

PRELIMINARY DRAFT REPORT



Incline Village General Improvement District Water and Sewer Rate Study Update

March 2023





March 1, 2023

Mr. Brad Underwood
Director of Public Works
893 Southwood Blvd
Incline Village, NV 89451

Subject: 2023 Water and Sewer Rate Study Update Preliminary Draft Report

Dear Mr. Underwood:

HDR Engineering, Inc. (HDR) is pleased to present to Incline Village General Improvement District (District) the preliminary draft report for the water and sewer rate study update (Study). The District's Study was developed to provide a long-term financial plan and proposed rates for each utility that will generate sufficient revenues to fund the operating and capital needs. The results of the Study provide cost-based rates for the District's water and sewer customers. This report outlines the overall approach used to achieve these objectives, along with the Study findings, conclusions, and recommendations.

More specifically, the Study was designed to update the prior comprehensive water and sewer rate study completed for the District in 2022. The 2022 study provided cost-based rates for the current fiscal year. This Study will update the revenues, expenses, and capital funding plan to develop a multi-year projection of water and sewer rates. The costs associated with providing utility services to the District's customers has been developed based on the information provided by the District and is included within the development of the proposed rates. The Study was developed utilizing generally accepted rate setting principles and methodologies and the District's specific system and customer characteristics. This report provides the basis for developing and implementing water and sewer rates which are cost-based and defensible to the District's customers.

We appreciate the assistance provided by the District's project team in the development of the Study. More importantly, HDR appreciates the opportunity to provide these technical and professional services to Incline Village General Improvement District.

Sincerely yours,
HDR Engineering, Inc.

Shawn Koorn
Associate Vice President

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Executive Summary

Introduction

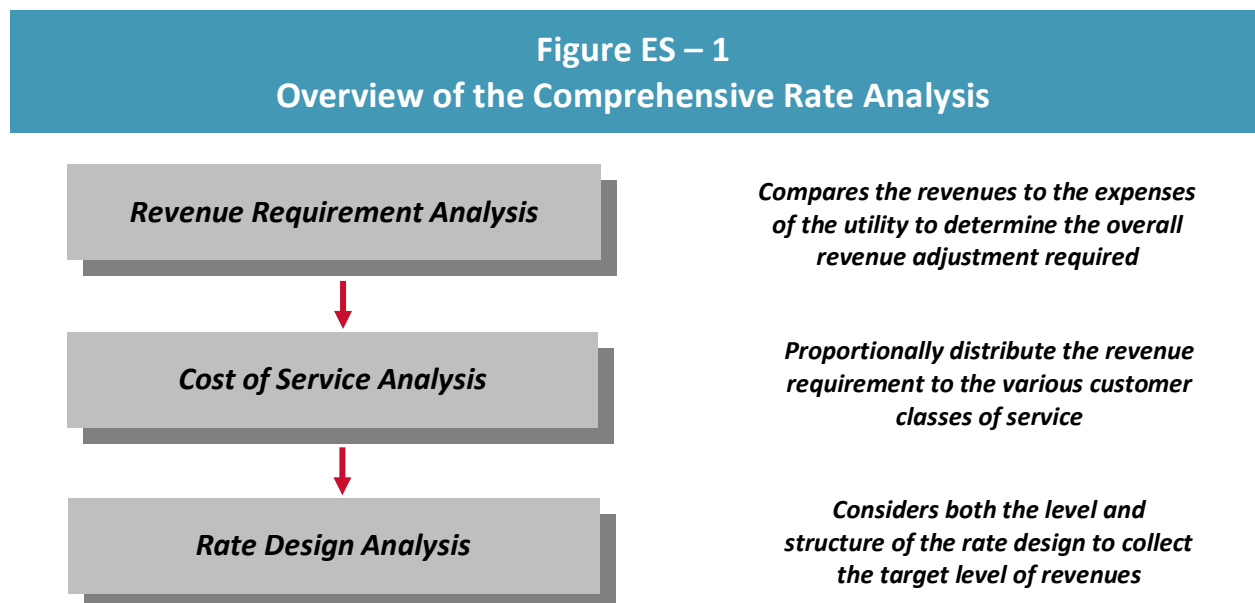
HDR Engineering Inc. (HDR) was retained by Incline Village General Improvement District (District) to conduct a comprehensive water and sewer rate study update (Study). The main objectives of the Study were to:

- Develop a projection of water and sewer revenues to support the operating and capital costs of each utility
- Provide a proportional distribution of the costs for providing water and sewer services to the District's customers
- Propose cost-based water and sewer rates for a multi-year time period

The District owns, operates, and maintains the water and sewer systems. The costs associated with providing water and sewer services to the District's customers has been developed based on the information provided by the District and is included within the development of the proposed rates. This study was developed utilizing generally accepted rate setting principles and methodologies and the district's specific costs and system and customer characteristics. This report provides the basis for implementing water and sewer rates which are cost-based, equitable, and proportional to the District's customers.

Overview of the Rate Study Process

A comprehensive rate study uses three interrelated analyses to address the adequacy and proportionality of each utility's rates. These three analyses are a revenue requirement analysis, a cost of service analysis, and a rate design analysis. These three analyses are illustrated in Figure ES - 1.



Key Rate Study Results

The Study technical analysis was developed based on the operating and maintenance (O&M) and capital costs necessary to provide water and sewer services to the District's customers. The analyses resulted in the following findings, conclusions, and recommendations.

- A revenue requirement analysis was developed for the time period of FY 2023 through FY 2033 for the water and sewer utilities on a stand-alone basis
 - ✓ The rate setting period was established for FY 2024 through FY 2028
- The District's FY 2023 adopted water and sewer budgets were used as the starting point of the analyses
- Operation and maintenance (O&M) expenses are projected to increase at inflationary levels with no assumed changes to levels of service and only minor additional anticipated expenses above FY 2023 budget levels
- The proposed water and sewer rates for FY 2024 – FY 2028 were developed based on the results of the revenue requirement and cost of service analyses

Overview of the Study

As noted, a rate study includes three analytical steps to establish cost-based and proportional rates. These are the revenue requirement, cost of service, and rate design analyses. Each of these analyses was completed for the water and sewer utilities on a stand-alone basis. For example, the operating and capital needs for the water utility are solely funded by water revenues, and the sewer revenues fund sewer operating and capital needs. Provided in the following is a summary of the analyses completed for each utility.

Summary of Water Revenue Requirement Analysis

The revenue requirement analysis is the first analytical step in the District's water rate study. The water revenue requirement analysis determines the adequacy of the current water revenues to fund current and future costs related to both operations and maintenance (O&M) expenses and annual capital improvement needs. From this analysis, a determination can be made as to the overall level of water revenue adjustments needed to provide adequate and prudent funding for the utility.

For the water utility, the revenue requirement was developed based on the adopted budget for FY 2023 with a projected time period of FY 2024 through FY 2033. A multi-year time frame is recommended to identify major expenses that may be on the horizon. By anticipating future financial requirements, the District may begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates. For rate setting purposes, the focus of the Study was on the next five-year period of FY 2024 – FY 2028.

As with the 2022 study, the revenue requirement analysis is based on the cash basis approach. The cash basis approach is the most commonly used methodology by municipal utilities to set their revenue requirement. Under this approach the revenues of the utility must be sufficient to recover all cash needs including annual O&M expenses, debt service, rate funded capital, and

reserve funding. As noted, the primary financial inputs in the development of the revenue requirement were the District's FY 2023 budget documents, historical billed customer and consumption data, and the water utility capital improvement plan.

Budgeted O&M expenses were projected using inflationary factors for the District's various expenses to provide water supply, treatment, distribution, and transmission services over the projected time period starting with the adopted FY 2023 budget. In order to project O&M costs over the projected time period, inflationary factors were developed based on historical District increases in costs and estimated future inflationary impacts. Once the projection of O&M was completed the focus then shifts to the development of the capital funding plan.

A significant driver in the Study was the annual level of rate funded capital to provide adequate funding for system infrastructure replacement and strengthen (increase) this level over the long-term projected time period. For the District's water utility, there is a component of the water rates which is directly related to funding capital improvement needs. Absent this internal funding source, the District would need to find outside funding (e.g., long-term borrowing) to fund annual capital needs as existing reserve levels are not sufficient to fund initial capital reinvestment in the short-term. The capital improvement plan summary is shown in Section 1 of the report which outlines the total annual capital project needs for the District and the identified funding sources.

The District has an established capital improvement charge based on the capital needs during the rate setting period. Over the rate setting period, the current level of the capital charge does not provide sufficient funding for the District's capital infrastructure, both annual capital improvement needs and annual debt service issued to fund capital improvements. Over the projected time period, the capital improvement charge (i.e., level of rate funding) needs to be increased to adequately fund the capital improvements and long-term annual debt service payments.

The final components of the cash basis approach are annual debt service and reserve funding. The water utility currently has two outstanding debt issuances that have funded past capital improvements. In FY 2023, the total annual debt service is approximately \$307,000. This decreases to \$193,000 in FY 2028 – prior to any new issuances - as one of the debt issuances will be retired. As part of the District's capital funding plan, additional long-term borrowing has been identified and assumed in order to fund the District's water capital improvements. The assumed additional debt will start in FY 2024 and continues to increase reaching annual debt service payments, including existing debt service, of approximately \$451,000 by FY 2028.

Given the above discussion of the components of the District's water revenue requirement, a projection of operating and capital expenses can be developed to determine the overall level of water rate revenues necessary to maintain the system. Provided below in Table ES - 1 is a summary of the revenue requirement analysis for the District's water utility.

Table ES - 1
Summary of the Water Revenue Requirement Analysis (\$000)

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenue						
Rate Revenues	\$5,900	\$5,904	\$5,907	\$5,911	\$5,914	\$5,918
Non-Operating Revenues	510	493	493	493	493	494
Total Revenue	\$6,410	\$6,397	\$6,400	\$6,404	\$6,407	\$6,412
Expenses						
Total O & M	\$5,103	\$5,208	\$5,538	\$5,757	\$5,898	\$6,155
Net Debt Service	0	0	0	0	0	0
Operating Fund Transfer	(317)	154	28	87	(248)	(100)
Capital Fund Transfer	1,624	1,625	1,627	1,628	1,630	1,632
Additional Capital Funding	0	0	350	640	1,065	900
Total Expenses	\$6,410	\$6,987	\$7,543	\$8,112	\$8,345	\$8,587
Bal. / (Def.) of Funds	\$0	(\$590)	(\$1,143)	(\$1,708)	(\$1,938)	(\$2,175)
Balance as a % of Rate Adj.	0.0%	10.0%	19.4%	28.9%	32.8%	36.7%
Proposed Rate Adjustment	0.0%	10.0%	8.5%	8.0%	3.0%	3.0%
Add'l Revenue with Rate Adj.	\$0	\$590	\$1,143	\$1,708	\$1,938	\$2,175
Bal. / (Def.) After Rate Adj.	0	0	0	0	0	0

As can be seen, the water revenue requirement has summed the O&M expense, net debt service, and reserve funding (transfers). As a point of reference, annual debt service payments are funded through the annual capital charge revenue and therefore the “Net Debt Service” is \$0. The total revenue requirement is then compared to the total revenues which include the rate revenues - at present rate levels - and other non-operating revenues. From this comparison, a balance or deficiency of funds in each year can be calculated. This balance or deficiency of funds is then compared to the current level of rate revenues to determine the level of rate revenue adjustment needed to meet the revenue requirement. Note that the “Bal. / (Def.) of Funds” row is cumulative. That is, any adjustments in the initial years will reduce the deficiency in the later years. Over the projected time period, the total deficiency of rate revenue ranges from \$590,000 in FY 2024 to approximately \$2.2 million by FY 2028.

Based on the District’s water revenue requirement analyses developed, HDR has concluded that the District will need to adjust the level of water rate revenues received over the next five years (FY 2024 – FY 2028). HDR has reached this conclusion for the following reasons:

- Adjustments are necessary to fund the ongoing O&M expenses to provide water service
- Adjustments are necessary to fund the current, and future, annual debt service payments
- Adjustments are necessary to maintain prudent funding of capital
- The proposed adjustments maintain the District’s water utility’s financial health (e.g., reserve levels, debt service coverage ratios) and provide long-term, sustainable funding levels for the water utility

In reaching this conclusion, HDR recommends that the District adopt the proposed rates as developed in the following sections for the water utility from FY 2024 through FY 2028. Based on the Study assumptions, this would provide sufficient funding for the O&M and capital improvement needs over the projected time period. A more detailed discussion of the development of the revenue requirement is provided in Section 1.1 of this report and the technical analysis is provided in Exhibit 1 through Exhibit 7 of the Water Technical Appendix.

Summary of the Water Cost of Service Analysis

A cost of service analysis determines the proportional distribution of the revenue requirement to the District's water customer classes of service (i.e., rate schedules). The objective of the cost of service analysis is different from determining the revenue requirement. The revenue requirement analysis determines the utility's overall revenue needs whereas the cost of service analysis determines the proportional manner to distribute the cost of providing service to each customer class of service and collect that level of revenue for the proposed time period. The cost of service analysis developed for the District is based on generally accepted methodologies as outlined in the American Water Works Association (AWWA) M1 Manual, Principles of Water Rates, Fees, and Charges. For the District's Study, the water revenue requirement for FY 2024 was used as the test year in order to develop the cost of service analysis.

In summary form, the cost of service analysis began by functionalizing the revenue requirement. For the District's water cost of service analysis, five customer classes of service were identified. This included residential, multi-family, commercial, irrigation, and snowmaking. As explained in more detail later in this report, the functionalized revenue requirement was equitably allocated to the various cost components. The individual allocation totals were then proportionally distributed to each customer class of service based upon the customer class's use of, or demand placed, on each allocation component. The distributed expenses for each customer class were then aggregated to determine each customer class's overall revenue responsibility. Table ES - 2 provides the summary of the cost of service analysis based on the water system specific costs and the characteristics of the District's customer classes of service.

Table ES - 3
Summary of the Water Cost of Service Analysis (\$000) – Test Year FY 2024

Class of Service	Present Revenues	Distributed Costs	\$ Difference	% Difference
Residential	\$2,693	\$2,971	(\$278)	10.3%
Multi-Family	2,015	2,084	(69)	3.4%
Commercial	489	523	(33)	6.8%
Irrigation	604	787	(184)	30.4%
Snowmaking	103	129	(25)	24.7%
Total System	\$5,801	\$6,365	(\$565)	10.0%

A key element of the cost of service was developing a distribution approach to reflect the level of service for each customer classes of service. The cost of service analysis results in some differences between the customer classes of service. This is not uncommon given the nature of how customer water consumption patterns or costs associated with providing water service change over time. It is important to understand that a cost of service analysis is a snapshot in time the results will vary from year to year.

A detailed discussion of the development of the cost of service analysis is provided in Section 1.2 of this report and in Exhibit 8 through Exhibit 19 of the Water Technical Appendix.

Summary of the Water Rate Designs

The final step of the water rate study update process is the design of the District's water rates to collect the targeted levels of revenue. The revenue requirement analysis first provided a set of recommendations related to the annual revenue adjustments and then the cost of service analysis provided a comparison of the proportionality between customer classes of service. Given the results of both analyses, the proposed rates incorporate the recommendations from each analysis.

The District's current rate structure includes a monthly meter fee, capital improvement fee, admin fee, and defensible space fee that is the same for all customers. The meter and capital improvement charges vary based on the service meter size and the proportion by size is ratioed based on safe meter operating capacity. The administration fee and a defensible space fee (for fire fuel management) are both charged on a flat, fixed basis per account or living unit. The consumption charge structure for residential and commercial customers is a two-tiered increasing block structure. While the rate for each tier is the same, the residential customers have a fixed tier size whereas the multi-family customers tiers vary by the number of units and all other customer tiers vary by service meter size. The tier rate for irrigation customers was updated in the 2022 rate study and is separate from the residential and commercial rate with the tier sizes based on the customer meter size.

For the Study, the District and HDR determined that that the current structure would be maintained. Given this, the proposed rates were based on the results of the cost of service analysis. It is important to note that the capital improvement fee component of the rate structure is developed based on the level of annual capital over the rate setting period. The fixed meter fee and the water use charges were then adjusted proportionally to meet the proposed rate revenue. Provided in Table ES – 3 is a summary of the present and proposed water rates.

Table ES - 3
Summary of the Present and Proposed Water Rates

	<i>Present Rates</i>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Meter Fee						
3/4"	\$15.10	\$17.30	\$18.75	\$20.10	\$20.10	\$21.00
1"	25.22	28.89	31.31	33.57	33.57	35.07
1 1/2"	50.28	57.61	62.44	66.93	66.93	69.93
2"	80.48	92.21	99.94	107.13	107.13	111.93
3"	151.00	173.00	187.50	201.00	201.00	210.00
4"	251.72	288.39	312.56	335.07	335.07	350.07
6"	503.28	576.61	624.94	669.93	669.93	699.93
8"	805.28	922.61	999.94	1,071.93	1,071.93	1,119.93
10"	1,157.72	1,326.39	1,437.56	1,541.07	1,541.07	1,610.07
Capital Improvement Fee						
3/4"	\$15.10	\$15.10	\$18.23	\$20.92	\$24.85	\$23.35
1"	25.22	25.22	30.44	34.93	41.50	38.99
1 1/2"	50.28	50.28	60.70	69.66	82.76	77.74
2"	80.48	80.48	97.16	111.50	132.47	124.44
3"	151.00	151.00	182.29	209.19	248.53	233.46
4"	251.72	251.72	303.88	348.72	414.30	389.19
6"	503.28	503.28	607.59	697.22	828.35	778.14
8"	805.28	805.28	972.18	1,115.60	1,325.41	1,245.07
10"	1,157.42	1,157.72	1,397.65	1,603.84	1,905.48	1,789.97
Admin Fee	\$4.23	\$4.44	\$4.66	\$4.90	\$5.14	\$5.40
Defensible Space	1.05	1.05	1.05	1.05	1.05	1.05
Water Use						
<i>Residential and Commercial</i>						
Tier 1	\$1.95	\$2.15	\$2.15	\$2.22	\$2.22	\$2.29
Tier 2	3.12	3.44	3.44	3.55	3.55	3.66
Tier 3	3.64	4.01	4.01	4.14	4.14	4.27
<i>Irrigation</i>						
Tier 1	\$2.00	\$2.65	\$2.90	\$3.15	\$3.15	\$3.25
Tier 2	3.20	4.24	4.64	5.04	5.04	5.20
Tier 3	3.73	4.94	5.41	5.87	5.87	6.06

Table ES – 3 shows that the current rate structure has been maintained for all customers. The capital improvement fee was adjusted based on the specific annual capital expenses of the District’s water utility. The level of rates has been adjusted to reflect the overall revenue needs in each year.

The development of the proposed water rate designs is outlined in detail in Section 1.3 of the Study and in the Water Technical Appendix.

Summary of the Sewer Revenue Requirement Analysis

As with the District's water utility, the revenue requirement analysis is the first analytical step in the sewer rate study process. The revenue requirement analysis determines the adequacy of the current sewer rates to fund current and future costs related to annual O&M and capital needs. From this analysis, a determination can be made as to the overall level of revenue adjustments needed to provide adequate and prudent funding for the sewer utility.

For the Study, the sewer revenue requirement was developed for the budgeted year FY 2023 with a projected time period of FY 2024 – FY 2033 which is the same time period that was used in the water analysis. As a practical matter, a multi-year time frame is recommended in an attempt to identify any major expenses that may be on the horizon. By anticipating future financial requirements, the District may begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates. As with the water rate study, the focus of the sewer analysis is on the next five-year period of FY 2024 through FY 2028.

For the sewer revenue requirement analysis, a cash basis approach was also utilized. As noted in the water analysis, the cash basis approach is the most commonly used methodology by municipal utilities to set their revenue requirement, and the method used in the 2022 rate study. The primary financial inputs in the development of the revenue requirement were the District's FY 2023 sewer budget, customer characteristics, and capital improvement plan.

The budgeted sewer O&M expenses are projected using inflationary factors for the District's various expenses to provide sewer services over the projected time period. These inflationary factors were based on historical District specific increases in costs and planned changes based on planning and financial analysis. A more detailed summary of the various inflationary assumptions is included in Exhibit 2 of the Sewer Technical Appendix which outlines the specific inflationary factors for the various O&M expense types included within the District's adopted sewer budget. As a point of reference, the inflationary assumptions are the same for the water and sewer analyses.

As with the water analysis, a concerted effort was made to increase the level of rate funded capital (capital charge) to support the sewer capital improvement needs and maintain the sewer system (e.g., renewal and replacement needs) especially in light of the major sewer system capital projects related to the effluent pipeline over the next few years. A detailed discussion of the capital funding plan is included in Section 2.1 of this report and in Exhibit 4 of the Sewer Technical Appendix.

At the current time, the sewer utility has two outstanding long-term issues with an annual total debt service of approximately \$336,000 in FY 2023. Over the review period, the two existing issuances are retired by FY 2027. However, with the addition of new long-term debt, to fund the effluent pipeline project, the annual debt service payments increase in total to approximately \$2.8 million by FY 2028.

Just as with the water utility, the sewer utility may need to transfer funds to reserves to fund future capital improvements or meet prudent target ending fund reserve balances. Alternatively, reserve funds may be used to offset annual shortfalls, as necessary. This is accomplished through the “Reserve Funding” component of the revenue requirement.

Given a projection of O&M and capital expenses, a summary of the sewer revenue requirement analysis was developed. Provided in Table ES - 4 is a summary of the revenue requirement analysis for the District’s sewer utility.

Table ES - 4 Summary of the Sewer Revenue Requirement Analysis (\$000)						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenues						
Rate Revenues	\$7,412	\$7,420	\$7,427	\$7,434	\$7,442	\$7,449
Other Revenues	<u>1,123</u>	<u>129</u>	<u>120</u>	<u>120</u>	<u>125</u>	<u>132</u>
Total Revenues	\$8,535	\$7,549	\$7,547	\$7,554	\$7,567	\$7,581
Expenses						
Total O & M	\$5,505	\$5,849	\$6,109	\$6,389	\$6,518	\$6,844
Additional Capital Funding	0	0	0	0	0	0
Net Debt Service	0	0	0	0	0	0
Operating Fund Transfer	(193)	(525)	(114)	158	331	317
Capital Fund Transfer	<u>3,223</u>	<u>3,226</u>	<u>3,229</u>	<u>3,233</u>	<u>3,236</u>	<u>3,239</u>
Total Expenses	\$8,535	\$8,551	\$9,224	\$9,780	\$10,085	\$10,400
Bal./(Def.) of Funds	\$0	(\$1,002)	(\$1,677)	(\$2,225)	(\$2,518)	(\$2,819)
Bal as a % of Rate Adj	0.0%	13.5%	22.6%	29.9%	33.8%	37.8%
Proposed Rate Adjustment	0.0%	13.5%	8.0%	6.0%	3.0%	3.0%
Add'l Revenue with Rate Adj	\$0	\$1,002	\$1,677	\$2,225	\$2,518	\$2,819
Bal / (Def) After Rate Adj	\$0	\$0	(\$0)	\$0	\$0	\$0

As can be seen, the revenue requirement has summed the O&M expense, rate funded capital, net debt service, and reserve funding (transfers) for the District’s sewer utility. As noted with the water analysis, annual debt service is funded through annual capital charge revenues, therefore the Net Debt Service is \$0. The total revenue requirement is then compared to the total sources of funds which include the rate revenues - at present rate levels - and other miscellaneous revenues. From this comparison, a balance or deficiency of funds in each year can be determined. As a note, the “Bal. / (Def.) of Funds” row is cumulative. That is, any adjustments in the initial years will reduce the deficiency in the later years.

Based on the revenue requirement analysis developed herein, HDR has concluded that the District will need to adjust the level of sewer revenues over the next five years (FY 2024 – FY 2028). HDR has reached this conclusion for the following reasons:

- Adjustments are necessary to fund the ongoing O&M expenses to provide sewer service
- Adjustments are necessary to maintain prudent funding of annual renewal and replacement of the sewer utility
- The proposed adjustments maintain the District's strong financial health (e.g., debt service coverage ratios, reserves) and provide long-term, sustainable funding levels for the District

In reaching this conclusion, HDR recommends that the District adopt the proposed rates as developed in the following sections for FY 2024 through FY 2028 to provide sufficient funding for the O&M and capital improvement needs identified in the Study. A detailed discussion of the development of the sewer revenue requirement is provided in Section 2.1 of this report.

Summary of the Sewer Cost of Service Analysis

A cost of service analysis determines the proportional distribution of the revenue requirement to the various sewer customer classes of service (i.e., rate schedules). The objective of the cost of service analysis is to determine the proportional manner in which to distribute cost of providing sewer service and collect that revenue over the proposed time period. The sewer cost of service analysis is based on generally accepted methodologies as outlined in the Water Environment Federation (WEF) Manual of Practice No. 27, Financing and Charges for Wastewater Systems. For the sewer analysis, the sewer revenue requirement for FY 2024 was used as the test year in order to develop the cost of service analysis.

In summary form, the cost of service analysis began by functionalizing the revenue requirement. For the District's sewer cost of service analysis, three customer classes of service were identified. This included residential, multi-family, and commercial. As explained in more detail later in this report, the functionalized revenue requirement was then allocated to the various cost components. The individual allocation totals were then proportionally distributed to the various customer class of service based upon each customer class's use of or demand placed on each system. The distributed expenses for each customer class were then aggregated to determine each customer class's overall revenue responsibility. Table ES - 5 provides the summary of the cost of service analysis based on the sewer system specific costs and the District's customer characteristics.

Table ES - 5 Summary of the Sewer Cost of Service Analysis (\$000)				
Class of Service	Present Revenues	Distributed Costs	\$ Difference	% Difference
Residential	\$3,197	\$3,541	(\$344)	10.8%
Multi-Family	3,299	3,844	(545)	16.5%
Commercial	923	1,036	(113)	12.2%
Total System	\$7,420	\$8,421	(\$1,002)	13.5%

The cost of service reflects the level of service provided to each customer class. The cost of service analysis resulted in minor differences in costs between the customer classes of service. As noted, a cost of service analysis is a snapshot in time the results will vary from year to year.

A detailed discussion of the development of the cost of service analysis is provided in Section 2.2 of this report and in Exhibit 7 through Exhibit 15 of the Sewer Technical Appendix.

Summary of the Sewer Rate Designs

The third and final step of the rate study process is the design of the sewer rates to collect the targeted levels of revenue. The revenue requirement analysis provided a set of recommendations related to annual revenue adjustments and the cost of service analysis provided a review of the proportionality between customers. As noted, the cost of service results showed minor cost differences. Given this, it was determined that sewer rates would be adjusted equally for all customers to reflect the results of the cost of service analysis. In discussion with District staff, it was determined that the current rate structure was contemporary and met the District's goals and objectives. Given these two recommendations, the proposed rates maintain the current rate structure, and were adjusted to reflect the cost of service results.

The District currently has the same rate structure for the residential, multi-family, and commercial customers. This includes a monthly base charge and capital charge which are charged per account for residential, by unit for multi-family, and by meter size for commercial. There is also a flat admin fee for all customers. Lastly, there is a sewer use fee which is a uniform rate for all customers with a separate rate for commercial customers. For residential customers, both single family and multi-family, the sewer bill is based on winter water consumption, while commercial customers bills are based on all metered water consumption.

Given the result of the prior analyses, the revenue requirement and cost of service, the proposed sewer rates can be developed. One proposed transition is the unique rate for commercial sewer use. Provided in Table ES – 6 is a summary of the present and proposed rates for the District's sewer utility.

Table ES - 6
Summary of the Present and Proposed Sewer Rates

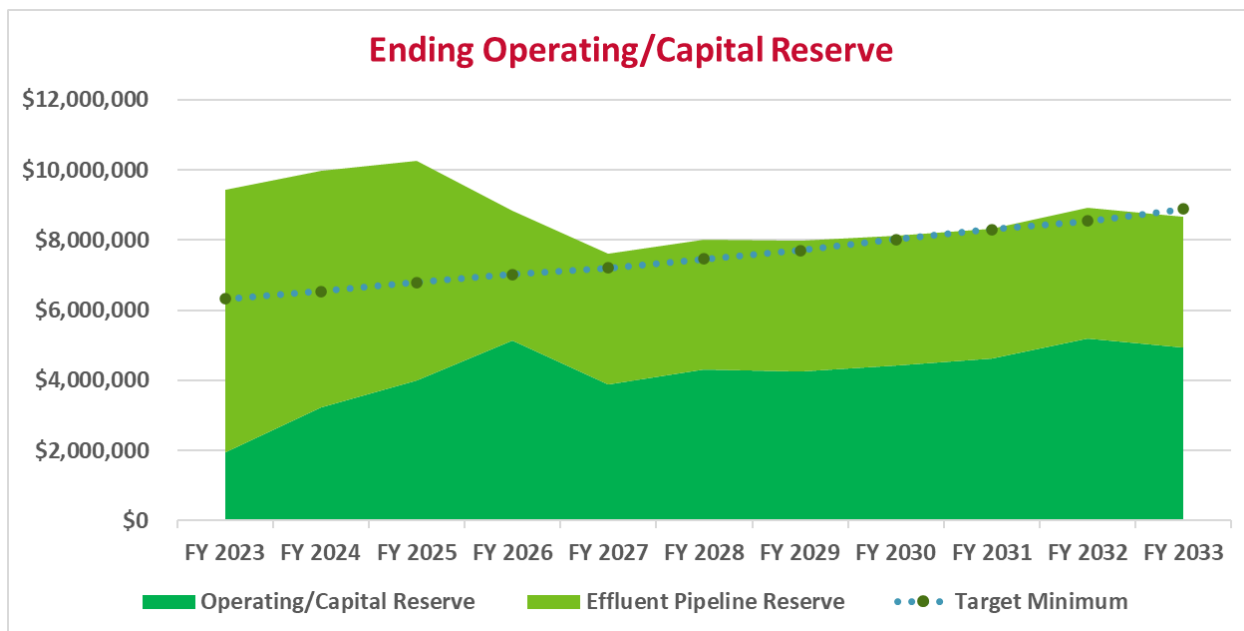
	<i>Present Rates</i>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Base Charge						
3/4", Res, Multi Fam	\$25.10	\$32.25	\$36.50	\$40.00	\$42.25	\$44.25
1"	41.92	53.86	60.96	66.80	70.56	73.90
1 1/2"	83.58	107.39	121.55	133.20	140.69	147.35
2"	133.78	171.89	194.55	213.20	225.19	235.85
3"	251.00	322.50	365.00	400.00	422.50	442.50
4"	418.42	537.61	608.46	666.80	704.31	737.65
6"	836.58	1,074.89	1,216.55	1,333.20	1,408.19	1,474.85
8"	1,338.58	1,719.89	1,946.55	2,133.20	2,253.19	2,359.85
10"	1,497.74	1,924.39	2,177.99	2,386.84	2,521.10	2,640.44
Capital Improvement Charge						
3/4", Res, Multi Fam	\$31.45	\$31.45	\$31.45	\$31.45	\$31.45	\$31.45
1"	52.52	52.52	52.52	52.52	52.52	52.52
1 1/2"	104.73	104.73	104.73	104.73	104.73	104.73
2"	167.63	167.63	167.63	167.63	167.63	167.63
3"	314.50	314.50	314.50	314.50	314.50	314.50
4"	524.27	524.27	524.27	524.27	524.27	524.27
6"	1,048.23	1,048.23	1,048.23	1,048.23	1,048.23	1,048.23
8"	1,677.23	1,677.23	1,677.23	1,677.23	1,677.23	1,677.23
10"	2,410.64	2,410.64	2,410.64	2,410.64	2,410.64	2,410.64
Admin Fee	\$4.23	\$4.44	\$4.66	\$4.90	\$5.14	\$5.40
Sewer Use						
Residential	\$4.00	\$4.75	\$5.37	\$5.88	\$6.00	\$6.22
Multi-Family	4.00	4.75	5.37	5.88	6.00	6.22
Commercial	4.70	5.60	6.35	6.95	7.10	7.37

Table ES – 6 shows that the current rate structure has been maintained for all customers. The level of rates has been adjusted to meet the revenue target calculated in the revenue requirement analysis and the results of the cost of service analyses. These proposed rates provide the proportionality between the various customers. The development of the sewer rate design is outlined in more detail in Section 2.3 of the Study.

