). Multi-family generates approximately four peak-period vehicle-miles per unit. Factor for non-residential is per 1,000 square feet.

Transportation Facilities Needed by New Development

The needed transportation improvements are directly related to the increase in peak-period vehicle-miles generated by projected growth through 2030. The travel demand model indicates which road segments and intersections in the existing City of Redding road network will be significantly impacted by the growth in vehicle trips, and will exceed the City's adopted LOS threshold for vehicle/capacity and intersection delay as well as non-motorized uses. An initial set of road improvements that would restore the modeled network to the adopted LOS standard was then added to the 2030 network conditions.

This initial list of road improvements was presented to the Redding Impact Fee and Utility Rate Study Advisory Group at a series of workshops between March and May 2013 for its review and discussion. Several proposed roadway improvements were deleted because a lower level of service on these particular segments was considered acceptable; the improvements would only be required if certain development projects went forward; the improvements would be primarily of benefit to existing development, or to development within the North Redding Traffic Benefit District or the Dana Drive Benefit District; or the improvements would require substantial and unlikely acquisition of additional right-of-way in already developed areas of the city.

The advisory group recommended the final list of improvements for inclusion in the Citywide transportation impact fee program shown in **Table 5.2**.

Table 5.2 – Citywide Traffic Impact Fee Program Recommended Improvements

Project ID	Roadway	Limits of Project	Cost	Project Description
CC1	Churn Creek Rd	Browning St to Bodenhamer Blvd	\$ 2,440,000	Widen Churn Creek Road between Bodenhamer Blvd and Browning Street (approximately 2700 LF). A 96' Right-of-Way is proposed: 5 - 12' lanes and 2 - 8' shoulders and completion of ped facilities.
VC2	Victor Ave	Hartnell to Cypress	\$ 1,993,000	Widen Victor Avenue between Hartnell Avenue and E. Cypress Avenue (approximately 2500 LF). An ultimate 100' Right-of-Way is proposed for this segment of Victor Avenue, but only 70' of improvements are needed at this point: 2 - 11' lanes, center turn lane, 1 - 10' parking, 1 - 6' bike lane and 1 - 10' paved path.
RA	Railroad Ave	Grandview Ave to Schley Ave	\$ 1,803,000	Widen Railroad Avenue between Sheridan Street and Grandview Avenue (approximately 3100 LF). An 84' Right-of-Way is proposed: 3 - 12' lanes, 2 - 6' bike lanes and 1 - 8' parking.
VC3	Victor Ave	Highway 44 to Old Alturas	\$ 2,800,000	Widen Victor Avenue between State Route 44 and Old Alturas Road (approximately 2500 LF). A 84' Right-of-Way is proposed for this segment of Victor Avenue: 5 - 12' lanes and 2 - 8' shoulders.
HIL	Hilltop Dr	River Bend Rd to Browning St	\$ 5,280,000	Widen Hilltop Drive overcrossing over Interstate 5 and widen approach roadway 1,050 feet north of overcrossing and 1,025 feet south of overcrossing. Includes new structure over I-5
CC2	Churn Creek Rd	Intersection with Rancho and Victor	\$ 2,982,000	Construct a roundabout to improve the intersection of Churn Creek Road, Victor Avenue, and Rancho Road.
QH	Quartz Hill Rd	River Ridge Dr to Snow Ln	\$ 1,600,000	Widen Quartz Hill Rd. from Snow Lane to City Limits. A 46ft Right-of-Way from Snow Lane to top of hill (approximately 2,200ft) to be constructed in the interim. The typical section will include the following: 5' sidewalk, 2' curb and gutter, 4' bike lane, 2-12' lanes, 1-4' shoulder, and 2' gravel shoulder.
OLD	Old Alturas Rd	Victor Ave to Shasta View Dr	\$ 6,430,000	An 84' Right-of-Way is proposed for this segment of Old Alturas and an Interim Arterial will be constructed with separated ped facilities. Add Roundabouts at Victor Ave, Lema Rd and Edgewood Dr.
VC1	Victor Ave	Mistletoe Ln to East Cypress Ave	\$ 4,275,000	Widen Victor Avenue between E. Cypress Avenue and Mistletoe Lane (approximately 2700 LF). A 84' Right-of-Way is proposed for this segment of Victor Avenue: 5 - 12' lanes and 2 - 8' shoulders and standard ped facilities.
HAR	Hartnell Ave	Victor Ave to Alta Mesa Dr	\$ 5,442,000	Widen Hartnell Avenue between Victor Avenue and Shasta View Drive (approximately 4150 LF). A 84' Right-of-Way standard arterial section is proposed. Includes bridge over Churn Creek
BIX	I-5 Interchange Improvements	Interchange at South Bonnyview	\$ 4,000,000	Placeholder project for capacity related work at the Interchange of I-5 with South Bonnyview. Need PSR to determine needed improvement. Model input for northbound ramp widening
BE	Bechelli Ln	North of 3rd to Loma Vista	\$ 1,610,000	Widen Bechelli Lane between Wilshire Drive and Estate Street (approximately 3100 LF). An 84' Right-of-Way is proposed: 4 - 12' lanes and 2 - 8' shoulders.
MIN	Minor Projects	Various Roadway, Bike and Ped capacity enhancement, growth related safety and operational improvements	\$ 6,000,000	\$300K annually for roadway widening, bike and ped facilities, and grant match
TCD	Intersection Improvements	Based on City Priority	\$ 7,000,000	\$350K annual allotment for various signal or roundabout installations to maximize capacity
DT1	Debt Service	Bond Debt	\$ 8,209,229	Repayment of bond debt
DT2	Debt Service	Bond Debt/McConnell	\$ 923,460	Shasta View Roundabout Reimbursement Agreement
RAM	Ramp Metering	Mitigation to prevent impacts to Main Line freeways	\$ 1,500,000	Includes placeholder to meter ramps at Twin View, Lake and Cypress
NOR	North Redding Traffic Benefit District	TIF portion of NRTBD Program	\$ 4,000,000	Remaining balance of City-wide TIF portion of the North Redding Traffic Benefit District less previous expenditures for Interchange improvements and traffic analysis
Total City-wide TIF Program Cost Estimate: \$68,287,689				

Transportation Development Impact Fee Program Cost

The total estimated cost of the recommended Citywide TIF improvements is \$68,287,689 and the cost per DUE is \$5,713.97 (\$68,287,689/11,951). Using the cost per DUE ensures that the various types of land development will pay the transportation impact fee in direct proportion to each land use’s relative impact on the road network, on the basis of its single-family unit equivalence.

Fee Schedule

A partial fee schedule for the Citywide TIF is shown on **Table 5.3**. This table includes proposed fees on the two predominant residential types and the three broad non-residential uses based on the cost per equivalent dwelling unit for the city-wide program. The proposed non-residential fees reflect the following specific uses: Retail shopping center; general office building; and general light industrial building. As indicate above, the final fee schedule for transportation will also be expanded to aid in the administration of the fee program by providing rates for a broad range of typical land uses.

Table 5.3 – Proposed Citywide Transportation Impact Fee Schedule

Land Use	TIF Program Cost Per DUE	Peak-Hour Trips	Average Trip Length	Primary Trip Factor ¹	Peak-Hour VMT (Primary Trips)	DUE ² factor	Fee ³
<i>Residential</i>							
Single Family	\$5,713.97	1.00	6.15	1.00	6.15	1.00	\$5,713.97
Multi-family	\$5,713.97	0.62	6.38	1.00	3.96	0.64	\$3,675.15
<i>Nonresidential</i>							
Industrial	\$5,713.97	0.97	8.59	1.00	8.33	1.35	\$7,741.55
Retail	\$5,713.97	3.71	4.61	0.66	11.29	1.84	\$10,487.74
Office	\$5,713.97	1.49	9.36	1.00	13.95	2.27	\$12,957.62

¹ The Original Trip Factor deducts the percentage of pass-by trips

² DUE means "dwelling unit equivalent", or the impact by land use per unit compared to a single family dwelling unit.

³ Fee per dwelling unit for residential land uses and per 1,000 square feet for nonresidential uses.

Sources: Table 5.1 and 5.2

SECTION 6. WATER FACILITIES

Introduction

The following background on the City's water system summarizes the analysis of, need for, and funding related to new water facilities in order to accommodate growth and new development in the City of Redding.

Water Supply. The City of Redding uses both surface-water and groundwater supplies. The surface-water supply is governed under two separate contracts with Reclamation and one with Anderson Cottonwood Irrigation District (ACID). Water is diverted from either the penstocks dropping from Whiskeytown Lake to Spring Creek tributary of Keswick Lake or the Sacramento River at PS1. The City also has two groups of groundwater wells: the Enterprise wells and the Cascade wells. On average, the City gets approximately 69 percent of its total annual supply from surface water and 31 percent from groundwater. Surface water is used seasonally throughout the year and groundwater is used minimally in the winter but peaks along with surface-water use in the summer.

