



**ATKINS**

# **Capital Facility and Impact Fee Study**

Updated Final Report

**Prepared for:  
Vallecitos Water District**

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**Plan Design Enable**



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## Executive Summary

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The Vallecitos Water District (District) is an independent Special District formed in 1955 which provides provides water, wastewater and reclamation services to approximately 94,000 people in a 45-square-mile area that includes the City of San Marcos, the community of Lake San Marcos, portions of the Cities of Carlsbad, Escondido and Vista and other surrounding unincorporated areas of the County of San Diego.

Guided by a comprehensive Water, Wastewater and Recycled Water Master Plan (2008 Master Plan), the District is committed to providing the highest level of water and wastewater services in an efficient, cost effective manner. The District is a member of the Encina Wastewater Authority (Encina), which operates a regional wastewater treatment facility serving North San Diego County.

The purpose of this study is to update the District's Water and Wastewater Capital Facility Fees based on the recently adopted 2008 Master Plan and to address impacts on wastewater treatment as a result of increases in densities greater than those identified in the 2008 Master Plan land use designations. The results of this study are three (3) fees to be incorporated into Ordinances and adopted by the District's governing Board. These fees are the; Water Capital Facility Fee, Wastewater Capital Facility Fee, and Wastewater Density Impact Fee.

Water and Wastewater Capital Facility Fees are one-time fees levied to recover the costs of facilities needed to provide utility service to new connections to the District's water and wastewater systems. These charges are typically collected at the time of development but may also be recovered for expansion of service to existing connections, such as when an existing customer requires a larger water meter or there is an expansion in existing uses. Revenues generated through Capital Facility Fees are used to directly offset system expansion costs and repay debt issued to finance system expansions or improvements.

The District retained Atkins (formerly PBS&J) to assist in updating these growth-related fees. The updated Capital Facility Fees include the following:

- Future capital improvement projects based on the updated 2008 Master Plan
- Revised Equivalent Dwelling Units (EDUs) pursuant to the updated 2008 Master Plan; and
- Financing expansion of capital improvement projects

In addition, this study provides documentation which substantiates the calculation of Wastewater Density Impact Fees which are also one-time fees charged to new developments with increased densities above the land use designations identified in the 2008 Master Plan and which cause increased impacts on wastewater treatment at Encina.

## ES.1 Water and Wastewater Capital Facility Fees

On August 3, 2011, the District adopted the 2008 Master Plan which includes necessary future Capital Improvement Projects based on the adopted land use designations which existed as of June 2008.

In conformance with California law, new developments are required to mitigate their impacts and construct or pay their fair share of the capital facilities needed to provide service which includes the Capital Improvement Projects identified in the 2008 Master Plan. Capital Facility Fees are based on the estimated present value of construction costs for future capital facilities included in the 2008 Master Plan and the present value of financing costs for these facilities based on reasonable financing assumptions.

In addition to being recalculated in conjunction with updates to the Master Plan, Capital Facility fees are automatically adjusted annually based on the Engineering News Record index (ENR index) and also recalculated in conjunction with the adoption of the annual capital budget. Historically the average annual change in the ENR index has been 3%.

Water and Wastewater Capital Facility Fees are further described in Sections 2 and 3 of this report respectively and in Appendix A which includes a printout of all tables from the financial model showing the steps taken in developing the fees. The recommended Capital Facility Fees are included in tables ES-1 and ES-2 below.

### ES.1.1 Water Capital Facility Fee Recommendations

Water Capital Facility Fees are used to recover the costs of storage, transmission and distribution pipelines, and the related facilities identified in the 2008 Master Plan Capital Improvement Projects that will be necessary to provide water service to new developments.

Table ES-1 summarizes the components of the Water Capital Facility fee based on the Capital Improvement Projects identified in the 2008 Master Plan and the related financing costs:

**Table ES-1  
Water Capital Facility Fee Determination**

	<u>Expansion CIP</u>
Water CIP 2011 through 2030	\$ 60,731,000
Existing Debt as of 6/30/10	31,435,910
Cash/Investment Deficit 6/30/10	105,077
Financing Costs	<u>48,025,859</u>
Total Water CIP w/Financing	\$ 140,297,846
Water EDUs	<u>21,600</u>
Water Capital Facility Fee per EDU	<u>\$ 6,495</u>

### ES.1.2 Wastewater Capital Facility Fee Recommendations

Wastewater Capital Facility Fees are comprised of three components (treatment, conveyance, and outfall). The treatment and conveyance components provide wastewater capacity for a total of 13,372 EDUs in the year 2030. The land outfall component provides wastewater capacity for a total of 18,172 EDUs in the year 2050. The differences in the total EDUs are based on the nature of the capital facilities. The current land outfall consists of eight (8) miles of pipeline within a narrow construction corridor that conveys the majority of the District's wastewater to Encina. A new parallel land outfall will be required to handle the District's ultimate flows because there are no reasonable alternatives. While other wastewater capital projects identified in the 2008 Master Plan can be built in incremental phases, the parallel land outfall project will need to be constructed for ultimate capacity due to the complexity of building an 8-mile pipeline within an existing corridor.

Table ES-2 summarizes the components of the Wastewater Capital Facility fee based on the Capital Improvement Projects identified in the 2008 Master Plan and the related financing costs.

**Table ES-2  
Wastewater Capital Facility Fee Determination**

General Wastewater Capital Facility Fee Study				
	<u>Treatment</u>	<u>Conveyance</u>	<u>Land Outfall</u>	<u>Total</u>
Wastewater CIP	\$ -	\$ 19,092,000	\$ 28,200,000	\$ 47,292,000
Existing Debt as of 6/30/10	30,015,063	-	-	30,015,063
Cash/Investment Deficit 6/30/10	4,272,048	4,272,048	-	8,544,096
Financing Costs	<u>10,963,334</u>	<u>9,975,098</u>	<u>16,608,589</u>	<u>37,547,021</u>
Total Wastewater CIP w/Financing	\$ 45,250,445	\$ 33,339,146	\$ 44,808,589	\$ 123,398,180
Wastewater EDUs	<u>13,372</u>	<u>13,372</u>	<u>18,172</u>	
Wastewater Capital Facility Fee per EDU	<u>\$ 3,384</u>	<u>\$ 2,493</u>	<u>\$ 2,466</u>	<u>\$ 8,343</u>

### ES.2 Wastewater Density Impact Fee Recommendations

Developments which increase densities above the land use designations referenced in the 2008 Master Plan place greater impacts on wastewater treatment capacity at Encina. The District's capacity at Encina includes liquids and solids treatment as well as ocean disposal.

Through analyzing the impacts of developments which increase densities above those identified in the 2008 Master Plan, it will be necessary to expand Encina, thus increasing wastewater treatment costs. These increased impacts and costs are further detailed in Section 4 of this report and in Appendix B.

Table ES-3 identifies the Wastewater Density Impact Fee which is based on the Encina Phase IV and Phase V expansion costs for liquids, solids, and ocean disposal. The Wastewater Density Impact Fee will only be collected from the density increase portion of a development. However, the Wastewater Capital Facility Fee also has a treatment component within it. This

treatment component shall be subtracted from the Wastewater Density Impact Fee to preclude duplicate collection of the treatment component costs. Subsequent to this compilation of treatment capacity costs, Encina released a report entitled *Equalization Storage 2011 Update* dated February 2012 that concludes there may not be a need for additional ocean disposal capacity. The estimated cost per EDU of ocean disposal has been deleted from the original Wastewater Density Impact Fee. A resulting Net Density Impact Cost, as shown in Table ES-3, will be charged to developments on the increased density portion only.

**Table ES-3  
Calculation of Wastewater Density Impact Fee per EDU**

Wastewater Density Gross Impact Fee	\$ 8,583
Ocean Disposal	(2,016)
Less Wastewater Treatment Capital Facility Fee	<u>(3,384)</u>
Net Density Impact Fee	<u>\$ 3,183</u>

The calculation of Wastewater Density Impact Fee is as follows:

- The entire development will pay a Wastewater Capital Facility fee shown in Table ES-2 per EDU.
- Developments which increase densities beyond those identified in the 2008 Master Plan and increase impacts on Encina wastewater treatment costs will pay a Wastewater Density Impact Fee per EDU, shown in Table ES-3, on the density increase portion only. Density increases will be clearly identified in the Water and Wastewater Studies which are required for all new developments.

Table ES-4 illustrates an example of the calculation of Wastewater Capital Facility Fees and Net Density Impact Cost. In this example, the Water and Wastewater Study concludes that of the 10 EDUs required to serve the project only 5 EDUs were included in the 2008 Master Plan land use designation. Consequently, the proposed development will be charged the Wastewater Capital Facility Fee for 10 EDU's and the Wastewater Density Impact Fee for 5 EDU's which represent the increase in density beyond the land use designation in the 2008 Master Plan.