Reserve Levels

As mentioned, the District maintains reserves for the water and sewer utilities. This includes an operating reserve, capital reserve, effluent pipeline reserve (sewer only), and debt reserve. Each of these reserves has a target minimum balance. The operating reserve target minimum balance is based on 25% of annual O&M expenses. The capital reserve minimum target is annual

depreciation expense. Provided below is a summary of the combined water and sewer operating and capital reserve projected ending reserve balances.



As noted, in addition to the operating and capital reserves, the District maintains a debt reserve fund. This fund maintains a minimum balance of one year of annual water and sewer debt service payments. This level is maintained during the course of this study.

Summary of the Water and Sewer Rate Study

The Study focused on the adequacy and proportionality of the District’s water and sewer rates. Based on the analyses developed herein, which included the District’s specific operating and capital expenses, HDR has proposed a comprehensive set of recommendations for each utility. The following sections of the report provide a more detailed discussion of the technical analyses undertaken, along with the findings, conclusions, and recommendations of the Study.



1 Development of the Water Study Update

This section of the report will describe the development of the water rate study update. This includes the development of the revenue requirement, cost of service, and rate design analyses. Each of these analyses was completed for the water system based on the specific customer and system characteristics. The following discussion will outline the summary of each of these analyses to support the development of cost-based and proportional water rates.

1.1 Water Revenue Requirement

This following discussion describes the development of the revenue requirement for the District's water utility. The District has provided detailed revenue and expenses data for the water system that provides the basis for the development of the revenue requirement. The revenue requirement analysis is the first analytical step in the comprehensive water rate study process. This analysis determines the adequacy of the District's overall water revenues, at current rate levels. From this analysis, a determination can be made as to the overall level of revenue (rate) adjustment needed to provide adequate and prudent funding for both operating and capital needs. HDR developed an independent analysis based on information provided by the District as part of the review of proposed rate adjustments.

1.1.1 Determining the Water Revenue Requirement

In developing the District's water revenue requirement, the water utility - as an enterprise fund - must financially "stand on its own" and be properly funded. That is, no transfers from other District funds occur to support the water utility. As a result, the revenue requirement analysis, as developed herein, assumes the full and proper funding needed to operate and maintain the water system on a financially sound and prudent basis. A goal of the Study was to maintain prudent funding for each utility as a separate enterprise fund.

1.1.2 Establishing a Time Frame and Approach

The first step in calculating the revenue requirement for the District's water utility was to establish a time frame for the analysis. For the Study, the revenue requirement was developed for a 10-year time period (FY 2023 through FY 2033). Reviewing a multi-year time period is recommended as it attempts to identify any major expenses that may be on the horizon. By anticipating future financial requirements, the District can begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates. For purposes of establishing rates, the Study focuses on the next five years as the rate setting period of FY 2024 through FY 2028.

The second step in determining the revenue requirement was to decide on the basis of accumulating costs. In this case, for the revenue requirement analysis a cash basis approach was utilized. The cash basis approach is the most common methodology used by municipal utilities to set their revenue requirement and the approach used in the 2022 rate study. Table 1 - 1 provides a summary of the cash basis approach and cost components used to develop the District's water revenue requirement.

Table 1 – 1
Overview of the Water Cash Basis Revenue Requirement

+	Operation and Maintenance Expenses
+	Taxes and Transfers
+	Rate Funded Capital
+	Debt Service (Principal + Interest) – Existing and Future
±	<u>Reserve Funding</u>
=	Total Revenue Requirement
-	<u>Miscellaneous Revenues</u>
=	Net Revenue Requirement (Balance Required from water Rates)

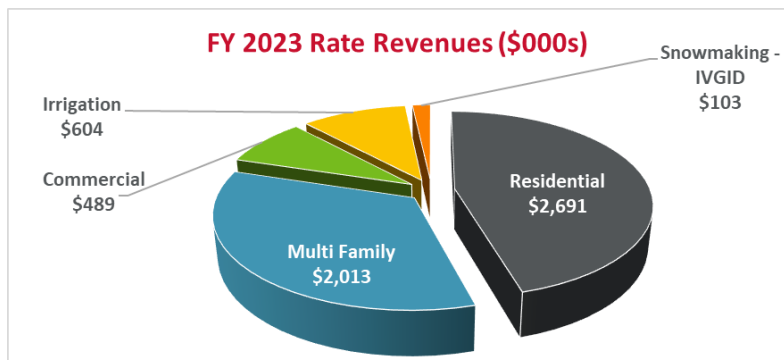
Given a time period around which to develop the revenue requirement and a method to accumulate the costs, the focus shifts to the development and projection of the revenues and expenses of the District's Study.

The primary financial inputs in the development of the revenue requirement are the District's adopted budget for the water utility, historical billed customer and consumption data, and the water capital improvement plan. Presented below is a detailed discussion of the steps and key assumptions contained in the development of the projections of the District's water revenue requirement analysis.

1.1.3 Projecting Rate and Other Miscellaneous Revenues

The starting point of the revenue requirement is to develop a projection of the water rate revenues, at present rate levels. In general, this process involved developing projected billing units for each customer group. For the water utility, the billing units are the number of accounts, and meters, for the fixed billing charge and the billed usage (metered consumption) for the consumption charge. The billing units were then multiplied by the current adopted water rates. This method of independently calculating revenues links the projected revenues used within the analysis to the projected billing units. It also helps to confirm that the billing units used within the study are reasonable for purposes of projecting future revenues, distributing costs, and ultimately, establishing proposed rates.

In total, and at current rate levels, the District is projected to receive approximately \$5.9 million in rate revenue in FY 2023. Over time, the study has assumed a conservative level of customer growth, based on historical growth levels, of 0.1% per year. This results in rate revenues being essentially flat over the projected time period.



In addition to rate revenues, the District receives miscellaneous revenues as a result of operating the water system. These are revenues related to interest earnings, fees, rental income, and other miscellaneous revenues. In total, the District is projected to receive approximately \$500,000 annually during the rate setting period.

On a combined basis, incorporating the rate revenues and the miscellaneous revenues, the District's water utility has total projected revenues of approximately \$6.4 million in FY 2023 which remains flat through FY 2028 at \$6.4 million. Again, this does not include any proposed revenue adjustments, only increases in rate revenues due to customer growth and annual changes in miscellaneous revenues.

1.1.4 Projecting Operation and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the District to provide water service (supply, treatment, distribution, etc.) as well as to operate and maintain the existing infrastructure. The District provided detailed O&M expenses based on the FY 2023 adopted budget. The budgeted O&M expenses were projected over the time period based on historical inflationary factors experienced by the District and the general economy. Provided in Table 1 - 2 is a summary of the primary escalation factors used to develop the projection of O&M expenses for the water utilities.

Table 1 – 2 Summary of the O&M Escalation Factors					
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Labor	5.0%	5.0%	5.0%	5.0%	5.0%
Benefits - Medical	10.0%	10.0%	10.0%	10.0%	10.0%
Benefits - Other	6.0%	6.0%	6.0%	6.0%	6.0%
Professional / Special Svcs.	5.0%	5.0%	5.0%	5.0%	5.0%
Materials & Supplies	3.0%	3.0%	3.0%	3.0%	3.0%
Equipment	4.0%	4.0%	4.0%	4.0%	4.0%
Miscellaneous	3.0%	3.0%	3.0%	3.0%	3.0%
Utilities	4.0%	4.0%	4.0%	4.0%	4.0%
Insurance	3.0%	3.0%	3.0%	3.0%	3.0%

Each of the budgeted O&M expenses were reviewed and the applicable escalation factor applied to develop the O&M for the projected time period. Exhibit 2 of the Water Technical Appendix provides a summary of the assumptions used to develop the projection of revenues and escalation of the O&M expenses.

Based on the FY 2023 adopted budget, the total O&M expenses for the District's water utility are \$5.1 million. In addition to the FY 2023 budget, additional expenses related to future staff were included starting in FY 2024. Over the planning horizon, total O&M expenses for the District are projected to increase to approximately \$6.2 million by FY 2028 based on the corresponding escalation factors. The projection of O&M expenses reflects an average inflationary increase of

3.8% per year over the projected time period through FY 2028. This is driven in part by the cyclical nature of the repairs and maintenance budget line item.

1.1.5 Capital Funding Plan

A key component in the development of the District’s water revenue requirement was properly and adequately funding capital improvement needs. One of the major issues facing utilities across the U.S. is the amount of deferred capital projects and the funding pressure from growth or expansion-related improvements. The proper and adequate funding of capital projects is an important issue for all water utilities and is not just a local issue or concern of the District.

In general, there are three types of capital projects that a utility may need to fund. These include the following types:

- Renewal & replacement projects
- Growth / capacity expansion projects
- Regulatory-related projects

A capital project that is defined as a renewal and replacement project is a project required for maintaining the existing system that is in place today. As the existing plant or pipelines become worn out, obsolete, etc., the utility should be making continuous investments to maintain the integrity of the facilities. In contrast to this, a utility may make capital investments to expand the capacity of facilities to accommodate future capacity needs (customers). Finally, certain projects may be a function of a regulatory requirement in which the Federal or State government mandates the need for an improvement to the system to meet a regulatory standard. Understanding these different types of capital projects is important because it may help to explain why costs are increasing and the cost drivers for any needed revenue adjustments. In addition, and more importantly, the way in which projects are funded may vary by the type of capital project. For example, renewal and replacement projects should be paid for via rates and funded on a “pay-as-you-go basis.” In contrast to this, growth or capacity expansion projects may be funded via the collection of impact fees (i.e., growth-related charges) in which new development pays an equitable share of the cost of facilities necessary to serve their development (impact). Finally, regulatory projects may be funded by a variety of different means, which may include rates, long-term debt, grants, etc.

While the above discussion appears to neatly divide capital projects into three clearly defined categories, the reality of working with specific capital projects may be more complex. For example, a pump may be replaced, but while being replaced, it is up sized to accommodate greater capacity to serve increasing demands or new development. There are many projects that share these “joint” characteristics.

For purposes of developing the capital funding plan the District provided its capital improvement plan (CIP) which has been summarized in Table 1 - 3 along with the expected funding sources developed as part of the rate study.

Table 1 – 3
Summary of the Water Capital Funding Analysis (\$000)

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total Capital Projects	\$2,433	\$2,843	\$1,942	\$3,619	\$2,311	\$1,481
<i>Less: Other Funding</i>						
Operating Fund	\$0	\$0	\$0	\$0	\$0	\$0
Capital Fund	2,229	1,273	1,592	979	1,246	581
Grant Funding	205	0	0	0	0	0
Long-Term Borrowing	<u>0</u>	<u>1,570</u>	<u>0</u>	<u>2,000</u>	<u>0</u>	<u>0</u>
Total Other Funding Source	\$2,433	\$2,843	\$1,592	\$2,979	\$1,246	\$581
Total Rate Funded Capital	\$0	\$0	\$350	\$640	\$1,065	\$900

The capital improvements are primarily related to renewal and replacement of aging water system infrastructure as well as annual equipment purchases. While the total amount required to fund projects may vary from year-to-year, the rate study capital funding plan has developed a plan to provide a consistent funding source for capital improvements. As a point of reference, the District's annual depreciation expense for the water utility was \$1.8 million for FY 2022. A desirable and recommended minimum funding target for rate funded capital is an amount equal to or greater than annual depreciation expense. This is critical as the replacement cost of an asset may be many times the original costs reflected through annual depreciation expense. As a point of reference, the District's current water capital charge totals approximately \$1.6 million. Given this, the additional rate funded capital reflects the increase in the annual renewal and replacement funding needs. In developing this financial plan, HDR and the District have attempted to minimize rate impacts while funding the necessary capital improvement projects.

1.1.6 Projection of Debt Service

The District currently has two (2) outstanding long-term debt issues for the water utility. On a combined basis, the total annual debt service for FY 2023 is approximately \$307,000. Over the review period, one of the of issuances is retired in FY 2027 which results in a reduction of \$114,000 per year. However, as noted in Table 1 – 3 it is assumed that the District's water utility will need to issue (new) long-term debt over the rate setting period and the total annual debt service is anticipated to be approximately \$451,000 per year by FY 2028. For rate setting purposes the debt service is funded through the annual capital charge revenues.

As part of the Study, HDR is not providing municipal advice as it relates to bonds, terms, or structures of debt issuance. Rather, the Study is simply identifying funding needs and estimating the annual debt service payments for rate setting purposes.

1.1.7 Reserve Funding

The final component of the revenue requirement analysis is the transfer to, or from, reserves to either maintain prudent ending fund balances or for future funding of specific capital improvements. In future years, as rates are adjusted and reach sufficient levels, the District is

able to transfer funds to the operating reserves to replenish prior expenditures and to meet minimum target levels. For the District's study the annual capital charge revenue is transferred to the capital reserve to fund annual debt service and capital improvements.

1.1.8 Summary of the Revenue Requirement

Given the above projections of revenues and expenses, a summary of the District's water revenue requirement analysis can be developed. In developing the revenue requirement analysis, consideration was given to the financial planning considerations of the District. In particular, emphasis was placed on minimizing rates, while providing adequate funds to support the operational activities and necessary capital improvement needs over the review period. Presented below in Table 1 - 4 is a summary of the District's water revenue requirement based on projected expenses and current rates. Detailed exhibits of this analysis can be found in the Water Technical Appendix in Exhibit 3.

Table 1 - 4 Summary of the Water Revenue Requirement Analysis (\$000)						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenues						
Rate Revenues	\$5,900	\$5,904	\$5,907	\$5,911	\$5,914	\$5,918
Other Revenues	510	493	493	493	493	494
Total Revenues	\$6,410	\$6,397	\$6,400	\$6,404	\$6,407	\$6,412
Expenses						
Total O & M	\$5,103	\$5,208	\$5,538	\$5,757	\$5,898	\$6,155
Net Debt Service	0	0	0	0	0	0
Operating Transfer	(317)	154	28	87	(248)	(100)
Capital Transfer	1,624	1,625	1,627	1,628	1,630	1,632
Additional Capital Funding	0	0	350	640	1,065	900
Total Expenses	\$6,410	\$6,987	\$7,543	\$8,112	\$8,345	\$8,587
Bal./ (Def.) of Funds	\$0	(\$590)	(\$1,143)	(\$1,708)	(\$1,938)	(\$2,175)
Balance as a % of Rate Adj.	0.0%	10.0%	19.4%	28.9%	32.8%	36.7%
Proposed Rate Adjustments	0.0%	10.0%	8.5%	8.0%	3.0%	3.0%
Add'l Revenue with Rate Adj.	\$0	\$590	\$1,143	\$1,708	\$1,938	\$2,175
Bal. / (Def.) After Rate Adj	0	0	0	(0)	0	(0)

The water revenue requirement has summed the O&M, net debt service, and reserve funding (transfers) for the five-year rate setting period. The total revenue requirement is then compared to the total revenues which are the rate revenues, at present rate levels, and other miscellaneous revenues. From this comparison, a balance or deficiency of funds in each year can be determined. This balance or deficiency of funds is then compared to the rate revenues to determine the level of rate revenue adjustment needed to meet the revenue requirement. The "Bal. / (Def.) of Funds" row is cumulative. That is to say, any adjustments in the initial years will reduce the deficiency in the later years.

As shown, the overall level of revenues needs to be increased over the test period to meet the operating and capital needs of the water utility. Based on the analysis, the District will need to adjust rate revenue levels in FY 2024 by 10.0%, 8.5% in FY 2025, 8.0% in FY 2026, and 3.0% annually in FY 2027 and FY 2028. Based on the rate transition plan provided in Table 3 – 4, the proposed annual revenue adjustments (blue shaded line) have been developed to meet the operating and capital needs of the District in each year of the analysis.

1.1.9 Reserve Fund Levels

Another key element of determining the financial health and sustainability of the District's water utility is to review the level of available reserve levels after the proposed rate revenue adjustments. In general, utilities can have several different reserves each with a different purpose. The typical types of reserves utilities maintain are generally referenced as an operating reserve and a capital reserve. Each of these funds can have a minimum ending balance that, if reached or falls below, is a signal that the District should review the revenue sources associated with each fund. The minimum ending balances will vary depending on the purpose of the fund and the expected revenue sources.

The District's water utility rate study included the review of three primary reserves.

Operating Reserve– This reserve is in place to meet the District's cash flow needs as well as funding during emergencies. The typical minimum ending balance for an operating reserve ranges from 90 – 365 days of annual O&M expenses. The target minimum for the District for rate setting purposes was set at 25% (or 90 days) of annual O&M expenses and is approximately \$1.3 million. This target is used in order to maintain a sufficient amount of funds to cover expenses should any unexpected interruption of rate revenues occur.

Capital Reserve – This reserve similar to the operating reserve but the capital expenses rather than operating expenses. A capital reserve minimum balance is generally set on a level that targets average annual capital needs or annual depreciation expense. For capital, the fund acts to store funds for use towards future capital projects. In this way, the District can minimize the impact to rates on an annual basis and maintain a more leveled projection of rates over time. Again, these funds are in place to help support the capital needs of the system. For the Study, a target minimum was set at annual depreciation which for FY 2023 for water is \$1.8 million.

Debt Reserve – This reserve, as the name implies, is relating to storing funds for debt service. The idea being that the funds would be available to pay the annual debt service payment should and unforeseen circumstance with regards to revenue generation or collection interruption. For the water rate study, it is assumed that one year of average annual debt service will be held in the debt reserve fund. This level of reserves will need to be reviewed as the District issues additional long-term debt and the debt issuance may require a reserve fund.

1.1.10 Revenue Requirement Summary

Based on the revenue requirement analyses developed herein, HDR has concluded that the District will need to adjust the level of water revenues received over the next five years (FY 2024 – FY 2028). HDR has reached this conclusion for the following reasons:

- Rate adjustments are necessary to fund the water utility O&M costs

- Rate adjustments are necessary to maintain prudent funding of annual renewal and replacement of the water system and specific capital improvements identified over this time period
- The proposed adjustments will provide the District with a financially healthy water utility (e.g., reserve levels, debt service coverage ratios) and provide long-term, sustainable funding levels

In reaching this conclusion, HDR recommends that the District adopt the proposed annual revenue adjustments for FY 2024 through FY 2028. This is in order to provide sufficient funding for the O&M and capital improvement needs for the Study time period.

1.2 Water Cost of Service

In the previous section, the revenue requirement analysis focused on the total sources and application of funds required to adequately fund the District's water utility. This section will provide an overview of the cost of service analysis developed for the District.

A cost of service analysis determines the proportional distribution of the total revenue requirement between the various customer classes of service (Residential, Multi-Family, Commercial, Irrigation, and Snowmaking). The previously developed revenue requirement for FY 2024 was utilized in the development of the cost of service analysis.

1.2.1 Objectives of a Cost of Service Study

There are two primary objectives in conducting a cost of service analysis:

1. Proportionally distribute the District's revenue requirement among the customer classes of service; and,
2. Derive average unit costs (i.e., cost-based rates) for subsequent rate designs

The objectives of the cost of service analysis are different from determining a revenue requirement. As noted in the previous section, a revenue requirement analysis determines the utility's overall financial needs, while the cost of service analysis determines the proportional and equitable manner to collect the revenue requirement from each of the customer classes of service.

The results of the cost of service analysis determine the unit costs which are used in the development of the final proposed rate designs. The water cost of service analysis provides a per unit cost of water consumption based on each customer class's proportional share of costs. For example, a water utility incurs costs related to average day, peak day, fire protection, and customer-related cost components. A water utility must build sufficient capacity¹ to meet

¹ System capacity is the system's ability to supply water to all delivery points at the time when demanded. Coincident peaking factors are calculated for each customer class at the time of greatest system demand. The time of greatest demand is known as peak demand. Both the operating costs and capital assets related costs incurred to

summer peak capacity needs. Therefore, those customers contributing to those peak demands on the system should pay their proportionately higher share of the costs to provide the capacity in the system. The unit costs provide the relationship between these components which are then used to set proportional and cost-based rates.

1.2.2 Determining the Customer Classes of Service

The first step in a cost of service analysis is to determine the customer classes of service. Based on discussion with District staff, the classes of service used within the cost of service analysis were:

- Residential
- Multi-Family
- Commercial
- Irrigation
- Snow Making

In determining classes of service for cost of service purposes, the objective is to group customers together into similar or homogeneous groups based upon similar facility requirements and/or demand characteristics. Based on the District's desire to evaluate and develop cost of service based rates, the customer classes of service were developed for evaluating the current rates for each customer class of service. This is a key aspect of the cost of service analysis that allows for the proportional distribution of costs to establish the proposed rates for each customer class of service. Based on these customer classes of service, each with their own unique customer consumption patterns, characteristics, and facility requirements the cost of service can be developed.

1.2.3 General Cost of Service Procedures

In order to evaluate the proportionality of the current rate structure for each customer class of service on the District's water system, a cost of service analysis is conducted. A cost of service analysis utilizes a three-step approach to review costs. These steps take the form of functionalization, allocation, and distribution. Provided below is a detailed discussion of the water cost of service study conducted for the District, and the specific steps taken within the analysis. The approach used for the District's Study conforms to generally accepted cost of service methodologies as outlined in the AWWA M1 manual.

1.2.3.1 Functionalization of Costs

The first analytical step in the cost of service process is called functionalization. Functionalization is the arrangement of O&M expense and asset data by major operating functions (e.g., supply, transmission, storage, distribution). Within this Study, there was a limited amount of

accommodate the peak demands are generally allocated to each customer class based upon the class's contribution to the peak month, day, or hour event.

functionalization of the cost data as it was largely accomplished within the District's system of accounts.

1.2.3.2 Allocation of Costs

The second analytical task performed in a water cost of service study is the allocation of the costs. The allocation of costs examines why the expenses were incurred or what type of need is being met. The following allocation components were used to develop the water cost of service analysis. As a point of reference, these are the same allocation components as develop for the 2022 rate study.

- **Commodity Related Costs:** Commodity costs are those costs which tend to vary with the total quantity of water consumed by a customer. Commodity costs are those incurred under average load (demand) conditions and are generally specified for a period of time such as a month or year. Chemicals is an example of commodity-related cost as these costs tend to vary based upon the total demand of water.
- **Capacity Related Costs:** Capacity costs are those which vary with peak demand, or the maximum rates of flow to customers. System capacity is required when there are large demands for water placed upon the system (e.g., summer lawn watering). For water utilities, capacity related costs are generally related to the sizing of facilities needed to meet a customer's maximum water demand at any point in time. For example, portions of distribution storage reservoirs and mains (pipes) must be adequately sized to meet the peak demands of the system and for each customer class of service.
- **Customer Related Costs:** Customer costs are those costs which vary with the number of customers on the water system. They do not vary with system output or consumption levels. These costs are also sometimes referred to as readiness to serve or availability costs. Customer costs may also sometimes be further allocated as either actual or weighted. Actual customer costs vary proportionally, from customer to customer, with the addition or deletion of a customer regardless of the size of the

Water Cost of Service Analysis Terminology

Functionalization – The arrangement of the cost data by functional category (source of supply, distribution, treatment, etc.).

Allocation – The assignment of functionalized costs to cost components (e.g., commodity, capacity, customer, and fire protection related).

Distribution – Distributing the allocation costs to each class of service based upon each class's proportional contribution to that specific cost component.

Commodity Costs – Costs that are allocated as commodity related vary with the total demand of water (e.g., chemical use at a treatment plant).

Capacity Costs – Costs allocated as capacity related vary with peak day or peak hour usage. Facilities are often designed and sized around meeting peak demands.

Fire Protection Costs – Costs that are related to fire protection services (e.g., hydrants, oversizing of storage and distribution mains).

Customer Costs – Costs allocated as customer related vary with the number of customers on the system (e.g., metering costs).

customer. An example of an actual customer cost is postage for mailing bills. This cost does not vary from customer to customer, regardless of the size or consumption characteristics of the customer. In contrast, a weighted customer cost reflects a disproportionate cost, from customer to customer, with the addition or deletion of a customer. Examples of weighted customer costs are items such as meter maintenance expenses, where a large commercial customer requires a significantly more expensive meter than a typical residential customer.

- **Public Fire Protection Related Costs:** Fire protection costs are O&M and capital costs necessary to allow for public fire protection functions. Usually, such costs relate to public fire hydrants and the over-sizing of mains and distribution storage reservoirs for fire protection purposes.
- **Revenue Related Costs:** Some costs associated with the utility may vary with the amount of revenue received by the utility. An example of a revenue related cost would be a utility tax which is based on the gross utility revenue.
- **Direct Assignment:** Some costs associated with the utility may be directly assigned to a specific customer class, or classes. This can be a specific O&M expense or component of the infrastructure that only benefits a specific customer class, or classes.

1.2.4 Development of Distribution Factors

Once the allocation process is complete, and the customer groups have been defined, the allocated costs are distributed to each customer group. The District's allocated costs were proportionally distributed to the previously identified customer classes of service using the following distribution factors. Similar to the allocation approach, these are the same distribution factors as used to develop the 2022 rate study.

- **Commodity Distribution Factor:** As noted, commodity-related costs vary with the total water consumption. Therefore, the commodity distribution factor was based on the projected total metered consumption plus losses for each class of service based on recent customer metered consumption data and projected for the FY 2024 cost of service test period.
- **Capacity Distribution Factor:** The capacity distribution factor was developed based on the estimated contribution to peak day use of each class. Peak day use by customer class of service was calculated by developing peaking factors for each customer group. For the District's Study, the peaking factor was defined as the relationship between peak day contribution and average day use and determined for each customer group based on a review of the average month to peak month usage for each class of service. Given an estimated peaking factor, the peak day contribution for each class of service was developed.
- **Customer Distribution Factor:** Customer costs vary with the number of customers on the system. Two basic types of customer distribution factors were identified – actual and weighted. The distribution factor for actual customers were based on the projection of the number of customers developed within the revenue requirement. The weighted customer distribution factor is for meters and services. This factor is calculated on the number of equivalent meters for each customer class. This reflects the difference in costs associated with providing service to larger sized meters.

- **Public Fire Protection Distribution Factor:** The development of the distribution factor for public fire protection expenses involved an analysis of each class of service and their respective fire flow requirements. The analysis considered the gallon per minute fire flow requirements in the event of a fire, along with the duration of the required flow. The fire flow rates used within the distribution factor were based on industry standards estimates for each customer class of service. The minimum fire flow requirements are then multiplied by the number of customers in each class of service, and the assumed duration of the fire, to determine the class's prorated fire flow requirements.
- **Revenue Related Distribution Factor:** The revenue related distribution factor was developed from the projected rate revenues for FY 2024 for each customer class of service. These same revenues were used within the revenue requirement analysis discussed previously.

Details related to the distribution of costs is found in Exhibits 8 through 12 of the Water Technical Appendix. The distribution actors were based on the customer characteristics of the District's customers. That is the characteristics (average day, peak day, customer number) of the previously discussed customer classes of residential, commercial, irrigation, and snow making.

1.2.5 Functionalization and Allocation of Plant in Service

As noted, the first step of the cost of service analysis is the functionalization and allocation of plant in service. In performing the functionalization of plant in service, HDR utilized the District's historical plant (asset) records. Once the plant assets were functionalized, the analysis shifted to the allocation of the asset. The allocation process included reviewing each group of assets and determining which costs the assets were related to. The assets were allocated to the previously described allocation components of commodity-related, capacity-related, customer-related, revenue-related, public fire protection-related, or a direct assignment. The approach used for the Study is based on the methodology as described in the AWWA M1 Manual and the District's specific water system operating and customer characteristics. The functionalization and allocation of the plant in service followed the same approach as outlined in the 2022 rate study. Therefore, the relationships have been maintained between cost allocations and only the costs have been updated.

Table 1 – 5 provides a summary of the basic functionalization and allocation of the major water plant items.

Table 1 - 5
Summary of the Allocation of Water Plant in Service

Category	Commodity Related	Capacity Related	Customer Related	Fire Protection	Revenue Related	Direct Assign.
Land	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Source of Supply	50.5%	49.5%	0.0%	0.0%	0.0%	0.0%
Pump Station	50.5%	49.5%	0.0%	0.0%	0.0%	0.0%
Storage	0.0%	92.0%	0.0%	8.0%	0.0%	0.0%
Water Distribution	3.6%	30.6%	58.8%	7.0%	0.0%	0.0%
Water Treatment	50.5%	49.5%	0.0%	0.0%	0.0%	0.0%
Net Plant in Service	32.3%	39.9%	25.4%	2.4%	0.0%	0.0%

A more detailed exhibit of the functionalization and allocation of water plant (assets) can be found in the Water Technical Appendix in Exhibit 13.

1.2.6 Functionalization and Allocation of Operating Expenses

As noted in the AWWA M1 Manual, operating expenses are generally functionalized and allocated in a manner similar to the corresponding plant account. For example, maintenance of distribution mains is typically allocated in the same manner (allocation percentages) as the plant account for distribution mains. This approach to allocating the District's operating expenses was used for this analysis. Although in general, the District does separate O&M expenses by function (e.g., supply, distribution), not all of the O&M is functionalized which is not uncommon for utilities. As a result, the approach to allocate the operating expenses was based on the allocation of the plant, or asset data, which reflects the investment made by the District to provide service.

For the Study, the revenue requirement for FY 2024 was functionalized and allocated based on the approach noted above. Which was based on the approach established in the 2022 rate study. The District utilized a cash basis revenue requirement, which was comprised of operation and maintenance expenses, rate funded capital, debt service, and reserve funding. Provided in Table 1 – 6 is a summary of the allocation of the water revenue requirement to the cost centers. The allocation of revenue requirement is further detailed in Exhibit 15 of the Water Technical Appendix.

Table 1 - 6
Summary of the Allocation of the Revenue Requirement (\$000)

	Commodity	Capacity	Actual Customer	Wt. Cust. Actg.	Wt. Cust Mtrs & Svcs	Fire Protection	Revenue Related
Net Revenue Requirement	\$1,738	\$1,863	\$17	\$0	\$2,719	\$158	\$0

1.2.7 Major Assumptions of the Cost of Service Study

A number of key assumptions were used within the District's water cost of service study. Below is a brief discussion of the major assumptions used.

- A test period of FY 2024 was used for the cost of service analysis in order to select the expenses which should be allocated and distributed for the rate setting period. The revenue and expense data used was previously developed within the revenue requirement analysis.
- A cash basis approach was utilized which conforms to generally accepted water cost of service approaches and methodologies and was the basis for the 2022 rate study
- The allocation of plant in service was developed based upon generally accepted cost allocation techniques. Furthermore, they were developed using the District's specific system and customer characteristics and data
- Consumption by cost or class of service used within this study were developed for each class of service from historical usage information provided by the District
- Peak day capacity distribution factors were calculated based upon each customer group's average to peak month relationship

1.2.8 Summary Results of the Cost of Service Analysis

In summary form, the cost of service analysis began by functionalizing the water revenue requirement developed for FY 2024. The functionalized revenue requirement was then allocated to the appropriate cost component(s). The individual allocation totals were then distributed to the identified customer classes of service and tiers based on the appropriate distribution factor. For example, commodity related costs were distributed based on the commodity distribution factor which was based on annual water consumption. Each customer class, and/or tier, is distributed their proportional share of commodity costs based on total annual water consumption. Similarly, capacity costs were distributed proportionally based on the capacity distribution factor. This factor reflects the peaking characteristics of each customer class, and tier. In this way, each class, and tier, is distributed the proportional share of costs allocated to the capacity component.

The distributed expenses for each customer class were then aggregated to determine each customer class's overall revenue responsibility. Shown below in Table 1 – 7 is a summary of the distributed costs to each customer class of service, also described in Exhibit 18 to the Water Technical Appendix.