Water Treatment and Distribution. The system infrastructure includes two Water Treatment Plants (WTP), 17 groundwater wells, approximately 2.93 million feet (555 miles) of conveyance and distribution pipelines, ten pump stations and twelve reservoirs providing a total of 33.5 million gallons (MG) of storage. In 2010, the City water system had an average of 28,532 connections serving a population of approximately 90,700 people. The City's average daily demand is approximately 23.0 million gallons per day (mgd), with maximum-day demand (MDD) of 48.9 mgd.

The City's two surface-water treatment plants are the Foothill WTP and the Buckeye WTP. The City also has two groups of groundwater wells: the twelve Enterprise wells, which supply most of the City's groundwater, and the five Cascade wells, which constitute a relatively minor supply. The City's water system is divided into six primary pressure zones: Foothill, Hill 900, Cascade, Enterprise, Hilltop-Dana, and Buckeye. Small sub-zones exist for Mary Lake and Summit City.

Existing Water Demand . During 2010, the Average Daily Demand (ADD) and Maximum Daily Demand (MDD) were 23.0 mgd and 48.9 mgd, respectively. The relative mix of customer types (residential, commercial, industrial) and the percentage of total water use by each customer group has remained fairly constant over the last decade. Residential and commercial water service connections make up 87 percent and 10 percent of the connections, and represent 71 percent and 25 percent of the total water demand, respectively. The remaining 5 percent of the water demands are for a mix of public facilities, industrial, and irrigation users. Key factors related to existing and future water demands include the following:

- The City-wide average water use is 281 gallons per person per day.
- The average ratio of population per water service connection has remained relatively constant at 3.2 persons per connection.
- The City-wide ratio of MDD/ADD is 2.3.

Establishing Water Capacity Fees. Similar to other citywide facilities, the capacity fees² imposed by the City's Water Utility on new or modified connections to the systems are subject to California's Mitigation Fee Act (G.C.66000 et seq.). The capacity fees presented in this report are calculated using the same methodology the City has historically used to calculate water system capacity fees. This includes an incremental cost component covering planned capital improvements, but does not include a buy-in component, or a share of existing infrastructure³, which was recommended as typical industry practice by the Consultant.

Elimination of a buy-in component was recommended by the citizen advisory group assisting the City staff in this study for four reasons: 1) The City currently lacks adequate data to establish the value of existing facilities relative to the remaining capacity of those facilities; 2) the City's fee program has historically not included a "buy-in" component; 3) the current practice is used elsewhere within the utility industry, and 4) the proposed fee fully accounts for all growth-related infrastructure costs identified in the study.

The planning period covered by capacity fee calculations extends to 2022, which reflects a shorter period than covered by the City's existing water master plan. Infrastructure costs beyond 2022 are somewhat speculative at this time and City has determined that water capacity fees will be updated periodically as future projects and costs are better known. The sections below summarize the analysis used to determine the new water capacity fees along with the recommended fees, and documents a reasonable relationship between new development and a capacity fee for funding those facilities. Appendix C includes the quantitative analysis used to derive the fees.

General Capacity Fee Methodology

The calculations for water and sewer capacity fees in this analysis identify the cost of (1) planned, future improvements, (2) future customer's share of existing outstanding debt, and (3) the net present value of future interest payments on anticipated debt. The sum of these three components is the total cost basis, which is then allocated between existing and future users.

The total costs attributable to future users is then divided by the expected number of future customers, as measured in equivalent dwelling or housing units (equivalent to a 5/8 inch size meter). The water capacity fees are based on the size of the water meter at the connection because it represents the proportionate capacity requirements of the connecting parcel.

Demographics and Water Infrastructure

In its simplest form, water capacity fees are calculated by dividing the total value of assets allocated to growth by the total units available to growth (or in other words, the capacity in the system available for new customers). **Table 6.1** below summarizes the projected population growth to year 2022, and indicates 10 percent growth in population and number of equivalent water meters over that period.

² Otherwise known as system development charges or connection fees.

³ With one exception: the new fees do include a portion of the existing system's current debt.

Table 6.1 - Projected Water System Growth Through 2022

EXISTING AND PROJECTED NUMBER OF WATER METER EQUIVALENTS:								
Water Meter Size	Existing Water Meters ¹		Current Equivalent Meters			Projected Equivalent Meters		
			Equivalency Relative to 5/8 inch Meter ¹	Equivalent Meters (EM's)		% Population Increase 2012-2022 ²	Projected No. of EM's (2022)	Additional EM's (2022)
	(%)		(1)	(%)	(2)	(3) = (1)x(2)	(4) = (3) - (1)	
5/8 inch	22,958	83.0%	1.00	22,958	60.1%	10%	25,254	2,296
3/4 inch	2,430	8.8%	1.50	3,645	9.5%	10%	4,010	365
1 inch	1,363	4.9%	2.50	3,408	8.9%	10%	3,748	341
1 1/2 inch	311	1.1%	5.00	1,555	4.1%	10%	1,711	156
2 inch	519	1.9%	8.00	4,152	10.9%	10%	4,567	415
3 inch	57	0.2%	16.00	912	2.4%	10%	1,003	91
4 inch	20	0.1%	25.00	500	1.3%	10%	550	50
6 inch	10	0.0%	50.00	500	1.3%	10%	550	50
8 inch	2	0.0%	80.00	160	0.4%	10%	176	16
10 inch	3	0.0%	145.00	435	1.1%	10%	479	44
12 inch	0	0.0%	215.00	0	0.0%	10%	0	0
Total	27,673	100%	--	38,225	100%	--	42,047	3,822
<i>Percent Increase [(4) ÷ (1)] =</i>								10%

1. Source: City's current billing records and meter factors. 12-inch meter is estimated based on AWWA M6, Table 5-3.
 2. Projections From Shasta County Travel Demand Model.

The system improvement costs are allocated to existing and future users based on various allocation factors for individual types of assets as estimated by the City. The water master plan identifies approximately \$70.7 million in necessary improvements to both maintain the existing system (\$56.4 million) and provide expanded facilities to accommodate growth (\$14.2 million, excluding share of debt payments). In general terms, the water system can be broken down into the following categories:

Water Distribution System Costs. Distribution system costs include the vast network of reservoirs and pipes that provide water to the treatment plants, and deliver water to customers, as well as the pump houses necessary ensure adequate water pressure throughout the system. The cost to replace aging pipes is typically borne by utility rate payers, with any increase in size needed to accommodate new development included in the connection (impact) fee program. Pipes needed to serve new development are paid for by development.

Water System Treatment Plants/Wells. The existing treatment plants and system of wells currently have sufficient capacity to provide for future growth within the planning horizon. Given the age of the Foothill Treatment Plant however, significant improvements will need to be made over the next 10 years to ensure that the system is reliable and meets regulatory standards.

Table 6.2 summarizes the planned facility costs that are allocated to future development and provide the basis for water capacity fees. A more detailed listing of capital projects is provided in Appendix C.

Table 6.2 – Planned Water System Capital Improvements

Water System Capital Assets - Project Category ¹	Allocation to Future Users Services
Services	\$ 294,538
Piping	\$ 12,059,064
Wells	\$ 118,000
Miscellaneous Projects	\$ 1,770,290
Total Project Costs	\$ 14,241,892

Calculated Water Capacity Fees

The capacity fees have been calculated based on the growth projections used in the Shasta County Travel Demand Model, which projects a 10% increase in the number of customers that will connect to the water and sewer systems by the end of Fiscal Year 2021/22. NBS' analysis estimates that the 10% growth rate translates to an additional 3,800 SFR equivalent connections to the water utility during this time period. Based on the results of this analysis, and input from the City, the calculation of the water capacity fee is shown in **Table 6.3**; the capacity fees recommended in this report are summarized in **Table 6.4**.

Table 6.3 – Calculation of Water Capacity Fee

Assets Allocated to Future Development and Calculated New Water Capacity Fee	Water Utility Capacity Fee ⁶	Comments
<i>System Asset Values Allocated to New Development</i>	(%)	
Future System Expansion ¹	14,241,000 66%	20.4% Allocation to Growth (per City Proforma).
<i>Adjustments to Cost Basis:</i>		
Future Customer's Share of Outstanding Debt ²	\$ 5,917,000 27%	21.5% Allocation to Growth per City Estimates
Future Customer's Share of Future Debt ³	1,537,000 7%	25% Allocation to Growth per City CIP Cost Estimates
Total: Adjustments to Cost Basis	\$ 7,454,000 34%	
Net Adjusted Cost Basis for New Development	\$ 21,695,000 100%	
<i>Projected New Equivalent Meters (through 2022)⁴</i>	3,822	
Calculated Water Capacity Fee (\$/Equiv. 5/8" meter)⁵	\$ 5,600	

1. Refer to detailed exhibits of planned capital projects.
2. The City assumes that 51% of the debt service will be paid using capacity fee revenues, so this amount is an additional asset cost that should be included in their capacity fee calculation.
3. Future customer's share of the net present value of estimated interest payments.
4. Allocation Basis: Shasta County Travel Demand Model.
5. Adjusted System Costs divided by Equivalent 5/8" Meters, rounded down to nearest \$100 increment.
6. Existing System Buy-In and Cash Reserves were excluded. This is consistent with the City's previous capacity fee methodology.