**Table ES-4  
Sample Fee Calculation**

EDUs	Number	Fee	Total
Entire Development	10	\$ 8,343	\$ 83,430
Increased Density	5	3,183	<u>15,915</u>
			<u>\$ 99,345</u>

## Section 1

# Capital Facility Fee Background

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As noted in the Executive Summary, the Vallecitos Water District provides water and wastewater collection services to the residents and customers within the boundaries of the District. The infrastructure necessary to supply water and collect, treat, and dispose of wastewater is identified in the District's 2008 Master Plan. The Capital Improvement Program (CIP) for water and wastewater outlined in the 2008 Master Plan forms the basis for the Capital Facility Fees identified in this report. The CIP in the 2008 Master Plan provides a roadmap for the District on how to accommodate planned growth over time. The 2008 Master Plan utilizes adopted land uses from the individual land use agencies including the Cities of San Marcos, Escondido, Vista, Carlsbad, and the County of San Diego to evaluate when and where to implement the CIP.

Revenues generated through Capital Facility Fees are used to directly offset CIP costs and to repay debt issued to finance system expansion and improvements. In addition to being recalculated in conjunction with updates to the Master Plan, Capital Facility fees are automatically adjusted annually based on the Engineering News Record index (ENR index) and also recalculated in conjunction with the adoption of the annual capital budget.

### 1.1.1 Master Plan and PEIR

On August 3, 2011 the District adopted the 2008 Master Plan and Program Environmental Impact Report (PEIR). The 2008 Master Plan analyzes adopted land uses to determine future water and wastewater demands, and identifies the water and wastewater CIP facilities which will be required to meet projected demands within the District's service area and sphere of influence through 2030. CIP facilities include pump and lift stations, storage reservoirs, water and sewer mains, and a parallel land outfall. The PEIR evaluated, at a programmatic level, the environmental impacts the CIP facilities.

### 1.2 Legal Requirements

Developmental fees are governed by California Government Code Section 66000 et. seq. commonly known as AB 1600. Section 66013 pertains specifically to water and sewer capital facility charges and provides that the fee "*shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed*" unless approved by a two-thirds vote. The statute further provides that capacity charges can recover cost for facilities in existence at the time a charge is imposed or charges for new facilities to be constructed in the future that will provide benefit to the property being charged. The code also specifies a number of accounting and reporting regulations relating to capacity fees.

### 1.3 The District's Capital Facility Fee Methodology

The District bases its capital facility fees on the growth or incremental methodology. The growth methodology is a fairly common approach for establishing capital facility fees, particularly for

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communities experiencing significant new growth. The approach is based on the cost of future capital facilities required to reasonably accommodate planned growth. This cost is allocated to the new growth that is to be served by the facilities. No allowance is made for existing system capacity that may also serve new connections. Under this approach, new customers and existing customers with increased demands pay for the incremental investment necessary for system expansion. The incremental approach is most commonly applied when new facilities and/or upgrades to existing facilities are required to provide capacity for new growth. This methodology must also meet the following criteria to be considered viable.

*Financially Stable* – Capital Facility Fees should be effective in recovering the costs of providing capacity for growth.

*Equitable* – Capital Facility Fees should reflect the estimated reasonable cost of providing capacity for growth.

*Administratively Feasible* – Capital Facility Fees should be administratively straightforward and easily explained.

*Legally Justifiable* – Capital Facility Fees must be developed in accordance with current California statutes and court decisions.

### 1.3.1 Calculation of the District's Capital Facility Fees

The basic equation for the growth methodology is:

$$\frac{\text{Growth CIP Asset Values}}{\text{Projected Growth in Equivalent Dwelling Units}}$$

The 2008 District's Master Plan further breaks down the CIP into 5 year phases for implementation. This implementation plan is utilized in the rate model to calculate the Capital Facility Fees. The full rate model is shown in Appendix A of this report. The District assumes that capital facilities are to be 100% debt financed. The calculation of future debt service is based on the following assumptions:

- Interest on the first debt issuance at 4%, and all remaining debt issues will be 6%.
- The cost of issuance for each bond issue is 2% of the total principal amount.
- The term of each one of the debt issues will be 25 years.
- Inflation over the time period for calculating the present value of each year's payment of principal and interest will be 2% annually.

The adjusted equation for the District's Capital Facility Fees is:

$$\frac{\text{Present Value of Growth Asset} + \text{Present Value of Financing Costs}}{\text{Projected Growth in Equivalent Dwelling Units}}$$

The District has determined that Capital Facility Fees should be developed to be uniform throughout the water and wastewater service areas. The determination of the present value of each of the water and wastewater bond issues is also included in Appendix A to this report.

#### 1.4 2008 Water, Wastewater and Recycled Water Master Plan

Chapter 8 of the 2008 Master Plan presents the proposed CIP for the District. The Master Plan focuses on both near term and future capacity needs for the water distribution and wastewater conveyance systems. The land outfall project is detailed separately from wastewater conveyance. Detailed CIP projects developed for the District are prioritized into five phases. Phase 1 projects represent projects that are underway or expected to be completed in 2010. Phase 2 (2011-2015) projects represent high priority projects that should be planned or constructed over the next five years. Lower priority projects are identified as Phase 3 through 5 projects that would be phased over the following fifteen years (2016-2030).

A summary of the 2008 Master Plan identified CIP costs are included in Table 1-1.

**Table 1-1  
2008 Master Plan Capital Projects**

	<b>Expansion CIP</b>
Water CIP	\$ 63,293,950
Wastewater CIP	\$ 19,092,000
Land Outfall CIP	\$ 28,200,000
<b>Total</b>	<b>\$ 110,585,950</b>

## Section 2

### Water Capital Facility Fee

#### 2.1 Master Plan System Demand and Growth

Development of the 2008 Master Plan water demands were calculated using population projections from SANDAG and adopted land use information from the land use agencies served by the District. These agencies are the City of San Marcos, portions of the Cities of Carlsbad, Vista, and Escondido as well as unincorporated portions of the County of San Diego. The District utilized 5 years' worth of water meter records, historical trends, and comparisons with neighboring water agencies to calculate water use, or duty factors, for individual land use types. This allowed the 2008 Master Plan to evaluate existing water demands, which considered conservation and reduced demands as well as project additional water demand due to growth over time.

The District Water Capital Facility Fee is based on an Equivalent Dwelling Unit (EDU) value. This report utilized EDU value based on information within the District's 2008 Master Plan and industry standards to allocate 500 gallons of water consumption equivalent to one EDU. One EDU is the average usage of a single family dwelling unit. Table 2-1 summarizes the projected EDU growth for each phase in the planning period identified in the 2008 Master Plan. It should be noted that the water CIP was only developed through 2030, and thus the EDUs used in the fee calculation are 21,600.

**Table 2-1**  
**Equivalent Dwelling Units by Phase**

Year	Projected Capacity Requirement (MGD)	Additional Demand Per Period	Equivalent Dwelling Units (EDU)	Additional Demand Per Period (EDUs)
2010	20.4		40,800	
2015	24.2	3.8	48,400	7,600
2020	26.9	2.7	53,800	5,400
2025	29.1	2.2	58,200	4,400
2030	31.2	2.1	62,400	4,200
Ultimate	34.1	2.9	68,200	5,800
<b>Total Increase in EDUs Between 2010 to 2030</b>				21,600
<b>Total Additional EDUS Between 2010 to Ultimate</b>				27,400

\*Based Upon 500 GPD Per EDU

#### 2.2 Master Plan Project Costs

The 2008 Master Plan analyzed the water infrastructure needs to accommodate future approved land use growth. The process created a CIP for water with costs allocated based on current values. The CIP costs are then updated annually, during the District’s budgeting process, based on the appropriate ENR index. The 2008 Master Plan also divided the water CIP into five phases or planning periods based on the water system’s needs to accommodate planned growth as shown in Table 2-1. A summary of the phases of water expansion capital project costs from 2011 through 2030 is shown in Table 2-2.

**Table 2-2  
Water Capital Expansion Projects by Phase**

Master Plan Cost per Phase					
	2011-2015	2016-2020	2021-2025	2026-2030	Total
Water CIP	\$ 10,039,000	\$ 14,905,000	\$ 20,170,000	\$ 15,617,000	\$ 60,731,000

**2.3 Project Financing/Existing Debt**

The District assumes capital projects are 100% debt financed and includes the cost of financing in the cost of the capital facilities.

Financing contains three components as shown on Table 2-3.

**Table 2-3  
Summary of Water CIP Financing**

	Expansion CIP
Existing Debt as of 6/30/10	\$ 31,435,910
Cash/Investment Deficit as of 6/30/10	105,077
Financing Costs	48,025,859

The existing debt is the balance of debt issued, on water expansion CIP, as of June 30, 2010. This existing debt is comprised mainly from the bond issuance for the construction of the Twin Oaks Reservoirs 1 and 2. The source of the cash/investment deficit as of June 30, 2010, is derived from the District’s “Appropriated Fund Balance Activity for the Twelve Months Ended June 30, 2010” report and is the ending fund balance of revenues less distributions in the water capital facility fund. As of June 30, the fund balance showed a deficit in expansion CIP of \$105,077. The final portion of the CIP financing is the estimated financing costs from the future bond issuances during each CIP phase. The financing costs discussed in this section are estimated by adding the present value of all principle and interest payments and then subtracting the present value of the capital facilities financed by each bond issue.