Table 1 – 7
Summary of the Distribution of the Water Revenue Requirement (\$000)

Component	Residential	Multi-Family	Commercial	Irrigation	Snowmaking	Total
Commodity	\$827	\$414	\$154	\$274	\$68	\$1,738
Capacity	954	368	116	388	37	1,863
Actual Customer	14	1	1	0	0	17
Cust. Acctg.	0	0	0	0	0	0
Meters & Services	1,113	1,231	227	125	23	2,719
Fire Protection	64	70	24	0	0	158
Revenue Related	0	0	0	0	0	0
Direct Assign.	0	0	0	0	0	0
Total	\$2,971	\$2,084	\$523	\$787	\$129	\$6,494

The District's water cost of service study distributes the FY 2024 revenue requirement to each customer class with their respective benefit received from and burdens placed on the water system (proportional distribution). A cost of service analysis is based on one year's O&M expense data and projected customer usage information. Given this, the results of the cost of service analysis may change from year to year. As the District continues to monitor rates and cost of service results through future studies, future cost of service adjustments may be necessary to reflect costs and customer consumption patterns at that time.

Based on the proportional distribution of the costs, a comparison is made to the current revenues to determine the overall revenue adjustment by class of service to meet the overall system revenue needs. Provided in Table 1 - 8 is a summary of the cost of service analysis.

Table 1 - 8
Summary of the Water Cost of Service Analysis (\$000)

Class of Service	Present Revenues	Distributed Costs	\$ Difference	% Difference
Residential	\$2,693	\$2,971	(\$278)	10.3%
Multi-Family	2,015	2,084	(69)	3.4%
Commercial	489	523	(33)	6.8%
Irrigation	604	787	(184)	30.4%
Snowmaking	103	129	(25)	24.7%
Total System	\$5,801	\$6,365	(\$565)	10.0%

As can be seen in Table 1 - 8, while an overall revenue adjustment of 10.0% is necessary, the distribution of costs results in different revenue adjustments by class of service. It is important to note that the result of the cost of service analysis are a snapshot in time and may change from year to year depending on the system and customer characteristics. Given this, the results of the

cost of service analysis are reviewed from a range of reasonableness perspective. Based on this, the class of service that is outside of the range of reasonableness is the irrigation and snow making customer classes.

1.2.9 Consultant's Conclusions and Recommendations

The results of the cost of service show differences in the cost to serve each customer class, specifically the irrigation and snow making customer classes of service. The 2022 study established a separate consumption charge for the irrigation and snow making customers to begin to implement the cost of service results from the 2022 study. As shown in the cost of service results for this study, the irrigation and snow making rate should continue to be adjusted to reflect the cost of service results. The balance of costs, are applied equally to the remaining customer classes of service. The next section – 1.3 or the water rate design – it is discussed how the rate structure is adjusted to reflect the results of the cost of service. It is recommended that the District continue to complete cost of service analyses periodically and review the results to see if additional trends are apparent.

1.2.10 Summary of the Cost of Service Analysis

This section of the report has provided the recommendations resulting from the cost of service analysis developed for the District's water utility. This analysis was prepared using generally accepted cost of service techniques as provided in the AWWA M1 Manual. The following section of the report will provide a summary of the present and proposed rates for the District's water utility.

1.3 Water Rate Design

The final step of the District's water analysis as part of the Study is the design of water rates to collect the desired levels of revenues, based on the results of the revenue requirement analysis as well as incorporating recommended adjustments from the cost of service analysis. In reviewing District's rates, consideration must be given to the level of the rates as well as the structure of the rates. The level of rates reflects the amount of revenues that should be collected while the structure of the rates is how it is collected (charged) from the customers.

The overall revenue level for the District's has been established in the revenue requirement analysis while the proportional distribution of costs between the customer classes has been developed in the cost of service analysis which provides the revenue levels to be collected from each class of service.

1.3.1 Rate Design Criteria and Considerations

Prudent rate administration dictates that several criteria must be considered when setting utility rates. Some of these rate design criteria are listed below:

- Rates which are easy to understand from the customer's perspective
- Rates which are easy for the District to administer
- Consideration of the customer's ability to pay
- Continuity, over time, of the rate making philosophy

- Policy considerations (encourage efficient use, economic development, etc.)
- Provide revenue stability from month to month and year to year
- Promote efficient allocation of the resource
- Equitable and non-discriminatory (cost-based)

It is important that the District provide its water customers with a proper price signal as to what their consumption and peaking (demand) requirements are costing. This goal may be approached through rate level and rate structure. When developing the proposed rate designs, all the above listed criteria can be taken into consideration. However, it is difficult, if not impossible, to design a rate that meets all the goals and objectives listed above. For example, it may be difficult to design a rate that takes into consideration the customer's ability to pay, and one which is cost-based. In designing rates, there are always trade-offs between the various goals and objectives.

1.3.2 Present Water Rates

The current water rate structure includes a fixed base charge which is flat for residential and multi-family then for all other customers it is based on the service meter size and adjusted by the CAF factor or the meter equivalency factor. Customers are also charged a capital improvement charge that is assessed in the same manner as the fixed base charge. There is also a three tier volumetric consumption charge for the first 20,000 gallons, 20,000 to 60,000 gallons, and over 60,000 gallons. These tiers are adjusted based the CAF factor corresponding to the service meter size for non-residential customers. In this way, the tier sizes for larger customers reflect the demands and use of water by customers and the capacity provided through the fixed meter charge. The rate by tier is the same for residential and commercial customers while the irrigation customers have a unique rate based on the cost of service results.

1.3.3 Summary of the Proposed Water Rates

Developing cost-based water rates is of paramount importance in developing proposed water rates. HDR developed the District's proposed rates based on the methodologies provided in the AWWA M1 Manual.

The next step is to develop the proposed rates for the next five-year period. The capital charge is calculated based on the capital improvement projections as developed in the revenue requirement for the rate setting period, both direct capital funding and annual debt service payments. Then the fixed and variable charges were adjusted to target the overall rate revenue adjustment. Provided below is a summary of the present and proposed rates for each customer class of service for each year of the rate setting period. Provided below in Table 1 – 9 is a summary of the current and proposed rates for the District's customers.

Table 1 - 9
Summary of the Present and Proposed Water Rates

	<i>Present Rates</i>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Meter Fee						
3/4"	\$15.10	\$17.30	\$18.75	\$20.10	\$20.10	\$21.00
1"	25.22	28.89	31.31	33.57	33.57	35.07
1 1/2"	50.28	57.61	62.44	66.93	66.93	69.93
2"	80.48	92.21	99.94	107.13	107.13	111.93
3"	151.00	173.00	187.50	201.00	201.00	210.00
4"	251.72	288.39	312.56	335.07	335.07	350.07
6"	503.28	576.61	624.94	669.93	669.93	699.93
8"	805.28	922.61	999.94	1,071.93	1,071.93	1,119.93
10"	1,157.72	1,326.39	1,437.56	1,541.07	1,541.07	1,610.07
Capital Improv. Fee						
3/4"	\$15.10	\$15.10	\$18.23	\$20.92	\$24.85	\$23.35
1"	25.22	25.22	30.44	34.93	41.50	38.99
1 1/2"	50.28	50.28	60.70	69.66	82.76	77.74
2"	80.48	80.48	97.16	111.50	132.47	124.44
3"	151.00	151.00	182.29	209.19	248.53	233.46
4"	251.72	251.72	303.88	348.72	414.30	389.19
6"	503.28	503.28	607.59	697.22	828.35	778.14
8"	805.28	805.28	972.18	1,115.60	1,325.41	1,245.07
10"	1,157.42	1,157.72	1,397.65	1,603.84	1,905.48	1,789.97
Admin Fee	\$4.23	\$4.44	\$4.66	\$4.90	\$5.14	\$5.40
Defensible Space	1.05	1.05	1.05	1.05	1.05	1.05
Water Use (Res & Com)						
Tier 1	\$1.95	\$2.15	\$2.15	\$2.22	\$2.22	\$2.29
Tier 2	3.12	3.44	3.44	3.55	3.55	3.66
Tier 3	3.64	4.01	4.01	4.14	4.14	4.27
Water Use (Irrigation)						
Tier 1	\$2.00	\$2.65	\$2.90	\$3.15	\$3.15	\$3.25
Tier 2	3.20	4.24	4.64	5.04	5.04	5.20
Tier 3	3.73	4.94	5.41	5.87	5.87	6.06

As noted, the capital charge is based on the capital funding needs in each year, both direct capital and annual debt service payments. The admin fee was adjusted annual based on the annual increase in costs for those expense accounts as developed in the revenue requirement. The meter charge and consumption charge were then increased to meet the overall revenue target for each year.

It is important to note that the monthly bill impacts will vary between customer classes and also customers in the same class depending on the meter size and amount of consumption. The proposed rates meet the overall revenue adjustments necessary to fund operating and capital costs as developed in the Study, as well as a continuing the transition of the implementation of the cost of service results for the irrigation customers.

1.3.4 Water Rate Study Update Recommendations

Based on the results of the water rate study, HDR recommends the following:

- Revenue adjustments are necessary to prudently fund operating and capital renewal and replacement expenses
 - Revenues should be adjusted 10.0% in FY 2024, 8.5% in FY 2025, 8.0% in FY 2026, and 3.0% annually in FY 2027 and FY 2028
- Recommend implementing cost of service adjustments, specifically to address the irrigation cost of service results
- Prior to the end of the financial planning projected period, the District should complete a review of the water revenue levels and costs at that time

1.4 Summary of the Water Rate Study Update

This completes the analysis for the Incline Village General Improvement District's water utility. This study has provided a comprehensive review and development of proposed water rates for the District. Adoption of the proposed water rates will allow the District to meet its current and projected financial obligations for the time period reviewed based on the assumed customer growth, capital plan, and inflationary increases in operating costs. Should these assumptions change, the proposed rate adjustments may also need to be revised to reflect the current conditions.



2 Development of the Sewer Study Update

This section of the report will describe the development of the sewer rate study. This includes the development of the revenue requirement, cost of service, and rate design analyses. Each of these analyses was completed for the sewer utility based on the specific sewer customer and sewer system characteristics. The following discussion will outline the summary of each of these analyses to support the development of cost-based and proportional sewer rates.

2.1 Revenue Requirement

This section describes the development of the revenue requirement analysis for the District's sewer utility. The revenue requirement analysis is the first analytical step in the comprehensive sewer rate study process. From this analysis, a determination can be made as to the overall level of sewer rate adjustments needed to provide adequate and prudent funding for both operating and capital needs of the utility. The primary objective of a rate study is to develop cost-based rates over the rate setting period.

2.1.1 Determining the Revenue Requirement

In developing the District's sewer revenue requirement, the utility must financially "stand on its own" and be properly funded. As a result, the revenue requirement analysis, as developed herein, assumes the full and proper funding needed to operate and maintain the District sewer system on a financially sound and prudent basis. The following sections will provide a more detailed discussion of the development of the sewer revenue requirement analysis for the District.

2.1.2 Establishing a Time Frame and Approach

The first step in calculating the revenue requirement for the District's sewer system was to establish a time frame for the revenue requirement analysis. A 10-year period (FY 2024 – FY 2033) was determined to be an appropriate amount of time for the revenue requirement and matches the approach taken for the water utility. This time period was composed of the District's FY 2023 budget which was then projected based on assumed escalation factors. Reviewing a multi-year time period is recommended since it attempts to identify any major expenses that may be on the horizon. By anticipating future financial requirements, the District can begin planning for these changes sooner, thereby minimizing short-term rate impacts and overall long-term rates.

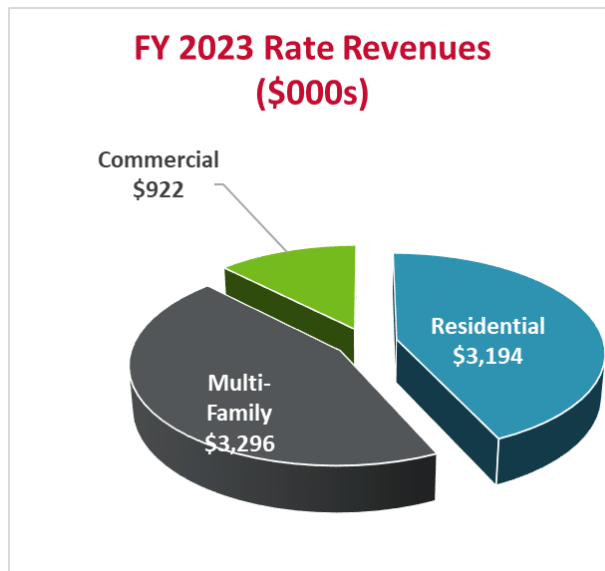
The second step in determining the sewer revenue requirement was to decide on the basis of accumulating costs. In this particular case, for the revenue requirement analysis a "cash basis" approach was utilized just as for the District's the water utility. The cash basis approach is the most commonly used methodology by municipal utilities to set their revenue requirement and is also the methodology that was used in the development of the District's 2022 rate study.

Given a time period around which to develop the revenue requirement and a method to accumulate the costs, the focus then shifts to the development and projection of the revenues and expenses of the District's sewer utility. The primary financial inputs in the development of

the revenue requirement were the District's adopted budget documents, recent billed customer data, and the District's capital improvement plan. Presented below is a detailed discussion of the steps and key assumptions contained in the development of the projections of the District's sewer revenue requirement analysis.

2.1.3 Projecting Rate and Other Miscellaneous Revenues

The first step in developing a projection of the sewer rate revenues, at present rate levels, was to determine the projected billing units (meter size, metered consumption/winter water consumption). The billing units were based on the most recent 12-month period to determine the current customer billing characteristics. These billing units were then multiplied by the corresponding present sewer rates. This method of independently calculating revenues links the projected revenues used within the analysis to the projected billing units. It also helps to confirm that the billing units used within the Study are reasonable for purposes of projecting future revenues, customer characteristics or units for the cost of service analysis, and provide the units for establishing the proposed rates to collect the target level of revenues. The rate revenues are also shown in Exhibit 3 under "Rate Revenues" for FY 2023.



In total, and at adopted rate levels, the District's sewer utility is projected to receive approximately \$7.4 million in rate revenue in FY 2023. Based on current District planning documents, the Study has assumed a conservative assumption for customer growth of 0.1% per year. By FY 2028, the rate revenues - assuming no rate adjustments - are projected to be approximately \$7.4 million, that is, essentially flat. The detailed calculation of the revenues at present rates is included in Exhibit 3 of the Sewer Technical Appendix.

In addition to rate revenues, the District also receives other non-operating revenues. These are revenues related to interest income, fees, other misc. revenue, etc. In total, the sewer utility is projected to receive approximately \$1.1 million in FY 2023 of which a significant proportion (\$1.0 million) is a one-time transfer to the sewer utility. Non-operating revenues were estimated to decrease after the one-time transfer and be approximately \$132,000 by FY 2028.

On a combined basis, considering the rate revenues and the miscellaneous revenues, the District's sewer utility has total projected revenues of approximately \$8.5 million in FY 2023. This amount is anticipated to decrease due to the one-time transfer to approximately \$7.6 million through FY 2028. The assumptions used for projecting growth and increases in miscellaneous revenues can be found in Exhibit 2 of the Sewer Technical Appendix. The projection of rate and miscellaneous revenues can be found in Exhibit 3.

2.1.4 Projecting Operation and Maintenance Expenses

Operation and maintenance (O&M) expenses are incurred by the District to maintain the sewer system collection, pumping, and treatment at a consistent, high level, of service. The starting point of the projection of O&M expenses was the District's adopted FY 2023 budget. Budgeted O&M expenses were projected over the Study time period based on historical inflationary factors. These factors took into consideration the District's historical cost increases and projected increases and are summarized below in Table 2 - 1.

Table 2 – 1 Summary of the Sewer O&M Escalation Factors					
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Labor	5.0%	5.0%	5.0%	5.0%	5.0%
Benefits - Medical	10.0%	10.0%	10.0%	10.0%	10.0%
Benefits - Other	6.0%	6.0%	6.0%	6.0%	6.0%
Professional Svcs.	5.0%	5.0%	5.0%	5.0%	5.0%
Materials & Supplies	3.0%	3.0%	3.0%	3.0%	3.0%
Equipment	4.0%	4.0%	4.0%	4.0%	4.0%
Chemicals	5.0%	5.0%	5.0%	5.0%	5.0%
Utilities	4.0%	4.0%	4.0%	4.0%	4.0%
Insurance	3.0%	3.0%	3.0%	3.0%	3.0%
Power	4.0%	4.0%	4.0%	4.0%	4.0%
Miscellaneous	2.5%	2.5%	2.5%	2.5%	2.5%

In total, O&M expenses were projected to increase at an annual inflation rate of approximately 4.5% over the Study time period. The escalation factors used are shown in Exhibit 2 of the Sewer Technical Appendix. In addition to the budgeted O&M expenses, there was also additional O&M expenses regarding staffing needs starting in FY 2024.

The total operation and maintenance expenses for the sewer utility are budgeted to be approximately \$5.5 million in FY 2023. Over the five-year projected rate setting period, the total O&M expenses are projected to increase to approximately \$6.8 million by FY 2028.

2.1.5 Projecting Capital Funding Needs

A key component in the development of the sewer revenue requirement was to adequately fund capital improvement needs in the short- and long-term. One of the major issues facing many utilities across the U.S. is the amount of deferred capital projects and the funding pressure from regulatory-related improvements. The proper and adequate funding of capital projects is an important issue for all utilities and not just a local issue or concern of the District. To accomplish this, the District has a Capital Improvement Plan (CIP) to address both the short- and long-term needs of the sewer utility. The District's CIP will help guide and prioritize capital projects over time and capital investments to expand the capacity of facilities to accommodate future customers.

In general, there are three types of capital projects that the District may need to fund. These include the following types:

- Renewal and replacement projects
- Growth/capacity expansion projects
- Regulatory-related projects

Each of these types was explained in detail in Section 1.1.5 and are the same for sewer as outlined in the water rate study discussion. As noted, in Section 1.1.5, the way in which projects are funded may vary by the type of capital project. For example, renewal and replacement projects should be funded through annual rates on a “pay-as-you-go basis”. In contrast to this, growth or capacity expansion projects may be funded through the collection of capacity charges (i.e., growth-related charges) in which new development pays a proportional and equitable share of the cost of improvements required as a result of their connection (impact) and that benefit development. Finally, regulatory projects may be funded by a variety of different means, which may include one or more sources such as rates, long-term debt, grants, etc.

While the above discussion appears to neatly divide capital projects into three clearly defined categories, the reality of working with specific capital projects may be more complex. For example, a mainline may be replaced, but while being replaced, it is up sized to accommodate the need for greater capacity. There are many projects that share these “joint” characteristics. At the same time, projects may not be “replacement” related, but rather “improvement” related. Provided below in Table 2 - 2 is a summary of the sewer utility capital funding analysis, based on the District’s capital improvement plan.

Table 2 – 2 Summary of the Sewer Capital Funding Plan (\$000)						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Total Capital Improvement Projects	\$18,688	\$19,592	\$16,773	\$18,771	\$1,657	\$863
<i>Less: Other Funding</i>						
Operating Fund	\$0	\$0	\$0	\$0	\$0	\$0
Capital Fund	2,497	0	0	0	1,657	863
Effluent Reserve Fund	7,979	721	523	2,521	0	0
USDA Grant	3,052	2,191	0	0	0	0
Federal Earmark	0	1,600	0	0	0	0
Long-term Borrowing	<u>5,160</u>	<u>15,080</u>	<u>16,250</u>	<u>16,250</u>	<u>0</u>	<u>0</u>
Total Other Funding	\$18,688	\$19,592	\$16,773	\$18,771	\$1,657	\$863
Rate Funded Capital	\$0	\$0	\$0	\$0	\$0	\$0

While the total amount of capital improvements will vary from year to year, the sewer capital funding plan has attempted to provide a consistent, annual funding source for the replacement of deteriorating system assets. In this case, the sewer rate structure includes a capital charge that

provides funding for annual capital improvement needs. In addition to this, to fund the capital plan, the District has planned on long-term debt to fund the effluent pipeline project.

As a point of reference, the District's annual depreciation expense for FY 2022 is approximately \$1.9 million. Similar to the target for the water utility, a desirable funding target for rate funded CIP is an amount equal to or greater than annual depreciation expense in order to approximately keep up with the rate of deterioration of the system assets. This level of funding appears appropriate based on the level of annual depreciation expense. At current levels, the District's annual capital funding is far exceeding the annual depreciation expense which means they are adequately funding renewal and replacement of the existing sewer infrastructure.

As noted in the water capital funding section, annual depreciation expense is not the same as replacement cost. Thus, funding an amount which exceeds the depreciation expense is both prudent and appropriate. As noted, to help establish a prudent level of annual replacement funding through rates, HDR worked with District staff to develop a funding plan for the CIP. In developing this financial plan, HDR and the District have attempted to minimize rate impacts while funding the necessary capital projects of the sewer utility.

2.1.6 Projection of Debt Service

The District currently has two outstanding long-term debt issues for the sewer utility with a total annual payment (P+I) of approximately \$336,000 in FY 2023. Over the rate setting period, both of the existing issuances are fully paid for. As noted in the capital funding analysis, the District has assumed that additional long-term debt will be necessary to fund sewer utility capital improvements, primarily the effluent pipeline project, over the five-year review period. This results in a total long-term debt service of approximately \$2.8 million in FY 2028.

HDR is not advising the District on the terms of any bond issuances, only identifying the overall funding needs. HDR is not acting in a municipal advisor role to the District for the issuance of any long-term borrowing.

2.1.7 Reserve Funding

The final component of the revenue requirement analysis is reserve funding. This can be described as transfers of revenue to reserve funds to maintain prudent ending fund balances or for future funding of specific or unanticipated projects. For the District, funds from the capital charge component of the rates are transferred into the capital fund in order to pay for annual capital improvement projects and annual debt service. In addition, once rates are set at a sufficient level, annual revenues are transferred to meet the operating fund minimum target balances.

2.1.8 Summary of the Sewer Revenue Requirement

Given the above projections of revenues and expenses, a summary of the sewer revenue requirement analysis can be developed. In developing the revenue requirement analysis, consideration was given to the financial planning considerations of the District. In particular, emphasis was placed on attempting to minimize rates, yet still have adequate funds to support the operational activities and capital projects throughout the projected time period. Presented

in Table 2 - 3 is a summary of the projected sewer revenue requirement. Detailed exhibits of this analysis can be found in the Sewer Technical Appendix (Exhibits 1 – 6).

Table 2 - 3 Summary of the Sewer Revenue Requirement Analysis (\$000)						
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Revenues						
Rate Revenues	\$7,412	\$7,420	\$7,427	\$7,434	\$7,442	\$7,449
Other Revenues	<u>1,123</u>	<u>129</u>	<u>120</u>	<u>120</u>	<u>125</u>	<u>132</u>
Total Revenues	\$8,535	\$7,549	\$7,547	\$7,554	\$7,567	\$7,581
Expenses						
Total O & M	\$5,505	\$5,849	\$6,109	\$6,389	\$6,518	\$6,844
Additional Capital Funding	0	0	0	0	0	0
Net Debt Service	0	0	0	0	0	0
Operating Fund Transfers	(193)	(525)	(114)	158	331	317
Capital Fund Transfers	<u>3,223</u>	<u>3,226</u>	<u>3,229</u>	<u>3,233</u>	<u>3,236</u>	<u>3,239</u>
Total Expenses	\$8,535	\$8,551	\$9,224	\$9,780	\$10,085	\$10,400
Bal./(Deficiency) of Funds	\$0	(\$1,002)	(\$1,677)	(\$2,225)	(\$2,518)	(\$2,819)
Balance as % of Rev from Rates	0.0%	13.5%	22.6%	29.9%	33.8%	37.8%
Proposed Rate Adjustments	0.0%	13.5%	8.0%	6.0%	3.0%	3.0%
Add'l Revenue with Rate Adj.	\$0	\$1,002	\$1,677	\$2,225	\$2,518	\$2,819
Bal. / (Def.) After Rate Adj.	\$0	\$0	(\$0)	\$0	\$0	\$0

As can be seen, the revenue requirement has summed the O&M, rate funded capital, net debt service, and reserve funding components. Similar to the water utility analysis, the annual debt service is funded through the existing capital charge component of the sewer rates. The total revenue requirement is then compared to the total revenues which include both rate revenues – at current rate levels – and other revenues. From this comparison, a balance or deficiency of funds in each year can be determined. This balance or deficiency of funds is then compared to the projected revenues from current rates to determine the level of rate adjustment needed to meet the revenue requirement. The “Bal. / (Def.) of Funds” row is cumulative. That is, any adjustments in the initial years will reduce the deficiency in the later years. Over the rate setting period, the total deficiency in revenues ranges from approximately \$1.0 million in FY 2024 to \$2.8 million in FY 2028.

The revenue requirement in Table 2 - 3 has been developed to meet financial planning objectives of the District. More specifically, the District desires to adequately and prudently fund the sewer operating and capital needs. Table 2 - 3 has also included a set of proposed rate revenue adjustments (blue highlighted band) which are sufficient to meet the total revenue requirements over the projected time period. The proposed revenue adjustments are a function of assumed inflation over this time period, coupled with the need to increase the capital improvement funding from rates (renewal and replacement funding), meet minimum reserve levels, fund annual debt service payments, and meet legally required debt service coverage ratios.

The overall revenue adjustments may not reflect the final rate adjustments, or bill impacts, seen by the District's customers. The overall revenue adjustment reflects the needed revenues for the system as a whole. A more detailed revenue requirement is included in Exhibit 3 of the Sewer Technical Appendix.

2.1.9 Consultant's Conclusions

Based on the revenue requirement analysis developed herein, HDR recommends that the District adjust sewer revenues annually over the next five-year period (FY 2024 – FY 2028). HDR has reached this conclusion for the following reasons:

- Revenue adjustments are necessary to fund the District's capital improvement needs
- The revenue adjustments are necessary in order to fund the annual inflationary costs related to annual sewer O&M
- The proposed revenue adjustments maintain the District's strong financial health and provide long-term sustainable funding levels

In reaching this conclusion, HDR would recommend that the District adopt the proposed sewer rate revenue adjustments in order to provide sufficient funding for annual O&M and capital improvement program over the next five-year period.

2.1.10 Summary of the Sewer Revenue Requirement

This section of the Study has provided a discussion of the District's sewer revenue requirement analysis. The revenue requirement analysis developed a revenue transition plan to support the District's O&M and capital needs. The next section will discuss the cost of service analysis developed for the District's sewer utility.

2.2 Sewer Cost of Service Analysis

In the previous section, the revenue requirement analysis focused on the total revenues and expenses required to adequately fund the District's sewer utility. This section will provide an overview and summary of the cost of service analysis developed for the District's sewer utility.

The sewer cost of service analysis is concerned with the proportional distribution of the total revenue requirement among the various customer classes of service (i.e., Residential, Multi-Family, Commercial) to establish cost-based and proportional rates for each customer class of service. The previously developed revenue requirement was utilized in the development of the cost of service analysis.

2.2.1 Objectives of a Cost of Service Study

There are two primary objectives in conducting a sewer cost of service study:

- Proportionally distribute the District's revenue requirement among the customer classes of service; and
- Derive average unit costs (i.e., cost-based rates) for subsequent rate designs.

The primary objective of the cost of service analysis is the proportional and equitable manner to collect the revenue requirement from the District's various customer classes of service. The

second rationale for conducting a cost of service analysis is to allow for the development of proposed rates that properly reflect the costs incurred by the District and impacts customer place on the sewer system. For example, a sewer utility typically incurs costs related to flow (wastewater volumes), strength, and customer cost components. Each of these types of costs may be collected in a slightly different manner to allow for the development of rates that collect costs in the same manner as they are incurred.

2.2.2 Determining the Customer Classes of Service

The first step in a cost of service analysis is to determine the customer classes of service. The customer classes of service for the Study are based on the current rate schedules of the District. As part of the Study, HDR reviewed the customer classes with the District and determined they reflect the various customer types and system facility requirements. For purposes of the development of the cost of service analysis, the following customer classes of service were identified:

- Residential
- Multi-Family
- Commercial

In determining classes of service for cost of service purposes, the objective is to group customers together into similar or homogeneous groups based upon facility requirements and/or flow characteristics. HDR reviewed the current customer characteristics and facility requirements, and the proposed customer classes of service are consistent with typical industry practices.

2.2.3 General Cost of Service Procedures

In order to determine the proportional cost to serve each customer class of service on the District's sewer system, a cost of service study is conducted. A cost of service study utilizes a three-step approach to review costs which is outlined in the Water Environment Federation Manual of Practice No. 27 (WEF MOP #27). These steps take the form of functionalization, allocation, and distribution. Provided below is a detailed discussion of the Study conducted for the District, and the specific steps taken within the analysis.

2.2.3.1 Functionalization of Costs

The first analytical step in the cost of service process is called functionalization. Functionalization is the arrangement of expenses and asset (plant) data by

Terminology of a Sewer Cost of Service Analysis

Functionalization – The arrangement of the cost data by functional category (e.g., collection, pumping, treatment).

Allocation – The assignment of functionalized costs to cost components (e.g., volume, strength, and customer related).

Distribution – Distribute the allocated costs to each class of service based upon each class's proportional contribution to that specific cost component.

Volume Costs – Costs that are allocated as volume related vary with the total flow of wastewater (e.g., power for pumping).

Strength Costs – Costs allocated as strength related refer to the sewer treatment function. Typically, strength-related costs are further defined as biochemical oxygen demand (BOD) and suspended solids (SS). Treatment facilities are designed and sized around meeting these treatment demands.

Customer Costs – Costs allocated as customer related vary with the number of customers on the sewer system, e.g., billing, accounting costs, etc.

Direct Assignment – Costs that can be clearly identified as belonging to a specific customer or group of customers.

major operating functions (e.g., collection, pumping, treatment). Within this Study, the District's records functionalized a majority of the expenses and assets. For those that were not, HDR worked with District staff to review and functionalize the expense or asset.

2.2.3.2 Allocation of Costs

The second analytical task performed in a sewer cost of service study is the allocation of the costs. Allocation determines why the expenses were incurred or what type of need is being met. The following cost allocators were used to develop the Study. These were the same allocation components as used in the development of the 2022 sewer rate study.

- **Volume Related Costs:** Volume related costs are those costs which tend to vary with the total quantity of wastewater collected and treated. A majority of collection system costs are included in this component as well as electricity used for pumping or treating wastewater.
- **Strength-Related Costs:** Strength-related costs are those costs associated with the handling and the treatment of wastewater. For the District's study, strength was differentiated between biochemical oxygen demand² (BOD) and total suspended solids³ (TSS). These constituents represent the strength factors that drive the District's treatment related costs. Increased strength levels of BOD or TSS equates to increased treatment costs for sewer treatment.
- **Customer-Related Costs:** Customer-related costs vary with the addition or deletion of a customer or a cost which is a function of the number of customers served. Customer related costs typically include the costs of billing, collecting, and accounting. Customer related costs can be further defined as weighted or reflect a higher cost of providing specific costs such as billing.
- **Revenue-Related Costs:** Some costs associated with the utility may vary with the amount of revenue received by the utility. An example of a revenue related cost would be a utility tax which is based on gross utility revenue.
- **Direct Assignment:** In some cases, a specific component of the infrastructure, or a specific O&M expense can be the direct responsibility of a specific customer class or classes. In this case, it is directly assigned to that customer class classes.

The basis, or methodology, for the allocation process is outlined in the WEF MOP #27. The methodology provided in the manual was then applied to the District's specific circumstances, customers, O&M and capital costs, and system operation to develop the appropriate allocation approach in a similar manner as the 2022 sewer rate study.

² BOD is the amount of dissolved oxygen that must be present in water in order for microorganisms to decompose the organic matter in the wastewater.

³ SS is the entire amount of organic and inorganic particles dispersed in wastewater.

2.2.3.3 Development of Distribution Factors

Once the allocation process is complete, the various allocated costs were distributed to each customer class of service. The District's allocated costs were proportionally distributed to the customer classes of service using the following distribution factors.