Table 6.4. Summary of Updated Water Capacity Fees

Meter Size	Updated Capacity Fee Per Meter	Existing Capacity Fee Per Meter	\$ Change	% Change
5/8 inch	\$5,600	\$6,889	(\$1,289)	-18.7%
3/4 inch	\$8,400	\$10,333	(\$1,933)	-18.7%
1 inch	\$14,000	\$17,222	(\$3,222)	-18.7%
1 1/2 inch	\$28,000	\$34,445	(\$6,445)	-18.7%
2 inch	\$44,800	\$55,111	(\$10,311)	-18.7%
3 inch	\$89,600	\$110,222	(\$20,622)	-18.7%
4 inch	\$140,000	\$172,223	(\$32,223)	-18.7%
6 inch	\$280,000	\$344,445	(\$64,445)	-18.7%
8 inch	\$448,000	\$551,112	(\$103,112)	-18.7%
10 inch	\$812,000	\$998,891	(\$186,891)	-18.7%
12 inch	\$1,204,000	\$1,481,114	(\$277,114)	-18.7%

As shown in these figures, City staff and the citizen advisory group working with City staff on this study recommended a fee of \$5,600 per 5/8 inch meter or equivalent for water, although the City Council could adopt lower fees. These calculated capacity fees are projected to be valid through the end of Fiscal Year 2021/22, and include the planned capital improvements and the expected growth in the customer base for the next nine years. However, they should be periodically reviewed and adjusted as needed to reflect changes in growth rates, needed projects to accommodate growth, capital improvement costs and/or other assumptions.

It should be noted that the potential fee indicated above is lower than the capacity fee in effect at the time this report was prepared. This primarily is the result of the City’s decision to utilize a shorter time frame to estimate needed growth related system improvements (10 years rather than 20 years) for this update. However, funding needed to address system demand contained in the 2000 Comprehensive Impact Fee Study for water is still valid. The timing of required improvements have been affected by the new growth projections contained in this study and the conservative approach taken to project system needs only for a 10 year period.

Water Capacity Fee Findings Statements

This study submits the following findings, which have been substantiated and quantified by the technical analysis in this Section (Section 6) and Appendix C and reflect accepted industry standards as well as prevailing practices of the City:

- The purpose of the water capacity fee is to ensure that new and upsized connections to the systems reimburse and/or mitigate a reasonable portion of the capital investments made and/or planned by the City. These are investments which benefit or are necessary to accommodate increased demand for water service.
- The City uses capacity fee proceeds to fund capital investments in the water system, which include the future design and construction of planned facilities. The City also uses capacity fees to repay the outstanding debt that was used to fund past capital improvements and to repay debt that the City plans on issuing to fund capital projects for expansion related purposes.
- All parcels seeking permission to connect to the City’s water system are subject to the water capacity fee, payment of which is a condition of connection approval. Appendix C identifies the total number of projected future water customers. In addition to the 38,225 equivalent meter

service units currently in service, the City expects to add approximately 3,822 additional equivalent meter service units by year 2022.

- Capacity fees for new water customers vary depending on the size of the water meter serving the connection. Meter size is directly proportionate to the demands a parcel places on the water utility system. Once connected, the City must meet those demands, specifically the peaking requirements related to the meter size. Appendix C illustrates the equivalency factors differentiating meter sizes, based on their maximum continuous flow. Of 27,673 meters currently connected to the system, 83% are 5/8-inch meters, representing an equivalency factor of 1.0, from which the number of equivalent meters for all larger meters are calculated.
- The City has made past investments in water infrastructure, and plans to invest further in expanded and upgraded facilities. These investments make possible the availability and continued reliable provision of utility service sufficient to meet demands inclusive of growth within the City's service area.
- Without capital investment in existing facilities, the water system capacity available to serve the needs of future connections would be uncertain. Without planned investments in future facilities, water service would not be sustainable at the level of service enjoyed by current users. Appendix C identifies the total value of planned water system assets which are attributable to serving future connections, which amounts to approximately \$14.2 million.
- Capacity fees are derived directly from the value of capital investments in existing and planned water facilities. Table 6.3 derives and identifies the water infrastructure cost per equivalent dwelling unit for a new connection. A unit cost of \$5,600 per equivalent dwelling unit was calculated, 27% of which is related to the outstanding debt owed on existing infrastructure, and 73% for planned future facilities and future debt.
- Upon payment of a capacity fee, a new customer incurs the obligation to pay the same ongoing service rates as existing customers, regardless of the date of connection to the systems or the actual start of service. Assessment of capacity fees ensures that over time, ongoing service rates are not disproportionately burdened by the accommodation of system growth.

SECTION 7. WASTEWATER FACILITIES

Introduction

The following background on the City's wastewater system and summarizes the analysis of the need for and funding of new wastewater facilities in order to accommodate future growth and development in the City of Redding.

Existing Facilities. The City operates two wastewater treatment facilities, Clear Creek and Stillwater:

- **Clear Creek Basin:** The Clear Creek Basin encompasses areas west of the Sacramento River, the western portion of the Enterprise area, and areas served upstream of the North Market Street Lift Station. The Clear Creek Basin collection system includes 11 lift stations for pumping wastewater across the Sacramento River or over ridges. The collection system terminates at the Clear Creek Wastewater Treatment Plant (WWTP), and treated effluent is discharged to the Sacramento River.
- **Stillwater Basin:** The Stillwater Basin encompasses areas east of the Sacramento River, including: Boulder Creek and Churn Creek drainage basins upstream of the Churn Creek Lift Station, and the Clover Creek Interceptor which terminates at the Stillwater WWTP. The Stillwater Basin collection system includes three lift stations, including the Churn Creek Lift Station. The Stillwater service area covers approximately one third of the current population of the City. This portion of the City is expected to experience a higher growth rate than the Clear Creek Collection System side and at UBO expected to serve approximately half of the population. The area serves the eastern and northern portions of the City in regions referred to in prior planning efforts and engineers reports as Twin View, Eastern Enterprise, and Stillwater Creek Service Areas. The service area contains approximately 20% commercial and industrial connections and serves the Stillwater Business Park.

The capacity fees imposed by the City's Wastewater Utility on new or modified connections to the systems are calculated in a very similar manner to water capacity fees. These sewer fees follow the City's historical methodology used to calculate the current wastewater capacity fees, which includes an incremental cost component, plus a portion of the sewer system's existing debt, and does not include a "buy-in" component recommended by the Consultant. The provided information documents a reasonable relationship between new development (growth) and a connection fee for funding these facilities. The planning period is through year 2022.

The sections below summarize the analysis used to determine the new wastewater capacity fees along with the recommended fees. Appendix F includes the quantitative analysis used to derive the fees.

Demographics and Wastewater Infrastructure

The sewer capacity fees have been calculated based on the growth projections used in the Shasta County Travel Demand Model, which projects the increase in the number of customers that will connect to the sewer system by the end of Fiscal Year 2021/22. NBS' analysis estimates that the sewer utility will see approximately 4,100 new equivalent housing unit connections during this time period. **Table 7.1** below summarizes the projected number of equivalent sewer service units to year 2022, and indicates 9 percent growth over that period.

Table 7.1 – Sewer System Demographics

Allocation Factors for Existing and Future Sewer System Service Units						
Demographic Statistics	Existing Total	Projected Service Total ¹	Cumulative Change		Allocation Factors	
			Number of Units	% Increase	Existing Services	Future Services
Equivalent Service Units	41,160	45,275	4,116	9%	91%	9%

1. Projected 2022 service total based on Shasta County Travel Demand Model growth estimates.

The sewer infrastructure costs included in the capacity fees are allocated to existing and future users based on various allocation factors as estimated by the City, such as the level of service future improvements provide to future users. The wastewater master plan identifies approximately \$139 million in necessary improvements to both maintain the existing system (approximately \$110 million) and provide expanded facilities to accommodate growth (approximately \$28.4 million, excluding share of debt payments). In general terms, the wastewater system can be broken down into the following categories:

Wastewater Collection System. The collection system includes the vast network of pipes and “lift stations” necessary to collect and move wastewater from customers to the treatment plants. The cost to replace aging pipes is typically borne by utility rate payers, with any increase in size needed to accommodate new development included in the connection (impact) fee program. Pipes needed to serve new development are paid for by development. Approximately 35% of costs attributable to future users is for collection system improvements.

Wastewater System Treatment Plants/Equipment. Given recent upgrades, the existing treatment plants currently have *sufficient capacity* to provide for future growth within the planning horizon. However, the future users will have to shoulder their portion of the outstanding debt that made the capacity upgrades possible. This debt, together with planned projects, represent approximately 65% of costs attributable to future users.

Table 7.2 summarizes the planned future sewer system assets and their percentage allocation to growth.