**2.4 Water Capital Facility Fee Determination**

The District's Water Capital Facility Fee is based on the growth or incremental methodology. Table 2-4 illustrates the calculation of the fee.

**Table 2-4  
Water Capital Facility Fee Calculation**

	Expansion CIP
Water CIP 2011 through 2030	\$ 60,731,000
Existing Debt as of 6/30/10	31,435,910
Cash/Investment Deficit 6/30/10	105,077
Financing Costs	48,025,859
Total Water CIP w/Financing	\$ 140,297,846
Water EDUs	21,600
Water Capital Facility Fee per EDU	\$ 6,495

The water CIP costs identified in Section 2.2 are added together with their financing costs through 2030 identified in Section 2.3 and then divided by the projected water EDUs through 2030 as discussed in Section 2.1. This produces a Water Capital Facility fee, in today's dollars, shown in Table 2-4 utilizing the adopted Master Plan costs at ENR-CCI-LA for July 2010 of 9968.69. The District will adjust individual CIP cost based on actual expended and/or yearly budgeted verses the planning cost in the 2008 Master Plan. This will be reflected in the annual update to the Water Capital Facility Fee.

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## Section 3

# Wastewater Capital Facility Fee

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### 3.1 Master Plan System Demand and Growth

Development of the 2008 Master Plan wastewater demands were calculated using population projections from SANDAG and adopted land use information from the land use agencies served by the District. These agencies are the City of San Marcos, portions of the Cities of Carlsbad, Vista, and Escondido as well as portions of the unincorporated part of the County of San Diego. The District utilized existing sewer meter records and cross checked them against 5 years' worth of water meter records, as well as historical trends, and comparisons with neighboring water agencies to calculate wastewater generation, or duty factors, for individual land use types. This allowed the Master Plan to evaluate existing sewer generation, which considered conservation and reduced generation as well as project the additional wastewater generation due to growth over time.

The District Wastewater Capital Facility Fee is based on an equivalent dwelling unit (EDU) value. This report utilized EDU values based on information within the District's Master Plan and industry standards to allocate 250 gallons of wastewater generation equivalent to one EDU. One EDU is the average generation of a single family dwelling unit. Table 3-1 summarizes the projected EDU growth for each phase in the planning period identified in the 2008 Master Plan. It should be noted that the wastewater CIP was only developed to serve new connections through 2030 without the North Tributary Area (NTA), identified in the Master Plan, and thus the EDUs used in the Wastewater Capital Facility Fee calculation is 13,372.

In addition Table 3-1 shows the EDUs specific to the land outfall project. The difference between the general wastewater EDUs of 13,372 and the land outfall wastewater EDUs of 18,172 is due to the fact that the new land outfall must be able to handle all of the District's ultimate flows because there is no opportunity to upsize it or build additional outfalls in the future. While the other wastewater capital projects identified in the 2008 Master Plan can be built in incremental phases the parallel outfall project needs to be constructed for ultimate capacity due to the complexity of building an 8-mile pipeline within the small existing corridor.

**Table 3-1  
Equivalent Dwelling Units by Phase**

Year	Projected Capacity Requirement (MGD)	Additional Demand Per Period	Equivalent Dwelling Units (EDU)	Additional Demand Per Period (EDUs)
Purchased EDUs			36,628	
2015	9.4	1.7	37,600	972
2020	10.6	1.2	42,400	4,800
2025	11.6	1.0	46,400	4,000
2030	12.5	0.9	50,000	3,600
2030 w/NTA	12.9	0.4	51,600	1,600
Ultimate	13.3	0.4	53,200	1,600
Ultimate w/NTA	13.7	0.4	54,800	1,600
<b>EDUs for Wastewater CIP (2010 to 2030)</b>				13,372
<b>EDUs for Land Outfall Projects (2010 to Ultimate)</b>				18,172

\*Based Upon 250 GPD Per EDU

### 3.2 Master Planned Project Costs

The 2008 Master Plan analyzed the wastewater infrastructure needs to accommodate future approved land use growth. The process created a CIP for wastewater with costs allocated based on current values. The CIP costs are then updated annually, during the District's budgeting process, based on the appropriate ENR index. The 2008 Master Plan also divided the wastewater CIP into five phases or planning periods based on the wastewater system's needs to accommodate planned growth as shown in Table 3-1. None of the 2010 (or Phase 1) costs have been incurred to-date. A summary of the five phases of water expansion capital project costs is shown in Table 3-2.

**Table 3-2  
Wastewater Capital Expansion Projects by Phase**

Master Plan Cost Per Phase						
	2010	2011-2015	2016-2020	2021-2025	2026-2030	Total
Wastewater CIP	\$4,396,000	\$6,147,000	\$1,527,000	\$2,284,000	\$4,738,000	\$19,092,000

In addition to the general wastewater CIP, the 2008 Master Plan developed costs for a new land outfall. This project is needed because the current land outfall that transports the wastewater from the Vallecitos service area to Encina will not have sufficient capacity in the future. Table 3-3 summarizes the projected land outfall costs between the five phases of the Master Plan.

**Table 3-3  
Wastewater Land Outfall Expansion Projects by Phase**

Master Plan Cost Per Phase						
	2010	2011-2015	2016-2020	2021-2025	2026-2030	Total
Land Outfall CIP	\$0	\$10,300,000	\$2,700,000	\$13,700,000	\$1,500,000	\$28,200,000

### 3.3 Project Financing

The District assumes capital projects are 100% debt financed and includes the cost of financing in the cost of the capital facilities.

Financing contains three components. Table 3-4 separates the financing costs between the treatment, conveyance, and land outfall CIPs.

**Table 3-4  
Summary of Wastewater CIP Financing**

Wastewater Capital Facility Fee Financing Costs				
	Treatment	Conveyance	Land Outfall	Total
Existing Debt as of 6/30/10	\$ 30,015,063	\$ -	\$ -	\$ 30,015,063
Cash/Investment Deficit 6/30/10	4,272,048	4,272,048	-	8,544,096
Financing Costs	10,963,334	9,975,098	16,608,589	37,547,021

The existing debt is the balance of debt issued, on wastewater expansion CIP, as of June 30, 2010. This existing debt is primarily made up from a bond issuance for the Meadowlark Reclamation Facility expansion and a loan for the Encina Phase V Expansion. The source of the cash/investment deficit as of June 30, 2010 is derived from the District's "Appropriated Fund Balance Activity for the Twelve Months Ended June 30, 2010, report" and is the ending fund balance of revenues less distributions in the wastewater capital facility fund. As of June 30, the fund balance showed a deficit in expansion CIP. The final portion of the CIP financing is the estimated financing costs from the future bond issuances during each CIP phase. The financing terms were previously discussed in Section 1.2.2. Financing costs are estimated by adding the present value of all principle and interest payments and then subtracting the present value of the capital facilities financed by each bond issue. The outfall has only one finance component which is the finance cost.

### 3.4 Wastewater Capital Facility Fee Determination

The District's Wastewater Capacity Fee is based on the growth or incremental methodology. Table 3-5 illustrates the calculation of both the wastewater (treatment and conveyance) and the land outfall components of the fee.



**Table 3-5  
Wastewater Capital Facility Fees Calculation**

General Wastewater Capital Facility Fee Study				
	<u>Treatment</u>	<u>Conveyance</u>	<u>Land Outfall</u>	<u>Total</u>
Wastewater CIP	\$ -	\$ 19,092,000	\$ 28,200,000	\$ 47,292,000
Existing Debt as of 6/30/10	30,015,063	-	-	30,015,063
Cash/Investment Deficit 6/30/10	4,272,048	4,272,048	-	8,544,096
Financing Costs	<u>10,963,334</u>	<u>9,975,098</u>	<u>16,608,589</u>	<u>37,547,021</u>
Total Wastewater CIP w/Financing	\$ 45,250,445	\$ 33,339,146	\$ 44,808,589	\$ 123,398,180
Wastewater EDUs	<u>13,372</u>	<u>13,372</u>	<u>18,172</u>	
Wastewater Capital Facility Fee per EDU	\$ <u>3,384</u>	\$ <u>2,493</u>	\$ <u>2,466</u>	\$ 8,343

The CIP costs for treatment and conveyance, as discussed in Section 3.2 are added together with their financing costs through 2030 as contained in Section 3.3 and then divided by the projected wastewater EDUs through 2030, as discussed in Section 3.1. This produces a treatment and conveyance component shown in Table 3-5, per EDU. The same process is followed to determine the land outfall component also shown in Table 3-5, per EDU. The combined Wastewater Capital Facility Fee is, shown in Table 3-5, based on the CIP and future approved land use EDUs to be served utilizing the adopted 2008 Master Plan costs at ENR-CCI-LA for July 2010 of 9968.69. Similar to water, the District will adjust individual CIP cost based on actual expended and/or yearly budgeted verses the planning costs referenced in the 2008 Master Plan. This will be reflected in the annual update to the Wastewater Capital Facility Fee.