- **Volume Distribution Factor:** Volume related costs are distributed on the basis of contribution to wastewater flows. In order to develop this distribution factor, some knowledge of the contribution to flows must be determined. Wastewater flows were calculated based on billed wastewater flows for the District's customers which is based on metered water consumption. The calculation of the volume distribution factor is shown in Exhibit 7 of the Technical Appendix.
- **Strength Distribution Factor:** Strength-related costs are first allocated between BOD and TSS and then distributed to each customer class. The strength levels and each individual customer's wastewater volumes were used to calculate the pounds removed for each constituent which relates to each customer classes proportional contribution and share of costs. For the District's study, all customers were set at domestic strength wastewater levels. Exhibit 8 in the Technical Appendix provides the calculation of the strength distribution factor.
- **Customer Distribution Factor:** Customer costs within the cost of service analysis are distributed to the various customer classes of service based upon their respective number of accounts. The actual customer distribution factor assumes that there is no disproportionate cost associated with serving a customer (e.g., postage for bills is the same regardless of the size or usage of the customer). The other customer factor is called the customer capacity demand factor and is developed based on the number of equivalent meters for each customer class. This is meant to reflect the potential flows of each customer class. Exhibit 9 of the Technical Appendix provides the calculation of the customer distribution factors.
- **Revenue Related Distribution Factor:** The revenue related distribution factor was developed from the projected rate revenues for FY 2024 for each customer class of service as developed in Exhibit 3. A summary of the revenue distribution factor is provided in Exhibit 10 of the Technical Appendix.

The development of the distribution factors is based on generally accepted principles as outlined in the WEF MOP #27.

2.2.4 Functionalization and Allocation of Plant in Service

As noted, the first steps of the cost of service analysis is the functionalization and allocation of District's plant in service. In performing the functionalization of plant in service, HDR utilized the District's historical plant (asset) records. Once the plant assets were functionalized, the analysis shifted to the allocation of each asset. The allocation process included reviewing each functionalized asset and determining which cost allocator the assets were related to. For example, the District's assets were allocated as: volume-, strength- (BOD, TSS), customer-, and revenue-related. Provided below is a summary of the allocation process for the functional categories. The functionalization and allocation of the sewer plant in service was based on the

approach as established in the 2022 sewer rate study. Therefore, the relationships have been maintained between cost allocations and only the sewer costs have been updated.

A detailed exhibit of the District’s functionalization and allocation of plant investment can be found in the Technical Appendix Exhibit 11.1. Provided below in Table 2 - 4 is a summary of the allocation of the District’s plant in service (e.g., assets).

Table 2 – 4 Summary of the Allocation of Plant in Service						
	VOL	BOD	TSS	Cust.	CCD	DA
Collection	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Treatment	50.0%	25.0%	25.0%	0.0%	0.0%	0.0%
General Plant	67.1%	16.5%	16.5%	0.0%	0.0%	0.0%

2.2.5 Functionalization and Allocation of O&M Expenses

Following generally accepted methodologies as outlined in the WEF MOP #27, operating expenses are generally functionalized and allocation in a manner similar to the corresponding plant account. For example, maintenance of the collection system is typically allocated in the same manner (percentages) as the plant account for the collection system. This approach to allocating the District’s sewer operating expenses was used for this analysis. The District has a functionalized O&M budget that identifies O&M expenses by function (e.g., treatment, maintenance). Given this, in general, the approach to allocating the operating expenses was based on the allocation of the plant, or asset data. As a note, there are exceptions to this approach so that the analysis results in an equitable allocation and proportional distribution of costs and reflects the District’s specific customer and system characteristics. One example is the capital charge component of the rate. For the District’s study this is allocated as capacity demand to reflect the potential demands each customer class can place on the system. In this way, the distributed costs reflect the manner in which these costs are recovered through the capital charge component of the rates.

For the District’s study, the revenue requirement for FY 2024 was functionalized and allocated based on the approach noted above. As noted earlier, the District utilized a cash basis revenue requirement, which was comprised of operation and maintenance expenses, rate funded capital, debt service, and reserve funding.

Provided in Table 2 – 5 is a summary of the allocation of the District’s FY 2023 test period revenue requirement using the methodology outlined in the WEF MOP #27 and the District’s specific facility requirements and operations.

Table 2 – 5
Summary of the Allocation of the FY 2024 Revenue Requirement (\$000's)

Total	Volume	BOD	TSS	Customer	CCD	RR / DA
\$8,421	\$1,477	\$348	\$348	\$0	\$6,248	\$0

Based generally accepted approaches, and the District's specific costs and operation of the wastewater collection and treatment system, the revenue requirement of approximately \$7.5 million is allocated between the volume, strength, and customer related components. As noted, provided in Exhibit 13 of the Technical Appendix provides a detailed summary of the allocation of the District's revenue requirement.

2.2.6 Summary of the Sewer Cost of Service Analysis

In summary, the cost of service analysis began by functionalizing the District's sewer assets (infrastructure) and O&M expenses. The functionalized asset and expense accounts were then allocated into their various cost components.

As shown in Table 2 – 5 the total revenue requirement for FY 2024 has been allocated between the various cost components based on generally accepted methodologies. Next, the individual allocation totals are distributed proportionally to the identified customer classes of service based on the appropriate distribution factors as previously discussed. As an example, volume-related costs were distributed based on each customer classes share of total wastewater contributions. The total costs allocated to each cost component were proportionally distributed between the customer classes using the previously mentioned distribution factors. Provided in Table 2 – 6 is a summary of the distribution of the revenue requirement to the customer classes of service.

Table 2 – 6
Summary of the Distributed of the FY 2024 Revenue Requirement (\$000's)

	Total	Residential	Multi-Family	Commercial
Volume	\$1,477	\$569	\$578	\$330
BOD	348	134	136	78
TSS	348	134	136	78
Actual Customer	0	0	0	0
Cust. Capacity Demand	6,248	2,704	2,994	551
RR	0	0	0	0
DA	0	0	0	0
Total	\$8,421	\$3,541	\$3,844	\$1,036

The total distributed costs are then compared to the current revenues of each class of service to determine the overall change in revenues needed from each class of service to reflect the

proportional distribution of costs. Provided in Table 2 – 7 is a summary of the cost of service analysis for the District’s Study.

Table 2 – 7
Summary of the Sewer Cost of Service Analysis (\$000)

Class of Service	Current Rate Revenues	Distributed Costs	\$ Difference	% Difference
Residential	\$3,197	\$3,541	(\$344)	10.8%
Multi-Family	3,299	3,844	(545)	16.5%
Commercial	<u>923</u>	<u>1,036</u>	<u>(113)</u>	12.2%
Total	\$7,420	\$8,421	(\$1,002)	13.5%

The results of the cost of service analysis indicate very minor cost of service differences between the customer classes of service. This is in part, due to the cost of service adjustments implemented during the 2022 rate study, specifically the development of a specific rate for the commercial customers. A general rule of thumb when evaluating the results is to look at +/- 5% of the overall system adjustment (i.e., 13.5%). When reviewing the results of the cost of service analysis, it is important to understand that the results will not be “exact” each time the District updates its cost of service analysis. This is due to changing customer wastewater characteristics, external impacts such as the area demographics and customer types, and other changes in how the District incurs costs. Given the results, in discussion with the District, there are no cost of service adjustments proposed at this time.

The development of the cost of service is provided in Exhibits 7 through 15 of the Sewer Technical Appendix.

2.2.7 Consultant’s Conclusions

As noted, the results of the cost of service analysis show that only minor cost differences exist between the various customer classes of service. It is important to note that the cost of service relationships will change over time as customer characteristics and costs change over time.

2.2.8 Summary

This section of the Study has provided a summary of the cost of service analysis developed for the District. This analysis was prepared using generally accepted cost of service techniques and principles. The next section of the Study will review the present and proposed sewer rates for the District.

2.3 Sewer Rate Design Analysis

The final step of the District’s sewer rate study is the design of rates to collect the desired levels of revenue, based on the results of the revenue requirement analysis. In reviewing District’s rates, consideration is given to the level of the rates and the structure of the rates.

2.3.1 Rate Design Criteria and Considerations

Prudent rate administration dictates that several criteria must be considered when setting utility rates. An example of some of these rate design criteria are listed below:

- Rates which are easy to understand from the customer's perspective
- Rates which are easy to administer by the District
- Consideration of the customer's ability to pay
- Continuity, over time, of the rate making philosophy
- Policy considerations (encourage efficient use, economic development, etc.)
- Provide revenue stability from month to month and year to year
- Promote efficient allocation of the resource
- Cost-based sewer rates
- Compliance with State law

When developing the proposed rate designs, all the above-listed criteria were taken into consideration. However, it is difficult, if not impossible, to design a rate that meets all the goals and objectives listed above. For example, it may be difficult to design a rate that takes into consideration customers' ability to pay, and one which is cost-based. In designing rates, there are always trade-offs between these various goals and objectives.

2.3.2 Overview of the Present and Proposed Sewer Rates

The District currently has a monthly fixed charge for all customers that is charged by service meter size. There is also a capital improvement charge which is also charge based on the service meter size. A flat administration fee is charged per account. Finally, there is a uniform sewer use rate charged on all use for commercial customers. Residential (Single family and Multi-Family) are charge the same uniform rate but only on usage up to the winter water average as calculated on use from December to April. In discussion with District staff, no rate structure changes to the sewer rates are being proposed at this time. However, a unique volume charge (sewer use) is maintained for residential and multifamily customers as well as the commercial customer class which reflects the costs of providing service. Provided in Table 2 - 8 is a summary of the current and proposed sewer rates.

Table 2 - 8
Summary of the Present and Proposed Sewer Rates

	<i>Present Rates</i>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<i>Base Charge</i>						
3/4"	\$25.10	\$32.25	\$36.50	\$40.00	\$42.25	\$44.25
1"	41.92	53.86	60.96	66.80	70.56	73.90
1 1/2"	83.58	107.39	121.55	133.20	140.69	147.35
2"	133.78	171.89	194.55	213.20	225.19	235.85
3"	251.00	322.50	365.00	400.00	422.50	442.50
4"	418.42	537.61	608.46	666.80	704.31	737.65
6"	836.58	1,074.89	1,216.55	1,333.20	1,408.19	1,474.85
8"	1,338.58	1,719.89	1,946.55	2,133.20	2,253.19	2,359.85
10"	1,497.74	1,924.39	2,177.99	2,386.84	2,521.10	2,640.44
<i>Capital Improvement</i>						
3/4"	\$31.45	\$31.45	\$31.45	\$31.45	\$31.45	\$31.45
1"	52.52	52.52	52.52	52.52	52.52	52.52
1 1/2"	104.73	104.73	104.73	104.73	104.73	104.73
2"	167.63	167.63	167.63	167.63	167.63	167.63
3"	314.50	314.50	314.50	314.50	314.50	314.50
4"	524.27	524.27	524.27	524.27	524.27	524.27
6"	1,048.23	1,048.23	1,048.23	1,048.23	1,048.23	1,048.23
8"	1,677.23	1,677.23	1,677.23	1,677.23	1,677.23	1,677.23
10"	2,410.64	2,410.64	2,410.64	2,410.64	2,410.64	2,410.64
<i>Admin Fee</i>	\$4.23	\$4.44	\$4.66	\$4.90	\$5.14	\$5.40
<i>Sewer Use</i>						
Residential	\$4.00	\$4.75	\$5.37	\$5.88	\$6.00	\$6.22
Multi-Family	4.00	4.75	5.37	5.88	6.00	6.22
Commercial	4.70	5.60	6.35	6.95	7.10	7.37

As a point of reference, residential customers (single family and multi-family) are charged the 3/4" rate for the base and capital improvement charges per living unit. All commercial customers are charged based on the meter size.

2.4 Summary of the Sewer Rate Study Update

This completes the analysis for the District's sewer utility. This study has provided a comprehensive review and development of proposed sewer rates for the District. Adoption of the proposed sewer rates will allow the District to meet its current and projected financial obligations for the time period reviewed based on the assumed customer growth, capital plan and deferred capital, and inflationary increases in operating costs. Should these assumptions

change, the proposed rate adjustments may also need to be revised to reflect the current conditions.



3 Water Technical Appendix

Incline Village General Improvement District
Water Rate Study
Revenue Requirement Summary
Exhibit 1

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
Revenue											
Rate Revenues	\$5,900,172	\$5,903,666	\$5,907,161	\$5,910,663	\$5,914,166	\$5,917,672	\$5,921,182	\$5,924,693	\$5,928,207	\$5,931,726	\$5,935,248
Non-Operating Revenues	509,744	493,137	493,076	493,202	492,888	494,218	502,505	511,360	518,376	525,294	530,529
Total Revenues	\$6,409,916	\$6,396,803	\$6,400,237	\$6,403,866	\$6,407,054	\$6,411,890	\$6,423,688	\$6,436,053	\$6,446,583	\$6,457,019	\$6,465,777
Expenses											
Total Operations & Maintenance	\$5,103,455	\$5,208,075	\$5,538,489	\$5,756,991	\$5,898,117	\$6,154,561	\$6,247,823	\$6,632,318	\$6,925,534	\$7,079,768	\$7,445,013
Net Debt Service	0	0	0	0	0	0	0	0	0	0	0
Reserve Funding	1,306,461	1,779,095	2,004,783	2,354,938	2,446,709	2,431,948	2,594,687	2,474,340	2,451,250	2,575,101	2,494,562
Total Revenue Requirement	\$6,409,916	\$6,987,170	\$7,543,272	\$8,111,929	\$8,344,826	\$8,586,509	\$8,842,510	\$9,106,658	\$9,376,784	\$9,654,869	\$9,939,575
Bal. / Def.) of Funds	\$0	(\$590,367)	(\$1,143,036)	(\$1,708,063)	(\$1,937,773)	(\$2,174,619)	(\$2,418,822)	(\$2,670,605)	(\$2,930,201)	(\$3,197,850)	(\$3,473,799)
Bal. / (Def.) as a % of Rate Rev.	0.0%	10.0%	19.4%	28.9%	32.8%	36.7%	40.9%	45.1%	49.4%	53.9%	58.5%
Proposed Rate Adjustment	0.0%	10.0%	8.5%	8.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Add'l Revenue from Adj.	\$0	\$590,367	\$1,143,036	\$1,708,063	\$1,937,773	\$2,174,619	\$2,418,822	\$2,670,605	\$2,930,201	\$3,197,850	\$3,473,799
Total Bal / (Def.) of Funds	\$0	\$0	\$0	(\$0)	\$0	(\$0)	\$0	(\$0)	\$0	\$0	\$0
Additional Rate Increase Needed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Avg Res Mo Bill (Fees + 10,000 gal)	\$54.98	\$59.39	\$64.19	\$69.17	\$73.34	\$73.70	\$75.91	\$78.18	\$80.53	\$82.94	\$85.43

Incline Village General Improvement District
Water Rate Study
Exhibit 2
Escalation Factors

	<i>Budgeted</i>	<i>Proposed</i>									
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
Revenues											
Customer Growth	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
<i>Single Family - Cust Growth</i>	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
<i>Multi-Family - Cust Growth</i>	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
<i>Commercial - Cust Growth</i>	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
<i>Irrigation - Cust Growth</i>	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
<i>IVGID - Cust Growth</i>	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Consump Growth											
<i>Single Family - Cons Growth</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<i>Multi-Family - Cons Growth</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<i>Commercial - Cons Growth</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<i>Irrigation - Cons Growth</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<i>IVGID - Cons Growth</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Misc Revenues	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Expenses											
Labor	Budgeted	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Benefits - Medical	Budgeted	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Benefits - Other	Budgeted	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Professional / Special Svcs	Budgeted	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Materials & Supplies	Budgeted	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Equipment	Budgeted	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Miscellaneous	Budgeted	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Utilities	Budgeted	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Water and Sewer	Budgeted	17.5%	12.3%	8.8%	8.5%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%
Insurance	Budgeted	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Flat	Budgeted	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CIP	Budgeted	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Rate Revenue Adj	0.0%	10.0%	8.5%	8.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Interest											
	0.7%	0.8%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%

Incline Village General Improvement District
Water Rate Study
Exhibit 3
Revenue Requirement

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	Budgeted	Proposed										Notes
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	
Revenues												
Rate Revenues												
Residential	\$2,691,418	\$2,692,993	\$2,694,569	\$2,696,148	\$2,697,728	\$2,699,307	\$2,700,891	\$2,702,475	\$2,704,059	\$2,705,647	\$2,707,235	
Multi Family	2,013,224	2,014,771	2,016,317	2,017,868	2,019,419	2,020,973	2,022,528	2,024,082	2,025,640	2,027,199	2,028,761	
Commercial	442,201	442,412	442,622	442,833	443,044	443,255	443,465	443,676	443,887	444,098	444,308	
Irrigation	201,612	201,666	201,720	201,773	201,827	201,881	201,935	201,989	202,042	202,096	202,150	
Commercial - IVGID	46,642	46,681	46,720	46,760	46,799	46,838	46,878	46,917	46,956	46,996	47,035	
Irrigation - IVGID	401,913	401,981	402,050	402,118	402,186	402,255	402,323	402,391	402,460	402,528	402,597	
Snowmaking - IVGID	103,163	103,163	103,163	103,163	103,163	103,163	103,163	103,163	103,163	103,163	103,163	
Total Rate Revenues	\$5,900,172	\$5,903,666	\$5,907,161	\$5,910,663	\$5,914,166	\$5,917,672	\$5,921,182	\$5,924,693	\$5,928,207	\$5,931,726	\$5,935,248	
Non-Operating Revenues												
Interest	\$20,844	\$3,748	\$3,198	\$2,834	\$2,029	\$2,868	\$10,665	\$19,027	\$25,551	\$31,976	\$36,718	Calculated
Snow Removal Fees	80,000	80,080	80,160	80,240	80,320	80,401	80,481	80,562	80,642	80,723	80,804	As Misc Revenues
Work Order Charges Labor	120,000	120,120	120,240	120,360	120,481	120,601	120,722	120,843	120,963	121,084	121,205	As Misc Revenues
Work Order Chgs Eq & Materials	36,500	36,537	36,573	36,610	36,646	36,683	36,720	36,756	36,793	36,830	36,867	As Misc Revenues
Back Flows Tests	134,400	134,534	134,669	134,804	134,938	135,073	135,208	135,344	135,479	135,614	135,750	As Misc Revenues
Fines & Penalties	25,200	25,225	25,250	25,276	25,301	25,326	25,352	25,377	25,402	25,428	25,453	As Misc Revenues
Fire Protection	17,760	17,778	17,796	17,813	17,831	17,849	17,867	17,885	17,903	17,920	17,938	As Misc Revenues
Inspection/Plan Fees	44,800	44,845	44,890	44,935	44,979	45,024	45,069	45,115	45,160	45,205	45,250	As Misc Revenues
Other Water	30,240	30,270	30,301	30,331	30,361	30,392	30,422	30,452	30,483	30,513	30,544	As Misc Revenues
Interfund Revenue Transfers	0	0	0	0	0	0	0	0	0	0	0	As Misc Revenues
Total Non-Operating Revenues	\$509,744	\$493,137	\$493,076	\$493,202	\$492,888	\$494,218	\$502,505	\$511,360	\$518,376	\$525,294	\$530,529	
Total Revenues	\$6,409,916	\$6,396,803	\$6,400,237	\$6,403,866	\$6,407,054	\$6,411,890	\$6,423,688	\$6,436,053	\$6,446,583	\$6,457,019	\$6,465,777	
Expenses												
Wages												
Other Earnings	\$53,111	\$55,767	\$58,555	\$61,483	\$64,557	\$67,785	\$71,174	\$74,733	\$78,469	\$82,393	\$86,512	As Labor
Regular Earnings	1,591,099	1,670,654	1,754,187	1,841,896	1,933,991	2,030,690	2,132,225	2,238,836	2,350,778	2,468,317	2,591,733	As Labor
Salary Savings from Vacant Positions	(28,554)	0	0	0	0	0	0	0	0	0	0	As Labor
Total Wages	\$1,615,656	\$1,726,421	\$1,812,742	\$1,903,379	\$1,998,548	\$2,098,475	\$2,203,399	\$2,313,569	\$2,429,247	\$2,550,709	\$2,678,245	

Incline Village General Improvement District
Water Rate Study
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Revenue Requirement

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	Budgeted	Proposed										
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Notes
Benefits												
Dental Fringe Ben	\$21,726	\$23,899	\$26,288	\$28,917	\$31,809	\$34,990	\$38,489	\$42,338	\$46,572	\$51,229	\$56,352	As Benefits - Medical
Disability Fringe Ben	8,165	8,655	9,174	9,725	10,308	10,927	11,582	12,277	13,014	13,795	14,622	As Benefits - Other
Life Ins Fringe Ben	3,127	3,440	3,784	4,162	4,578	5,036	5,540	6,094	6,703	7,373	8,111	As Benefits - Medical
Medical Fringe Ben	302,051	332,256	365,482	402,030	442,233	486,456	535,102	588,612	647,473	712,220	783,443	As Benefits - Medical
Retirement Fringe Ben	292,767	310,333	328,953	348,690	369,612	391,788	415,296	440,213	466,626	494,624	524,301	As Benefits - Other
Taxes	131,510	139,401	147,765	156,631	166,028	175,990	186,549	197,742	209,607	222,183	235,514	As Benefits - Other
Unemployment Fringe Ben	25,833	27,383	29,026	30,768	32,614	34,570	36,645	38,843	41,174	43,644	46,263	As Benefits - Other
Vision Fringe Ben	2,433	2,579	2,734	2,898	3,072	3,256	3,451	3,658	3,878	4,111	4,357	As Benefits - Other
Work Comp Fringe Ben	41,153	43,622	46,240	49,014	51,955	55,072	58,376	61,879	65,592	69,527	73,699	As Benefits - Other
Total Benefits	\$828,765	\$891,567	\$959,445	\$1,032,834	\$1,112,208	\$1,198,085	\$1,291,030	\$1,391,657	\$1,500,638	\$1,618,706	\$1,746,661	
Services & Supplies												
Advertising - Paid	\$1,000	\$1,030	\$1,061	\$1,093	\$1,126	\$1,159	\$1,194	\$1,230	\$1,267	\$1,305	\$1,344	As Materials & Supplies
BLDGS Maintenance Services	75,760	78,033	80,374	82,785	85,269	87,827	90,461	93,175	95,971	98,850	101,815	As Materials & Supplies
Chemical	212,500	218,875	225,441	232,204	239,171	246,346	253,736	261,348	269,189	277,264	285,582	As Materials & Supplies
Computer & IT Small Equip	8,200	8,446	8,699	8,960	9,229	9,506	9,791	10,085	10,388	10,699	11,020	As Materials & Supplies
Computer License & Fees	78,859	81,225	83,662	86,171	88,756	91,419	94,162	96,987	99,896	102,893	105,980	As Materials & Supplies
Contractual Services	12,960	13,349	13,749	14,162	14,587	15,024	15,475	15,939	16,417	16,910	17,417	As Materials & Supplies
Dues & Subscriptions	9,338	9,618	9,907	10,204	10,510	10,825	11,150	11,485	11,829	12,184	12,549	As Materials & Supplies
Employee Recruit & Retain	14,950	15,399	15,860	16,336	16,826	17,331	17,851	18,387	18,938	19,506	20,092	As Materials & Supplies
Fleet Maintenance Services	206,318	212,508	218,883	225,449	232,213	239,179	246,354	253,745	261,357	269,198	277,274	As Materials & Supplies
Fuel	38,880	40,435	42,053	43,735	45,484	47,303	49,196	51,163	53,210	55,338	57,552	As Utilities
Janitorial	1,500	1,545	1,591	1,639	1,688	1,739	1,791	1,845	1,900	1,957	2,016	As Materials & Supplies
Lab	28,000	28,840	29,705	30,596	31,514	32,460	33,433	34,436	35,470	36,534	37,630	As Materials & Supplies
Office Supplies	12,050	12,412	12,784	13,167	13,562	13,969	14,388	14,820	15,265	15,723	16,194	As Materials & Supplies
Operating	65,630	67,599	69,627	71,716	73,867	76,083	78,366	80,717	83,138	85,632	88,201	As Materials & Supplies
Permits & Fees	38,572	39,729	40,921	42,149	43,413	44,716	46,057	47,439	48,862	50,328	51,838	As Materials & Supplies
Postage	17,000	17,510	18,035	18,576	19,134	19,708	20,299	20,908	21,535	22,181	22,847	As Materials & Supplies
R&M General	44,975	46,324	47,714	49,145	50,620	52,138	53,703	55,314	56,973	58,682	60,443	As Materials & Supplies
R&M Corrective	175,385	180,647	186,066	191,648	197,397	203,319	209,419	215,701	222,172	228,838	235,703	As Materials & Supplies
R&M Preventative	81,695	84,146	86,670	89,270	91,948	94,707	97,548	100,475	103,489	106,593	109,791	As Materials & Supplies
Rental & Lease	960	989	1,018	1,049	1,080	1,113	1,146	1,181	1,216	1,253	1,290	As Materials & Supplies
Repairs & Maintenance	0	0	0	0	0	0	0	0	0	0	0	See Shared and Capital Exp
Safety	8,400	8,652	8,912	9,179	9,454	9,738	10,030	10,331	10,641	10,960	11,289	As Materials & Supplies
Security	2,980	3,069	3,161	3,256	3,354	3,455	3,558	3,665	3,775	3,888	4,005	As Materials & Supplies
Small Equipment	9,800	10,094	10,397	10,709	11,030	11,361	11,702	12,053	12,414	12,787	13,170	As Materials & Supplies
Tools	9,300	9,579	9,866	10,162	10,467	10,781	11,105	11,438	11,781	12,134	12,498	As Materials & Supplies
Training & Education	26,100	26,883	27,689	28,520	29,376	30,257	31,165	32,100	33,063	34,055	35,076	As Materials & Supplies
Travel & Conferences	17,200	17,716	18,247	18,795	19,359	19,940	20,538	21,154	21,788	22,442	23,115	As Materials & Supplies
Uniforms	15,700	16,171	16,656	17,156	17,670	18,201	18,747	19,309	19,888	20,485	21,099	As Materials & Supplies
Engineering Services	97,976	102,875	108,019	113,419	119,090	125,045	131,297	137,862	144,755	151,993	159,593	As Professional / Special Svcs
Total Services & Supplies	\$1,311,988	\$1,353,696	\$1,396,769	\$1,441,253	\$1,487,196	\$1,534,648	\$1,583,662	\$1,634,290	\$1,686,587	\$1,740,612	\$1,796,424	

Incline Village General Improvement District
Water Rate Study
Exhibit 3
Revenue Requirement

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	Budgeted	Proposed										
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Notes
Other												
Central Services Allocation Cs	\$0	\$288,129	\$296,773	\$305,676	\$314,846	\$324,292	\$334,020	\$344,041	\$354,362	\$364,993	\$375,943	As Materials & Supplies
Defensible Space Costs	50,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239	67,196	As Materials & Supplies
General Liability - Insurance	121,900	125,557	129,324	133,203	137,200	141,316	145,555	149,922	154,419	159,052	163,823	As Insurance
Audit	5,850	6,026	6,206	6,392	6,584	6,782	6,985	7,195	7,411	7,633	7,862	As Materials & Supplies
Legal	12,000	12,360	12,731	13,113	13,506	13,911	14,329	14,758	15,201	15,657	16,127	As Materials & Supplies
Professional Consultants	62,500	65,625	68,906	72,352	75,969	79,768	83,756	87,944	92,341	96,958	101,806	As Professional / Special Svcs
Interfund Expense Transfers	(679,447)	(460,564)	(464,512)	(476,551)	(422,043)	(451,925)	(503,326)	(542,316)	(556,470)	(490,626)	(526,016)	As Materials & Supplies
Capital Expenses	100,000	250,000	375,000	355,000	425,000	370,000	80,000	100,000	80,000	120,000	80,000	As Materials & Supplies
Shared Capital Expenses	1,199,495	348,500	320,000	320,000	72,500	135,500	276,500	370,000	370,000	72,500	147,500	As Materials & Supplies
Total Other	\$872,298	\$687,132	\$797,473	\$783,822	\$679,838	\$677,607	\$497,522	\$593,037	\$580,603	\$411,406	\$434,241	
Utilities												
Cable TV	\$1,943	\$2,021	\$2,102	\$2,186	\$2,273	\$2,364	\$2,459	\$2,557	\$2,659	\$2,765	\$2,876	As Utilities
Electricity	409,100	425,464	442,483	460,182	478,589	497,733	517,642	538,348	559,882	582,277	605,568	As Utilities
Heating	11,200	11,648	12,114	12,598	13,102	13,627	14,172	14,738	15,328	15,941	16,579	As Utilities
Internet	11,600	12,064	12,547	13,048	13,570	14,113	14,678	15,265	15,875	16,510	17,171	As Utilities
Telephone	30,905	32,141	33,427	34,764	36,154	37,601	39,105	40,669	42,296	43,987	45,747	As Utilities
Trash	7,100	7,384	7,679	7,987	8,306	8,638	8,984	9,343	9,717	10,106	10,510	As Utilities
Water & Sewer	2,900	3,408	3,825	4,160	4,513	4,660	4,811	4,968	5,129	5,296	5,468	As Water and Sewer
Total Utilities	\$474,748	\$494,129	\$514,176	\$534,924	\$556,509	\$578,735	\$601,850	\$625,887	\$650,886	\$676,883	\$703,918	
Future O&M												
Additional Staffing Needs	\$0	\$55,130	\$57,886	\$60,780	\$63,819	\$67,010	\$70,361	\$73,879	\$77,573	\$81,451	\$85,524	As Labor
One-Time Inflation Contingency	0	0	0	0	0	0	0	0	0	0	0	As Labor
Budget Savings	0	0	0	0	0	0	0	0	0	0	0	
Total Future O&M	\$0	\$55,130	\$57,886	\$60,780	\$63,819	\$67,010	\$70,361	\$73,879	\$77,573	\$81,451	\$85,524	
Total Operations & Maintenance	\$5,103,455	\$5,208,075	\$5,538,489	\$5,756,991	\$5,898,117	\$6,154,561	\$6,247,823	\$6,632,318	\$6,925,534	\$7,079,768	\$7,445,013	
		2.0%	6.3%	3.9%	2.5%	4.3%	1.5%	6.2%	4.4%	2.2%	5.2%	
Debt Service												
NV DWSRF 2012	\$193,372	\$193,372	\$193,372	\$193,372	\$193,372	\$193,372	\$193,372	\$193,372	\$193,372	\$193,372	\$193,372	Existing Debt
NV Drk Wtr Loan 2005	113,648	113,648	113,648	113,648	56,824	0	0	0	0	0	0	Existing Debt
New SRF Loans	0	0	0	0	0	0	0	0	0	0	0	Calc @ 2.4% for 20 Yrs
New Revenue Bonds	0	110,467	110,467	257,630	257,630	257,630	257,630	257,630	257,630	257,630	257,630	Calc @ 4.6% for 20 Yrs
Total Debt Service	\$307,020	\$417,487	\$417,487	\$564,650	\$507,826	\$451,002	\$451,002	\$451,002	\$451,002	\$451,002	\$451,002	
Less Capital Reserve Funding	\$307,020	\$417,487	\$417,487	\$564,650	\$507,826	\$451,002	\$451,002	\$451,002	\$451,002	\$451,002	\$451,002	
Net Debt Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