Table 7.2 – Sewer System Assets

Sewer System Assets - Project Category ¹	Allocation to Future Users ²
Collection System Division Projects	\$ 9,969,049
Treatment Plant Improvements	\$ 12,237,364
Treatment Capital Equipment	\$ 6,171,712
Total System Costs	\$ 28,378,125

1. Project descriptions and costs were provided by City Staff (see Wastewater Utility Proformas).

2. The costs of planned assets allocated to future users based on City allocations presented in the Wastewater Utility Proformas.

Calculated Sewer Capacity Fees

In the past, the City established capacity fees based on a “Household Equivalent” (HE). Essentially, a typical single family residence represents a single HE. The capacity fee for other uses was increased or decreased based on the amount of effluent discharged into the system (i.e., the “flow”) relative to a single family residence. While this method is widely used in the industry, it is very difficult to obtain accurate data on effluent discharge for each use and the program is cumbersome to administer.

In performing a detailed analysis of the usage characteristics of existing customers, the City opted to establish sewer capacity fees based on the size of the water meter provided to each new development project. However, sewer capacity fees for single family residences would be the same regardless of the size of meter. Since the City’s Water Efficient Landscape Ordinance (Chapter 16.70 of the Redding Municipal Code) requires virtually all new multiple family and commercial developments to provide separate meters for landscape purposes, the City believes relying on the water meter capacity for new structures provides a reasonable relationship between water usage and the amount of effluent produced by a given customer. Furthermore, it was determined that effluent strength from such uses as restaurants represented no measureable additional cost component to the sewer collection system and only a minor component of sewer treatment plant costs; therefore, it is more appropriate to capture additional treatment costs through the utility rates

Based on the results of the sewer capacity fee analysis, the calculation of the sewer capacity fee is shown in **Table 7.3**; the sewer capacity fee recommended in this report is summarized in **Table 7.4**. This fee is based on a household equivalent (HE) unit; individual new connections would be assessed based on the total number of calculated HE’s as represented by water meter size (see Table 6.1 for equivalency factors). Typical single-family residential customers, by definition, are one HE. Certain commercial or industrial connections with non-residential strength factors (i.e., the levels of biochemical oxygen demand and total suspended solids in their wastewater effluent) may be evaluated individually to determine their total HE’s for capacity fee purposes.

Table 7.3 – Allocated Sewer System Costs and Capacity Fee Calculation

Assets Allocated to Future Development and Calculated New Sewer Capacity Fee	Sewer Utility Capacity Fee ⁶	Comments
<i>System Asset Values Allocated to New Development</i>		
Future System Expansion ¹	\$ 28,378,000	20.4% Allocation to Growth. ⁷
<i>Adjustments to Cost Basis:</i>		
Future Customer’s Share of Outstanding Debt ²	\$ (668,000)	21.5% Allocation to Growth per City Estimates
Future Customer’s Share of Future Debt ³	1,192,000	25% Allocation to Growth per City Estimates
Total: Adjustments to Cost Basis	\$ 524,000	
Net Adjusted Cost Basis for New Development	\$ 28,902,000	
Projected Increase in Connections (HE’s) to Sewer System ⁴	4,116	
Impact Fee - Base Fee (\$/HE)⁵	\$ 7,000	

1. Refer to details of planned capital projects.
2. Future customer’s share of outstanding debt principal, net present value of interest payments, less unspent impact fee reserves.
3. Future customer’s share of the net present value of interest payments.
4. Allocation Basis: Shasta County Travel Demand Model.
5. Adjusted System Costs divided by HE’s, rounded down to nearest \$100 increment.
6. Existing System Buy-In and Cash Reserves are excluded. This is consistent with the City’s previous capacity fee methodology.
7. Alternative adopted by City Council based on City staff recommendation.

Table 7.4. Updated Sewer Capacity Fee

User Type	Updated Capacity Fee Per Connection	Existing Capacity Fee Per Connection	Change from Existing to Updated Capacity Fee	
Equivalent Housing Unit (\$/HE)	\$7,000	\$6,920	\$80	1%

Wastewater Capacity Fee Findings Statements

This study submits the following findings, which have been substantiated and quantified by the technical analysis presented in this Section (Section 7) and Appendix D, which reflect accepted industry standards as well as prevailing practices of the City:

- The purpose of the sewer capacity fee is to ensure that new and upsized connections to the systems reimburse and/or mitigate a reasonable portion of the capital investments made and planned by the City which benefit or are necessary to accommodate increased demand for sewer service.
- The City uses sewer capacity fee proceeds to fund capital investments in the sewer system, which include the future design and construction of planned facilities. The City also uses capacity fees to repay the outstanding debt, which was used to fund past capital improvements and to repay debt that the City plans on issuing to fund capital projects for expansion related purposes.
- All parcels seeking permission to connect to the City's sewer system are subject to the sewer capacity fees, payment of which is a condition of connection approval. Appendix D identifies the total number of projected future sewer customers in terms of household equivalents (HE's). In addition to the 41,160 equivalent housing units currently in service; the City expects to add approximately 4,116 additional equivalent meter service units by year 2022.
- Capacity fees for new sewer customers vary depending on the type of user that is connecting to the system. Type of use is directly proportionate to the demands a parcel potentially may place on the sewer utility system. The sewer capacity fees are based on equivalent housing units, therefore a single-family residential user would pay a capacity fee for one equivalent housing unit, and other user types would pay a fee based on how many single-family equivalent units there are at each location based on the size of their domestic water meter.
- The City has made past investments in sewer infrastructure and plans to invest further in expanded and upgraded facilities. These investments make possible the availability and continued reliable provision of utility service sufficient to meet demands inclusive of growth within the City's service area.
- Without capital investment in existing facilities, the sewer system capacity available to serve the needs of future connections would be uncertain. Without planned investments in future facilities, sewer service would not be sustainable at the level of service enjoyed by current users. Appendix D identifies the total value of planned system assets that are attributable to serving future connections, which amounts to approximately \$28.4 million.
- Capacity fees are derived directly from the value of capital investments in existing and planned sewer facilities. Table 7.3 derives and identifies the sewer infrastructure cost per household equivalent unit for a new connection. A unit cost of \$7,000 per household equivalent unit was calculated, which is attributed to future planned facilities. There is a small reduction to the total cost basis for outstanding debt net of unspent capacity fees.
- Upon payment of a capacity fee, a new customer incurs the obligation to pay the same ongoing service rates as existing customers, regardless of the date of connection to the systems or the actual start of service. Assessment of capacity fees ensures that over time, ongoing service rates are not disproportionately burdened by the accommodation of system growth.

SECTION 8. IMPLEMENTATION

This section identifies tasks that pursuant to California Government Code Section 66000 et seq., the City should complete when implementing and/or updating any impact fee program.

Impact Fee Program Adoption Process

Impact fee program adoption procedures are found in the California Government Code Section 66000 et seq. Adoption of an impact fee program requires the City Council to follow certain procedures including holding a public hearing (California Government Code Section 6062a). Mailed notice 14 days prior to the public hearing is required only for those individuals who request such notification. Data, such as this impact fee report, and referenced material must be made available at least 10 days prior to the public hearing.

The City's legal counsel should inform the City of any other procedural requirements as well as advice regarding adoption of an enabling ordinance and/or a resolution. After adoption, there is a mandatory 60-day waiting period before the fees go into effect, unless an Urgency Ordinance, valid for 30 days, is adopted making certain findings regarding the urgency being claimed. The ordinance must be readopted at the end of the first period (and possibly at the end of the second period depending on City Council meeting dates) to cover the next 30 days and therefore the entire 60-day waiting period. Fees adopted by urgency go into effect immediately. This procedure must also be followed for fee increases and updates.

Programming Revenues and Capital Improvement Projects

The City should update its Capital Improvement Plan to identify specific projects and program fee revenues to those projects. Use of the Capital Improvement Plan in this manner documents a reasonable relationship between new development and the use of fee revenues.

For the planning period of the Capital Improvement Plan, the City should allocate all existing fund balances and projected fee revenue to facilities projects. The City should plan its Capital Improvement Plan expenditures at least five years in advance and show where all collected development impact fee revenues will be spent. The City can hold funds in a project account for longer than five years if necessary to collect sufficient funds to complete a given project.

Funds Needed to Complement Impact Fee Program

In adopting the fees as presented in this report, additional funds should be identified to fund the share of costs not related to new development.

Inflation Adjustment

The costs in this report are shown in 2012 dollars (unless otherwise noted) based on information provided by the City and researched sources. To ensure that the fee program stays current with the prevailing cost of construction, the City should periodically adjust the costs by an inflation index, or by a factor based on experience with actual local construction projects. The Engineering News Record Construction Cost Index 20-City average or other suitable index may be used to adjust impact fees in general. However, for specific cost categories, the City may apply a factor that is more appropriate to the type of facility.

Combining Fees

Impact fee revenues may be combined into two or more fee categories at the City's discretion, to facilitate administration, as long as an accounting is kept as to the revenues generated by each facility category (see heading "Earmarking of fee revenues" below).