# Section 4 – Wastewater Density Impact Fee Calculation

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## 4.1 Background

The 2008 Master Plan utilizes adopted General Plan land use designations of the governing agencies as of June 30, 2008. Future developments which increase densities above the land use designations referenced in the 2008 Master Plan will cause greater impacts on wastewater treatment capacity at Encina. Consequently, a Wastewater Density Impact Fee on the increased density portion only is needed to properly cover the associated costs of the necessary treatment expansion, at Encina. The bases for the Wastewater Density Impact Fee are the Encina Phase IV and V expansion capital costs plus financing, as discussed in this Section and in Appendix B.

## 4.2 Wastewater Treatment Expansion Cost

The capital costs for Phase IV and V expansions at Encina, include the Muni Financial Report, dated July 2004 which determined the District's total costs for each component of Phase IV. The construction costs were determined for Phase V from recent audited financial reports and construction-in-progress reports through June 2011. These costs were utilized to estimate the future expansion cost at Encina on a per gallon and EDU basis.

### 4.2.1 Encina Phase IV Costs

Table 4-1 summarizes the calculation of Phase IV costs and the resulting cost per gallon for solids, liquids and disposal. The Phase IV costs were all at the Engineering News Record 2003, Construction Cost Index for Los Angeles (ENR-CCI-LA) of 7543. From the end of 2003 to June 2011, the ENR-CCI-LA increased 33% to 10051.3. The original costs of the Phase IV expansion were brought to present value using this increase for the purpose of calculating the wastewater impact fee. Then the present value of each treatment component was divided by the total flow gained with the expansion to determine the cost per gallon of Phase IV.

**Table 4-1  
Phase IV Cost per Gallon Determination, June 2011 Dollars<sup>1</sup>**

	Vallecitos Costs for Phase IV and V		
	Unit I		Unit J
	Solids	Liquids	Disposal
<b>Phase IV Costs*</b>	\$ 16,105,000	\$ 18,521,000	\$ 5,939,000
ENR-CCI-LA Per Table	7543	7543	7543
Current ENR-CCI-LA (6/11)	10051.3	10051.3	10051.3
Cost Increase Factor	133%	133%	133%
Present Value of Facilities	\$ 21,460,452	\$ 24,679,852	\$ 7,913,916
<b>Phase V Provisions**</b>			
Phase IV Buyback Unit I	\$ 3,492,000		
Phase IV Buyback Unit J			\$ 1,297,000
ENR-CCI-LA (May 2010)	9,945	9,945	9,945
Current ENR-CCI-LA (6/11)	10,051	10,051	10,051
Cost Increase Factor	101%	101%	101%
Present Value of Facilities	\$ 3,529,169		\$ 1,310,805
<b>Total Phase IV Facilities</b>	\$ 24,989,621	\$ 24,679,852	\$ 9,224,722
Total Flow Gained (gpd)	2,350,000	2,540,000	2,350,000
Cost Per Gallon	\$ 10.63	\$ 9.72	\$ 3.93

\*From Table 26A Muni Financial Report for Encina dated July 2004.

\*\*Phase V costs are further discussed in Section 4.2.2 of this report.

#### 4.2.2 Encina Phase V Costs

Similar steps were taken for the Phase V solids expansion costs as shown in Table 4-2. Phase V primarily expanded the solids handling facilities at Encina. The District's original cost for Phase V was \$19.4 million. However, adjustments are made to this original cost to back-out Phase IV buyback costs and a small portion of liquids costs so that the correct value of the solids costs from Phase V can be included in this fee calculation. The costs shown in Table 4-2 were used to determine the per gallon costs of solids handling in Table 4-3.

<sup>1</sup> The Phase IV buy-back costs for Unit's I and J are based on a "true-up" at the end of Phase V of the reallocation of flows between the Encina member agencies at the end of Phase IV. Thus the true-up costs were removed from Phase V and incorporated into Phase IV to avoid double counting.

**Table 4-2  
Determination of Phase V Solids Costs, November 2010 Dollars**

<b>VWD Phase V Cost Determination</b>	
\$ 19,368,492	Total Phase V Costs
\$ (3,492,000)	Phase IV Buyback Unit I
\$ (1,297,000)	Phase IV Buyback Unit J
\$ (773,000)	Phase V Liquids Cost
<u>\$ 13,806,492</u>	
1.011	ENR Increase Since May 2010
<u>\$ 13,953,449</u>	

**Table 4-3:  
Phase V Solids Cost per Gallon, June 2011 Dollars**

	<b>Total Cost</b>	<b>VWD Costs</b>
Phase V Costs (June 2011 ENR)	\$ 57,628,522	\$ 13,953,449
VWD Capacity Increase (gpd)		2,960,000
Cost Per Gallon		\$ 4.71
Note: Based on Costs at 9945.44 (May 2010) increased to 10051.3 (June 2011) VWD Costs backs out buy back costs from Encina Phase IV Unit I & J from Table 26A VWD Costs backs out \$.773 million estimated liquids cost		

**4.3 Wastewater Density Impact Fee Determination**

The final step in the Wastewater Density Impact Fee determination combined Phase IV and Phase V costs divided by the additional capacities gained in each one of the operational units. Table 4-4 also includes the financing costs associated with the treatment expansion due to density increases on a per gallon and EDU basis. The same financing terms as discussed in Section 2 and 3 are applied to the portion of future expansion assumed to be debt financed. A review of wastewater flow and EDU projections identifies that 84.5% of the future project costs will be debt financed. The remaining 15.5% is direct revenue generated by the Wastewater Density Impact Fees prior to the initiation of the project. The revenue from the Wastewater

Density Impact Fee will be set aside in a restricted reserve account and will only be used to fund this or an associated project that provides treatment capacity for the District's wastewater customers.

Table 4-4 shows the cost per gallon and the cost per EDU for each one of the treatment unit processes for purpose of the Wastewater Density Impact Fee based on the ENR-CCI-LA of 10051.3, June 2011.

**Table 4-4:  
Wastewater Treatment Impact Fee, June 2011 Dollars**

	<b>Solids</b>	<b>Liquids</b>	<b>Disposal</b>	<b>Total</b>
Phase IV Costs	\$ 24,989,621	\$ 24,679,852	\$ 9,224,722	\$ 58,894,195
Phase V Costs	\$ 13,953,449	\$ 781,228	\$ -	\$ 14,734,677
Financing Costs	\$ 19,547,577	\$ 13,283,743	\$ 9,726,806	\$ 42,558,126
<b>Total</b>	<b>\$ 58,490,647</b>	<b>\$ 38,744,824</b>	<b>\$ 18,951,527</b>	<b>\$ 116,186,998</b>
Capacity (gpd)	5,310,000	2,540,000	2,350,000	
Cost Per Gallon	\$ 11.02	\$ 15.25	\$ 8.06	\$ 34.33
Gallons Per EDU	250	250	250	250
<b>Impact Fee Per EDU</b>	<b>\$ 2,754</b>	<b>\$ 3,813</b>	<b>\$ 2,016</b>	<b>\$ 8,583</b>

#### 4.4 Application of Impact Fees

The District requires that a Water and Wastewater Study be performed for all new developments in order to determine if the current water and sewer infrastructure is sufficient to accommodate the development's water demands and sewage generation. The Water and Wastewater Study also determine the additional EDUs, if any, due to increased densities of a development. This study serves to identify the specific impacts of an individual development to fulfill the legal requirements for identifying impacts and costs. The Water and Wastewater Study, along with this report, creates the appropriate nexus in identifying a development's impact(s) and costs of those impact(s) on the District. The Water and Wastewater Study should:

- Project water demand and sewage generation based on the District's current adopted Master Plan duty factors for land use and/or adopted Ordinance(s) as deemed reasonable by the District for the proposed development/land use
- Identify the current and projected capacity for each existing system facility effected by the development
- Identify additional facilities or improvements that are required to accommodate growth or the proposed development's land use

The Water and Wastewater Study serves as a basis to determine if the EDUs identified in a new development are included in the District's 2008 Master Plan. If the new development's EDUs are contained in the Master Plan, each wastewater EDU will pay the Wastewater Capital Facility Fee as shown in Table 3-5. However, if the new development's EDUs are greater than the land use designation identified in the 2008 Master Plan, only the increase in EDUs will pay an additional Wastewater Density Impact Fee as shown in Table 4-4

The Wastewater Density Impact Fee will only be applied to the density increase portion of a development. However, the Wastewater Capital Facility Fee also has a treatment component within it. This treatment component shall be subtracted from the Wastewater Treatment Impact Fee to preclude duplicate collection of the treatment component. Subsequent to this compilation of treatment capacity costs, Encina released a report entitled *Equalization Storage 2011 Update* dated February 2012 that concludes there may not be a need for additional ocean disposal capacity. The estimated cost per EDU of ocean disposal has been deleted from the original Wastewater Density Impact Fee. A resulting Wastewater Density Impact Fee will be charged to developments for the density increase portion only, as shown in Table 4-5

**Table 4-5  
Calculation of Density Impact Cost per EDU**

Wastewater Density Gross Impact Fee	\$ 8,583
Ocean Disposal	\$ (2,016)
Less Wastewater Treatment Capital Facility Fee	<u>(3,384)</u>
Net Density Impact Fee	<u>\$ 3,183</u>

Table 4-6 illustrates an example of the calculation of Wastewater Capital Facility Fees and Wastewater Density Impact Fees. In this example, the Water and Wastewater Study concludes that of the 10 EDUs required to serve the project only 5 EDUs were included in the 2008 Master Plan land use designation. Consequently, the proposed development will be charged the Wastewater Capital Facility Fee for 10 EDU's and a Wastewater Density Impact Fee for 5 EDU's , which represent the increase in density beyond the land use designation in the 2008 Master Plan.