	Budgeted	Proposed										Notes
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	
Reserve Funding												
Operating Fund Transfer	(\$317,084)	\$153,927	\$27,989	\$86,517	(\$248,340)	(\$99,731)	\$461,377	\$64,396	\$164,671	\$391,886	\$429,708	As Customer Growth
Capital Fund Transfer	1,623,545	1,625,168	1,626,793	1,628,420	1,630,049	1,631,679	1,633,310	1,634,944	1,636,579	1,638,215	1,639,853	
Additional Capital Funding	0	0	350,000	640,000	1,065,000	900,000	500,000	775,000	650,000	545,000	425,000	
Debt Reserve Fund	0	0	0	0	0	0	0	0	0	0	0	
Total Reserve Funding	\$1,306,461	\$1,779,095	\$2,004,783	\$2,354,938	\$2,446,709	\$2,431,948	\$2,594,687	\$2,474,340	\$2,451,250	\$2,575,101	\$2,494,562	
Total Revenue Requirement	\$6,409,916	\$6,987,170	\$7,543,272	\$8,111,929	\$8,344,826	\$8,586,509	\$8,842,510	\$9,106,658	\$9,376,784	\$9,654,869	\$9,939,575	
Bal/(Def.) of Funds	\$0	(\$590,367)	(\$1,143,036)	(\$1,708,063)	(\$1,937,773)	(\$2,174,619)	(\$2,418,822)	(\$2,670,605)	(\$2,930,201)	(\$3,197,850)	(\$3,473,799)	
Rate Adj. as a % of Rate Rev.	0.0%	10.0%	19.4%	28.9%	32.8%	36.7%	40.9%	45.1%	49.4%	53.9%	58.5%	
Proposed Rate Adjustment	0.0%	10.0%	8.5%	8.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
<i>Effective Months</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	
Add'l Revenue from Adj.	\$0	\$590,367	\$1,143,036	\$1,708,063	\$1,937,773	\$2,174,619	\$2,418,822	\$2,670,605	\$2,930,201	\$3,197,850	\$3,473,799	
Total Bal / (Def.) of Funds	\$0	\$0	\$0	(\$0)	\$0	(\$0)	\$0	(\$0)	\$0	\$0	\$0	
Additional Rate Increase Needed	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
DSC Ratio												
Before Rate Adjustment	4.26	2.85	2.06	1.15	1.00	0.57	0.39	0.00	0.00	0.00	0.00	
After Rate Adjustment	4.26	4.26	4.80	4.17	4.82	5.39	5.75	5.49	5.44	5.71	5.53	
Avg Res Mo Bill (Fees + 10,000 gal)	\$54.98											
After Proposed Rate Adjustment	\$54.98	\$59.39	\$64.19	\$69.17	\$73.34	\$73.70	\$75.91	\$78.18	\$80.53	\$82.94	\$85.43	
Annual \$ Change		4.41	4.80	4.97	4.18	0.35	2.21	2.28	2.35	2.42	2.49	
Cumulative Change		4.41	9.21	14.19	18.36	18.72	20.93	23.20	25.55	27.96	30.45	

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total
Capital Improvements - Water												
SCADA Management Servers/Network - BCDP	\$0	\$0	\$74,984	\$0	\$0	\$0	\$0	\$99,345	\$0	\$0	\$0	\$174,329
Water Pumping Station Improvements	50,000	104,000	107,120	110,334	113,644	117,053	120,565	124,181	127,907	131,744	135,696	1,242,243
Burnt Cedar Water Disinfection Plant Improvements	181,637	26,000	160,680	1,655,004	0	0	0	0	0	0	0	2,023,321
Removal of Washoe 1 Water Intake Line	0	0	0	0	0	0	0	0	0	0	0	0
Water Pump Station 2-1 Improvements	0	416,000	0	0	0	117,053	0	0	0	0	0	533,053
2013 Mid Size Truck #630 Compliance	0	0	0	0	0	0	0	0	0	46,110	0	46,110
Watermain Replacement - Crystal Peak Road	1,568,642	0	0	0	0	0	0	0	0	0	0	1,568,642
Watermain Replacement - Slott Pk Ct	72,230	0	0	0	0	0	0	0	0	0	0	72,230
Watermain Replacement - Alder Avenue Ponderosa Ranch/Tunnel Creek	65,000	1,300,000	0	0	0	0	0	0	0	0	0	1,365,000
Watermain Replacement - Future	0	52,000	856,960	882,669	909,149	936,423	964,516	993,452	1,023,255	1,053,953	1,085,571	8,757,948
R6-1 Tank Road Construction	0	0	133,900	0	0	0	0	0	0	0	0	133,900
R2-1 Reservoir Roof Replacement	0	0	0	0	340,931	0	0	0	0	0	0	340,931
R-2 Interior Tank Rehabilitation	0	0	0	132,400	0	0	0	0	0	0	0	132,400
Fire Hydrant Replacement Program	0	260,000	267,800	275,834	284,109	292,632	0	0	0	0	0	1,380,375
BCWDP Emergency Generator Fuel Tank	0	260,000	0	0	0	0	0	0	0	0	0	260,000
LIMS Software	55,000	0	0	0	0	0	0	0	0	0	0	55,000
Total Capital Improvements - Water	\$1,992,509	\$2,418,000	\$1,601,444	\$3,056,241	\$1,647,832	\$1,463,161	\$1,085,081	\$1,216,978	\$1,151,162	\$1,231,807	\$1,221,268	\$18,085,483

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total
Capital Improvements - Shared (50% Water)												
Replace Public Works Front Security Gate	\$0	\$0	\$0	\$0	\$45,457	\$0	\$0	\$0	\$0	\$0	\$59,109	\$104,567
Replace Roof Public Works #B	0	0	0	0	56,822	0	0	0	0	0	0	56,822
Building B Replacement	0	0	0	0	0	0	0	62,091	0	0	0	62,091
Loader Tire Chains - 2 Sets	10,000	0	0	11,420	0	0	0	13,412	0	0	0	34,831
2002 Caterpillar 950G Loader #523	132,500	0	0	0	0	0	0	0	0	187,735	0	320,235
2002 Caterpillar 950G Loader #525	132,500	0	0	0	0	0	0	0	0	0	193,367	325,867
2018 MultiHog MX120 Snowblower #783	0	0	0	97,094	0	0	0	0	0	0	0	97,094
1997 Forklift #315	0	0	0	0	20,456	0	0	0	0	0	0	20,456
2013 Trackless Snowblower #687	0	0	0	0	102,279	0	0	0	118,314	0	0	220,593
2001 105KW Mobile Generator #313	0	0	0	0	0	0	39,183	0	0	0	0	39,183
2020 Vac-Con Truck #807	0	0	0	0	269,904	0	0	0	0	0	0	269,904
2004 Freightliner Vactor Truck #534	0	0	0	209,634	0	0	0	0	0	0	0	209,634
2020 Chevy Dump Truck #829	0	0	0	0	0	0	0	49,673	0	0	119,413	169,085
2001 Peterbilt Bin Truck #468	0	0	101,764	0	0	0	0	0	0	0	0	101,764
Snowplow #300A	9,500	0	0	0	0	0	0	0	0	13,833	0	23,333
Snowplow #307A	9,500	0	0	0	0	0	0	0	0	0	0	9,500
Slurry Liquidator #326	0	0	0	0	0	0	0	0	26,221	0	0	26,221
2004 9' Western Snow Plow #542A	0	0	0	0	0	0	0	0	0	0	0	0
2019 Sander/Spreader #808	0	0	5,356	0	0	0	0	7,451	0	0	0	12,807
2012 Snowplow #669B	0	0	6,427	0	0	0	0	0	0	5,270	0	11,697
2017 Caterpillar 420F2 Backhoe #755	0	0	0	0	0	0	0	0	0	92,221	0	92,221
2013 Chevy Equinox #691	0	19,240	0	0	0	0	0	0	0	0	0	19,240
2009 Chevrolet 1/2 ton Pick-up #826 Compliance Dept.	0	0	0	0	0	18,143	0	0	0	0	0	18,143
2013 1/2 Ton Pick-Up #677 Treatment	0	19,240	0	0	0	0	0	0	0	0	0	19,240
2003 GMC 3/4-Ton Pick-up #702	0	0	21,424	0	0	0	0	0	0	0	0	21,424
2005 Chevy 1/2-Ton Pick-up #553	0	0	20,353	0	0	0	0	0	0	0	24,425	44,778
2009 Chevrolet 1/2 Ton Pick-up Truck #631	0	0	20,353	0	0	0	0	0	0	0	23,068	43,421
2009 Chevrolet 1/2 Ton Pick-up Truck #632 Engineering Dept.	0	0	0	17,653	0	0	0	0	0	0	23,068	40,722
2012 Extend-A-Cab Pick-up #678 Pipeline Dept.	0	0	0	20,412	0	0	0	0	21,744	0	0	42,156
2004 3/4-Ton Service Truck w/liftgate & crane #703	0	0	31,065	0	0	0	0	0	0	0	0	31,065
2013 1-Ton Flatbed #679 Pipeline Dept.	0	0	0	0	26,138	0	0	0	0	0	0	26,138
2012 1-Ton Service Truck w/ Liftgate #668 Treatment	0	0	0	25,928	0	0	0	0	0	0	31,210	57,139
2013 1-Ton Service Truck #680 Utilities Electrician	0	22,880	0	0	0	0	0	0	0	0	0	22,880
2004 GMC 1-Ton Flatbed #825 Pipeline Dept.	0	0	0	0	0	0	0	39,738	0	0	0	39,738
2008 Chevrolet Service Truck #810	0	0	0	0	0	0	0	21,111	0	0	0	21,111
2008 Chevrolet Service Truck #680	0	0	0	27,032	0	0	0	0	0	0	33,924	60,956
2011 Chevrolet Service Truck #647 Treatment	0	0	0	0	0	0	0	0	31,337	0	0	31,337
Public Works Billing Software Replacement	10,000	104,000	0	0	0	0	0	0	0	0	0	114,000
Large Format Printer Replacement	0	0	0	15,998	0	0	0	0	0	0	0	15,998
Pavement Maintenance, Reservoir 3-1 WPS 4-2/5-1	110,000	130,000	0	0	0	0	0	0	0	0	0	240,000
Medium Duty Truck Plow	8,250	0	0	0	0	0	0	0	0	0	0	8,250
Chevy 1/2 Ton Pick-up Truck	18,600	0	0	0	0	0	0	0	0	0	0	18,600
Utilities System and Plant Controls Upgrade	0	0	133,900	137,917	142,055	0	0	0	0	0	0	413,872
Lab Equipment	0	130,000	0	0	0	0	0	0	0	0	0	130,000
Total Capital Improvements - Shared (50% Water)	\$440,850	\$425,360	\$340,642	\$563,088	\$663,110	\$18,143	\$39,183	\$193,475	\$197,616	\$299,059	\$507,586	\$3,688,112

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total
Less R&M Funded Items (O&M)	0	0	0	0	0	0	0	0	0	0	0	\$0
Future Unidentified Projects	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
To Capital Reserves	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Capital Improvement Projects	\$2,433,359	\$2,843,360	\$1,942,086	\$3,619,328	\$2,310,943	\$1,481,305	\$1,124,264	\$1,410,453	\$1,348,778	\$1,530,866	\$1,728,854	\$21,773,595
<i>Less: Outside Funding Sources</i>												
Operating Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Fund	2,228,831	1,273,360	1,592,086	979,328	1,245,943	581,305	624,264	635,453	698,778	985,866	1,303,854	12,149,068
Grant Funding	204,528	0	0	0	0	0	0	0	0	0	0	204,528
Debt Reserve Fund	0	0	0	0	0	0	0	0	0	0	0	0
New SRF Loans	0	0	0	0	0	0	0	0	0	0	0	0
New Revenue Bonds	0	1,570,000	0	2,000,000	0	0	0	0	0	0	0	3,570,000
Total Outside Funding Sources	\$2,433,359	\$2,843,360	\$1,592,086	\$2,979,328	\$1,245,943	\$581,305	\$624,264	\$635,453	\$698,778	\$985,866	\$1,303,854	\$15,923,596
Rate Funded Capital	\$0	\$0	\$350,000	\$640,000	\$1,065,000	\$900,000	\$500,000	\$775,000	\$650,000	\$545,000	\$425,000	\$5,850,000

Incline Village General Improvement District
Water Rate Study
Exhibit 5
Existing Debt Service

Year	NV DWSRF 2012	NV Drk Wtr Loan 2005	Total
FY 2023	\$193,372	\$113,648	\$307,020
FY 2024	193,372	113,648	307,020
FY 2025	193,372	113,648	307,020
FY 2026	193,372	113,648	307,020
FY 2027	193,372	56,824	250,196
FY 2028	193,372	0	193,372
FY 2029	193,372	0	193,372
FY 2030	193,372	0	193,372
FY 2031	193,372	0	193,372
FY 2032	193,372	0	193,372
FY 2033	193,372	0	193,372
FY 2034	0	0	0
FY 2035	0	0	0
FY 2036	0	0	0
FY 2037	0	0	0
FY 2038	0	0	0
FY 2039	0	0	0
FY 2040	0	0	0
FY 2041	0	0	0
	<hr/>	<hr/>	<hr/>
	\$2,127,090	\$511,416	\$2,638,506

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Residential															
Meter Fee	\$ / Acct.	Capital Improv													
3/4"	\$15.10	\$15.10	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698
			3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698
Total Meter Fee Revenue			\$111,680	\$111,680	\$111,680	\$111,680	\$111,680	\$111,680	\$111,680	\$111,680	\$111,680	\$111,680	\$111,680	\$111,680	\$1,340,155
Admin Fee	\$4.23		3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	
Defensible Space	\$1.05		3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	
			\$19,525	\$19,525	\$19,525	\$19,525	\$19,525	\$19,525	\$19,525	\$19,525	\$19,525	\$19,525	\$19,525	\$19,525	\$234,305
Water Use	\$ / 1,000 gal														
All Use	\$1.95		73,397	77,093	61,932	62,827	18,773	12,528	11,081	9,330	10,029	11,311	40,008	67,200	455,509
20,000 - 60,000	1.17		25,163	26,197	19,764	20,082	694	551	716	383	297	795	9,770	22,218	126,631
60,000+	1.69		9,003	11,280	6,464	6,737	837	973	935	133	374	660	2,872	7,400	47,667
Total Water Use Revenue			\$187,779	\$200,045	\$154,814	\$157,395	\$38,833	\$26,718	\$24,027	\$18,866	\$20,535	\$24,103	\$94,300	\$169,541	\$1,116,958
Total Residential			\$318,985	\$331,250	\$286,020	\$288,600	\$170,038	\$157,924	\$155,232	\$150,071	\$151,740	\$155,308	\$225,505	\$300,746	\$2,691,418
Multi Family															
Meter Fee	\$ / Acct.														
3/4"	\$15.10	\$15.10	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090
			4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090
Total Meter Fee Revenue			\$123,518	\$123,518	\$123,518	\$123,518	\$123,518	\$123,518	\$123,518	\$123,518	\$123,518	\$123,518	\$123,518	\$123,518	\$1,482,216
Admin Fee	\$4.23		259	259	259	259	259	259	259	259	259	259	259	259	259
Defensible Space	1.05		4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090	4,090
			\$5,390	\$5,390	\$5,390	\$5,390	\$5,390	\$5,390	\$5,390	\$5,390	\$5,390	\$5,390	\$5,390	\$5,390	\$64,681
Water Use	\$ / 1,000 gal														
All Use	\$1.95		30,346	31,009	24,541	24,563	19,259	11,656	10,831	10,553	10,527	9,970	17,344	27,821	228,421
Tier 1	1.17		1,869	1,652	848	848	333	25	14	5	0	104	574	1,389	7,661
Tier 2	1.69		1,438	1,940	929	929	173	0	0	0	0	3	588	1,068	7,067
Total Water Use Revenue			\$63,793	\$65,680	\$50,417	\$50,460	\$38,236	\$22,758	\$21,138	\$20,585	\$20,528	\$19,568	\$35,485	\$57,680	\$466,327
Total Multi Family			\$192,701	\$194,588	\$179,325	\$179,368	\$167,144	\$151,666	\$150,046	\$149,493	\$149,436	\$148,476	\$164,393	\$186,588	\$2,013,224

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Commercial															
Meter Fee	\$ / Acct.														
3/4"	\$15.10	\$15.10	72	72	72	72	72	72	72	72	72	72	72	72	72
1"	25.22	25.22	53	53	53	53	53	53	53	53	53	53	53	53	53
1 1/2"	50.28	50.28	41	41	41	41	41	41	41	41	41	41	41	41	41
2"	80.48	80.48	26	26	26	26	26	26	26	26	26	26	26	26	26
3"	151.00	151.00	6	6	6	6	6	6	6	6	6	6	6	6	6
4"	251.72	251.72	3	3	3	3	3	3	3	3	3	3	3	3	3
6"	503.28	503.28	2	2	2	2	2	2	2	2	2	2	2	2	2
8"	805.28	805.28	1	1	1	1	1	1	1	1	1	1	1	1	1
10"	1,157.72	1,157.42	0	0	0	0	0	0	0	0	0	0	0	0	0
			204	204	204	204	204	204	204	204	204	204	204	204	204
Total Meter Fee Revenue			\$20,102	\$20,102	\$20,102	\$20,102	\$20,102	\$20,102	\$20,102	\$20,102	\$20,102	\$20,102	\$20,102	\$20,102	\$241,221
Admin Fee	\$4.23		204	204	204	204	204	204	204	204	204	204	204	204	
Defensible Space	1.05		204	204	204	204	204	204	204	204	204	204	204	204	
			\$1,077	\$1,077	\$1,077	\$1,077	\$1,077	\$1,077	\$1,077	\$1,077	\$1,077	\$1,077	\$1,077	\$1,077	\$12,925
Water Use	\$ / 1,000 gal														
All Use	\$1.95		9,149	8,574	7,119	7,212	8,110	5,908	5,179	4,374	5,206	4,813	5,959	7,740	79,343
Tier 1	1.17		2,029	1,712	1,576	1,589	1,796	1,224	1,161	991	1,323	1,167	1,388	1,568	17,523
Tier 2	1.69		1,509	1,171	515	515	29	1,642	582	105	209	163	263	890	7,594
Total Water Use Revenue			\$22,764	\$20,701	\$16,596	\$16,793	\$17,965	\$15,728	\$12,442	\$9,867	\$12,054	\$11,025	\$13,688	\$18,432	\$188,055
Total Commercial			\$43,943	\$41,880	\$37,775	\$37,972	\$39,144	\$36,906	\$33,620	\$31,046	\$33,233	\$32,204	\$34,867	\$39,611	\$442,201

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Irrigation															
Meter Fee	\$ / Acct.														
3/4"	\$15.10	\$15.10	16	16	16	16	16	16	16	16	16	16	16	16	16
1"	25.22	25.22	20	20	20	20	20	20	20	20	20	20	20	20	20
1 1/2"	50.28	50.28	9	9	9	9	9	9	9	9	9	9	9	9	9
2"	80.48	80.48	12	12	12	12	12	12	12	12	12	12	12	12	12
3"	151.00	151.00	2	2	2	2	2	2	2	2	2	2	2	2	2
4"	251.72	251.72	2	2	2	2	2	2	2	2	2	2	2	2	2
6"	503.28	503.28	0	0	0	0	0	0	0	0	0	0	0	0	0
8"	805.28	805.28	0	0	0	0	0	0	0	0	0	0	0	0	0
10"	1,157.72	1,157.42	0	0	0	0	0	0	0	0	0	0	0	0	0
			61	61	61	61	61	61	61	61	61	61	61	61	61
Total Meter Fee Revenue			\$5,939	\$5,939	\$5,939	\$5,939	\$5,939	\$5,939	\$5,939	\$5,939	\$5,939	\$5,939	\$5,939	\$5,939	\$71,273
Admin Fee	\$4.23		61	61	61	61	61	61	61	61	61	61	61	61	
Defensible Space	0.00		61	61	61	61	61	61	61	61	61	61	61	61	
			\$258	\$258	\$258	\$258	\$258	\$258	\$258	\$258	\$258	\$258	\$258	\$258	\$3,096
Water Use	\$ / 1,000 gal														
All Use	\$2.00		9,286	9,341	7,237	7,237	266	107	54	52	88	994	4,241	8,434	47,336
Tier 1	1.20		3,200	3,075	2,253	2,253	0	0	0	0	0	114	1,187	2,981	15,064
Tier 2	1.73		1,989	2,006	1,240	1,240	0	0	0	0	0	0	356	1,546	8,378
Total Water Use Revenue			\$25,852	\$25,843	\$19,323	\$19,323	\$531	\$214	\$108	\$104	\$175	\$2,125	\$10,523	\$23,121	\$127,243
Total Irrigation			\$32,050	\$32,041	\$25,520	\$25,520	\$6,729	\$6,411	\$6,305	\$6,302	\$6,373	\$8,323	\$16,721	\$29,318	\$201,612

Incline Village General Improvement District
Water Rate Study
Exhibit 6
Revenues at Present Rates

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			July	August	September	October	November	December	January	February	March	April	May	June	Total
Commercial - IVGID															
Meter Fee	\$ / Acct.														
3/4"	\$15.10	\$15.10	4	4	4	4	4	4	4	4	4	4	4	4	4
1"	25.22	25.22	7	7	7	7	7	7	7	7	7	7	7	7	7
1 1/2"	50.28	50.28	5	5	5	5	5	5	5	5	5	5	5	5	5
2"	80.48	80.48	9	9	9	9	9	9	9	9	9	9	9	9	9
3"	151.00	151.00	1	1	1	1	1	1	1	1	1	1	1	1	1
4"	251.72	251.72	0	0	0	0	0	0	0	0	0	0	0	0	0
6"	503.28	503.28	0	0	0	0	0	0	0	0	0	0	0	0	0
8"	805.28	805.28	0	0	0	0	0	0	0	0	0	0	0	0	0
10"	1,157.72	1,157.42	0	0	0	0	0	0	0	0	0	0	0	0	0
			26	26	26	26	26	26	26	26	26	26	26	26	26
Total Meter Fee Revenue			\$2,727	\$2,727	\$2,727	\$2,727	\$2,727	\$2,727	\$2,727	\$2,727	\$2,727	\$2,727	\$2,727	\$2,727	\$32,728
Admin Fee	\$4.23		26	26	26	26	26	26	26	26	26	26	26	26	26
Defensible Space	1.05		26	26	26	26	26	26	26	26	26	26	26	26	26
			\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$1,647
Water Use	\$ / 1,000 gal														
All Use	\$1.95		657	587	462	460	421	319	331	342	536	590	515	393	5,612
Tier 1	1.17		152	70	75	75	0	0	0	0	150	213	196	17	947
Tier 2	1.69		0	0	0	0	0	0	0	0	0	128	0	0	128
Total Water Use Revenue			\$1,458	\$1,225	\$988	\$984	\$821	\$622	\$645	\$667	\$1,221	\$1,615	\$1,233	\$786	\$12,266
Total Commercial - IVGID			\$4,323	\$4,090	\$3,852	\$3,848	\$3,686	\$3,486	\$3,509	\$3,532	\$4,086	\$4,480	\$4,098	\$3,651	\$46,642

Incline Village General Improvement District
Water Rate Study
Exhibit 6
Revenues at Present Rates

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			July	August	September	October	November	December	January	February	March	April	May	June	Total
Irrigation - IVGID															
Meter Fee	\$ / Acct.														
3/4"	\$15.10	\$15.10	3	3	3	3	3	3	3	3	3	3	3	3	3
1"	25.22	25.22	5	5	5	5	5	5	5	5	5	5	5	5	5
1 1/2"	50.28	50.28	2	2	2	2	2	2	2	2	2	2	2	2	2
2"	80.48	80.48	4	4	4	4	4	4	4	4	4	4	4	4	4
3"	151.00	151.00	3	3	3	3	3	3	3	3	3	3	3	3	3
4"	251.72	251.72	9	9	9	9	9	9	9	9	9	9	9	9	9
6"	503.28	503.28	0	0	0	0	0	0	0	0	0	0	0	0	0
8"	805.28	805.28	0	0	0	0	0	0	0	0	0	0	0	0	0
10"	1,157.72	1,157.42	0	0	0	0	0	0	0	0	0	0	0	0	0
			26	26	26	26	26	26	26	26	26	26	26	26	26
Total Meter Fee Revenue			\$6,625	\$6,625	\$6,625	\$6,625	\$6,625	\$6,625	\$6,625	\$6,625	\$6,625	\$6,625	\$6,625	\$6,625	\$79,496
Admin Fee	\$4.23		26	26	26	26	26	26	26	26	26	26	26	26	26
Defensible Space	1.05		26	26	26	26	26	26	26	26	26	26	26	26	26
			\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$137	\$1,647
Water Use	\$ / 1,000 gal														
All Use	\$2.00		23,359	20,325	10,573	10,573	10	2	21	14	524	3,177	12,406	22,745	103,730
Tier 1	1.20		6,845	6,730	4,617	4,617	0	0	0	0	0	559	4,841	6,216	34,427
Tier 2	1.73		12,322	9,444	1,926	1,926	0	0	0	0	0	0	3,598	12,400	41,617
Total Water Use Revenue			\$76,250	\$65,066	\$30,018	\$30,018	\$21	\$4	\$42	\$29	\$1,048	\$7,024	\$36,846	\$74,403	\$320,769
Total Irrigation - IVGID			\$83,012	\$71,828	\$36,780	\$36,780	\$6,783	\$6,766	\$6,804	\$6,791	\$7,810	\$13,786	\$43,608	\$81,165	\$401,913

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Snowmaking - IVGID															
Meter Fee	\$ / Acct.														
3/4"	\$15.10	\$15.10	0	0	0	0	0	0	0	0	0	0	0	0	0
1"	25.22	25.22	0	0	0	0	0	0	0	0	0	0	0	0	0
1 1/2"	50.28	50.28	0	0	0	0	0	0	0	0	0	0	0	0	0
2"	80.48	80.48	0	0	0	0	0	0	0	0	0	0	0	0	0
3"	151.00	151.00	0	0	0	0	0	0	0	0	0	0	0	0	0
4"	251.72	251.72	0	0	0	0	0	0	0	0	0	0	0	0	0
6"	503.28	503.28	0	0	0	0	0	0	0	0	0	0	0	0	0
8"	805.28	805.28	0	0	0	0	0	0	0	0	0	0	0	0	0
10"	1,157.72	1,157.42	1	1	1	1	1	1	1	1	1	1	1	1	1
			1	1	1	1	1	1	1	1	1	1	1	1	1
Total Meter Fee Revenue			\$2,315	\$2,315	\$2,315	\$2,315	\$2,315	\$2,315	\$2,315	\$2,315	\$2,315	\$2,315	\$2,315	\$2,315	\$27,782
Admin Fee	\$4.23		1	1	1	1	1	1	1	1	1	1	1	1	1
Defensible Space	0.00		1	1	1	1	1	1	1	1	1	1	1	1	1
			\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$4	\$51
Water Use	\$ / 1,000 gal														
All Use	\$2.00		21	0	0	30	17,482	20,044	9	0	0	0	49	30	37,665
Tier 1	1.20														0
Tier 2	1.73														0
Total Water Use Revenue			\$42	\$0	\$0	\$60	\$34,965	\$40,088	\$18	\$0	\$0	\$0	\$98	\$59	\$75,330
Total Snowmaking - IVGID			\$2,361	\$2,319	\$2,319	\$2,379	\$37,284	\$42,407	\$2,338	\$2,319	\$2,319	\$2,319	\$2,418	\$2,378	\$103,163

	July	August	September	October	November	December	January	February	March	April	May	June	Total
Summary													
Customer													
Residential	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698	3,698
Multi Family	259	259	259	259	259	259	259	259	259	259	259	259	259
Commercial	204	204	204	204	204	204	204	204	204	204	204	204	204
Irrigation	61	61	61	61	61	61	61	61	61	61	61	61	61
Commercial - IVGID	26	26	26	26	26	26	26	26	26	26	26	26	26
Irrigation - IVGID	26	26	26	26	26	26	26	26	26	26	26	26	26
Snowmaking - IVGID	1	1	1	1	1	1	1	1	1	1	1	1	1
	4,275	4,275	4,275	4,275	4,275	4,275	4,275	4,275	4,275	4,275	4,275	4,275	4,275
Consumption (1,000 gal)													
Residential	73,397	77,093	61,932	62,827	18,773	12,528	11,081	9,330	10,029	11,311	40,008	67,200	455,509
Multi Family	30,346	31,009	24,541	24,563	19,259	11,656	10,831	10,553	10,527	9,970	17,344	27,821	228,421
Commercial	9,149	8,574	7,119	7,212	8,110	5,908	5,179	4,374	5,206	4,813	5,959	7,740	79,343
Irrigation	9,286	9,341	7,237	7,237	266	107	54	52	88	994	4,241	8,434	47,336
Commercial - IVGID	657	587	462	460	421	319	331	342	536	590	515	393	5,612
Irrigation - IVGID	23,359	20,325	10,573	10,573	10	2	21	14	524	3,177	12,406	22,745	103,730
Snowmaking - IVGID	21	0	0	30	17,482	20,044	9	0	0	0	49	30	37,665
	146,216	146,929	111,862	112,901	64,321	50,564	27,506	24,666	26,910	30,855	80,522	134,363	957,616
Total Revenue													
Residential	\$318,985	\$331,250	\$286,020	\$288,600	\$170,038	\$157,924	\$155,232	\$150,071	\$151,740	\$155,308	\$225,505	\$300,746	\$2,691,418
Multi Family	192,701	194,588	179,325	179,368	167,144	151,666	150,046	149,493	149,436	148,476	164,393	186,588	2,013,224
Commercial	43,943	41,880	37,775	37,972	39,144	36,906	33,620	31,046	33,233	32,204	34,867	39,611	442,201
Irrigation	32,050	32,041	25,520	25,520	6,729	6,411	6,305	6,302	6,373	8,323	16,721	29,318	201,612
Commercial - IVGID	4,323	4,090	3,852	3,848	3,686	3,486	3,509	3,532	4,086	4,480	4,098	3,651	46,642
Irrigation - IVGID	83,012	71,828	36,780	36,780	6,783	6,766	6,804	6,791	7,810	13,786	43,608	81,165	401,913
Snowmaking - IVGID	2,361	2,319	2,319	2,379	37,284	42,407	2,338	2,319	2,319	2,319	2,418	2,378	103,163
	\$677,375	\$677,996	\$571,591	\$574,468	\$430,808	\$405,568	\$357,854	\$349,553	\$354,997	\$364,896	\$491,609	\$643,457	\$5,900,172
	FY 2021 Actual												
	Difference												\$5,900,172
	Percent												#DIV/0!
	FY 2023 Budget												\$5,877,887
	Difference												\$22,285
	Percent												0.4%

Incline Village General Improvement District
Water Rate Study
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Customer Data Projection

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		Exhibit 6 - RPR	Projected										Notes
		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	
Residential													
Meter Fee	\$ / Acct.												
3/4"	\$30.20	3,698	3,702	3,705	3,709	3,713	3,717	3,720	3,724	3,728	3,731	3,735	As Single Family - Cust Growth
		3,698	3,702	3,705	3,709	3,713	3,717	3,720	3,724	3,728	3,731	3,735	
Revenue		\$1,340,155	\$1,341,496	\$1,342,837	\$1,344,181	\$1,345,526	\$1,346,870	\$1,348,219	\$1,349,567	\$1,350,915	\$1,352,267	\$1,353,618	
Admin Fee	\$4.23	3,698	3,702	3,705	3,709	3,713	3,717	3,720	3,724	3,728	3,731	3,735	
Defensible Space	\$1.05	3,698	3,702	3,705	3,709	3,713	3,717	3,720	3,724	3,728	3,731	3,735	
		\$234,305	\$234,540	\$234,774	\$235,009	\$235,244	\$235,479	\$235,715	\$235,951	\$236,186	\$236,423	\$236,659	
Water Use	\$ / 1,000 gal												
All Use	\$1.95	455,509	455,509	455,509	455,509	455,509	455,509	455,509	455,509	455,509	455,509	455,509	As Single Family - Cons Growth
20,000 - 60,000	1.17	126,631	126,631	126,631	126,631	126,631	126,631	126,631	126,631	126,631	126,631	126,631	As Single Family - Cons Growth
60,000+	1.69	47,667	47,667	47,667	47,667	47,667	47,667	47,667	47,667	47,667	47,667	47,667	As Single Family - Cons Growth
Total Water Use - Residential		629,807	629,807	629,807	629,807	629,807	629,807	629,807	629,807	629,807	629,807	629,807	
Revenue		\$1,116,958	\$1,116,958	\$1,116,958	\$1,116,958	\$1,116,958	\$1,116,958	\$1,116,958	\$1,116,958	\$1,116,958	\$1,116,958	\$1,116,958	
Total Revenue		\$2,691,418	\$2,692,993	\$2,694,569	\$2,696,148	\$2,697,728	\$2,699,307	\$2,700,891	\$2,702,475	\$2,704,059	\$2,705,647	\$2,707,235	
Multi Family													
Meter Fee													
3/4"	\$30.20	4,090	4,094	4,098	4,102	4,106	4,110	4,115	4,119	4,123	4,127	4,131	As Multi-Family - Cust Growth
		4,090	4,094	4,098	4,102	4,106	4,110	4,115	4,119	4,123	4,127	4,131	
Revenue		\$1,482,216	\$1,483,698	\$1,485,180	\$1,486,666	\$1,488,152	\$1,489,642	\$1,491,131	\$1,492,621	\$1,494,114	\$1,495,607	\$1,497,103	
Admin Fee	\$4.23	259	259	260	260	260	260	261	261	261	261	262	As Multi-Family - Cust Growth
Defensible Space	\$1.05	4,090	4,094	4,098	4,102	4,106	4,110	4,115	4,119	4,123	4,127	4,131	As Multi-Family - Cust Growth
		\$64,681	\$64,746	\$64,810	\$64,875	\$64,940	\$65,005	\$65,070	\$65,135	\$65,200	\$65,265	\$65,330	
Water Use													
All Use	\$1.95	228,421	228,421	228,421	228,421	228,421	228,421	228,421	228,421	228,421	228,421	228,421	As Multi-Family - Cons Growth
Tier 1	\$1.17	7,661	7,661	7,661	7,661	7,661	7,661	7,661	7,661	7,661	7,661	7,661	As Multi-Family - Cons Growth
Tier 2	\$1.69	7,067	7,067	7,067	7,067	7,067	7,067	7,067	7,067	7,067	7,067	7,067	As Multi-Family - Cons Growth
Total Water Use - Multi Family		243,148	243,148	243,148	243,148	243,148	243,148	243,148	243,148	243,148	243,148	243,148	
Revenue		\$466,327	\$466,327	\$466,327	\$466,327	\$466,327	\$466,327	\$466,327	\$466,327	\$466,327	\$466,327	\$466,327	
Total Revenue		\$2,013,224	\$2,014,771	\$2,016,317	\$2,017,868	\$2,019,419	\$2,020,973	\$2,022,528	\$2,024,082	\$2,025,640	\$2,027,199	\$2,028,761	