Compliance Requirements

The California Mitigation Fee Act (Government Code Section 66000 et seq.) mandates procedures for administration of impact fee programs, including collection, accounting, refunds, updates, and reporting. The City should comply with the annual and five-year reporting requirements. For facilities to be funded with a combination of impact fees and other revenues, the City must identify the source and amount of the other revenues. The City must also identify when the other revenues are anticipated to be available to fund the project. The City's compliance obligations vis-à-vis the Act include but are not limited to the following specific requirements:

Collection of Fees – Section 66007 provides that a local agency shall not require payment of fees by developers of residential projects prior to the date of final inspection, or issuance of a certificate of occupancy, whichever comes first. In a residential development of more than one dwelling unit, the local agency may choose to collect fees either for individual units or for phases upon final inspection, or for the entire project upon final inspection of the first dwelling unit when it is completed. The local agency may require the payment of those fees or charges at an earlier time if: (A) the local agency determines that the fees or charges will be collected for public improvements or facilities for which an account has been established and funds appropriated and for which the local agency has adopted a proposed construction schedule or plan prior to final inspection or issuance of the certificate of occupancy, or (B) the fees or charges are to reimburse the local agency for expenditures previously made. "Appropriated," as used in this subdivision, means authorization by the governing body of the local agency for which the fee is collected to make expenditures and incur obligations for specific purposes.

Fee Exemptions, Reductions and Waivers – In the event that a development project is found to have no impact on facilities for which fees are charged, such project must be exempted from the fees. If a project has characteristics that indicate its impacts on a particular public facility or infrastructure system will be significantly and permanently smaller than the average impact used to calculate impact fees in this study, the fees should be reduced accordingly.

In some cases, the City may desire to voluntarily waive or reduce impact fees that would otherwise apply to a project to promote goals such as affordable housing or economic development. Such a waiver or reduction may not result in increased costs to other development projects, and are allowable only if the City offsets the lost revenue from other fund sources.

Credit for Improvements by Developers – If the City requires a developer, as a condition of approval, to construct facilities or improvements for which impact fees have been or will be charged, the impact fee imposed on that development project for that type of facility must be adjusted to reflect a credit for the cost of facilities or improvements constructed or otherwise provided by the developer. If the reimbursement would exceed the amount of the fee to be paid by the development for that type of facility, the City may seek to negotiate a reimbursement agreement with the developer.

Earmarking of Fee Revenues – Government Code Section 66006 mandates that the City shall: "deposit fees for the improvement in a separate capital facilities account or fund in a manner to avoid any commingling of the fees with other revenues and funds of the City, except for temporary investments"... Fees must be expended solely for the purpose for which they were collected. Interest earned on the fee revenues must also be placed in the capital account and used for the same purpose. The Act is not clear as to whether depositing fees "for the improvements" refers to a specific capital improvement or a class of improvements (e.g., fire protection, traffic or park facilities). Recommended practice is for the City is to maintain separate funds or accounts for impact fee revenues by facility category, but not necessarily for individual projects.

Reporting – Government Code Section 66006 requires that once each year, within 180 days of the close of the fiscal year, the City must make available to the public the following information for each account established to receive impact fee revenues:

1. The amount of the fee.
2. The beginning and ending balance of the account or fund.
3. The amount of the fees collected and interest earned.
4. Identification of each public improvement on which fee revenues were expended and the amount of the expenditures on each improvement, including the percentage of the cost of the public improvement that was funded with fee revenues.
5. Identification of the approximate date by which the construction of a public improvement will commence, if the City determines sufficient funds have been collected for the financing of an incomplete public improvement.
6. A description of each inter-fund transfer or loan made from the account or fund, including interest rates, repayment dates, and a description of the improvements on which the transfer or loan will be expended.
7. The amount of any refunds or allocations made pursuant to Government Code Section 66001, paragraphs (e) and (f).

The above information must be reviewed by the City Council at its next regularly scheduled public meeting, but not less than 15 days after the statements are made public.

Findings and Refunds – Government Code Section 66001 requires that, for the fifth fiscal year following the first deposit of any impact fee revenue into an account or fund as required by Government Code Section 66006, and every five years thereafter, the City shall make all of the following findings for any fee revenues that remain unexpended, whether committed or uncommitted:

1. Identify the purpose to which the fee will be put.
2. Demonstrate the reasonable relationship between the fee and the purpose for which it is charged.
3. Identify all sources and amounts of funding anticipated to complete financing of incomplete improvements for which the impact fees are to be used.
4. Designate the approximate dates on which the funding necessary to complete financing of those improvements will be deposited into the appropriate account of fund.

Annual Update of Capital Improvement Program – Government Code Section 66002 provides that if a local agency adopts a Capital Improvement Plan to identify the use of impact fees, that program must be adopted and annually updated by a resolution of the governing body at a noticed public hearing. The alternative is to identify improvements in other public documents.

The City's current Capital Improvement Program is structured around a two-year update cycle. While the City also identifies the improvements in other documents (master plans, budget documents, fee nexus studies, etc.) the City should move to the annual approval of the CIP per Sec. 66002, or, alternately, re-describe the purpose of the CIP.

Local Implementation

Local administrative procedures will be necessary to insure that the on-going application and collection of the impact fees on a project-specific basis meets the direction and intent of CGC Section 66000 et seq. The City of Redding has adopted such procedures, and they should be updated prior to full implementation of the fee program. The City's local administrative procedures will address topics such as a change in use or the demolition of a building, calculation of fees for specific types of uses, the transfers of credits from one property to another, the calculation of fees for mixed-use projects, and similar issues. The full range of these topics is beyond the scope of this nexus study, but they must be consistent with the requirements of CGC Sec. 66000.

Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS and PMC have relied on a number of principal assumptions and considerations with regard to financial matters, conditions and events that may occur in the future. These assumptions and considerations, including the City's budgets, planning information, and technical direction from City staff, were provided by sources we believe to be reliable. Additionally, the City has co-authored this report and has, at their sole discretion, included statements that should not be considered as the opinions of NBS or PMC.

While we believe NBS' and PMC's use of City-provided information and assumptions is reasonable for the purpose of this report, some assumptions will invariably not materialize as stated herein and may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

APPENDIX A: FIRE FACILITIES CURRENT INVENTORY AND REPLACEMENT COSTS

Station No.	Address/Maintenance	Floor Area (sq. ft.)	Type of Construction	2007 Replacement Cost	2013 Replacement Cost ¹	Insured Contents 2007 Value	Insured Contents 2013 Value ²	Acres	Estimated Land Values ³
Fire Admin.	777 Cypress Avenue	3,456	Metal/Stucco	\$1,296,000	\$1,474,832				
1	1335 Shasta Street	9,808	Reinforced Concrete/Two-story	\$3,628,960	\$4,129,712	\$160,000	\$181,373	0.32	\$110,313
2	3491 Placer Street	5,397	Joisted Masonry/Single-Story	\$1,996,890	\$2,272,436	\$160,000	\$181,373	1.55	\$534,328
3	4255 Westside Road	4,275	Joisted Masonry/Single-Story	\$1,581,750	\$1,800,012	\$160,000	\$181,373	0.43	\$148,233
4	2605 Bonnyview Road	5,397	Joisted Masonry/Single-Story	\$1,996,890	\$2,272,436	\$160,000	\$181,373	0.85	\$293,019
5	955 Hartnell Avenue	8,470	Joisted Masonry/Two-Story	\$3,133,900	\$3,566,340	\$210,000	\$238,053	1.37	\$472,277
6	1695 Beltline Road	5,397	Joisted Masonry/Single-Story	\$1,996,890	\$2,272,436	\$160,000	\$181,373	1.05	\$361,964
7	3772 Flight Avenue	8,000	Metal/Stucco/Single-Story	\$3,184,000	\$3,623,353	\$160,000	\$181,373	0.25	\$86,182
8	131 Churn Creek Road	7,988	Metal/Stucco/Single-Story	\$2,995,000	\$3,408,273	\$160,000	\$181,373	2.99	\$1,030,736
Storage Building	20055 Viking Way	4,500	Metal/Stucco/Single-Story	\$275,000	\$312,947	\$250,000	\$283,396		
Totals:		62,688		\$22,085,280	\$25,132,777	\$1,580,000	\$1,791,062		\$3,037,052

¹ 2013 Replacement cost is calculated using the March 2013 ENR Construction Cost Index.