**Table 4-6  
Sample Fee Calculation**

EDUs	Number	Fee	Total
Entire Development	10	\$ 8,343	\$ 83,430
Increased Density	5	3,183	<u>15,915</u>
			<u>\$ 99,345</u>



**ATKINS**

**Appendix A**

**Water and Wastewater Capital Facility Fee**

**April 4, 2012**

**Plan Design Enable**



**ATKINS**

**Appendix A**

**Water Capital Facility Fee**

**April 4, 2012**

**Plan Design Enable**



**Vallecitos Water District**

**Water Capital Facility Fee Determination**

	<u>Expansion CIP</u>
Water CIP 2011 through 2030	\$ 60,731,000
Existing Debt as of 6/30/10	31,435,910
Cash/Investment Deficit 6/30/10	105,077
Financing Costs	<u>48,025,859</u>
Total Water CIP w/Financing	\$ 140,297,846
Water EDUs	<u>21,600</u>
Water Capital Facility Fee per EDU	<u>\$ 6,495</u>

**Table 8-2 from Vallecitos Water Master Plan**

District Funded CIP										Cost per Phase		
CIP ID#	Pressure Zone	Project Description	Phase Needed	Diameter (in)	Length (ft)	Capacity (MG)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020
R-1	815	Meadowlark #3	1			2.80		\$1,260,000/MG	1.00	\$3,943,000		
PS-1	1028	Desalinated Water Pump Station - New	2				3,150	\$1000/gpm	1.00		\$3,200,000	
R-2	1549	Wulff #2	2			0.35		\$1,260,000/MG	1.20		\$720,000	
R-3	1530	Coronado Hills #2	2			4.73		\$1,260,000/MG	1.00		\$6,000,000	
P-24	855	San Marcos Boulevard between Discovery Street and Las Posas Road	3	18	2,680			\$420/LF	1.30			\$1,500,000
P-52	900	Corre Camino Road and Elevado Road north	3	10	9,900			\$230/LF	1.00			\$2,300,000
P-53	1330	Via del Prado and Elevado Road south to the North Twin Oaks Reservoir #2	3	16	5,900			\$365/LF	1.00			\$2,200,000
56	1235	Deer Springs PS to the Deer Springs Reservoir	3	12	8,500			\$265/LF	1.00			\$2,300,000
P-30	1330	Mountain Belle Reservoir south to the connection with the existing 1330 Zone	3	16	1,800			\$365/LF	1.00			\$700,000
PS-3	1235	1235 Deer Springs PS Expansion	3				4,800	\$80/gpm	1.00			\$400,000
R-4	1235	Deer Springs #2	3			1.00		\$1,260,000/MG	1.00			\$1,300,000
R-5	1608	Coggan #2	3			6.00		\$1,260,000/MG	1.00			\$7,600,000
P-64	1330	North Twin Oaks Reservoir #2 to North Twin Oaks PS	4	16	12,400			\$365/LF	1.00			
R-10	1028	Twin Oaks #3	4			10.72		\$1,260,000/MG	1.00			
P-100	920	Rock Springs Road between Bennett Avenue and Rees Road	5	10	1,300			\$230/LF	1.00			
P-42	1228	North Twin Oaks #2 Reservoir east to the intersection of El Farra Street and Huckleberry Lane	5	12	7,000			\$265/LF	1.00			
PS-7	1608	1608 Coggan PS Expansion	5				9,000	\$80/gpm	1.00			
PS-8	1115	1115 Schoolhouse PS Expansion	5				4,500	\$80/gpm	1.00			
R-8	1500	Palos Vista #1 Rehab	5			0.52		\$1,260,000/MG	2.00			
<b>Total Costs</b>										<b>\$3,943,000</b>	<b>\$9,920,000</b>	<b>\$18,300,000</b>

  

Developer Funded Projects										Cost per Phase		
CIP ID#	Pressure Zone	Project Description	Phase Needed	Diameter (in)	Length (ft)	Capacity (MG)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020
P-43	1625	Woodland Heights Glen north to Rancho Luiseno Road	2	12	2,800			\$265/LF	1.00		\$700,000	
PS-2	1625	1625 High Point Hydro PS - New	2				1,800	\$1000/gpm	0.60		\$1,100,000	
PS-4	1330	1330 Mountain Belle PS - New	3				4,500	\$1000/gpm	1.00			\$4,500,000
R-6	1330	North Twin Oaks #3	4			3.60		\$1,260,000/MG	0.80			
R-7	815	Meadowlark #4	4			0.64		\$1,260,000/MG	1.20			
R-9	1530	Coronado Hills #3	5			3.21		\$1,260,000/MG	1.00			
R-11	1608	Coggan #3	5			6.10		\$1,260,000/MG	1.00			
P-57	1235	Deer Springs Reservoir south to 1235 Zone limits	5	10	7,900			\$230/LF	1.00			
PS-5	1330	1330 North Twin Oaks PS Expansion	5				8,850	\$80/gpm	1.00			
PS-6	1530	1530 Southlake PS Expansion	5				6,750	\$80/gpm	1.00			
<b>Total Costs</b>										<b>\$0</b>	<b>\$1,800,000</b>	<b>\$4,500,000</b>

2021-2025	2026 to 2030	Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total
			2010	2011-2015	2016-2020	2021-2025	2026 to 2030					
			\$2,562,950	\$0	\$0	\$0	\$0		65%	35%		100%
			\$0	\$3,200,000	\$0	\$0	\$0		100%			100%
			\$0	\$468,000	\$0	\$0	\$0		65%	35%		100%
			\$0	\$6,000,000	\$0	\$0	\$0		100%			100%
			\$0	\$0	\$600,000	\$0	\$0		40%	60%		100%
			\$0	\$0	\$506,000	\$0	\$0		22%	78%		100%
			\$0	\$0	\$1,210,000	\$0	\$0		55%	45%		100%
			\$0	\$0	\$690,000	\$0	\$0		30%	70%		100%
			\$0	\$0	\$700,000	\$0	\$0		100%			100%
			\$0	\$0	\$212,000	\$0	\$0		53%	47%		100%
			\$0	\$0	\$559,000	\$0	\$0		43%	57%		100%
			\$0	\$0	\$5,928,000	\$0	\$0		78%	22%		100%
\$4,500,000			\$0	\$0	\$0	\$2,070,000	\$0		46%	54%		100%
\$13,500,000			\$0	\$0	\$0	\$13,500,000	\$0		100%			100%
	\$300,000		\$0	\$0	\$0	\$0	\$108,000		36%	64%		100%
	\$1,900,000		\$0	\$0	\$0	\$0	\$1,900,000		100%			100%
	\$700,000		\$0	\$0	\$0	\$0	\$231,000		33%	67%		100%
	\$400,000		\$0	\$0	\$0	\$0	\$120,000		30%	70%		100%
	\$1,300,000		\$0	\$0	\$0	\$0	\$741,000		57%	43%		100%
\$18,000,000	\$4,600,000	\$54,763,000	\$2,562,950	\$9,668,000	\$10,405,000	\$15,570,000	\$3,100,000	\$41,305,950				

2021-2025	2026 to 2030	Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total
			2010	2011-2015	2016-2020	2021-2025	2026 to 2030					
			\$0	\$371,000	\$0	\$0	\$0		53%		47%	100%
			\$0	\$0	\$0	\$0	\$0				100%	100%
			\$0	\$0	\$4,500,000	\$0	\$0		100%			100%
\$3,600,000			\$0	\$0	\$0	\$3,600,000	\$0		100%			100%
\$1,000,000			\$0	\$0	\$0	\$1,000,000	\$0		100%			100%
	\$4,000,000		\$0	\$0	\$0	\$0	\$4,000,000		100%			100%
	\$7,700,000		\$0	\$0	\$0	\$0	\$7,700,000		100%			100%
	\$1,800,000		\$0	\$0	\$0	\$0	\$0				100%	100%
	\$700,000		\$0	\$0	\$0	\$0	\$567,000		81%	19%		100%
	\$500,000		\$0	\$0	\$0	\$0	\$250,000		50%	50%		100%
\$4,600,000	\$14,700,000	\$25,600,000	\$0	\$371,000	\$4,500,000	\$4,600,000	\$12,517,000	\$21,988,000				