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Exhibit 6 - RPR			Projected										Notes
FY 2023		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033		
Commercial													
Meter Fee	\$ / Acct.												
3/4"	\$30.20	72	72	72	72	72	72	72	72	73	73	73	As Commercial - Cust Growth
1"	50.43	53	53	53	53	53	53	53	53	53	53	54	As Commercial - Cust Growth
1 1/2"	100.57	41	41	41	41	41	41	41	41	41	41	41	As Commercial - Cust Growth
2"	160.97	26	26	26	26	26	26	26	26	26	26	26	As Commercial - Cust Growth
3"	302.00	6	6	6	6	6	6	6	6	6	6	6	As Commercial - Cust Growth
4"	503.43	3	3	3	3	3	3	3	3	3	3	3	As Commercial - Cust Growth
6"	1,006.57	2	2	2	2	2	2	2	2	2	2	2	As Commercial - Cust Growth
8"	1,610.57	1	1	1	1	1	1	1	1	1	1	1	As Commercial - Cust Growth
10"	2,315.14	0	0	0	0	0	0	0	0	0	0	0	As Commercial - Cust Growth
		204	204	204	205	205	205	205	205	206	206	206	
Revenue		\$241,221	\$241,419	\$241,617	\$241,815	\$242,013	\$242,211	\$242,409	\$242,607	\$242,805	\$243,003	\$243,202	
Admin Fee	\$4.23	204	204	204	205	205	205	205	205	206	206	206	
Defensible Space	\$1.05	204	204	204	205	205	205	205	205	206	206	206	
		\$12,925	\$12,938	\$12,951	\$12,963	\$12,976	\$12,989	\$13,001	\$13,014	\$13,027	\$13,039	\$13,052	
Water Use	\$ / 1,000 gal												
All Use	\$1.95	79,343	79,343	79,343	79,343	79,343	79,343	79,343	79,343	79,343	79,343	79,343	As Commercial - Cons Growth
Tier 1	\$1.17	17,523	17,523	17,523	17,523	17,523	17,523	17,523	17,523	17,523	17,523	17,523	As Commercial - Cons Growth
Tier 2	\$1.69	7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594	7,594	As Commercial - Cons Growth
Total Water Use - Commercial		104,460	104,460	104,460	104,460	104,460	104,460	104,460	104,460	104,460	104,460	104,460	
		\$188,055	\$188,055	\$188,055	\$188,055	\$188,055	\$188,055	\$188,055	\$188,055	\$188,055	\$188,055	\$188,055	
Total Revenue		\$442,201	\$442,412	\$442,622	\$442,833	\$443,044	\$443,255	\$443,465	\$443,676	\$443,887	\$444,098	\$444,308	

Incline Village General Improvement District
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Exhibit 6 - RPR			Projected										Notes
FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033			
Irrigation													
Meter Fee	\$ / Acct.												
3/4"	\$30.20	16	16	16	16	16	16	16	16	16	16	16	As Irrigation - Cust Growth
1"	50.43	20	20	20	20	20	20	20	20	20	20	20	As Irrigation - Cust Growth
1 1/2"	100.57	9	9	9	9	9	9	9	9	9	9	9	As Irrigation - Cust Growth
2"	160.97	12	12	12	12	12	12	12	12	12	12	12	As Irrigation - Cust Growth
3"	302.00	2	2	2	2	2	2	2	2	2	2	2	As Irrigation - Cust Growth
4"	503.43	2	2	2	2	2	2	2	2	2	2	2	As Irrigation - Cust Growth
6"	1,006.57	0	0	0	0	0	0	0	0	0	0	0	As Irrigation - Cust Growth
8"	1,610.57	0	0	0	0	0	0	0	0	0	0	0	As Irrigation - Cust Growth
10"	2,315.14	0	0	0	0	0	0	0	0	0	0	0	As Irrigation - Cust Growth
		61	61	61	61	61	61	61	61	61	62	62	
Revenue		\$71,273	\$71,324	\$71,375	\$71,425	\$71,476	\$71,527	\$71,578	\$71,628	\$71,679	\$71,730	\$71,781	
Admin Fee	\$4.23	61	61	61	61	61	61	61	61	61	62	62	
Defensible Space	\$0.00	61	61	61	61	61	61	61	61	61	62	62	
		\$3,096	\$3,099	\$3,102	\$3,105	\$3,109	\$3,112	\$3,115	\$3,118	\$3,121	\$3,124	\$3,127	
Water Use	\$ / 1,000 gal												
All Use	\$2.00	47,336	47,336	47,336	47,336	47,336	47,336	47,336	47,336	47,336	47,336	47,336	As Irrigation - Cons Growth
Tier 1	1.20	15,064	15,064	15,064	15,064	15,064	15,064	15,064	15,064	15,064	15,064	15,064	As Irrigation - Cons Growth
Tier 2	1.73	8,378	8,378	8,378	8,378	8,378	8,378	8,378	8,378	8,378	8,378	8,378	As Irrigation - Cons Growth
Total Water Use - Irrigation		70,778	70,778	70,778	70,778	70,778	70,778	70,778	70,778	70,778	70,778	70,778	
Revenue		\$127,243	\$127,243	\$127,243	\$127,243	\$127,243	\$127,243	\$127,243	\$127,243	\$127,243	\$127,243	\$127,243	
Total Revenue		\$201,612	\$201,666	\$201,720	\$201,773	\$201,827	\$201,881	\$201,935	\$201,989	\$202,042	\$202,096	\$202,150	

Incline Village General Improvement District
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Exhibit 6 - RPR			Projected										Notes
FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033			
Commercial - IVGID													
Meter Fee	\$ / Acct.												
3/4"	\$30.20	4	4	4	4	4	4	4	4	4	4	4	As IVGID - Cust Growth
1"	50.43	7	7	7	7	7	7	7	7	7	7	7	As IVGID - Cust Growth
1 1/2"	100.57	5	5	5	5	5	5	5	5	5	5	5	As IVGID - Cust Growth
2"	160.97	9	9	9	9	9	9	9	9	9	9	9	As IVGID - Cust Growth
3"	302.00	1	1	1	1	1	1	1	1	1	1	1	As IVGID - Cust Growth
4"	503.43	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
6"	1,006.57	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
8"	1,610.57	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
10"	2,315.14	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
		26	26	26	26	26	26	26	26	26	26	26	
Revenue		\$32,728	\$32,766	\$32,803	\$32,841	\$32,878	\$32,916	\$32,953	\$32,990	\$33,028	\$33,065	\$33,103	
Admin Fee	\$4.23	26	26	26	26	26	26	26	26	26	26	26	As IVGID - Cust Growth
Defensible Space	\$1.05	26	26	26	26	26	26	26	26	26	26	26	As IVGID - Cust Growth
		\$1,647	\$1,649	\$1,651	\$1,653	\$1,655	\$1,657	\$1,659	\$1,661	\$1,663	\$1,664	\$1,666	
Water Use	\$ / 1,000 gal												
All Use	\$1.95	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	As IVGID - Cons Growth
Tier 1	1.17	947	947	947	947	947	947	947	947	947	947	947	As IVGID - Cons Growth
Tier 2	1.69	128	128	128	128	128	128	128	128	128	128	128	As IVGID - Cons Growth
Total Water Use - Commercial - IVGI		6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	6,686	
Revenue		\$12,266	\$12,266	\$12,266	\$12,266	\$12,266	\$12,266	\$12,266	\$12,266	\$12,266	\$12,266	\$12,266	
Total Revenue		\$46,642	\$46,681	\$46,720	\$46,760	\$46,799	\$46,838	\$46,878	\$46,917	\$46,956	\$46,996	\$47,035	

Incline Village General Improvement District
Water Rate Study
Exhibit 7
Customer Data Projection

Page 5 of 6

Exhibit 6 - RPR			Projected										
FY 2023			FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Notes
Irrigation - IVGID													
Meter Fee	\$ / Acct.												
3/4"	\$30.20	3	3	3	3	3	3	3	3	3	3	3	As IVGID - Cust Growth
1"	50.43	5	5	5	5	5	5	5	5	5	5	5	As IVGID - Cust Growth
1 1/2"	100.57	2	2	2	2	2	2	2	2	2	2	2	As IVGID - Cust Growth
2"	160.97	4	4	4	4	4	4	4	4	4	4	4	As IVGID - Cust Growth
3"	302.00	3	3	3	3	3	3	3	3	3	3	3	As IVGID - Cust Growth
4"	503.43	9	9	9	9	9	9	9	9	9	9	9	As IVGID - Cust Growth
6"	1,006.57	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
8"	1,610.57	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
10"	2,315.14	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
		26	26	26	26	26	26	26	26	26	26	26	
Revenue		\$79,496	\$79,563	\$79,629	\$79,695	\$79,762	\$79,828	\$79,895	\$79,961	\$80,028	\$80,094	\$80,161	
Admin Fee	\$4.23	26	26	26	26	26	26	26	26	26	26	26	As IVGID - Cust Growth
Defensible Space	\$1.05	26	26	26	26	26	26	26	26	26	26	26	As IVGID - Cust Growth
		\$1,647	\$1,649	\$1,651	\$1,653	\$1,655	\$1,657	\$1,659	\$1,661	\$1,663	\$1,664	\$1,666	
Water Use	\$ / 1,000 gal												
All Use	\$2.00	103,730	103,730	103,730	103,730	103,730	103,730	103,730	103,730	103,730	103,730	103,730	As IVGID - Cons Growth
Tier 1	1.20	34,427	34,427	34,427	34,427	34,427	34,427	34,427	34,427	34,427	34,427	34,427	As IVGID - Cons Growth
Tier 2	1.73	41,617	41,617	41,617	41,617	41,617	41,617	41,617	41,617	41,617	41,617	41,617	As IVGID - Cons Growth
Total Water Use - Irrigation - IVGID		179,774	179,774	179,774	179,774	179,774	179,774	179,774	179,774	179,774	179,774	179,774	
Revenue		\$320,769	\$320,769	\$320,769	\$320,769	\$320,769	\$320,769	\$320,769	\$320,769	\$320,769	\$320,769	\$320,769	
Total Revenue		\$401,913	\$401,981	\$402,050	\$402,118	\$402,186	\$402,255	\$402,323	\$402,391	\$402,460	\$402,528	\$402,597	

Incline Village General Improvement District
Water Rate Study
Exhibit 7
Customer Data Projection

		Exhibit 6 - RPR	Projected										
		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Notes
Snowmaking - IVGID													
Meter Fee	\$ / Acct.												
3/4"	\$30.20	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
1"	50.43	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
1 1/2"	100.57	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
2"	160.97	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
3"	302.00	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
4"	503.43	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
6"	1,006.57	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
8"	1,610.57	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
10"	2,315.14	1	1	1	1	1	1	1	1	1	1	1	As IVGID - Cust Growth
		1	1	1	1	1	1	1	1	1	1	1	
Revenue		\$27,782	\$27,782	\$27,782	\$27,782	\$27,782	\$27,782	\$27,782	\$27,782	\$27,782	\$27,782	\$27,782	
Admin Fee	\$4.23	1	1	1	1	1	1	1	1	1	1	1	As IVGID - Cust Growth
Defensible Space	\$0.00	1	1	1	1	1	1	1	1	1	1	1	As IVGID - Cust Growth
		\$51	\$51	\$51	\$51	\$51	\$51	\$51	\$51	\$51	\$51	\$51	
Water Use	\$ / 1,000 gal												
All Use	\$2.00	37,665	37,665	37,665	37,665	37,665	37,665	37,665	37,665	37,665	37,665	37,665	As IVGID - Cons Growth
Tier 1	1.20	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cons Growth
Tier 2	1.73	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cons Growth
Total Water Use - Snowmaking - IVG		37,665	37,665	37,665	37,665	37,665	37,665	37,665	37,665	37,665	37,665	37,665	
Revenue		\$75,330	\$75,330	\$75,330	\$75,330	\$75,330	\$75,330	\$75,330	\$75,330	\$75,330	\$75,330	\$75,330	
Total Revenue		\$103,163	\$103,163	\$103,163	\$103,163	\$103,163	\$103,163	\$103,163	\$103,163	\$103,163	\$103,163	\$103,163	
Revenues													
Fixed		\$3,593,225	\$3,596,719	\$3,600,214	\$3,603,716	\$3,607,219	\$3,610,725	\$3,614,235	\$3,617,746	\$3,621,260	\$3,624,779	\$3,628,301	
Variable		2,306,947	2,306,947	2,306,947	2,306,947	2,306,947	2,306,947	2,306,947	2,306,947	2,306,947	2,306,947	2,306,947	
		\$5,900,172	\$5,903,666	\$5,907,161	\$5,910,663	\$5,914,166	\$5,917,672	\$5,921,182	\$5,924,693	\$5,928,207	\$5,931,726	\$5,935,248	

Incline Village General Improvement District
Water Rate Study
Exhibit 8
Commodity Distribution Factor

	FY 2024 Consumption (1,000 gal)	5.0% Unaccounted ^[1]	Net Water Delivered (Flow + Losses)	Total Consumption (MGD)	Component % of Total	Class Total % of Total
Residential						47.6%
All Use	281,212	14,061	295,273	0.81	29.4%	
20,000 - 60,000	126,631	6,332	132,962	0.36	13.2%	
60,000+	47,667	2,383	50,050	0.14	5.0%	
Multi Family	228,421	11,421	239,842	0.66	23.9%	23.9%
Commercial	79,343	3,967	83,310	0.23	8.3%	8.3%
Irrigation	47,336	2,367	49,703	0.14	4.9%	4.9%
Commercial - IVGID	5,612	281	5,892	0.02	0.6%	0.6%
Irrigation - IVGID	103,730	5,186	108,916	0.30	10.8%	10.8%
Snowmaking - IVGID	37,665	1,883	39,548	0.11	3.9%	3.9%
	957,616	47,881	1,005,497	2.75	100.0%	100.0%

Water Production Report ^[2]

2.88

Notes

[1] - Estimated to tie to actual production reports

[2] - Water Supply provided by District (Aug 2020 - July 2021)

Factor

(COM)

Incline Village General Improvement District
Water Rate Study
Exhibit 9
Capacity Distribution Factor

	Average Consumption (MGD)	Peaking Factors ^[1]	Peak Day Use (MGD)	Component % of Total	Class % of Total
Residential					51.2%
All Use	0.81	2.12	1.72	31.6%	
20,000 - 60,000	0.36	2.12	0.77	14.2%	
60,000+	0.14	2.12	0.29	5.4%	
Multi Family	0.66	1.63	1.07	19.7%	19.7%
Commercial	0.23	1.38	0.32	5.8%	5.8%
Irrigation	0.14	2.37	0.32	5.9%	5.9%
Commercial - IVGID	0.02	1.40	0.02	0.4%	0.4%
Irrigation - IVGID	0.30	2.70	0.81	14.9%	14.9%
Snowmaking - IVGID	0.11	1.00	0.11	2.0%	2.0%
	----- 2.75		----- 5.42	----- 100.0%	----- 100.0%

Notes

[1] - Peak factors based on peak to average month usage

Factor

(CAP)

Incline Village General Improvement District
Water Rate Study
Exhibit 10
Customer Distribution Factors

	<i>Actual Customer</i>		<i>Customer Service & Acctng.</i>		<i>Meters & Services ^[1]</i>	
	Number of Accounts	% of Total	Number of Living Units	% of Total	Weighted Customer	% of Total
Residential	3,698	86.5%	3,698	45.6%	3,698	40.9%
Multi Family	259	6.1%	4,090	50.5%	4,090	45.3%
Commercial	204	4.8%	204	2.5%	666	7.4%
Irrigation	61	1.4%	61	0.8%	197	2.2%
Commercial - IVGID	26	0.6%	26	0.3%	90	1.0%
Irrigation - IVGID	26	0.6%	26	0.3%	219	2.4%
Snowmaking - IVGID	1	0.0%	1	0.0%	77	0.8%
Total	4,275	100.0%	8,106	100.0%	9,037	100.0%

Notes

[1] - Based on number of equivalent meters using AWWA meter equivalency factors for 3/4" meter

Factor	(AC)	(WCA)	(WCMS)
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Development of Equivalent Meter Distribution Factor

	Number of Meters											
	3/4"	1"	1 1/2"	2"	3"	4"	6"	8"	10"	Total	% of Total	
Residential	3,698	0	0	0	0	0	0	0	0	3,698	45.6%	
Multi Family	4,090	0	0	0	0	0	0	0	0	4,090	50.5%	
Commercial	72	53	41	26	6	3	2	1	0	204	2.5%	
Irrigation	16	20	9	12	2	2	0	0	0	61	0.8%	
Commercial - IVGID	4	7	5	9	1	0	0	0	0	26	0.3%	
Irrigation - IVGID	3	5	2	4	3	9	0	0	0	26	0.3%	
Snowmaking - IVGID	0	0	0	0	0	0	0	0	1	1	0.0%	
Total Meters	7,883	85	57	51	12	14	2	1	1	8,106		
Equiv. Meters (3/4")	1.00	1.67	3.33	5.33	10.00	16.67	33.33	53.33	76.67			
	Equivalent Meters											
Residential	3,698	0	0	0	0	0	0	0	0	3,698	1.00	
Multi Family	4,090	0	0	0	0	0	0	0	0	4,090	1.00	
Commercial	72	89	137	139	60	50	67	53	0	666	3.26	
Irrigation	16	33	30	64	20	33	0	0	0	197	3.22	
Commercial - IVGID	4	12	17	48	10	0	0	0	0	90	3.47	
Irrigation - IVGID	3	8	7	21	30	150	0	0	0	219	8.44	
Snowmaking - IVGID	0	0	0	0	0	0	0	0	77	77	76.67	
Total Equiv. Meters	7,883	142	190	272	120	233	67	53	77	9,037		

Incline Village General Improvement District
Water Rate Study
Exhibit 11
Public Fire Distribution Factor

	Number of Living Units	Fire Prot. Requirements (gals/min)	Duration (minutes)	Total FP Requirements (1,000 g/min)	% of Total
Residential	3,698	1,000	90	332,820	40.3%
Multi Family	4,090	1,000	90	368,100	44.6%
Commercial	204	3,000	180	110,160	13.4%
Irrigation	61	0	0	0	0.0%
Commercial - IVGID	26	3,000	180	14,040	1.7%
Irrigation - IVGID	26	0	0	0	0.0%
Snowmaking - IVGID	1	0	0	0	0.0%
Total	8,106			825,120	100.0%
Factor					(FP)

Incline Village General Improvement District
Water Rate Study
Exhibit 12
Revenue Related Distribution Factor

	Projected FY 2024	% of Total
Residential	\$2,692,993	45.6%
Multi Family	2,014,771	34.1%
Commercial	442,412	7.5%
Irrigation	201,666	3.4%
Commercial - IVGID	46,681	0.8%
Irrigation - IVGID	401,981	6.8%
Snowmaking - IVGID	103,163	1.7%
	-----	-----
Total Rate Revenues	\$5,903,666	100.0%

Factor (RR)

Incline Village General Improvement District
Water Rate Study
Exhibit 13
Net Plant In Service

	Net Plant	Commodity (COM)	Capacity (CAP)	Customer Related			Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification	
				Actual Customer (AC)	Cust. Acctg. (WCA)	Meters & Services (WCMS)					
Land	\$5,028,320	\$5,028,320	\$0	\$0	\$0	\$0	\$0	\$0	\$0	100.0%	COM
Source of Supply	\$1,055	\$536	\$519	\$0	\$0	\$0	\$0	\$0	\$0	50.8%	COM 49.2% CAP
Treatment	\$4,815,026	\$2,445,551	\$2,369,474	\$0	\$0	\$0	\$0	\$0	\$0	50.8%	COM 49.2% CAP
Pump Station	\$1,772,867	\$900,439	\$872,428	\$0	\$0	\$0	\$0	\$0	\$0	50.8%	COM 49.2% CAP
Storage	\$405,994	\$0	\$373,624	\$0	\$0	\$0	\$32,369	\$0	\$0	92.0%	CAP 8.0% FP
Transmission & Distribution											
Mains	\$13,369,990	\$0	\$6,821,047	\$0	\$0	\$6,016,496	\$532,447	\$0	\$0	51.0%	CAP 45.0% WCMS 4.0% FP
Meter	627,851	0	0	0	0	627,851	0	0	0	100.0%	WCMS
Hydrant	20,356	0	0	0	0	0	20,356	0	0	100.0%	FP
Fire Meter	30,338	0	0	0	0	0	30,338	0	0	100.0%	FP
Manholes	116,542	116,542	0	0	0	0	0	0	0	100.0%	COM
Total Transmission & Distribution	\$14,165,077	\$116,542	\$6,821,047	\$0	\$0	\$6,644,346	\$583,141	\$0	\$0		
Plant Before General Plant	\$26,188,337	\$8,491,389	\$10,437,092	\$0	\$0	\$6,644,346	\$615,510	\$0	\$0		
Percent Plant Before General Plant	100.0%	32.4%	39.9%	0.0%	0.0%	25.4%	2.4%	0.0%	0.0%	Factor PBG	
General Plant											
Building & Structures	\$3,225,599	\$1,045,878	\$1,285,529	\$0	\$0	\$818,379	\$75,812	\$0	\$0	As Factor PBG	
Equipment	1,076,397	349,014	428,987	0	0	273,097	25,299	0	0	As Factor PBG	
Vehicles	416,021	134,892	165,801	0	0	105,550	9,778	0	0	As Factor PBG	
Misc	13,650	4,426	5,440	0	0	3,463	321	0	0	As Factor PBG	
Office Equipment	4,326	1,403	1,724	0	0	1,098	102	0	0	As Factor PBG	
Total General Plant	\$4,735,994	\$1,535,613	\$1,887,482	\$0	\$0	\$1,201,588	\$111,311	\$0	\$0		
Total Net Plant in Service	\$30,924,331	\$10,027,002	\$12,324,574	\$0	\$0	\$7,845,934	\$726,821	\$0	\$0		

Incline Village General Improvement District
Water Rate Study
Exhibit 14
Distribution System Analysis

Fire Protection

	hrs	gal/min	Total
Fire Flow Requirements	3	3,000	540,000
Storage Capacity		6,773,000	6,773,000
% Public Fire Protection			8.0%
% Capacity			92.0%

Source of Supply (avg of 2018 & 2019)

Average Day	2.75	COM	50.8%
Peak Day	5.42	(1-COM) = CAP	49.2%

Distribution Main Analysis

	Main Size	Length (ft)	Replcmt \$	Total
Distribution	1"	115,473	\$35.00	\$4,041,555
	2"	27,722	35.00	970,270
	3"	2,134	35.00	74,690
	4"	18,656	70.85	1,321,778
	6"	220,618	70.85	15,630,785
	8"	235,460	92.90	21,874,234
	10"	46,532	88.56	4,120,874
	12"	46,987	124.60	5,854,580
	14"	24,872	123.98	3,083,631
	Total 1" - 14"	738,454		\$56,972,397

Customer Equivalent

(1) Total @ 3" Equiv	\$25,845,890	
/ Total Cost	45.0%	45.0%

Capacity

(2) Cost for 1" - 8"	\$43,913,312	
(3) Equiv 10" - 14"	\$10,998,524	
(2+3-1) / 4	51.0%	51.0%

Fire Protection

1-cust-cap	4.0%	4.0%
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Incline Village General Improvement District
Water Rate Study
Exhibit 15
Functionalization and Allocation
of the Revenue Requirement

Page 1 of 3

		Customer Related								
		Commodity (COM)	Capacity (CAP)	Actual Customer (AC)	Weighted for		Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	
Cust. Acctg. (WCA)	Meters & Services (WCMS)									
FY 2024										Basis of Allocation
Expenses										
Wages										
Other Earnings	\$55,767	\$18,082	\$22,225	\$0	\$0	\$14,149	\$1,311	\$0	\$0	As Net Plant in Service
Regular Earnings	1,670,654	541,698	665,822	0	0	423,868	39,266	0	0	As Net Plant in Service
Salary Savings from Vacant Positions	0	0	0	0	0	0	0	0	0	As Net Plant in Service
Total Wages	\$1,726,421	\$559,780	\$688,047	\$0	\$0	\$438,017	\$40,576	\$0	\$0	
Benefits										
Dental Fringe Ben	\$23,899	\$7,749	\$9,525	\$0	\$0	\$6,063	\$562	\$0	\$0	As Net Plant in Service
Disability Fringe Ben	8,655	2,806	3,449	0	0	2,196	203	0	0	As Net Plant in Service
Life Ins Fringe Ben	3,440	1,115	1,371	0	0	873	81	0	0	As Net Plant in Service
Medical Fringe Ben	332,256	107,732	132,417	0	0	84,298	7,809	0	0	As Net Plant in Service
Retirement Fringe Ben	310,333	100,623	123,680	0	0	78,736	7,294	0	0	As Net Plant in Service
Taxes	139,401	45,200	55,557	0	0	35,368	3,276	0	0	As Net Plant in Service
Unemployment Fringe Ben	27,383	8,879	10,913	0	0	6,947	644	0	0	As Net Plant in Service
Vision Fringe Ben	2,579	836	1,028	0	0	654	61	0	0	As Net Plant in Service
Work Comp Fringe Ben	43,622	14,144	17,385	0	0	11,068	1,025	0	0	As Net Plant in Service
Total Benefits	\$891,567	\$289,084	\$355,325	\$0	\$0	\$226,203	\$20,955	\$0	\$0	
Services & Supplies										
Advertising - Paid	\$1,030	\$334	\$410	\$0	\$0	\$261	\$24	\$0	\$0	As Net Plant in Service
BLDGS Maintenance Services	78,033	25,302	31,099	0	0	19,798	1,834	0	0	As Bldgs & Structures
Chemical	218,875	218,875	0	0	0	0	0	0	0	100.0% COM
Computer & IT Small Equip	8,446	2,739	3,366	0	0	2,143	199	0	0	As Net Plant in Service
Computer License & Fees	81,225	26,337	32,371	0	0	20,608	1,909	0	0	As Net Plant in Service
Contractual Services	13,349	4,328	5,320	0	0	3,387	314	0	0	As Net Plant in Service
Dues & Subscriptions	9,618	3,119	3,833	0	0	2,440	226	0	0	As Net Plant in Service
Employee Recruit & Retain	15,399	4,993	6,137	0	0	3,907	362	0	0	As Net Plant in Service
Fleet Maintenance Services	212,508	68,904	84,693	0	0	53,916	4,995	0	0	As Net Plant in Service
Fuel	40,435	13,111	16,115	0	0	10,259	950	0	0	As Net Plant in Service
Janitorial	1,545	501	616	0	0	392	36	0	0	As Net Plant in Service
Lab	28,840	14,648	14,192	0	0	0	0	0	0	As Treatment
Office Supplies	12,412	4,024	4,946	0	0	3,149	292	0	0	As Net Plant in Service
Operating	67,599	21,918	26,941	0	0	17,151	1,589	0	0	As Net Plant in Service
Permits & Fees	39,729	12,882	15,834	0	0	10,080	934	0	0	As Net Plant in Service
Postage	17,510	0	0	17,510	0	0	0	0	0	100.0% AC
R&M General	46,324	15,020	18,462	0	0	11,753	1,089	0	0	As Net Plant in Service
R&M Corrective	180,647	58,573	71,995	0	0	45,833	4,246	0	0	As Net Plant in Service
R&M Preventative	84,146	27,284	33,535	0	0	21,349	1,978	0	0	As Net Plant in Service
Rental & Lease	989	321	394	0	0	251	23	0	0	As Net Plant in Service
Repairs & Maintenance	0	0	0	0	0	0	0	0	0	As Net Plant in Service
Safety	8,652	2,805	3,448	0	0	2,195	203	0	0	As Net Plant in Service
Security	3,069	995	1,223	0	0	779	72	0	0	As Net Plant in Service
Small Equipment	10,094	3,273	4,023	0	0	2,561	237	0	0	As Net Plant in Service
Tools	9,579	3,106	3,818	0	0	2,430	225	0	0	As Net Plant in Service
Training & Education	26,883	8,717	10,714	0	0	6,821	632	0	0	As Net Plant in Service
Travel & Conferences	17,716	5,744	7,061	0	0	4,495	416	0	0	As Net Plant in Service
Uniforms	16,171	5,243	6,445	0	0	4,103	380	0	0	As Net Plant in Service
Engineering Services	102,875	33,356	41,000	0	0	26,101	2,418	0	0	As Net Plant in Service
Total Services & Supplies	\$1,353,696	\$586,452	\$447,991	\$17,510	\$0	\$276,160	\$25,583	\$0	\$0	

Incline Village General Improvement District
Water Rate Study
Exhibit 15
Functionalization and Allocation
of the Revenue Requirement