² 2013 Insured contents is calculated using the 2007-2013 CPI San Francisco Region

³ Current land value based on 2007 cost of \$10 per square foot of adjusted land valuation data from Shasta County Assessor data: \$7.91 per square foot
Source: City of Redding Fire Department

**APPENDIX A:
FIRE APPARATUS INVENTORY AND REPLACEMENT VALUES**

Description	No. of Items	Estimated Replacement Cost (2013)	Total 2013 Valuation
Apparatus			
Ladder Truck	2	\$875,000	\$1,750,000
Type I Engine	12	\$525,000	\$6,300,000
Type II Engine	6	\$335,000	\$2,010,000
Water Tender	1	\$200,000	\$200,000
Breathing Support	1	\$250,000	\$250,000
Fire Rescue Boat	1	\$42,788	\$42,788
Staff Emergency Response Vehicles			
SUV	4	\$36,000	\$144,000
Pick-up	10	\$30,000	\$300,000
Sedan	1	\$20,000	\$20,000
Equipment on Apparatus			
Ladder Truck	2	\$78,356	\$156,712
Type I Engine	12	\$58,840	\$706,080
Type II Engine	6	\$45,336	\$272,016
Water Tender	1	\$33,000	\$33,000
Breathing Support	1	\$30,125	\$30,125
Fire Rescue Boat	1	\$31,408	\$31,408
Emergency Response Veh.	15	\$15,500	\$232,500
Total			\$12,478,630

Source: City of Redding Fire Department

Appendix A: Other Fire Protection Equipment

Description	No. of Items	Inventory Valuation 2007 (each)	Total Valuation 2013 ¹
Protective Clothing & Equipment	1	\$545,382	\$618,236
Fire Hose ¹	1	\$329,280	\$525,000
Breathing Apparatus ¹	1	\$75,800	\$535,000
Air Refill Station (fixed)	1	\$38,000	\$43,076
Office Equipment	1	\$125,000	\$141,698
Radio/Communications Equipment	1	\$125,638	\$142,421
Total		\$1,239,100	\$2,005,432

¹ 2013 valuations based on the increase in Consumer Price Index-San Francisco Region between 2007-2013, except for fire hose and breathing apparatus.

² 2013 valuation of fire hose and breathing apparatus provided by Redding Fire Department.

Appendix B: Summary of Parks Inventory

SUMMARY INVENTORY	
Park Facility Type	Area
Small Neighborhood Parks	32.46
Large Neighborhood Parks	15.83
Community Parks	31
Regional Parks	88.84
Special Purpose Facilities	104.94
Natural Areas	<u>174.55</u>
Subtotal Existing Developed Parks	447.62 ac.
Trails ¹	148.66 ac.
Private Neighborhood Parks (total from 2004 P,T & O.S MP)	17.20 ac.
Joint Use Areas	21.59 ac.
Total Area	635.07 ac.
Current Service Population	90,200
Park Level of Service Standard	7.04 acs. per 1,000

¹ 13.7 miles identified in 2004 Park, Trails & Open Space Master Plan and 10.72 miles of recent additions (acreage based on 50-foot wide corridor).

Appendix B: Construction Cost Estimate for Model 5-Acre Neighborhood Park

Item Description	Quantity	Unit	Unit Cost	Total Cost
Clearing and Grading	5	Acre	\$ 17,907.09	\$ 89,535.45
Playground Equipment, 2-5 years	1	LS	\$ 40,000.00	\$ 40,000.00
Playground Equipment, 5-11 years	1	LS	\$ 75,000.00	\$ 75,000.00
Engineered wood safety surface for playground equipment	10,000	Sq. Ft.	\$ 3.00	\$ 30,000.00
Full-court basketball, 56' x 90' (50' x 84' court and 3 foot trim)	1	LS	\$ 93,023.00	\$ 93,023.00
Additional Amenities (e.g. Bocce Court, backstops, Wall Ball, Volleyball Courts)	1	LS	\$ 20,000.00	\$ 20,000.00
Trash Receptacles, 55 gal, aggregate stone	6	Each	\$ 785.00	\$ 4,710.00
Concrete Benches, 6 ft. flat	6	Each	\$ 640.00	\$ 3,840.00
Concrete Picnic Shelter, 1000 sq. ft. metal single roof pavillion, concrete floor, security lighting	1	LS	\$ 87,500.00	\$ 87,500.00
Concrete Picnic Tables, 66 in. dia. round	8	Each	\$ 825.00	\$ 6,600.00
ADA Compliant Picnic Tables, 8 ft., concrete	2	Each	\$ 735.00	\$ 1,470.00
Drinking Fountains	1	Each	\$ 9,000.00	\$ 9,000.00
Bike Racks, 7 bike wave rack	2	Each	\$ 1,133.33	\$ 2,266.66
BBQ Grill, 300 sq. in enameled cooking surface	4	Each	\$ 500.00	\$ 2,000.00
Concrete Interior Path (6 ft. wide)	900	LF	\$ 22.20	\$ 19,980.00
Decomposed Granite Trail Circuit, 4 ft. wide, perimeter	1,900	LF	\$ 15.00	\$ 28,500.00
12' Mow Strip, surrounding planting beds	400	LF	\$ 4.00	\$ 1,600.00
Irrigated Multi-Purpose Turf, 2 @ 200' x 300' each	120,000	Sq. Ft.	\$ 2.50	\$ 300,000.00
Ornamental Planting	10,000	Sq. Ft.	\$ 7.50	\$ 75,000.00
Other Ground / Slope Cover	45,000	Sq. Ft.	\$ 1.25	\$ 56,250.00
Monument Entry Sign / Kiosk	1	LS	\$ 3,000.00	\$ 3,000.00
Amended Soil Base, turf, planting beds and miscellaneous ground cover	175,000	Sq. Ft.	\$ 1.00	\$ 175,000.00
Shade Trees, 10 gallons	75	Each	\$ 169.10	\$ 12,682.50
Permanent Rest Rooms (one unisex)	1	Each	\$ 100,000.00	\$ 100,000.00
Water Supply	1	LS	\$ 7,689.23	\$ 7,689.23
Sewer Line	1	LS	\$ 7,500.00	\$ 7,500.00
Drainage	1	LS	\$ 10,000.00	\$ 10,000.00
Electrical	1	LS	\$ 2,000.00	\$ 2,000.00
Parking Lot (3" AC / 4" AB) approximately 2.5% of site, 20 spaces	5,500	SF	\$ 9.50	\$ 52,250.00
Signage (Park Rules, Playground Rules, etc.)	6	Each	\$ 500.00	\$ 3,000.00
				\$ 1,319,396.84
				\$ 263,879.37
				26,387.94
				65,969.84
				65,969.84
				65,969.84
				32,984.92
				13,193.97
	1	LS	\$ 34,444.50	34,444.50
	1	LS	\$ 60,000.00	\$ 60,000.00
				\$ 364,920.85
				\$ 1,684,317.69
				\$ 336,863.54

Appendix B: Park Inventory

Park Name	Type	Address	Developed Area (acres)	Undeveloped Area (acres)	Joint Use Area (acres)	Baseball	Basketball	BBQ	Benches	Drinking Fountain	Picnic Tables	Playground	Restrooms	Soccer Field	Softball	Tennis Courts	Walking Trail	Turf Area	Skateboard Park
Alta Mesa Park	Large Neighborhood	3600 Scorpius Way	5.83			x	x		x	x	x	x	x			x		x	
Alta Mesa School Gymnasium		2301 Saturn Skyway																	
Amethyst Park	Small Neighborhood	2950 Amethyst Way	0.57								x	x							
Benton Dog Park	Special Purpose	1700 Airpark Drive	2.3						x	x									
Big League Dreams (Redding Sports Park)	Special Purpose	20155 Viking Way	35	44		x			x	x	x	x	x		x				
Bob White Park	Small Neighborhood	931 Springer Drive	0.41						x			x							
Buckeye Park	Community Park	3500 Hiatt Drive	9.25	17.84					x	x	x		x		x	x	x		
Caldwell Park	Regional Park	58 Quartz Hill Road	63.84	10.00		x	x	x	x	x	x	x	x	x	x		x	x	x
Recreation Center		56 Quartz Hill																	
North Valley Art League		48 Quartz Hill (Carter House)																	
Aquatic Center		44 Quartz Hill																	
Teen Center		40 Quartz Hill																	
Fish Viewing																			
Skateboard Park																			
Carnelian Park	Small Neighborhood	2487 Lake Redding Drive	0.52				x			x									
Cascade Park	Community Park	2975 Girvan Road	4	23.63			x		x	x	x	x					x	x	
Bike Course																			
Civic Center Grounds	Special Purpose		3.29																
Clover Creek Park	Small Neighborhood	2555 Clover Creek Street	0.6	1.13			x			x		x							
Clover Creek Preserve	Natural Area	3705 Shasta View Drive	106	23					x	x	x							x	
Community Gardens	Special Purpose		3.6																
Convention Center Grounds	Special Purpose	700 Auditorium Dr	10																
Country Heights Park	Small Neighborhood	2899 Howard Drive	1.75	1.83			x		x	x	x	x							x
Creekside Park	Small Neighborhood	6596 Creekside Street	0.87						x	x	x	x							
East Oak Park	Small Neighborhood	1399 Arizona Street	2.6						x	x	x	x						x	
Enterprise Park	Regional Park	4000 Victor Avenue	25	69.59			x	x	x	x	x	x	x	x	x		x	x	
Kids Kingdom																			
Fantasy Fountain																			
Community Center																			
Community Garden																			
Disc Golf																			
Roller Hockey Arena																			
Foothill Park	Small Neighborhood	1160 Hillcrest Place	0.5	0.5						x	x								x
Foxtail Park	Small Neighborhood	1460 Foxtail Court	0.79				x		x	x	x	x							x
Graham Park	Small Neighborhood	955 Hartnell Avenue	0.2					x		x	x								
Hawn Park (Rotary Park)	Small Neighborhood	2703 Hawn Avenue	0.34								x								
Indian Hills Park	Small Neighborhood	3575 Auburn Drive	0.75	0.65			x		x	x		x							

Appendix B: Park Inventory (cont.)