**Vallecitos Water District  
Water Capital Facility Financing Costs**

Rate 6.0%  
Issue costs 2.0%  
term 25  
Inflation 2.0%

Phase	Water												
	Deficit	Existing Debt		2		3		4		5		Total	PV of
		Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Payment	Payments
2010	105,077											2,348,765	2,348,765
2011												2,244,809	2,200,794
2012												2,247,181	2,159,921
2013												3,100,167	2,921,356
2014		10,653,467										3,095,960	2,860,188
2015			850,053									3,103,405	2,810,850
2016			850,053									3,103,750	2,756,041
2017			850,053									3,103,979	2,702,201
2018			850,053	17,463,583	1,393,441							4,484,531	3,827,504
2019			850,053		1,393,441							4,502,763	3,767,710
2020			850,053		1,393,441							4,504,650	3,695,382
2021			850,053		1,393,441							4,506,008	3,624,015
2022			850,053		1,393,441							4,506,703	3,553,504
2023			850,053		1,393,441	26,092,046	2,081,917					6,588,517	5,093,138
2024			850,053		1,393,441		2,081,917					6,590,813	4,995,012
2025			850,053		1,393,441		2,081,917					6,591,265	4,897,407
2026			850,053		1,393,441		2,081,917					6,594,070	4,803,423
2027			850,053		1,393,441		2,081,917			22,304,922		6,595,600	4,710,331
2028			850,053		1,393,441		2,081,917				1,779,738	8,375,465	5,864,161
2029			850,053		1,393,441		2,081,917				1,779,738	8,378,341	5,751,151
2030			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2031			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2032			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2033			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2034			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2035			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2036			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2037			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2038			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2039			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2040			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2041			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2042			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2043			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2044			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2045			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2046			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2047			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2048			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2049			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2050			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2051			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2052			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
2053			850,053		1,393,441		2,081,917				1,779,738	8,379,768	5,639,344
												140,297,846	140,297,846

**Vallecitos Water District  
 Projected Water System Demand for New Development**

<b>Year</b>	<b>Projected Capacity Requirement (MGD)</b>	<b>Additional Demand Per Period</b>	<b>Equivalent Dwelling Units (EDU)</b>	<b>Additional Demand Per Period (EDUs)</b>
2010	20.4		40,800	
2015	24.2	3.8	48,400	7,600
2020	26.9	2.7	53,800	5,400
2025	29.1	2.2	58,200	4,400
2030	31.2	2.1	62,400	4,200
Ultimate	34.1	2.9	68,200	5,800
<b>Total Increase in EDUs Between 2010 to 2030</b>				21,600
<b>Total Additional EDUS Between 2010 to Ultimate</b>				27,400

\*Based Upon 500 GPD Per EDU



**ATKINS**

**Appendix A**

**Wastewater Capital Facility Fee**

**April 4, 2012**

**Plan Design Enable**

## Vallecitos Water District

General Wastewater Capital Facility Fee Study				
	<u>Treatment</u>	<u>Conveyance</u>	<u>Land Outfall</u>	<u>Total</u>
Wastewater CIP	\$ -	\$ 19,092,000	\$ 28,200,000	\$ 47,292,000
Existing Debt as of 6/30/10	30,015,063	-	-	30,015,063
Cash/Investment Deficit 6/30/10	4,272,048	4,272,048	-	8,544,096
Financing Costs	<u>10,963,334</u>	<u>9,975,098</u>	<u>16,608,589</u>	<u>37,547,021</u>
Total Wastewater CIP w/Financing	\$ 45,250,445	\$ 33,339,146	\$ 44,808,589	\$ 123,398,180
Wastewater EDUs	<u>13,372</u>	<u>13,372</u>	<u>18,172</u>	
Wastewater Capital Facility Fee per EDU	<u>\$ 3,384</u>	<u>\$ 2,493</u>	<u>\$ 2,466</u>	<u>\$ 8,343</u>

**Table 8-3 from Vallecitos Wastewater Master plan - Conveyance Costs**

District CIP								Cost per Phase			
CIP ID #	Pipeline Project Name	Phase	Diameter (in)	Length (ft)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020	2021-2025
SP-2	San Marcos Interceptor Phase I Pipeline Replacement	1	39	3200		\$975/LF	1.30	\$4,100,000			
SP-3	Linda Vista East Sewer Pipeline Replacement	1	15	3400		\$340/LF	1.60	\$2,000,000			
			15	500		\$340/LF		\$300,000			
SP-5	Rock Springs Road Sewer Pipeline Replacement	1	12	2000		\$280/LF	1.50	\$800,000			
SP-6	Old Questhaven Road Pipeline	2	24	1400		\$610/LF	1.00		\$900,000		
SP-9	Nordahl Shopping Center Pipeline Replacement	2	12	100		\$280/LF	3.00		\$200,000		
SP-10	Diamond Siphon Replacement	2	15	100		\$340/LF	4.00		\$700,000		
			36	1400		\$800/LF			\$3,800,000		
SP-11	San Marcos Interceptor Phase 2	2	8	800		\$180/LF	2.00		\$300,000		
SP-12	San Marcos Interceptor Phase 3	2	36	2000		\$800/LF	1.20		\$3,400,000		
LS-1	Montiel Lift Station	3			400	\$1000/gpm	3.00			\$1,200,000	
SP-13	Camino De Amigos Sewer Pipeline Replacement	3	12	3200		\$280/LF	1.00			\$900,000	
SP-15	San Pablo Walkway Sewer Pipeline Replacement	3	10	1800		\$230/LF	3.00			\$1,200,000	
SP-20	Discovery Street East Pipeline Replacement	4	12	2100		\$280/LF	1.00				\$600,000
SP-21	Rock Springs Road West Sewer Pipeline Replacement	4	15	1300		\$340/LF	1.00				\$400,000
SP-22	Rock Springs Road East Sewer Pipeline Replacement	4	12	800		\$280/LF	1.00				\$200,000
			10	2100		\$230/LF					\$500,000
SP-23	Pacific Street & Descanso Avenue Pipeline Replacement	4	12	2200		\$280/LF	1.10				\$700,000
SP-25	San Marcos Interceptor East Pipeline Replacement	4	21	800		\$530/LF	1.10				\$500,000
SP-26	Woodward Street Pipeline Replacement	5	10	1600		\$230/LF	1.10				
SP-27	Vineyard Road Sewer Pipeline Replacement	5	12	3000		\$280/LF	1.00				
SP-28	Linda Vista / Rancho Santa Fe Intersection Sewer Pipeline Replacement	5	12	80		\$280/LF	3.00				
SP-30	Madrid Manor Sewer Pipeline Replacement	5	10	2000		\$230/LF	1.20				
<b>Total Cost</b>								<b>\$7,200,000</b>	<b>\$9,300,000</b>	<b>\$3,300,000</b>	<b>\$2,900,000</b>

Developer Funded Projects								Cost per Phase			
CIP ID #	Pipeline Project Name	Phase	Diameter (in)	Length (ft)	Capacity (gpm)	Unit Cost	Scaling Factor	2010	2011-2015	2016-2020	2021-2025
SP-7	Pico Ave/San Marcos Blvd Sewer Pipeline Replacement	2	12	1500		\$280/LF	1.10		\$500,000		
SP-8	Pico Ave Sewer Pipeline Replacement	2	12	1200		\$280/LF	1.10		\$400,000		
SP-18	Mission Alley Pipeline Replacement	3	10	1500		\$230/LF	1.00			\$300,000	
SP-19	Bingham Sewer Pipeline Replacement	4	15	2100		\$340/LF	1.10				\$800,000
			12	2000		\$280/LF					\$600,000
SP-24	Craven Road Pipeline Replacement	4	10	700		\$230/LF	1.00				\$200,000
SP-29	Vallecitos Pipeline Replacement	5	12	2500		\$280/LF	1.00				
			12	5100		\$280/LF					
SP-31	N. Twin Oaks Valley Road Pipeline Replacement	5	15	11600		\$340/LF	1.00				
<b>Total Cost</b>								<b>\$0</b>	<b>\$900,000</b>	<b>\$300,000</b>	<b>\$1,600,000</b>



2026 to 2030	Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total
		2010	2011-2015	2016-2020	2021-2025	2026 to 2030					
		\$2,911,000	\$0	\$0	\$0	\$0		71%	29%		100%
		\$980,000	\$0	\$0	\$0	\$0		44%	36%	20%	100%
		\$165,000	\$0	\$0	\$0	\$0		55%	45%		100%
		\$440,000	\$0	\$0	\$0	\$0		55%	45%		100%
		\$0	\$207,000	\$0	\$0	\$0		23%	77%		100%
		\$0	\$110,000	\$0	\$0	\$0		55%	45%		100%
		\$0	\$385,000	\$0	\$0	\$0		55%	45%		100%
		\$0	\$2,508,000	\$0	\$0	\$0		66%	34%		100%
		\$0	\$198,000	\$0	\$0	\$0		66%	34%		100%
		\$0	\$2,244,000	\$0	\$0	\$0		66%	34%		100%
		\$0	\$0	\$600,000	\$0	\$0		50%	50%		100%
		\$0	\$0	\$495,000	\$0	\$0		55%	45%		100%
		\$0	\$0	\$432,000	\$0	\$0		36%	64%		100%
		\$0	\$0	\$0	\$432,000	\$0		72%	28%		100%
		\$0	\$0	\$0	\$144,000	\$0		36%	64%		100%
		\$0	\$0	\$0	\$110,000	\$0		55%	45%		100%
		\$0	\$0	\$0	\$165,000	\$0		33%	67%		100%
		\$0	\$0	\$0	\$231,000	\$0		33%	67%		100%
		\$0	\$0	\$0	\$130,000	\$0		26%	74%		100%
\$400,000		\$0	\$0	\$0	\$0	\$144,000		36%	64%		100%
\$800,000		\$0	\$0	\$0	\$0	\$440,000		55%	45%		100%
\$100,000		\$0	\$0	\$0	\$0	\$55,000		55%	45%		100%
\$600,000		\$0	\$0	\$0	\$0	\$216,000		36%	64%		100%
<b>\$1,900,000</b>	<b>\$24,800,000</b>	<b>\$4,396,000</b>	<b>\$5,652,000</b>	<b>\$1,527,000</b>	<b>\$1,212,000</b>	<b>\$855,000</b>	<b>\$13,642,000</b>				