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		Customer Related								
		Commodity (COM)	Capacity (CAP)	Actual Customer (AC)	Weighted for		Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Allocation
Cust. Acctg. (WCA)	Meters & Services (WCMS)									
FY 2024										
Other										
Central Services Allocation Cs	\$288,129	\$93,424	\$114,831	\$0	\$0	\$73,102	\$6,772	\$0	\$0	As Net Plant in Service
Defensible Space Costs	51,500	0	0	0	0	0	51,500	0	0	100.0% FP
General Liability - Insurance	125,557	40,711	50,039	0	0	31,856	2,951	0	0	As Net Plant in Service
Audit	6,026	1,954	2,401	0	0	1,529	142	0	0	As Net Plant in Service
Legal	12,360	4,008	4,926	0	0	3,136	290	0	0	As Net Plant in Service
Professional Consultants	65,625	21,278	26,154	0	0	16,650	1,542	0	0	As Net Plant in Service
Interfund Expense Transfers	(460,564)	(149,335)	(183,553)	0	0	(116,852)	(10,825)	0	0	As Net Plant in Service
Capital Expenses	250,000	81,061	99,635	0	0	63,428	5,876	0	0	As Net Plant in Service
Total Other	\$687,132 CHECK	\$93,101	\$114,434	\$0	\$0	\$72,850	\$58,249	\$0	\$0	
Utilities										
Cable TV	\$2,021	\$655	\$805	\$0	\$0	\$513	\$47	\$0	\$0	As Net Plant in Service
Electricity	425,464	137,954	169,564	0	0	107,946	10,000	0	0	As Net Plant in Service
Heating	11,648	3,777	4,642	0	0	2,955	274	0	0	As Net Plant in Service
Internet	12,064	3,912	4,808	0	0	3,061	284	0	0	As Net Plant in Service
Telephone	32,141	10,422	12,810	0	0	8,155	755	0	0	As Net Plant in Service
Trash	7,384	2,394	2,943	0	0	1,873	174	0	0	As Net Plant in Service
Water & Sewer	3,408	1,105	1,358	0	0	865	80	0	0	As Net Plant in Service
Total Utilities	\$494,129	\$160,218	\$196,930	\$0	\$0	\$125,368	\$11,614	\$0	\$0	
Future O&M										
Additional Staffing Needs	\$55,130	\$17,875	\$21,971	\$0	\$0	\$13,987	\$1,296	\$0	\$0	As Net Plant in Service
One-Time Inflation Contingency	0	0	0	0	0	0	0	0	0	As Net Plant in Service
Budget Savings	0	0	0	0	0	0	0	0	0	As Net Plant in Service
Shared Capital Expenses	348,500	112,999	138,891	0	0	88,419	8,191	0	0	As Net Plant in Service
Total Future O&M	\$55,130 CHECK	\$130,874	\$160,862	\$0	\$0	\$102,406	\$9,487	\$0	\$0	
Total Operations & Maintenance	\$5,208,075	\$1,819,509	\$1,963,589	\$17,510	\$0	\$1,241,004	\$166,462	\$0	\$0	
Debt Service										
NV DWSRF 2012	\$193,372	\$62,699	\$77,066	\$0	\$0	\$49,061	\$4,545	\$0	\$0	As Net Plant in Service
NV Drk Wtr Loan 2005	113,648	36,850	45,293	0	0	28,834	2,671	0	0	As Net Plant in Service
New SRF Loans	0	0	0	0	0	0	0	0	0	As Net Plant in Service
New Revenue Bonds	110,467	35,818	44,025	0	0	28,027	2,596	0	0	As Net Plant in Service
Total Debt Service	\$417,487	\$135,367	\$166,385	\$0	\$0	\$105,922	\$9,812	\$0	\$0	
Less Capital Reserve Funding	\$417,487	\$135,367	\$166,385	\$0	\$0	\$105,922	\$9,812	\$0	\$0	As Debt Service
Net Debt Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

Incline Village General Improvement District
Water Rate Study
Exhibit 15
Functionalization and Allocation
of the Revenue Requirement

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	FY 2024	Commodity (COM)	Capacity (CAP)	Actual Customer (AC)	Customer Related Weighted for		Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Allocation
					Cust. Acctg. (WCA)	Meters & Services (WCMS)				
Reserve Funding										
Operating Fund Transfer	\$153,927	\$153,927	\$0	\$0	\$0	\$0	\$0	\$0	\$0	100.0% COM
Capital Fund Transfer	1,625,168	0	0	0	0	1,625,168	0	0	0	100.0% WCMS
Additional Capital Funding	0	0	0	0	0	0	0	0	0	100.0% WCMS
Debt Reserve Fund	0	0	0	0	0	0	0	0	0	100.0% RR
Total Reserve Funding	\$1,779,095	\$153,927	\$0	\$0	\$0	\$1,625,168	\$0	\$0	\$0	
Total Revenue Requirement	\$6,987,170	\$1,973,436	\$1,963,589	\$17,510	\$0	\$2,866,172	\$166,462	\$0	\$0	
Less: Non-Operating Revenues										
Interest	\$3,748	\$1,059	\$1,053	\$9	\$0	\$1,538	\$89	\$0	\$0	As Total Rev Req
Snow Removal Fees	80,080	22,618	22,505	201	0	32,849	1,908	0	0	As Total Rev Req
Work Order Charges Labor	120,120	33,926	33,757	301	0	49,274	2,862	0	0	As Total Rev Req
Work Order Chgs Eq & Materials	36,537	10,319	10,268	92	0	14,987	870	0	0	As Total Rev Req
Back Flows Tests	134,534	134,534	0	0	0	0	0	0	0	100.0% COM
Fines & Penalties	25,225	7,125	7,089	63	0	10,348	601	0	0	As Total Rev Req
Fire Protection	17,778	5,021	4,996	45	0	7,293	424	0	0	As Total Rev Req
Inspection/Plan Fees	44,845	12,666	12,603	112	0	18,396	1,068	0	0	As Total Rev Req
Other Water	30,270	8,549	8,507	76	0	12,417	721	0	0	As Total Rev Req
Interfund Revenue Transfers	0	0	0	0	0	0	0	0	0	As Total Rev Req
Total Non-Operating Revenues	\$493,137	\$235,817	\$100,777	\$899	\$0	\$147,101	\$8,543	\$0	\$0	
Net Revenue Requirement	\$6,494,033	\$1,737,619	\$1,862,812	\$16,611	\$0	\$2,719,071	\$157,919	\$0	\$0	

Incline Village General Improvement District
Water Rate Study
Exhibit 16
Distribution of Revenue Requirement - COM, CAP, & DA

		Residential			Multi Family	Commercial	Irrigation	Commercial - IVGID	Irrigation - IVGID	Snowmaking - IVGID	Factor
		All Use	20,000 - 60,000	60,000+							
Commodity	\$1,737,619	\$510,267	\$229,775	\$86,492	\$414,475	\$143,970	\$85,893	\$10,182	\$188,221	\$68,344	COM
Capacity	\$1,862,812	\$588,986	\$265,222	\$99,836	\$367,629	\$108,467	\$110,743	\$7,787	\$276,931	\$37,211	CAP
Direct Assign.	\$0	\$0			\$0	\$0	\$0	\$0	\$0	\$0	Exhibit 15.2
Net Revenue Requirement	\$3,600,431	\$1,099,253	\$494,997	\$186,328	\$782,105	\$252,437	\$196,635	\$17,970	\$465,151	\$105,555	

Incline Village General Improvement District
Water Rate Study
Exhibit 17
Distribution of Revenue Requirement

	Total	Residential	Multi-Family	Commercial	Irrigation	Snowmaking - IVGID	Factor
Commodity	\$1,737,619	\$826,534	\$414,475	\$154,153	\$274,113	\$68,344	<i>From Exhibit 14</i>
Capacity	\$1,862,812	\$954,044	\$367,629	\$116,254	\$387,673	\$37,211	<i>From Exhibit 14</i>
Customer							
Actual Customer	\$16,611	\$14,369	\$1,006	\$894	\$338	\$4	<i>(AC)</i>
Cust. Acctg.	\$0	0	0	0	0	0	<i>(WCA)</i>
Meters & Services	\$2,719,071	1,112,707	1,230,658	227,455	125,181	23,070	<i>(WCMS)</i>
Total Customer	\$2,735,683	\$1,127,077	\$1,231,664	\$228,349	\$125,519	\$23,073	
Public Fire Protection	\$157,919	\$63,698	\$70,450	\$23,771	\$0	\$0	<i>(FP)</i>
Revenue Related	\$0	\$0	\$0	\$0	\$0	\$0	<i>(RR)</i>
Direct Assign.	\$0	\$0	\$0	\$0	\$0	\$0	<i>From Exhibit 14</i>
Net Revenue Requirement	\$6,494,033	\$2,971,352	\$2,084,220	\$522,526	\$787,306	\$128,629	

Incline Village General Improvement District
Water Rate Study
Exhibit 18
Summary of Cost of Service

	FY 2023 Expenses	Residential	Multi-Family	Commercial	Irrigation	Snowmaking - IVGID	Notes
Revenues at Present Rates	\$5,903,666	\$2,692,993	\$2,014,771	\$489,093	\$603,647	\$103,163	
Net Revenue Requirement	\$6,494,033	\$2,971,352	\$2,084,220	\$522,526	\$787,306	\$128,629	
Bal. / (Def.) of Funds	(\$590,367)	(\$278,359)	(\$69,449)	(\$33,433)	(\$183,659)	(\$25,466)	
Required % Change in Rates	10.0%	10.3%	3.4%	6.8%	30.4%	24.7%	

Incline Village General Improvement District
Water Rate Study
Exhibit 19
Summary of Unit Costs

		Residential			Multi-Family	Commercial	Irrigation	Snowmaking - IVGID
		All Use	20,000 - 60,000	60,000+				
Consumption Related	\$ / 1,000 gal							
Commodity	\$1.81	\$1.81	\$1.81	\$1.81	\$1.81	\$1.81	\$1.81	\$1.81
Capacity	1.95	2.09	2.09	2.09	1.61	1.37	2.57	0.99
RR/FP/DA - \$/CCF	0.16	0.14	0.14	0.14	0.31	0.28	0.00	0.00
	\$3.92	\$4.04	\$4.04	\$4.04	\$3.73	\$3.46	\$4.38	\$2.80
Customer Related	\$ / Equiv. Mtr. / Mo							
Actual Customer	\$0.15							
Cust. Acctg.	0.00							
Meters & Services	25.07							
	\$25.23							
Basic Data								
Consumption	957,616	281,212	126,631	47,667	228,421	84,955	151,066	37,665
# of Equiv. Meters	9,037	3,698			4,090	756	416	77
# of Meters	4,275	3,698			259	230	87	1
# of Living Units	8,106	3,698			4,090	230	87	1

	<i>Present</i>	<i>Proposed</i>				
	<i>Rates</i>	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Meter Fee						
3/4"	\$15.10	\$17.30	\$18.75	\$20.10	\$20.10	\$21.00
1"	25.22	28.89	31.31	33.57	33.57	35.07
1 1/2"	50.28	57.61	62.44	66.93	66.93	69.93
2"	80.48	92.21	99.94	107.13	107.13	111.93
3"	151.00	173.00	187.50	201.00	201.00	210.00
4"	251.72	288.39	312.56	335.07	335.07	350.07
6"	503.28	576.61	624.94	669.93	669.93	699.93
8"	805.28	922.61	999.94	1,071.93	1,071.93	1,119.93
10"	1,157.72	1,326.39	1,437.56	1,541.07	1,541.07	1,610.07
Capital Improvement Fee						
3/4"	\$15.10	\$15.10	\$18.23	\$20.92	\$24.85	\$23.35
1"	25.22	25.22	30.44	34.93	41.50	38.99
1 1/2"	50.28	50.28	60.70	69.66	82.76	77.74
2"	80.48	80.48	97.16	111.50	132.47	124.44
3"	151.00	151.00	182.29	209.19	248.53	233.46
4"	251.72	251.72	303.88	348.72	414.30	389.19
6"	503.28	503.28	607.59	697.22	828.35	778.14
8"	805.28	805.28	972.18	1,115.60	1,325.41	1,245.07
10"	1,157.42	1,157.72	1,397.65	1,603.84	1,905.48	1,789.97
Admin Fee	\$4.23	\$4.44	\$4.66	\$4.90	\$5.14	\$5.40
Defensible Space	\$1.05	\$1.05	\$1.05	\$1.05	\$1.05	\$1.05
Residential and Commercial Water Use						
Tier 1	\$1.95	\$2.15	\$2.15	\$2.22	\$2.22	\$2.29
Tier 2	3.12	3.44	3.44	3.55	3.55	3.66
Tier 3	3.64	4.01	4.01	4.14	4.14	4.27
Irrigation Water Use						
Tier 1	\$2.00	\$2.65	\$2.90	\$3.15	\$3.15	\$3.25
Tier 2	3.20	4.24	4.64	5.04	5.04	5.20
Tier 3	3.73	4.94	5.41	5.87	5.87	6.06



4 Sewer Technical Appendix

**Incline Village General Improvement District
Wastewater Rate Study
Summary of the Revenue Requirement
Exhibit 1**

	<i>Budget</i>	<i>Projected</i>								
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Revenues										
Rate Revenues	\$7,412,178	\$7,419,590	\$7,427,010	\$7,434,437	\$7,441,871	\$7,449,313	\$7,456,762	\$7,464,219	\$7,471,683	\$7,479,155
Miscellaneous Revenues	1,123,044	129,400	119,746	119,931	124,927	131,510	138,035	142,291	143,504	144,082
Total Revenues	\$8,535,222	\$7,548,990	\$7,546,756	\$7,554,367	\$7,566,798	\$7,580,823	\$7,594,798	\$7,606,510	\$7,615,188	\$7,623,237
Expenses										
Total O&M Expenses	\$5,504,985	\$5,849,444	\$6,108,708	\$6,389,089	\$6,517,671	\$6,844,384	\$7,209,143	\$7,579,074	\$7,942,883	\$8,246,626
Additional Capital Funding	0	0	0	0	0	0	0	250,000	350,000	450,000
Net Debt Service	0	0	0	0	0	0	0	0	0	0
Reserve Funding	3,030,237	2,701,191	3,115,066	3,390,762	3,566,924	3,555,843	3,567,642	3,585,334	3,619,921	3,728,250
Total Revenue Requirement	\$8,535,222	\$8,550,635	\$9,223,774	\$9,779,851	\$10,084,595	\$10,400,226	\$10,776,785	\$11,164,408	\$11,562,803	\$11,974,876
Bal /(Def) of Funds	\$0	(\$1,001,645)	(\$1,677,019)	(\$2,225,484)	(\$2,517,797)	(\$2,819,403)	(\$3,181,987)	(\$3,557,898)	(\$3,947,616)	(\$4,351,638)
Proposed Rate Adjustment	0.0%	13.5%	8.0%	6.0%	3.0%	3.0%	3.5%	3.5%	3.5%	3.5%
Add'l Revenue with Rate Adj	\$0	\$1,001,645	\$1,677,019	\$2,225,484	\$2,517,797	\$2,819,403	\$3,181,987	\$3,557,898	\$3,947,616	\$4,351,638
Bal / (Def) After Rate Adj	\$0	\$0	(\$0)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Average Residential Customer Bill (3,000 gal)										
Customer Bill on Proposed Adj.	\$72.78	\$82.39	\$88.72	\$93.99	\$96.84	\$99.76	\$103.25	\$106.86	\$110.60	\$114.48
Bill Difference - Monthly		9.61	6.33	5.26	2.85	2.92	3.49	3.61	3.74	3.87
Cumulative Bill Difference		9.61	15.94	21.21	24.06	26.98	30.47	34.08	37.82	41.70
Debt Service Coverage Ratio (all debt)										
Before Rate Adjustment	7.86	2.40	1.22	0.71	0.37	0.26	0.14	0.01	0.00	0.00
After Proposed Rate Adjustment	7.86	3.81	2.65	2.06	1.26	1.25	1.26	1.26	1.28	1.31

Incline Village General Improvement District
Wastewater Rate Study
Escalation Factors
Exhibit 2

	<i>Budget</i>	<i>Projected</i>										
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	<i>Notes</i>
Revenues												
Customer Growth	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	
Misc Revenues	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	
Expenses												
Labor	Budgeted	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Benefits - Medical	Budgeted	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	
Benefits - Other	Budgeted	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Professional Svcs	Budgeted	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Materials & Supplies	Budgeted	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Equipment	Budgeted	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Chemicals	Budgeted	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Utilities	Budgeted	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Water and Sewer	Budgeted	17.5%	12.3%	8.8%	8.5%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	
Insurance	Budgeted	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Power	Budgeted	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
O&M	--	6.3%	4.4%	4.6%	2.0%	5.0%	5.3%	5.1%	4.8%	3.8%	5.4%	
CIP	Budgeted	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Miscellaneous	Budgeted	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Interest	0.7%	0.8%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
New Debt Service Assumptions												
Revenue Bond												
Term in Years	20	20	20	20	20	20	20	20	20	20	20	
Rate	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	
Low Interest Loan												
Term in Years	20	20	20	20	20	20	20	20	20	20	20	
Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	

	<i>Budget</i>	<i>Projected</i>										
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Notes
Revenues												
<i>Rate Revenues</i>												
Residential	\$3,193,848	\$3,197,042	\$3,200,239	\$3,203,439	\$3,206,643	\$3,209,849	\$3,213,059	\$3,216,272	\$3,219,489	\$3,222,708	\$3,225,931	As Customer Growth
Multi-Family	3,295,975	3,299,271	3,302,570	3,305,873	3,309,179	3,312,488	3,315,800	3,319,116	3,322,435	3,325,758	3,329,084	As Customer Growth
Commercial	922,355	923,277	924,200	925,125	926,050	926,976	927,903	928,831	929,760	930,689	931,620	As Customer Growth
Total Rate Revenues	\$7,412,178	\$7,419,590	\$7,427,010	\$7,434,437	\$7,441,871	\$7,449,313	\$7,456,762	\$7,464,219	\$7,471,683	\$7,479,155	\$7,486,634	
<i>Other Revenues</i>												
Effluent Disposal Sales	\$75,000	\$75,075	\$75,150	\$75,225	\$75,300	\$75,376	\$75,451	\$75,527	\$75,602	\$75,678	\$75,753	As Misc Revenues
Interest Income	20,844	27,098	17,341	17,424	22,318	28,798	35,221	39,373	40,484	40,959	41,257	Calculated on Reserves
Hunting Fees	20,000	20,020	20,040	20,060	20,080	20,100	20,120	20,140	20,161	20,181	20,201	As Misc Revenues
Interfund Revenue Transfers	1,000,000	0	0	0	0	0	0	0	0	0	0	As Misc Revenues
Other Sewer	7,200	7,207	7,214	7,222	7,229	7,236	7,243	7,251	7,258	7,265	7,272	As Misc Revenues
Total Other Revenues	\$1,123,044	\$129,400	\$119,746	\$119,931	\$124,927	\$131,510	\$138,035	\$142,291	\$143,504	\$144,082	\$144,484	
Total Revenues	\$8,535,222	\$7,548,990	\$7,546,756	\$7,554,367	\$7,566,798	\$7,580,823	\$7,594,798	\$7,606,510	\$7,615,188	\$7,623,237	\$7,631,118	
Expenses												
Wages												
Other Earnings	\$58,761	\$61,699	\$64,784	\$68,023	\$71,424	\$74,996	\$78,745	\$82,683	\$86,817	\$91,158	\$95,715	As Labor
Regular Earnings	1,877,432	1,971,304	2,069,869	2,173,362	2,282,030	2,396,132	2,515,938	2,641,735	2,773,822	2,912,513	3,058,139	As Labor
Salary Savings from Vacant Positions	(28,554)	0	0	0	0	0	0	0	0	0	0	
Total Wages	\$1,907,639	\$2,033,003	\$2,134,653	\$2,241,385	\$2,353,455	\$2,471,127	\$2,594,684	\$2,724,418	\$2,860,639	\$3,003,671	\$3,153,854	

	Budget	Projected										
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Notes
Benefits												
Dental Fringe Ben	\$23,729	\$25,153	\$26,662	\$28,262	\$29,957	\$31,755	\$33,660	\$35,680	\$37,820	\$40,090	\$42,495	As Benefits - Other
Disability Fringe Ben	9,614	10,191	10,802	11,450	12,137	12,866	13,638	14,456	15,323	16,243	17,217	As Benefits - Other
Life Ins Fringe Ben	3,665	3,885	4,118	4,365	4,627	4,905	5,199	5,511	5,841	6,192	6,563	As Benefits - Other
Medical Fringe Ben	334,047	367,452	404,197	444,617	489,078	537,986	591,785	650,963	716,059	787,665	866,432	As Benefits - Medical
Retirement Fringe Ben	345,021	365,722	387,666	410,926	435,581	461,716	489,419	518,784	549,911	582,906	617,880	As Benefits - Other
Taxes	154,860	158,732	162,700	166,767	170,936	175,210	179,590	184,080	188,682	193,399	198,234	As Miscellaneous
Unemployment Fringe Ben	30,411	32,236	34,170	36,220	38,393	40,697	43,139	45,727	48,471	51,379	54,461	As Benefits - Other
Vision Fringe Ben	2,640	2,798	2,966	3,144	3,333	3,533	3,745	3,970	4,208	4,460	4,728	As Benefits - Other
Work Comp Fringe Ben	48,463	51,371	54,453	57,720	61,183	64,854	68,746	72,870	77,243	81,877	86,790	As Benefits - Other
Total Benefits	\$952,450	\$1,017,539	\$1,087,734	\$1,163,471	\$1,245,227	\$1,333,521	\$1,428,919	\$1,532,040	\$1,643,558	\$1,764,210	\$1,894,801	
Professional Services												
Audit	\$11,200	\$11,760	\$12,348	\$12,965	\$13,614	\$14,294	\$15,009	\$15,760	\$16,548	\$17,375	\$18,244	As Professional Svcs
Legal	13,000	13,650	14,333	15,049	15,802	16,592	17,421	18,292	19,207	20,167	21,176	As Professional Svcs
Professional Consultants	62,500	65,625	68,906	72,352	75,969	79,768	83,756	87,944	92,341	96,958	101,806	As Professional Svcs
Total Professional Services	\$86,700	\$91,035	\$95,587	\$100,366	\$105,384	\$110,654	\$116,186	\$121,996	\$128,095	\$134,500	\$141,225	
Services & Supplies												
BLDGS Maintenance Services	\$37,560	\$38,687	\$39,847	\$41,043	\$42,274	\$43,542	\$44,849	\$46,194	\$47,580	\$49,007	\$50,477	As Materials & Supplies
Chemical	236,500	248,325	260,741	273,778	287,467	301,841	316,933	332,779	349,418	366,889	385,234	As Chemicals
Computer License & Fees	4,400	4,532	4,668	4,808	4,952	5,101	5,254	5,411	5,574	5,741	5,913	As Materials & Supplies
Contractual Services	0	0	0	0	0	0	0	0	0	0	0	As Professional Svcs
Dues & Subscriptions	6,300	6,489	6,684	6,884	7,091	7,303	7,523	7,748	7,981	8,220	8,467	As Materials & Supplies
Employee Recruit & Retain	2,650	2,730	2,811	2,896	2,983	3,072	3,164	3,259	3,357	3,458	3,561	As Materials & Supplies
Fleet Maintenance Services	186,671	192,271	198,039	203,980	210,100	216,403	222,895	229,582	236,469	243,563	250,870	As Materials & Supplies
Fuel	37,500	39,000	40,560	42,182	43,870	45,624	47,449	49,347	51,321	53,374	55,509	As Utilities
Janitorial	10,000	10,300	10,609	10,927	11,255	11,593	11,941	12,299	12,668	13,048	13,439	As Materials & Supplies
Lab	33,000	33,990	35,010	36,060	37,142	38,256	39,404	40,586	41,803	43,058	44,349	As Materials & Supplies
Office Supplies	4,000	4,120	4,244	4,371	4,502	4,637	4,776	4,919	5,067	5,219	5,376	As Materials & Supplies
Operating	55,820	57,495	59,219	60,996	62,826	64,711	66,652	68,652	70,711	72,832	75,017	As Materials & Supplies
Permits & Fees	15,060	15,512	15,977	16,456	16,950	17,459	17,982	18,522	19,078	19,650	20,239	As Materials & Supplies
R&M General	0	0	0	0	0	0	0	0	0	0	0	As Materials & Supplies
R&M Corrective	281,065	289,497	298,182	307,127	316,341	325,831	335,606	345,674	356,045	366,726	377,728	As Materials & Supplies
R&M Preventative	74,460	76,694	78,995	81,364	83,805	86,320	88,909	91,576	94,324	97,153	100,068	As Materials & Supplies
Repairs & Maintenance	0	0	0	0	0	0	0	0	0	0	0	See Shared and Capital Exp
Safety	13,400	13,802	14,216	14,643	15,082	15,534	16,000	16,480	16,975	17,484	18,008	As Materials & Supplies
Security	3,480	3,584	3,692	3,803	3,917	4,034	4,155	4,280	4,408	4,541	4,677	As Materials & Supplies
Small Equipment	7,500	7,725	7,957	8,195	8,441	8,695	8,955	9,224	9,501	9,786	10,079	As Materials & Supplies
Tools	11,200	11,536	11,882	12,239	12,606	12,984	13,373	13,775	14,188	14,613	15,052	As Materials & Supplies
Training & Education	18,800	19,364	19,945	20,543	21,160	21,794	22,448	23,122	23,815	24,530	25,266	As Materials & Supplies
Travel & Conferences	7,500	7,725	7,957	8,195	8,441	8,695	8,955	9,224	9,501	9,786	10,079	As Materials & Supplies
Uniforms	9,320	9,600	9,888	10,184	10,490	10,804	11,129	11,462	11,806	12,160	12,525	As Materials & Supplies
Total Services & Supplies	\$1,056,186	\$1,092,977	\$1,131,122	\$1,170,676	\$1,211,694	\$1,254,233	\$1,298,353	\$1,344,117	\$1,391,589	\$1,440,839	\$1,491,935	

	Budget	Projected										
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Notes
Utilities												
Cable TV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Utilities
Electricity	367,400	382,096	397,380	413,275	429,806	446,998	464,878	483,473	502,812	522,925	543,842	As Utilities
Heating	28,400	29,536	30,717	31,946	33,224	34,553	35,935	37,372	38,867	40,422	42,039	As Utilities
Internet	11,600	12,064	12,547	13,048	13,570	14,113	14,678	15,265	15,875	16,510	17,171	As Utilities
Telephone	44,463	46,242	48,091	50,015	52,015	54,096	56,260	58,510	60,851	63,285	65,816	As Utilities
Trash	5,400	5,616	5,841	6,074	6,317	6,570	6,833	7,106	7,390	7,686	7,993	As Utilities
Water & Sewer	24,700	29,023	32,578	35,428	38,440	39,689	40,979	42,311	43,686	45,106	46,572	As Water and Sewer
Total Utilities	\$481,963	\$504,576	\$527,153	\$549,787	\$573,373	\$596,019	\$619,562	\$644,038	\$669,482	\$695,933	\$723,432	
Other												
Central Services Allocation Cs	\$0	\$270,121	\$280,926	\$292,163	\$303,849	\$316,003	\$328,643	\$341,789	\$355,461	\$369,679	\$384,466	As Utilities
Defensible Space Costs	50,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239	67,196	As Materials & Supplies
General Liability	100,000	103,000	106,090	109,273	112,551	115,927	119,405	122,987	126,677	130,477	134,392	As Insurance
Interfund Expense Transfers	679,447	460,564	464,512	476,551	422,043	451,925	503,326	542,316	556,470	490,626	526,016	As Materials & Supplies
Capital Expenses	190,600	170,000	170,000	170,000	70,000	70,000	70,000	70,000	70,000	70,000	90,000	As Materials & Supplies
Shared Capital Expenses	0	0	0	0	0	0	0	0	0	0	0	As Materials & Supplies
Total Other	\$1,020,047	\$1,055,185	\$1,074,573	\$1,102,623	\$964,718	\$1,011,819	\$1,081,077	\$1,138,587	\$1,171,946	\$1,126,021	\$1,202,069	
Future O&M												
Additional Staffing Needs	\$0	\$55,130	\$57,886	\$60,780	\$63,819	\$67,010	\$70,361	\$73,879	\$77,573	\$81,451	\$85,524	As Labor
O&M Contingency	0	0	0	0	0	0	0	0	0	0	0	As Materials & Supplies
Budget Savings	0	0	0	0	0	0	0	0	0	0	0	As O&M
Total Future O&M	\$0	\$55,130	\$57,886	\$60,780	\$63,819	\$67,010	\$70,361	\$73,879	\$77,573	\$81,451	\$85,524	
Total Operations & Maintenance	\$5,504,985	\$5,849,444	\$6,108,708	\$6,389,089	\$6,517,671	\$6,844,384	\$7,209,143	\$7,579,074	\$7,942,883	\$8,246,626	\$8,692,841	
		6.3%	4.4%	4.6%	2.0%	5.0%	5.3%	5.1%	4.8%	3.8%	5.4%	
Debt Service												
NV Clean Wtr Loan 2005	\$128,578	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	Exhibit 5
NV Clean Wtr Loan 2007	207,536	207,536	207,536	207,536	0	0	0	0	0	0	0	Exhibit 5
Assumed SRF Loan	49,536	501,120	969,120	1,437,120	2,836,882	2,836,882	2,836,882	2,836,882	2,836,882	2,836,882	2,836,882	\$52.74M @ 2.88% for 30 yrs
Low Interest Loans	0	0	0	0	0	0	0	0	0	0	0	Calc'd @ 2.5% for 20 yrs
Assumed Revenue Bond	0	0	0	0	0	0	0	0	0	0	0	Calc'd @ 4.5% for 20 yrs
Total Debt Service	\$385,650	\$708,656	\$1,176,656	\$1,644,656	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	
Less: Debt Service Funding												
From Capital Reserve	\$385,650	\$708,656	\$1,176,656	\$1,644,656	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	
Total Less Debt Service Funding	\$385,650	\$708,656	\$1,176,656	\$1,644,656	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	\$2,836,882	
Net Debt Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

	<i>Budget</i>	<i>Projected</i>										
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Notes
Reserve Funding												
Operating Fund Transfer	(\$192,608)	(\$524,877)	(\$114,227)	\$158,239	\$331,169	\$316,851	\$325,412	\$89,861	\$21,202	\$26,283	\$3,539	
Capital Fund Transfer	3,222,845	3,226,068	3,229,294	3,232,523	3,235,756	3,238,992	3,242,231	3,245,473	3,248,718	3,251,967	3,255,219	As Customer Growth
Additional Capital Funding	0	0	0	0	0	0	0	250,000	350,000	450,000	450,000	FY 2022 Depr Exp = \$1,876,600
Effluent Reserve Fund	0	0	0	0	0	0	0	0	0	0	0	
Total Reserve Funding	\$3,030,237	\$2,701,191	\$3,115,066	\$3,390,762	\$3,566,924	\$3,555,843	\$3,567,642	\$3,585,334	\$3,619,921	\$3,728,250	\$3,708,758	
Total Revenue Requirement	\$8,535,222	\$8,550,635	\$9,223,774	\$9,779,851	\$10,084,595	\$10,400,226	\$10,776,785	\$11,164,408	\$11,562,803	\$11,974,876	\$12,401,600	
Bal / (Def) of Funds	\$0	(\$1,001,645)	(\$1,677,019)	(\$2,225,484)	(\$2,517,797)	(\$2,819,403)	(\$3,181,987)	(\$3,557,898)	(\$3,947,616)	(\$4,351,638)	(\$4,770,482)	
Bal as a % of Rate Adj	0.0%	13.5%	22.6%	29.9%	33.8%	37.8%	42.7%	47.7%	52.8%	58.2%	63.7%	
Proposed Rate Adjustment	0.0%	13.5%	8.0%	6.0%	3.0%	3.0%	3.5%	3.5%	3.5%	3.5%	3.5%	
Add'l Revenue with Rate Adj	\$0	\$1,001,645	\$1,677,019	\$2,225,484	\$2,517,797	\$2,819,403	\$3,181,987	\$3,557,898	\$3,947,616	\$4,351,638	\$4,770,482	
Bal / (Def) After Rate Adj	\$0	\$0	(\$0)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Balance as a % of Rates	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Average Residential Customer Bill (3,000 gal)	\$72.78											
Customer Bill on Proposed Adj.	\$72.78	\$82.39	\$88.72	\$93.99	\$96.84	\$99.76	\$103.25	\$106.86	\$110.60	\$114.48	\$118.48	
Bill Difference - Monthly		9.61	6.33	5.26	2.85	2.92	3.49	3.61	3.74	3.87	4.01	
Cumulative Bill Difference		9.61	15.94	21.21	24.06	26.98	30.47	34.08	37.82	41.70	45.70	
Debt Service Coverage Ratio (all debt)												
Before Rate Adjustment	7.86	2.40	1.22	0.71	0.37	0.26	0.14	0.01	0.00	0.00	0.00	Min. Target 1.00
After Proposed Rate Adjustment	7.86	3.81	2.65	2.06	1.26	1.25	1.26	1.26	1.28	1.31	1.31	Min. Target 1.00

Incline Village General Improvement District
Wastewater Rate Study
Capital Improvement Plan
Exhibit 4