Park Name	Type	Address	Developed Area (acres)	Undeveloped Area (acres)	Joint Use Area (acres)	Baseball	Basketball	BBQ	Benches	Drinking Fountain	Picnic Tables	Playground	Restrooms	Soccer Field	Softball	Tennis Courts	Walking Trail	Turf Area	Skateboard Park
Lake Redding Park	Large Neighborhood	58 Quartz Hill Road	10					x	x	x	x	x	x				x	x	
Horseshoe Pits																			
Boat Ramp																			
Library Park	Special Purpose	1552 Placer Street	0.63						x	x									
Martin Luther King, Jr. Park	Small Neighborhood	1815 Sheridan Street	3.08			x		x	x	x	x	x	x						x
Mary Lake Park	Natural Area	1696 Lakeside Drive	29.59						x	x							x		
Meadow Creek Park	Small Neighborhood	6510 Hemlock Street	0.5	0.87															
Minder Park	Small Neighborhood	1210 Minder Drive	1				x		x	x	x	x					x	x	
Northridge Park	Small Neighborhood	960 Hillside Court	0.75						x	x	x	x							x
Old City Hall Park	Special Purpose	1313 Market Street	0.16						x										
Parkview Green	Small Neighborhood	2855 Lanning Avenue	0.59																x
Parkview Riverfront Park	Natural Area	380 Smile Place	12.5						x	x	x							x	
Peppertree Natural Area Park	Natural Area	515 Peppertree Lane	26.46															x	
Peppertree Park	Small Neighborhood	500 Peppertree Lane	1.21	0.63			x		x	x		x						x	
Ravenwood Park	Small Neighborhood	2001 Charade Way	0.76				x		x	x	x	x							
Redding Soccer Park	Special Purpose	9800 Old Oregon Trail	25						x	x	x	x	x	x				x	
Ridgeview Park	Small Neighborhood	2150 Cumberland Drive	1.83	4.23			x		x	x	x	x							x
Rivercrest Park	Small Neighborhood	790 Woodacre Dr	3.85	2.4			x		x	x	x	x						x	x
Riverfront Park	Special Purpose	712 Auditorium Drive	1.9	17.1					x	x	x		x					x	
Stage																			
Boat Ramp																			
Rodeo Grounds	Special Purpose		12	0															
Rolling Hills Park	Small Neighborhood	3890 Oro Street	1.26				x			x									
Senior Citizens Hall	Special Purpose	2290 Benton Dr	2.56																
Softball Park (Parkview Ave.)	Special Purpose	900 Parkview Avenue	0						x	x			x		x				x
South Bonnyview Boat Launch	Special Purpose	3855 So. Bonnyview Rd	4	2															
South City Park / Tiger Field	Community Park	1250 Parkview Avenue	17.75			x	x		x	x	x	x	x			x			
Stillwater Heights Park	Small Neighborhood	4525 Lynbrook Loop	1.85				x		x	x	x	x							x
T.R. Woods Memorial Park	Small Neighborhood	955 Royal Oaks Drive	2				x		x	x								x	x
The Sculpture Park at City Hall	Special Purpose	777 Cypress Avenue	2.5						x	x								x	
Valley Ridge Park	Small Neighborhood	5414 Valleyridge Drive	0.5	0.96			x			x	x								
Vista Ridge Park	Small Neighborhood	555 Whet Owl Way	0.92				x		x	x	x	x							x
Horseshoe Pits																			
Picnic Pavilion																			
Ball Wall																			

Appendix B: Park Inventory (cont.)

Park Name	Type	Address	Developed Area (acres)	Undeveloped Area (acres)	Joint Use Area (acres)	Baseball	Basketball	BBQ	Benches	Drinking Fountain	Picnic Tables	Playground	Restrooms	Soccer Field	Softball	Tennis Courts	Walking Trail	Turf Area	Skateboard Park	
Waverly Park	Small Neighborhood	2550 Center Waverly Aven	0.75																x	
Western Oak Park	Small Neighborhood	2370 Western Oak Drive	1.71				x		x	x	x	x							x	
Juniper Academy		375 Ellis Street			2	x				x			x		x					
Baseball Fields																				
Soccer Field																				
Gymnasium																				
Mountain View Middle School		675 Shasta View Drive			6					x										
Ball Fields																				
Gym																				
Parsons Junior High School		750 Hartnell Avenue			5.07	x	x			x					x					
Gymnasium																				
Ball Fields																				
Track																				
Sequoia Middle School		1805 Sequoia Street			1.5	x				x							x			
Gymnasium																				
UPrep		2200 Eureka Way			0.34															
Ball Field																				
Gymnasium																				
Track																				
Simpson University		2211 College View Drive			6.5															
Ball Field																				
Turtle Bay Elementary School		1330 Arboretum Drive			0.18	x				x					x					
Gymnasium																				
Turtle Bay Boat Launch	Special Purpose				2															
Totals			447.62	220.36	21.59															

Appendix C – Summary of Planned Water Capital Facilities and Equipment

Summary of Planned Water Capital Facilities and Equipment						
Project Category ¹	Future Cost ¹ Estimate	Costs of Planned System Development (in \$2012) ²	Allocation Basis (%)		Distribution of Cost Basis (\$)	
			Existing Services	Future Services	Existing Services	Future Services
Services	\$ 472,478	\$ 392,718	25%	75%	\$ 98,179	\$ 294,538
Piping	\$ 28,194,126	\$ 23,904,445	96%	4%	\$ 22,983,595	\$ 920,850
Tanks	\$ 475,000	\$ 413,297	100%	0%	\$ 413,297	\$ -
Wells	\$ 2,581,858	\$ 2,177,079	100%	0%	\$ 2,177,079	\$ -
Pumps and Control Valves	\$ 3,770,611	\$ 3,204,221	100%	0%	\$ 3,204,221	\$ -
Treatment Plants	\$ 13,018,867	\$ 11,306,227	100%	0%	\$ 11,306,227	\$ -
Rolling Stock	\$ 1,031,210	\$ 885,303	100%	0%	\$ 885,303	\$ -
Miscellaneous Projects	\$ 2,529,876	\$ 2,266,943	22%	78%	\$ 496,653	\$ 1,770,290
Master Plan Projects	\$ 32,331,140	\$ 26,115,000	57%	43%	\$ 14,858,786	\$ 11,256,214
Total Project Costs	\$ 84,405,165	\$ 70,665,232	80%	20%	\$ 56,423,340	\$ 14,241,892

1. Project descriptions and future cost data were provided by City Staff in the proformas for the Water utility.
2. System Development Cost Basis is the current value (derived from the future cost estimates and reduced for inflation applied to project costs).

Appendix C – Allocation of Debt to Existing and Future Users

ALLOCATION OF DEBT TO EXISTING AND FUTURE USERS:								
Issue: Water Refunding Revenue Bonds, 2003 Series A	Total Amount	Allocation %		Total	Allocation \$		Total	()
		Existing Users	Future Users		Existing Users	Future Users ²		
Outstanding Principal	\$ 8,920,000	49%	51%	100%	\$ 4,370,800	\$ 4,549,200	\$ 8,920,000	1
Net Present Value of Future Interest Payments	\$ 2,682,855	49%	51%	100%	\$ 1,314,599	\$ 1,368,256	\$ 2,682,855	1
Total	\$ 11,602,855	49%	51%	100%	\$ 5,685,399	\$ 5,917,456	\$11,602,855	2

1. Per City Staff estimates, the bond proceeds were used to fund capital projects that benefit existing users 49% and future users (expansion related) 51%.
2. A portion of the outstanding debt is allocated to future customers connecting to the system, therefore, future customers percentage of outstanding principal and the NPV of outstanding interest payments are a cost added to the cost basis of the impact fee.

Appendix C – Allocation of Net Present Value of Future Debt to Existing and Future Users

ALLOCATION OF NET PRESENT VALUE OF FUTURE DEBT TO EXISTING AND FUTURE USERS:							
Issue: Estimated Revenue Bonds	NPV of Interest Payments through 2022 ³	Allocation %		Total	Allocation \$		Total
		Existing Users	Future Users		Existing Users	Future Users	
Estimated Revenue Bonds ^{1,2}	\$ 1,537,436	0%	100%	100%	\$ -	\$ 1,537,436	\$ 1,537,436
Total	\$ 1,537,436	0%	100%	100%	\$ -	\$ 1,537,436	\$ 1,537,436

1. NBS has assumed in the Water Rate Study that the City will issue debt to help cover project costs in years that there are deficits in reserves. Allocation of the new debt to rates and capacity fees is per the total allocation of capital costs for each year, as listed in the City's proforma. Only the portion allocated to capacity fees is shown in this model. The total allocation of new debt through 2022 is 75% Rates and 25% Capacity Fees.
2. The terms assumed for the new debt are as follows: Issuance costs of 2%, annual interest cost of 5%, 30 year term, debt reserve requirement equal to the annual debt service payment.
3. The Net Present Value of interest payments are discounted back at 3% per year.