2026 to 2030	Total	Expansion Cost per Phase					Total	Expansion Percentage	Replacement Percentage	Developer Contributed	Total
		2010	2011-2015	2016-2020	2021-2025	2026 to 2030					
		\$0	\$275,000	\$0	\$0	\$0		55%	45%		100%
		\$0	\$220,000	\$0	\$0	\$0		55%	45%		100%
		\$0	\$0	\$0	\$0	\$0				100%	100%
		\$0	\$0	\$0	\$576,000	\$0		72%	28%		100%
		\$0	\$0	\$0	\$372,000	\$0		62%	38%		100%
		\$0	\$0	\$0	\$124,000	\$0		62%	38%		100%
\$700,000		\$0	\$0	\$0	\$0	\$385,000		55%	45%		100%
\$1,400,000		\$0	\$0	\$0	\$0	\$924,000		66%	34%		100%
\$3,900,000		\$0	\$0	\$0	\$0	\$2,574,000		66%	34%		100%
<b>\$6,000,000</b>	<b>\$8,800,000</b>	<b>\$0</b>	<b>\$495,000</b>	<b>\$0</b>	<b>\$1,072,000</b>	<b>\$3,883,000</b>	<b>\$5,450,000</b>				



Vallejos Water District  
Wastewater Financing Costs - Treatment

Phase	Rate Issue costs term inflation	Existing Debt		1		2		3		4		5		Total Payment	PV of Payments
		Deficit	36.6%	Phase 1		Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment		
				Phase 1	Beyond Phase 1										
2010		4,272,048	4,399,388	1,610,176	7,400,000	483,162								6,365,386	6,365,386
1 2011	4%		4,401,587	1,610,981	483,162	483,162								2,094,143	2,053,082
2 2012	2%		4,406,238	1,612,683	483,162	483,162								2,095,845	2,014,461
3 2013	2%		4,411,987	1,614,787	483,162	483,162								2,097,950	1,976,945
4 2014	25		4,403,738	1,611,768	483,162	483,162								2,094,930	1,935,392
5 2015	2%		4,418,337	1,617,111	483,162	483,162								2,100,274	1,902,283
6 2016			4,419,013	1,617,359	483,162	483,162								2,100,521	1,865,203
7 2017			4,419,462	1,617,523	483,162	483,162								2,100,685	1,828,773
8 2018			4,394,188	1,608,273	483,162	483,162								2,091,435	1,785,020
9 2019			4,429,937	1,621,357	483,162	483,162								2,104,519	1,760,968
10 2020			4,433,638	1,622,712	483,162	483,162								2,105,874	1,727,550
11 2021			4,436,300	1,623,686	483,162	483,162								2,106,848	1,694,460
12 2022			4,437,663	1,624,185	483,162	483,162								2,107,347	1,661,629
13 2023			4,437,462	1,624,111	483,162	483,162								2,107,273	1,628,991
14 2024			4,441,963	1,625,758	483,162	483,162								2,108,921	1,598,298
15 2025			4,442,850	1,626,083	483,162	483,162								2,109,245	1,567,200
16 2026			4,448,350	1,628,096	483,162	483,162								2,111,258	1,537,937
17 2027			4,451,350	1,629,194	483,162	483,162								2,112,356	1,508,566
18 2028			4,451,600	1,629,286	483,162	483,162								2,112,448	1,479,050
19 2029			4,457,238	1,631,349	483,162	483,162								2,114,511	1,451,466
20 2030			4,460,037	1,632,374	483,162	483,162								2,115,536	1,423,695
21 2031			2,789,763	1,021,053	483,162	483,162								1,504,216	992,445
22 2032			2,790,500	1,021,323	483,162	483,162								1,504,485	973,160
23 2033			2,796,250	1,023,428	483,162	483,162								1,506,590	955,413
24 2034			2,800,500	1,024,983	483,162	483,162								1,508,145	937,646
25 2035			2,803,500	1,026,081										1,026,081	625,428
26 2036															
27 2037															
28 2038															
29 2039															
30 2040															
31 2041															
32 2042															
33 2043															
34 2044															
35 2045															
36 2046															
37 2047															
38 2048															
39 2049															
40 2050															
41 2051															
42 2052															
43 2053															45,250,445

Table 8-4 from Vallecitos Wastewater Master Plan - Land Outfall Project

CIP ID#	W/S	Type	Project / Description	Units	Phase	Cost per Phase						CIP Cost <sup>1</sup>	
						2010	2011-2015	2016-2020	2021-2025	2026 to 2030			
LO-1	Sewer	Pipeline	LO-1 - Parallel 12,900 feet of gravity sewer with sizes ranging from 36 to 48-inch diameter.	12,900 LF	2		\$10,300,000						\$10,300,000
LO-2	Sewer	Pipeline	LO-2 - Parallel 1,800 feet of gravity sewer with sizes ranging from 24-inch to 36-inch diameter.	1,800 LF	3			\$1,300,000					\$1,300,000
LO-3	Sewer	Pipeline	LO-3 - Parallel 1,800 feet of gravity sewer sizes ranging from 30 to 36-inch diameter.	1,800 LF	3			\$1,400,000					\$1,400,000
LO-4	Sewer	Pipeline	LO-4 - Upgrade 17,000 feet of abandoned 24-inch DIP with CIPP lining in Siphon Section A.	17,000 LF	4				\$9,700,000				\$9,700,000
LO-5	Sewer	Pipeline	LO-5 - Parallel 1,400 feet of gravity sewer and trenchless construction of 3,700 feet with sizes ranging from 24 to 36-inch diameter.	5,100 LF	4				\$4,000,000				\$4,000,000
LO-6	Sewer	Pipeline	LO-6 - Parallel 2,450 feet of gravity main and siphon sections with sizes ranging from 24 to 36-inch diameter.	2,450 LF	5					\$1,500,000			\$1,500,000
						\$0	\$10,300,000	\$2,700,000	\$13,700,000	\$1,500,000			\$28,200,000

1. Costs provided per the Land Outfall Analysis - Second Draft, October 2010.

Vallecitos Water District  
Wastewater Financing Costs - Land Outfall

Rate 6%  
Issue costs 2%  
term 25  
Inflation 2%

Phase	Land Outfall										PV of Payments					
	1	2	3	4	5	Total Payment	1	2	3	4		5				
2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2013	-	10,930,442	-	-	-	-	-	-	-	-	-	-	-	-	-	821,850
2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	805,735
2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	789,936
2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	774,448
2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	759,262
2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	959,811
2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	940,991
2020	-	-	3,163,480	-	-	-	-	-	-	-	-	-	-	-	-	922,541
2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	904,451
2022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	886,717
2023	-	-	-	-	-	-	17,722,411	-	-	-	-	-	-	-	-	1,962,471
2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,923,991
2025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,886,266
2026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,849,280
2027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,813,020
2028	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,897,157
2029	-	-	-	-	-	-	-	-	-	-	-	2,142,369	-	-	-	1,859,958
2030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,823,488
2031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,787,733
2032	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,752,680
2033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,718,314
2034	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,684,621
2035	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,651,589
2036	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,619,205
2037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,587,456
2038	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,055,387
2039	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,034,693
2040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,014,405
2041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	994,514
2042	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	975,014
2043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	824,581
2044	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	808,413
2045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	792,562
2046	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	777,021
2047	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	761,785
2048	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80,546
2049	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78,967
2050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77,418
2051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75,900
2052	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74,412
2053	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44,808,589

**Vallecitos Water District  
Projected Wastewater Flows for New Development\***

<b>Year</b>	<b>Projected Capacity Requirement (MGD)</b>	<b>Additional Demand Per Period</b>	<b>Equivalent Dwelling Units (EDU)</b>	<b>Additional Demand Per Period (EDUs)</b>
Purchased EDUs			36,628	
2015	9.4	1.7	37,600	972
2020	10.6	1.2	42,400	4,800
2025	11.6	1.0	46,400	4,000
2030	12.5	0.9	50,000	3,600
2030 w/NTA	12.9	0.4	51,600	1,600
Ultimate	13.3	0.4	53,200	1,600
Ultimate w/NTA	13.7	0.4	54,800	1,600
<b>EDUS for Wastewater CIP (2010 to 2030)</b>				<b>13,372</b>
<b>EDUs for Land Outfall Projects (2010 to Ultimate)</b>				<b>18,172</b>
*Based Upon	250	GPD Per EDU		