Appendix D – Current and Projected Number of Sewer HE’s through 2022

Current and Projected Number of Sewer HE's through 2022					
Sewer Customer Class	No. of Accounts ¹ (2012)	No. of Sewer HE Units ¹ (2012)	% Population Increase 2012-2022 ²	Projected No. of Sewer HE Units (2022)	
<i>Residential</i>		(1)	(2)	(3) = (1)x(2) (Add'l HE's)	
Single-Family	22,487	22,851	10%	25,136	2,285
Multi-Family	8,649	8,948	10%	9,842	895
<i>Non-Residential</i>					
Commercial Based on Water Usage	23	75	10%	82	7
Commercial Fixed HE	191	1,653	10%	1,818	165
Food Prep Based on Water Usage	32	11	10%	12	1
Food Prep Fixed HE	12	107	10%	118	11
Food Prep Variable HE	211	1,380	10%	1,519	138
Variable HE	1,897	6,134	10%	6,748	613
Total Number of Accounts	33,502	41,160	--	45,275	4,116

1. Number of accounts and household equivalent units (HE's) as of May 2012, per the City's utility billing data.

2. Projections From Shasta County Travel Demand Model.

Appendix D – Summary of Planned Wastewater Capital Facilities and Equipment

Summary of Planned Sewer Capital Facilities and Equipment									
System Asset Description ¹	Future Cost ¹ Estimate	Costs of Planned System Development (in \$2012) ²	Allocation Basis (%)				Distribution of Cost Basis (\$)		
			Exclude from Analysis ⁴	Existing Services	Future Services	()	Exclude from Analysis ⁴	Existing Services	Future Services
Collection System Division Projects	\$ 77,820,121	\$ 65,698,205	0%	85%	15%	3	\$ -	\$ 55,729,156	\$ 9,969,049
Collection Capital Equipment	\$ 1,342,629	\$ 1,123,113	0%	100%	0%	3	\$ -	\$ 1,123,113	\$ -
Treatment Plant Improvements	\$ 53,373,119	\$ 51,464,417	0%	76%	24%	3	\$ -	\$ 39,227,053	\$ 12,237,364
Treatment Capital Equipment	\$ 24,552,739	\$ 20,688,873	2%	68%	30%	3	\$ 490,233	\$ 14,026,929	\$ 6,171,712
Total System Costs	\$ 157,088,609	\$ 138,974,609	0.4%	79.2%	20.4%		\$ 490,233	\$ 110,106,250	\$ 28,378,125

1. Individual project descriptions and costs were provided by City (see Wastewater Utility Profomas).

2. These System Development Costs are in 2012 dollars (i.e., the inflation factors the City applied were removed from future cost estimates).

3. The costs of planned assets are allocated to existing and future users based on City allocations presented in the Wastewater Utility Profomas.

4. The costs of vehicles are excluded from the analysis because the City determined they are not capacity related costs.

5. SRF Loan proceeds are allocated to existing and future services, per City estimates from 10/3/2012 profoma through FY 2014/15.

Appendix D – Allocation of (Existing) Outstanding Principal to Existing and Future Users

ALLOCATION OF (EXISTING) OUTSTANDING PRINCIPAL TO EXISTING AND FUTURE USERS:					
Issue	Outstanding Principal through 2022	Allocation % ¹		Allocation \$ ¹	
		Existing Users	Future Users	Existing Users	Future Users ²
Wastewater Refunding Revenue Bonds 2002 Series A	\$ 11,815,000	100%	0%	\$ 11,815,000	\$ -
CA SWRCB SRF Agreement #00809-550-0	10,283,257	67%	33%	\$ 6,889,782	\$ 3,393,475
CA SWRCB SRF Agreement #06803-550-0	2,314,961	77%	23%	\$ 1,782,520	\$ 532,441
CA SWRCB SRF Agreement #07819-550-0	2,590,747	77%	23%	\$ 1,994,875	\$ 595,872
CA SWRCB SRF Agreement #07826-550-0	9,308,524	77%	23%	\$ 7,167,564	\$ 2,140,961
CA SWRCB SRF Agreement #11809-550-0	4,491,238	77%	23%	\$ 3,458,253	\$ 1,032,985
CA SWRCB SRF Agreement #10807-550-0	613,036	67%	33%	\$ 410,734	\$ 202,302
Clear Creek WWTP Expansion, Agreement #11810	2,268,322	77%	23%	\$ 1,746,608	\$ 521,714
CA SWRCB SRF Agreement #09824-550-0	4,531,332	77%	23%	\$ 3,489,126	\$ 1,042,206
CA SWRCB SRF Agreement #11800-550-0	3,346,411	77%	23%	\$ 2,576,736	\$ 769,674
CA SWRCB SRF Agreement #10802-550-1	811,414	65%	35%	\$ 527,419	\$ 283,995
Total	\$ 52,374,242	80%	20%	\$ 41,858,617	\$ 10,515,625
Less: Unspent Impact Fees	\$ (14,195,874)	0%	100%	\$ -	\$ (14,195,874)
Total Outstanding Principal Net of Unspent Impact Fees³	\$ 38,178,368	110%	-10%	\$ 41,858,617	\$ (3,680,249)

1. Allocation of outstanding bond principal to existing and future users is per City Staff estimates.

2. A portion of each outstanding loan is allocated to future customers, therefore the outstanding principal is added to the cost basis of the capacity fee.

3. Per direction from City Staff, unspent impact fees held in reserve are allocated as a credit to future customers connecting to the system.

Appendix D – Allocation of (Existing) Net Present Value of Interest to Existing and Future Users

ALLOCATION OF (EXISTING) NET PRESENT VALUE OF INTEREST TO EXISTING AND FUTURE USERS:					
Issue	NPV of Interest Payments through 2022 ¹	Allocation % ²		Allocation \$ ²	
		Existing Users	Future Users	Existing Users	Future Users ³
Wastewater Refunding Revenue Bonds 2002 Series A	\$ 1,802,207	100%	0%	\$ 1,802,207	\$ -
CA SWRCB SRF Agreement #00809-550-0 ⁴	1,830,528	67%	33%	\$ 1,226,454	\$ 604,074
CA SWRCB SRF Agreement #06803-550-0 ⁴	620,817	77%	23%	\$ 478,029	\$ 142,788
CA SWRCB SRF Agreement #07819-550-0 ⁴	838,873	77%	23%	\$ 645,933	\$ 192,941
CA SWRCB SRF Agreement #07826-550-0	3,601,415	77%	23%	\$ 2,773,090	\$ 828,326
CA SWRCB SRF Agreement #11809-550-0	1,571,680	77%	23%	\$ 1,210,194	\$ 361,486
CA SWRCB SRF Agreement #10807-550-0	223,385	67%	33%	\$ 149,668	\$ 73,717
Clear Creek WWTP Expansion, Agreement #11810	873,499	77%	23%	\$ 672,595	\$ 200,905
CA SWRCB SRF Agreement #09824-550-0	666,195	77%	23%	\$ 512,970	\$ 153,225
CA SWRCB SRF Agreement #11800-550-0	1,475,278	77%	23%	\$ 1,135,964	\$ 339,314
CA SWRCB SRF Agreement #10802-550-1	327,464	65%	35%	\$ 212,852	\$ 114,612
Total	\$ 13,831,343	78%	22%	\$ 10,819,955	\$ 3,011,388

1. The Net Present Value of interest payments are calculated using a 3% discount rate.

2. Allocation of the NPV of Interest payments to existing and future users is per City Staff estimates.

3. Portions of future loans are allocated to future customers, and the NPV of future interest payments (and service charges) is added to the cost basis of the capacity fee.

4. NPV of interest payments include service charges, per City Staff.

Appendix D – Allocation of Net Present Value of Future Debt to Existing and Future Users

ALLOCATION OF NET PRESENT VALUE OF FUTURE DEBT TO EXISTING AND FUTURE USERS:					
Issue: SFR Loan Proceeds	NPV of Interest Payments through 2022 ¹	Allocation %		Allocation \$	
		Existing Users	Future Users	Existing Users	Future Users ³
SRF Loan Proceeds - Stillwater 1AB	\$ 3,634,276	75%	25%	\$ 2,725,707	\$ 908,569
SRF Loan Proceeds - Solids Handling Facilities	\$ 1,137,474	75%	25%	\$ 853,105	\$ 284,368
Total	\$ 4,771,750	75%	25%	\$ 3,578,812	\$ 1,192,937

1. The Net Present Value of interest payments are calculated using a 3% discount rate.

2. Allocation of the NPV of Interest payments to existing and future users is per City Staff estimates.

3. Portions of future loans are allocated to future customers, and the NPV of future interest payments (and service charges) is added to the cost basis of the capacity fee.