**Appendix B**

**Wastewater Density Impact Fee Calculation**

**April 2, 2012**

### Summary of Phase IV Costs\*

	Vallecitos Costs for Phase IV and V		
	Unit I		Unit J
	Solids	Liquids	Disposal
<b>Phase IV Costs*</b>	\$ 16,105,000	\$ 18,521,000	\$ 5,939,000
ENR-CCI-LA Per Table	7543	7543	7543
Current ENR-CCI-LA (6/11)	10051.3	10051.3	10051.3
Cost Increase Factor	133%	133%	133%
Present Value of Facilities	\$ 21,460,452	\$ 24,679,852	\$ 7,913,916
<b>Phase V Provisions**</b>			
Phase IV Buyback Unit I	\$ 3,492,000		
Phase IV Buyback Unit J			\$ 1,297,000
ENR-CCI-LA (May 2010)	9,945	9,945	9,945
Current ENR-CCI-LA (6/11)	10,051	10,051	10,051
Cost Increase Factor	101%	101%	101%
Present Value of Facilities	\$ 3,529,169		\$ 1,310,805
<b>Total Phase IV Facilities</b>	\$ 24,989,621	\$ 24,679,852	\$ 9,224,722
Total Flow Gained (gpd)	2,350,000	2,540,000	2,350,000
Cost Per Gallon	\$ 10.63	\$ 9.72	\$ 3.93

\*From Table 26A Muni Financial Report for Encina dated July 2004.

\*\*Phase V costs are further discussed in Section 4.2.2 of this report.



**Summary of Phase V Solids Costs**

	<b>Total Cost</b>	<b>VWD Costs</b>
Phase V Costs (June 2011 ENR)	\$ 57,628,522	\$ 13,953,449
VWD Capacity Increase (gpd)		2,960,000
Cost Per Gallon		\$ 4.71
<p>Note: Based on Costs at 9945.44 (May 2010) increased to 10051.3 (June 2011)  VWD Costs backs out buy back costs from Encina Phase IV Unit I &amp; J from Table 26A  VWD Costs backs out \$.773 million estimated liquids cost</p>		

<b>VWD Phase V Cost Determination</b>	
\$ 19,368,492	Total Phase V Costs
\$ (3,492,000)	Phase IV Buyback Unit I
\$ (1,297,000)	Phase IV Buyback Unit J
\$ (773,000)	Phase V Liquids Cost
<u>\$ 13,806,492</u>	
1.011	ENR Increase Since May 2010
<u>\$ 13,953,449</u>	

**Financing Costs for Wastewater Impact Fee Components**

	ENR Construction		Treatment Cost		Outfall Cost		Cost		Finance		
	Rate	Cost Index	Construction	Finance	Construction	Finance	Construction	Finance	Capacity (g)	Cost/g	
											2010
Issue costs term	6%	8,951	70,533,677	36,960,228	25,885,000	5,597,898	37,303,951	19,547,577	5,310,000	3.68	
	2%	8,938	70,431,237		25,847,406		25,350,257	13,283,743	2,540,000	5.23	
	25	9,035	71,195,595		26,127,916		7,879,470	4,128,907	2,350,000	1.76	
Inflation	2%	January 2016	79,317,013		29,108,377		70,533,678	36,960,228		10.67	
		January 2024			34,105,103			5,597,898	2,750,000	2.04	
% Financed			84.54%		34.89%						
			Treatment								
Phase			2		3		4		5		
			Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	PV of Payments
6	2016		68,395,694	5,457,378	-	-	-	-	5,457,378	4,845,996	
7	2017			5,457,378	-	-	-	-	5,457,378	4,750,976	
8	2018			5,457,378	-	-	-	-	5,457,378	4,657,820	
9	2019			5,457,378	-	-	-	-	5,457,378	4,566,490	
10	2020			5,457,378	-	-	-	-	5,457,378	4,476,951	
11	2021			5,457,378	-	-	-	-	5,457,378	4,389,168	
12	2022			5,457,378	-	-	-	-	5,457,378	4,303,105	
13	2023			5,457,378	-	-	-	-	5,457,378	4,218,731	
14	2024			5,457,378	-	-	-	-	5,457,378	4,136,011	
15	2025			5,457,378	-	-	-	-	5,457,378	4,054,912	
16	2026			5,457,378	-	-	-	-	5,457,378	3,975,404	
17	2027			5,457,378	-	-	-	-	5,457,378	3,897,455	
18	2028			5,457,378	-	-	-	-	5,457,378	3,821,034	
19	2029			5,457,378	-	-	-	-	5,457,378	3,746,112	
20	2030			5,457,378	-	-	-	-	5,457,378	3,672,659	
21	2031			5,457,378	-	-	-	-	5,457,378	3,600,646	
22	2032			5,457,378	-	-	-	-	5,457,378	3,530,045	
23	2033			5,457,378	-	-	-	-	5,457,378	3,460,829	
24	2034			5,457,378	-	-	-	-	5,457,378	3,392,969	
25	2035			5,457,378	-	-	-	-	5,457,378	3,326,440	
26	2036			5,457,378	-	-	-	-	5,457,378	3,261,216	
27	2037			5,457,378	-	-	-	-	5,457,378	3,197,271	
28	2038			5,457,378	-	-	-	-	5,457,378	3,134,579	
29	2039			5,457,378	-	-	-	-	5,457,378	3,073,117	
30	2040			5,457,378	-	-	-	-	5,457,378	3,012,860	
											96,502,796

**Outfall Financing Costs**

Phase	1		2		3		4		5		Total Payment	PV of Payments
	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment	Principle	Payment		
14 2024	12,137,256	968,447	-	-	-	-	-	-	-	-	968,447	733,962
15 2025		968,447	-	-	-	-	-	-	-	-	968,447	719,570
16 2026		968,447	-	-	-	-	-	-	-	-	968,447	705,461
17 2027		968,447	-	-	-	-	-	-	-	-	968,447	691,628
18 2028		968,447	-	-	-	-	-	-	-	-	968,447	678,067
19 2029		968,447	-	-	-	-	-	-	-	-	968,447	664,772
20 2030		968,447	-	-	-	-	-	-	-	-	968,447	651,737
21 2031		968,447	-	-	-	-	-	-	-	-	968,447	638,958
22 2032		968,447	-	-	-	-	-	-	-	-	968,447	626,429
23 2033		968,447	-	-	-	-	-	-	-	-	968,447	614,146
24 2034		968,447	-	-	-	-	-	-	-	-	968,447	602,104
25 2035		968,447	-	-	-	-	-	-	-	-	968,447	590,298
26 2036		968,447	-	-	-	-	-	-	-	-	968,447	578,724
27 2037		968,447	-	-	-	-	-	-	-	-	968,447	567,376
28 2038		968,447	-	-	-	-	-	-	-	-	968,447	556,251
29 2039		968,447	-	-	-	-	-	-	-	-	968,447	545,344
30 2040		968,447	-	-	-	-	-	-	-	-	968,447	534,651
31 2041		968,447	-	-	-	-	-	-	-	-	968,447	524,168
32 2042		968,447	-	-	-	-	-	-	-	-	968,447	513,890
33 2043		968,447	-	-	-	-	-	-	-	-	968,447	503,814
34 2044		968,447	-	-	-	-	-	-	-	-	968,447	493,935
35 2045		968,447	-	-	-	-	-	-	-	-	968,447	484,250
36 2046		968,447	-	-	-	-	-	-	-	-	968,447	474,755
37 2047		968,447	-	-	-	-	-	-	-	-	968,447	465,446
38 2048		968,447	-	-	-	-	-	-	-	-	968,447	456,320
39 2049			-	-	-	-	-	-	-	-	-	-
40 2050			-	-	-	-	-	-	-	-	-	-
41 2051			-	-	-	-	-	-	-	-	-	-
42 2052			-	-	-	-	-	-	-	-	-	-
43 2053			-	-	-	-	-	-	-	-	-	-
												14,616,058

**Combined Costs for Phase IV & Phase V**

	<b>Solids</b>	<b>Liquids</b>	<b>Disposal</b>	<b>Total</b>
Phase IV Costs	\$ 24,989,621	\$ 24,679,852	\$ 9,224,722	\$ 58,894,195
Phase V Costs	\$ 13,953,449	\$ 781,228	\$ -	\$ 14,734,677
Financing Costs	\$ 19,547,577	\$ 13,283,743	\$ 9,726,806	\$ 42,558,126
<b>Total</b>	<b>\$ 58,490,647</b>	<b>\$ 38,744,824</b>	<b>\$ 18,951,527</b>	<b>\$ 116,186,998</b>
Capacity (gpd)	5,310,000	2,540,000	2,350,000	
Cost Per Gallon	\$ 11.02	\$ 15.25	\$ 8.06	\$ 34.33
Gallons Per EDU	250	250	250	250
<b>Impact Fee Per EDU</b>	<b>\$ 2,754</b>	<b>\$ 3,813</b>	<b>\$ 2,016</b>	<b>\$ 8,583</b>