53.1% 46.9%

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	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total	Notes
Sewer Capital													
Update Camera Equipment	\$60,000	\$0	\$0	\$0	\$0	\$0	\$0	\$80,718	\$0	\$0	\$0	\$140,718	
SCADA Management Servers/Network - WRRF	0	0	0	0	0	0	0	99,345	0	0	0	99,345	
Pond Lining Project (Storage Tank)	4,069,185	2,921,168	0	0	0	0	0	0	0	0	0	6,990,353	
Pond Lining Project (Storage Tank) - Cost Share	0	187,980	0	0	0	0	0	0	0	0	0	187,980	
Effluent Pipeline Project	12,069,507	15,080,000	15,532,400	15,998,372	0	0	0	0	0	0	0	58,680,279	
Sewer Pumping Station Improvements	50,000	104,000	107,120	110,334	113,644	117,053	120,565	124,181	127,907	131,744	169,621	1,276,168	
Sewer Pumping Station 14 Improvements	0	0	123,188	441,334	0	0	0	0	0	0	0	564,522	
2001 Sellick Forklift #499	0	67,600	0	0	0	0	0	0	0	0	0	67,600	
Emergency Pump and Generator #752 and #753	0	0	0	0	0	0	0	0	0	0	0	0	
2006 Kenworth T800 Bin truck #587	0	0	0	218,461	0	0	0	0	0	0	0	218,461	
2018 Flail Mower #784	0	0	0	0	17,047	0	0	19,869	0	0	0	36,916	
2001 Jet-Away Line Cleaner #767	0	0	0	0	0	55,015	0	0	0	0	0	55,015	
2008 Chevrolet Camera Truck #615	0	0	0	0	96,597	0	0	0	0	0	0	96,597	
Sewer Main Rehabilitation	0	104,000	107,120	551,668	340,931	351,159	361,694	620,907	383,721	395,232	407,089	3,623,520	
Wastewater Resource Recovery Facility (WRRF) Drainage Imp	0	0	0	0	0	0	0	0	0	0	0	0	
Wetlands Effluent Disposal Facility Improvements	273,523	182,000	53,560	55,167	227,287	117,053	120,565	124,181	319,767	131,744	135,696	1,740,544	
Roof Replacement Water Resource Recovery Facility	0	338,000	0	0	0	0	0	0	0	0	0	338,000	
Water Resource Recovery Facility Improvements	186,607	182,000	508,820	441,334	198,876	204,843	1,205,645	0	255,814	0	271,393	3,455,332	
WRRF Biosolids Bins	0	0	0	110,334	0	0	0	0	0	0	0	110,334	
Sewer Pump Station #1 Improvements	1,538,370	0	0	0	0	0	0	0	0	0	0	1,538,370	
SPS#1 Pump Station & Generator Bldg Roof Replacement	0	0	0	281,351	0	0	0	0	0	0	0	281,351	
Total Sewer Capital	\$18,247,192	\$19,166,748	\$16,432,208	\$18,208,354	\$994,382	\$845,122	\$1,808,468	\$1,069,202	\$1,087,208	\$658,720	\$983,799	\$79,501,403	

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total	Notes
Capital Improvements - Shared (50% Sewer)													
Replace Public Works Front Security Gate	\$0	\$0	\$0	\$0	\$45,457	\$0	\$0	\$0	\$0	\$0	\$59,109	\$104,567	
Replace Roof Public Works #B	0	0	0	0	56,822	0	0	0	0	0	0	56,822	
Building B Replacement	0	0	0	0	0	0	0	62,091	0	0	0	62,091	
Loader Tire Chains - 2 Sets	10,000	0	0	11,420	0	0	0	13,412	0	0	0	34,831	
2002 Caterpillar 950G Loader #523	132,500	0	0	0	0	0	0	0	0	187,735	0	320,235	
2002 Caterpillar 950G Loader #525	132,500	0	0	0	0	0	0	0	0	0	193,367	325,867	
2018 MultiHog MX120 Snowblower #783	0	0	0	97,094	0	0	0	0	0	0	0	97,094	
1997 Forklift #315	0	0	0	0	20,456	0	0	0	0	0	0	20,456	
2013 Trackless Snowblower #687	0	0	0	0	102,279	0	0	0	118,314	0	0	220,593	
2001 105KW Mobile Generator #313	0	0	0	0	0	0	39,183	0	0	0	0	39,183	
2020 Vac-Con Truck #807	0	0	0	0	269,904	0	0	0	0	0	0	269,904	
2004 Freightliner Vactor Truck #534	0	0	0	209,634	0	0	0	0	0	0	0	209,634	
2020 Chevy Dump Truck #829	0	0	0	0	0	0	0	49,673	0	0	119,413	169,085	
2001 Peterbilt Bin Truck #468	0	0	101,764	0	0	0	0	0	0	0	0	101,764	
Snowplow #300A	9,500	0	0	0	0	0	0	0	0	13,833	0	23,333	
Snowplow #307A	9,500	0	0	0	0	0	0	0	0	0	0	9,500	
Slurry Liquidator #326	0	0	0	0	0	0	0	0	26,221	0	0	26,221	
2004 9' Western Snow Plow #542A	0	0	0	0	0	0	0	0	0	0	0	0	
2019 Sander/Spreader #808	0	0	5,356	0	0	0	0	7,451	0	0	0	12,807	
2012 Snowplow #669B	0	0	6,427	0	0	0	0	0	0	5,270	0	11,697	
2017 Caterpillar 420F2 Backhoe #755	0	0	0	0	0	0	0	0	0	92,221	0	92,221	
2013 Chevy Equinox #691	0	19,240	0	0	0	0	0	0	0	0	0	19,240	
2009 Chevrolet 1/2 ton Pick-up #826 Compliance Dept.	0	0	0	0	0	18,143	0	0	0	0	0	18,143	
2013 1/2 Ton Pick-Up #677 Treatment	0	19,240	0	0	0	0	0	0	0	0	0	19,240	
2003 GMC 3/4-Ton Pick-up #702	0	0	21,424	0	0	0	0	0	0	0	0	21,424	
2005 Chevy 1/2-Ton Pick-up #553	0	0	20,353	0	0	0	0	0	0	0	24,425	44,778	
2009 Chevrolet 1/2 Ton Pick-up Truck #631	0	0	20,353	0	0	0	0	0	0	0	23,068	43,421	
2009 Chevrolet 1/2 Ton Pick-up Truck #632 Engineering Dept.	0	0	0	17,653	0	0	0	0	0	0	23,068	40,722	
2012 Extend-A-Cab Pick-up #678 Pipeline Dept.	0	0	0	20,412	0	0	0	0	21,744	0	0	42,156	
2004 3/4-Ton Service Truck w/liftgate & crane #703	0	0	31,065	0	0	0	0	0	0	0	0	31,065	
2013 1-Ton Flatbed #679 Pipeline Dept.	0	0	0	0	26,138	0	0	0	0	0	0	26,138	
2012 1-Ton Service Truck w/ Liftgate #668 Treatment	0	0	0	25,928	0	0	0	0	0	0	31,210	57,139	
2013 1-Ton Service Truck #680 Utilities Electrician	0	22,880	0	0	0	0	0	0	0	0	0	22,880	
2004 GMC 1-Ton Flatbed #825 Pipeline Dept.	0	0	0	0	0	0	0	39,738	0	0	0	39,738	
2008 Chevrolet Service Truck #810	0	0	0	0	0	0	0	21,111	0	0	0	21,111	
2008 Chevrolet Service Truck #680	0	0	0	27,032	0	0	0	0	0	0	33,924	60,956	
2011 Chevrolet Service Truck #647 Treatment	0	0	0	0	0	0	0	0	31,337	0	0	31,337	
Public Works Billing Software Replacement	10,000	104,000	0	0	0	0	0	0	0	0	0	114,000	
Large Format Printer Replacement	0	0	0	15,998	0	0	0	0	0	0	0	15,998	
Pavement Maintenance, Reservoir 3-1 WPS 4-2/5-1	110,000	130,000	0	0	0	0	0	0	0	0	0	240,000	
Medium Duty Truck Plow	8,250	0	0	0	0	0	0	0	0	0	0	8,250	
Chevy 1/2 Ton Pick-up Truck	18,600	0	0	0	0	0	0	0	0	0	0	18,600	
Utilities System and Plant Controls Upgrade	0	0	133,900	137,917	142,055	0	0	0	0	0	0	413,872	
Lab Equipment	0	130,000	0	0	0	0	0	0	0	0	0	130,000	
Total Capital Improvements - Shared (50% Sewer)	\$440,850	\$425,360	\$340,642	\$563,088	\$663,110	\$18,143	\$39,183	\$193,475	\$197,616	\$299,059	\$507,586	\$3,688,112	

53.1% 46.9%

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	Total	Notes
Less R&M Funded Items (O&M)	0	0	0	0	0	0	0	0	0	0	0	\$0	
Future Unidentified Capital Improvements	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Transfer to Capital Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Capital Improvement Projects	\$18,688,042	\$19,592,108	\$16,772,850	\$18,771,442	\$1,657,492	\$863,265	\$1,847,651	\$1,262,677	\$1,284,825	\$957,780	\$1,491,385	\$83,189,515	
<i>Less: Other Funding Sources</i>													
Operating Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	Input
Capital Fund	2,497,461	0	0	0	1,657,492	863,265	1,847,651	1,012,677	934,825	507,780	1,041,385	10,362,536	Input
Effluent Reserve Fund	7,978,692	721,232	522,850	2,521,442	0	0	0	0	0	0	0	11,744,216	
USDA Grant	3,051,889	2,190,876	0	0	0	0	0	0	0	0	0	5,242,764	
Federal Earmark	0	1,600,000	0	0	0	0	0	0	0	0	0	1,600,000	
Assumed SRF Loan	5,160,000	15,080,000	16,250,000	16,250,000	0	0	0	0	0	0	0	52,740,000	\$52.74M Total
Low Interest Loan	0	0	0	0	0	0	0	0	0	0	0	0	Input
Revenue Bond	0	0	0	0	0	0	0	0	0	0	0	0	Calculated
Total Other Funding Sources	\$18,688,042	\$19,592,108	\$16,772,850	\$18,771,442	\$1,657,492	\$863,265	\$1,847,651	\$1,012,677	\$934,825	\$507,780	\$1,041,385	\$81,689,516	
Additional Capital Funding	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$250,000	\$350,000	\$450,000	\$450,000	\$1,500,000	

Incline Village General Improvement District
Wastewater Rate Study
Annual Debt Service Payments
Exhibit 5

Year	NV Clean Wtr Loan 2005	NV Clean Wtr Loan 2007	Total Annual Debt Service (P&I)
FY 2023	\$128,578	\$207,536	\$336,114
FY 2024	0	207,536	207,536
FY 2025	0	207,536	207,536
FY 2026	0	207,536	207,536
FY 2027	0	0	0
FY 2028	0	0	0
FY 2029	0	0	0
FY 2030	0	0	0
FY 2031	0	0	0
FY 2032	0	0	0
FY 2033	0	0	0
FY 2034	0	0	0
FY 2035	0	0	0
FY 2036	0	0	0
FY 2037	0	0	0
FY 2038	0	0	0
FY 2039	0	0	0
FY 2040	0	0	0
FY 2041	0	0	0
	<hr/>	<hr/>	<hr/>
	\$128,578	\$830,146	\$958,724

Incline Village General Improvement District
Wastewater Rate Study
Revenues At Present Rates
Exhibit 6

Page 1 of 3

		July	August	September	October	November	December	January	February	March	April	May	June	Total
Residential														
Base Charge	\$ / Acct \$25.10	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695
Capital Improvement	\$31.45	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	
Admin Fee	\$4.23	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	
Sewer Use	\$ / 1,000 gal \$4.00	10,431	10,666	10,396	10,682	8,799	12,528	11,081	9,330	10,029	11,311	9,168	10,295	124,716
Total Revenue		\$266,306	\$267,245	\$266,165	\$267,308	\$259,777	\$274,695	\$268,907	\$261,902	\$264,697	\$269,828	\$261,256	\$265,761	\$3,193,848
Multi-Family														
Base Charge	\$ / Unit \$25.10	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091
Capital Improvement	\$31.45	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	
Admin Fee	\$4.23	259	259	259	259	259	259	259	259	259	259	259	259	259
Sewer Use	\$ / 1,000 gal \$4.00	10,605	10,556	10,286	10,298	10,512	11,656	10,831	10,553	10,527	9,970	10,290	10,586	126,669
Total Revenue		\$274,861	\$274,665	\$273,584	\$273,632	\$274,489	\$279,064	\$275,767	\$274,654	\$274,549	\$272,323	\$273,601	\$274,784	\$3,295,975

Incline Village General Improvement District
Wastewater Rate Study
Revenues At Present Rates
Exhibit 6

Page 2 of 3

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Commercial															
Base Charge	\$ / Acct.														
3/4"	\$25.10	\$31.45	77	77	77	77	77	77	77	77	77	77	77	77	77
1"	41.92	52.52	60	60	60	60	60	60	60	60	60	60	60	60	60
1 1/2"	83.58	104.73	45	45	45	45	45	45	45	45	45	45	45	45	45
2"	133.78	167.63	35	35	35	35	35	35	35	35	35	35	35	35	35
3"	251.00	314.50	7	7	7	7	7	7	7	7	7	7	7	7	7
4"	418.42	524.27	3	3	3	3	3	3	3	3	3	3	3	3	3
6"	836.58	1,048.23	2	2	2	2	2	2	2	2	2	2	2	2	2
8"	1,338.58	1,677.23	1	1	1	1	1	1	1	1	1	1	1	1	1
10"	1,497.74	2,410.64	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues			230	230	230	230	230	230	230	230	230	230	230	230	230
Admin Fee	\$4.23		230	230	230	230	230	230	230	230	230	230	230	230	
Sewer Use	\$ / CCF														
	\$4.70		9,806	9,160	7,580	7,671	8,532	6,227	5,510	4,717	5,743	5,402	6,474	8,133	84,955
Total Revenue			\$89,677	\$86,642	\$79,216	\$79,645	\$83,687	\$72,855	\$69,485	\$65,757	\$70,579	\$68,979	\$74,015	\$81,816	\$922,355

	July	August	September	October	November	December	January	February	March	April	May	June	Total
Summary													
Number of Customers													
Residential	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695	3,695
Multi-Family	259	259	259	259	259	259	259	259	259	259	259	259	259
Commercial	230	230	230	230	230	230	230	230	230	230	230	230	230
Total Number of Customers	4,184	4,184	4,184	4,184	4,184	4,184	4,184	4,184	4,184	4,184	4,184	4,184	4,184
Consumption													
Residential	10,431	10,666	10,396	10,682	8,799	12,528	11,081	9,330	10,029	11,311	9,168	10,295	124,716
Multi-Family	10,605	10,556	10,286	10,298	10,512	11,656	10,831	10,553	10,527	9,970	10,290	10,586	126,669
Commercial	9,806	9,160	7,580	7,671	8,532	6,227	5,510	4,717	5,743	5,402	6,474	8,133	84,955
Total Consumption	30,842	30,382	28,261	28,651	27,842	30,411	27,423	24,600	26,298	26,684	25,932	29,014	336,339
Revenues													
Residential	\$266,306	\$267,245	\$266,165	\$267,308	\$259,777	\$274,695	\$268,907	\$261,902	\$264,697	\$269,828	\$261,256	\$265,761	\$3,193,848
Multi-Family	274,861	274,665	273,584	273,632	274,489	279,064	275,767	274,654	274,549	272,323	273,601	274,784	3,295,975
Commercial	89,677	86,642	79,216	79,645	83,687	72,855	69,485	65,757	70,579	68,979	74,015	81,816	922,355
Total Revenues	\$630,845	\$628,552	\$618,965	\$620,585	\$617,953	\$626,615	\$614,160	\$602,314	\$609,826	\$611,130	\$608,872	\$622,361	\$7,412,178
												FY 2023 Budget	\$7,468,046
												Difference	(\$55,868)
												Percent	-0.7%
												FY 2021 Actual	\$6,934,000
												Difference	\$478,178
												Percent	6.9%

Incline Village General Improvement District
Wastewater Rate Study
Development of Volume Distribution Factor
Exhibit 7

	Annual flow in 1,000 gal	5.0% Inflow and Infiltration	Total Annual Flow at Plant (1,000 gal)	Avg. Daily Flow At Plant (MGD)	% of Total
Residential	124,716	6,236	130,952	0.36	38.5%
Multi-Family	126,669	6,333	133,002	0.36	39.1%
Commercial	72,260	3,613	75,873	0.21	22.3%
Total	323,644		339,827	0.93	100.0%
Distribution Factor	Actual Flows ^[1]		453,640	0.93	(VOL)

Notes

[2] - Provided by District July 2020 - Aug 2021

Incline Village General Improvement District
Wastewater Rate Study
Development of the Strength Distribution Factor
Exhibit 8

	Annual Flow (MGD)	Biochemical Oxygen Demand			Suspended Solids		
		Avg. Factor (mg/l)	Calculated Pounds	% of Total	Avg. Factor (mg/l)	Calculated Pounds	% of Total
Residential	0.36	190	569	38.5%	150	449	38.5%
Multi-Family	0.36	190	577	39.1%	150	456	39.1%
Commercial	0.21	190	329	22.3%	150	260	22.3%
Total	0.93		1,475	100.0%		1,165	100.0%
<i>Pounds Removed</i>			1,411			1,029	
Distribution Factor				(BOD)			(SS)

Notes

Incline Village General Improvement District
Wastewater Rate Study
Development of the Customer Distribution Factor
Exhibit 9

	<i>Actual Customer</i>		<i>Customer Capacity Demand</i>	
	Number of Accounts ^[1]	% of Total	Weighted Customer	% of Total
Residential	3,699	88.3%	3,699	43.3%
Multi-Family	259	6.2%	4,095	47.9%
Commercial	230	5.5%	754	8.8%
Total	4,188	100.0%	8,547	100.0%
Distribution Factor		(AC)		(CCD)

Notes

[1] - Customer accounts are increased by one year of growth (0.10% / yr)

Incline Village General Improvement District
Wastewater Rate Study
Development of the Revenue Related Distribution Factor
Exhibit 10

	Revenue	
	FY 2024	% of Total
Residential	\$3,197,042	43.1%
Multi-Family	3,299,271	44.5%
Commercial	923,277	12.4%
Total	\$7,419,590	100.0%
Distribution Factor		(RR)

Incline Village General Improvement District
Wastewater Rate Study
Functionalization and Classification
Exhibit 11.1

	Net Plant	Volume (VOL)	Strength Related		Customer Related		Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification		
			Bio-Oxygen Demand (BOD)	Suspended Solids (SS)	Actual Customer (AC)	Customer Capacity Demand (CCD)					
Treatment	\$18,914,844	\$9,457,422	\$4,728,711	\$4,728,711	\$0	\$0	\$0	\$0	50.0% VOL	25.0% BOD	25.0% SS
Collection											
Manholes	\$312,786	\$312,786	\$0	\$0	\$0	\$0	\$0	\$0	100.0% VOL		
Lift Station	4,224,916	4,224,916	0	0	0	0	0	0	100.0% VOL		
Sewer Mains	3,584,711	3,584,711	0	0	0	0	0	0	100.0% VOL	0.0% CCD	
Total Collection	\$8,122,413	\$8,122,413	\$0	\$0	\$0	\$0	\$0	\$0			
Total Plant Before General	\$28,724,481	\$19,267,059	\$4,728,711	\$4,728,711	\$0	\$0	\$0	\$0			
General Plant											
Equipment	\$1,885,452	\$1,264,674	\$310,389	\$310,389	\$0	\$0	\$0	\$0	As General Plant		
Misc	15,494	10,393	2,551	2,551	0	0	0	0	As General Plant		
Office Equipment	70,850	47,523	11,664	11,664	0	0	0	0	As General Plant		
Buildings & Structures	4,084,460	2,739,668	672,396	672,396	0	0	0	0	As General Plant		
Vehicles	430,888	289,020	70,934	70,934	0	0	0	0	As General Plant		
Total General Plant	\$6,487,144	\$4,351,277	\$1,067,933	\$1,067,933	\$0	\$0	\$0	\$0			
Net Plant in Service	\$35,211,625	\$23,618,336	\$5,796,644	\$5,796,644	\$0	\$0	\$0	\$0			

	Expenses FY 2024	Strength Related			Customer Related		Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
		Volume (VOL)	Bio-Oxygen Demand (BOD)	Suspended Solids (SS)	Actual Customer (AC)	Customer Capacity Demand (CCD)			
Expenses									
Wages									
Other Earnings	\$61,699	\$0	\$0	\$0	\$0	\$61,699	\$0	\$0	100.0% CCD
Regular Earnings	1,971,304	0	0	0	0	1,971,304	0	0	100.0% CCD
Salary Savings from Vacant Positions	0	0	0	0	0	0	0	0	100.0% CCD
Total Wages	\$2,033,003	\$0	\$0	\$0	\$0	\$2,033,003	\$0	\$0	
Benefits									
Dental Fringe Ben	\$25,153	\$0	\$0	\$0	\$0	\$25,153	\$0	\$0	100.0% CCD
Disability Fringe Ben	10,191	0	0	0	0	10,191	0	0	100.0% CCD
Life Ins Fringe Ben	3,885	0	0	0	0	3,885	0	0	100.0% CCD
Medical Fringe Ben	367,452	0	0	0	0	367,452	0	0	100.0% CCD
Retirement Fringe Ben	365,722	0	0	0	0	365,722	0	0	100.0% CCD
Taxes	158,732	0	0	0	0	158,732	0	0	100.0% CCD
Unemployment Fringe Ben	32,236	0	0	0	0	32,236	0	0	100.0% CCD
Vision Fringe Ben	2,798	0	0	0	0	2,798	0	0	100.0% CCD
Work Comp Fringe Ben	51,371	0	0	0	0	51,371	0	0	100.0% CCD
Total Benefits	\$1,017,539	\$0	\$0	\$0	\$0	\$1,017,539	\$0	\$0	
Professional Services									
Audit	\$11,760	\$7,888	\$1,936	\$1,936	\$0	\$0	\$0	\$0	As Net Plant in Service
Legal	13,650	9,156	2,247	2,247	0	0	0	0	As Net Plant in Service
Professional Consultants	65,625	44,018	10,803	10,803	0	0	0	0	As Net Plant in Service
Total Professional Services	\$91,035	\$61,062	\$14,986	\$14,986	\$0	\$0	\$0	\$0	

Expenses FY 2024	Customer Related				Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification		
	Strength Related		Actual Customer (AC)	Customer Capacity Demand (CCD)					
	Volume (VOL)	Demand (BOD)						Solids (SS)	
Services & Supplies									
BLDGS Maintenance Services	\$38,687	\$25,949	\$6,369	\$6,369	\$0	\$0	\$0	\$0	As Net Plant in Service
Chemical	248,325	248,325	0	0	0	0	0	0	100.0% VOL
Computer License & Fees	4,532	3,040	746	746	0	0	0	0	As Net Plant in Service
Contractual Services	0	0	0	0	0	0	0	0	As Net Plant in Service
Dues & Subscriptions	6,489	4,353	1,068	1,068	0	0	0	0	As Net Plant in Service
Employee Recruit & Retain	2,730	1,831	449	449	0	0	0	0	As Net Plant in Service
Fleet Maintenance Services	192,271	128,967	31,652	31,652	0	0	0	0	As Net Plant in Service
Fuel	39,000	26,159	6,420	6,420	0	0	0	0	As Net Plant in Service
Janitorial	10,300	6,909	1,696	1,696	0	0	0	0	As Net Plant in Service
Lab	33,990	33,990	0	0	0	0	0	0	100.0% VOL
Office Supplies	4,120	2,764	678	678	0	0	0	0	As Net Plant in Service
Operating	57,495	38,565	9,465	9,465	0	0	0	0	As Net Plant in Service
Permits & Fees	15,512	10,405	2,554	2,554	0	0	0	0	As Net Plant in Service
R&M General	0	0	0	0	0	0	0	0	As Net Plant in Service
R&M Corrective	289,497	194,181	47,658	47,658	0	0	0	0	As Net Plant in Service
R&M Preventative	76,694	51,443	12,626	12,626	0	0	0	0	As Net Plant in Service
Repairs & Maintenance	0	0	0	0	0	0	0	0	As Net Plant in Service
Safety	13,802	9,258	2,272	2,272	0	0	0	0	As Net Plant in Service
Security	3,584	2,404	590	590	0	0	0	0	As Net Plant in Service
Small Equipment	7,725	5,182	1,272	1,272	0	0	0	0	As Net Plant in Service
Tools	11,536	7,738	1,899	1,899	0	0	0	0	As Net Plant in Service
Training & Education	19,364	12,988	3,188	3,188	0	0	0	0	As Net Plant in Service
Travel & Conferences	7,725	5,182	1,272	1,272	0	0	0	0	As Net Plant in Service
Uniforms	9,600	6,439	1,580	1,580	0	0	0	0	As Net Plant in Service
Total Services & Supplies	\$1,092,977	\$826,069	\$133,454	\$133,454	\$0	\$0	\$0	\$0	
Utilities									
Cable TV	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Net Plant in Service
Electricity	382,096	382,096	0	0	0	0	0	0	100.0% VOL
Heating	29,536	19,811	4,862	4,862	0	0	0	0	As Net Plant in Service
Internet	12,064	8,092	1,986	1,986	0	0	0	0	As Net Plant in Service
Telephone	46,242	31,017	7,612	7,612	0	0	0	0	As Net Plant in Service
Trash	5,616	3,767	925	925	0	0	0	0	As Net Plant in Service
Water & Sewer	29,023	19,467	4,778	4,778	0	0	0	0	As Net Plant in Service
Total Utilities	\$504,576	\$464,250	\$20,163	\$20,163	\$0	\$0	\$0	\$0	

	Expenses FY 2024	Strength Related			Customer Related		Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
		Volume (VOL)	Bio-Oxygen Demand (BOD)	Suspended Solids (SS)	Actual Customer (AC)	Customer Capacity Demand (CCD)			
Other									
Central Services Allocation Cs	\$270,121	\$181,185	\$44,468	\$44,468	\$0	\$0	\$0	\$0	As Net Plant in Service
Defensible Space Costs	51,500	34,544	8,478	8,478	0	0	0	0	As Net Plant in Service
General Liability	103,000	69,088	16,956	16,956	0	0	0	0	As Net Plant in Service
Interfund Expense Transfers	460,564	308,925	75,819	75,819	0	0	0	0	As Net Plant in Service
Capital Expenses	170,000	114,028	27,986	27,986	0	0	0	0	As Net Plant in Service
Shared Capital Expenses	0	0	0	0	0	0	0	0	As Net Plant in Service
Total Other	\$1,055,185	\$707,770	\$173,708	\$173,708	\$0	\$0	\$0	\$0	
	CHECK								
Future O&M									
Additional Staffing Needs	\$55,130	\$36,978	\$9,076	\$9,076	\$0	\$0	\$0	\$0	As Net Plant in Service
O&M Contingency	0	0	0	0	0	0	0	0	As Net Plant in Service
Budget Savings	0	0	0	0	0	0	0	0	As Net Plant in Service
Shared Capital Expenses	0	0	0	0	0	0	0	0	As Net Plant in Service
Total Future O&M	\$55,130	\$36,978	\$9,076	\$9,076	\$0	\$0	\$0	\$0	
Total Operations & Maintenance	\$5,849,444	\$2,096,129	\$351,386	\$351,386	\$0	\$3,050,541	\$0	\$0	
	CHECK								
Debt Service									
NV Clean Wtr Loan 2005	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	As Net Plant in Service
NV Clean Wtr Loan 2007	207,536	139,206	34,165	34,165	0	0	0	0	As Net Plant in Service
Assumed SRF Loan	501,120	336,128	82,496	82,496	0	0	0	0	As Net Plant in Service
Assumed Revenue Bond	0	0	0	0	0	0	0	0	As Net Plant in Service
Total Debt Service	\$708,656	\$475,334	\$116,661	\$116,661	\$0	\$0	\$0	\$0	
<i>Less: Debt Service Funding</i>									
From Capital Reserve	\$708,656	\$475,334	\$116,661	\$116,661	\$0	\$0	\$0	\$0	As Debt
Total Less Debt Service Funding	\$708,656	\$475,334	\$116,661	\$116,661	\$0	\$0	\$0	\$0	
Net Debt Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Reserve Funding									
Operating Fund Transfer	(\$524,877)	(\$524,877)	\$0	\$0	\$0	\$0	\$0	\$0	100.0% VOL
Capital Fund Transfer	3,226,068	0	0	0	0	3,226,068	0	0	100.0% CCD
Additional Capital Funding	0	0	0	0	0	0	0	0	100.0% CCD
Effluent Reserve Fund	0	0	0	0	0	0	0	0	100.0% CCD
Total Reserve Funding	\$2,701,191	(\$524,877)	\$0	\$0	\$0	\$3,226,068	\$0	\$0	
Total Revenue Requirement	\$8,550,635	\$1,571,253	\$351,386	\$351,386	\$0	\$6,276,609	\$0	\$0	
Less: Other Revenues									
Effluent Disposal Sales	\$75,075	\$75,075	\$0	\$0	\$0	\$0	\$0	\$0	100.0% VOL
Interest Income	27,098	9,710	1,628	1,628	0	14,132	0	0	As Total O&M
Hunting Fees	20,020	7,174	1,203	1,203	0	10,441	0	0	As Total O&M
Interfund Revenue Transfers	0	0	0	0	0	0	0	0	As Total O&M
Other Sewer	7,207	2,583	433	433	0	3,759	0	0	As Total O&M
Total Other Revenues	\$129,400	\$94,542	\$3,263	\$3,263	\$0	\$28,331	\$0	\$0	
Net Revenue Requirement	\$8,421,235	\$1,476,711	\$348,123	\$348,123	\$0	\$6,248,278	\$0	\$0	

Incline Village General Improvement District
Wastewater Rate Study
Distribution of Revenue Requirement
Exhibit 13

	Net Revenue Requirement	Residential	Multi-Family	Commercial	Basis of Allocation
Volume	\$1,476,711	\$569,048	\$577,960	\$329,703	(VOL)
Strength					
Bio-Oxygen Demand	\$348,123	\$134,149	\$136,249	\$77,725	(BOD)
Suspended Solids	348,123	134,149	136,249	77,725	(SS)
Total Strength	\$696,246	\$268,297	\$272,499	\$155,450	
Customer					
Actual Customer	\$0	\$0	\$0	\$0	(AC)
Customer Capacity Demand	6,248,278	2,703,785	2,993,555	550,938	(CCD)
Total Customer Related	\$6,248,278	\$2,703,785	\$2,993,555	\$550,938	
Revenue Related	\$0	\$0	\$0	\$0	(RR)
Direct Assign.	\$0	\$0	\$0	\$0	(DA)
Net Revenue Requirement	\$8,421,235	\$3,541,130	\$3,844,013	\$1,036,092	

Incline Village General Improvement District
Wastewater Rate Study
Summary of Cost of Service Analysis
Exhibit 14

	FY 2024 Expenses	Residential	Multi-Family	Commercial
Revenues at Present Rates	\$7,419,590	\$3,197,042	\$3,299,271	\$923,277
Allocated Revenue Requirement	\$8,421,235	\$3,541,130	\$3,844,013	\$1,036,092
<i>Bal / (Def) of Funds</i>	(\$1,001,645)	(\$344,088)	(\$544,742)	(\$112,815)
Required % Change in Rates	13.5%	10.8%	16.5%	12.2%

Incline Village General Improvement District
Wastewater Rate Study
Average Unit Costs
Exhibit 15

	Total	Residential	Multi-Family	Commercial
Volume - \$ / HCF	\$4.39	\$4.56	\$4.56	\$3.88
BOD - \$ / HCF	1.04	1.08	1.08	0.91
TSS - \$ / HCF	1.04	1.08	1.08	0.91
Total - \$ / HCF	\$6.46	\$6.71	\$6.71	\$5.71
Customer - \$ / Acct.	\$124.32	\$60.92	\$962.22	\$199.42
Total - \$ / Equiv. Unit	\$167.56	\$79.78	\$78.22	\$114.56
Total - \$ / HCF	\$25.04	\$28.39	\$30.35	\$12.20
Current Average Revenues	\$22.06	\$25.63	\$26.05	\$10.87
Customer Data				
Volume	336,339	124,716	126,669	84,955
Customer	4,188	3,699	259	230
Equivalent Units	8,547	3,699	4,095	754

Incline Village General Improvement District
Wastewater Rate Study
Rate Structure - Alt 1

	<i>Present</i>	<i>Proposed</i>				
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Residential						
Base Charge	\$25.10	\$32.25	\$36.50	\$40.00	\$42.25	\$44.25
Capital Improvement	31.45	31.45	31.45	31.45	31.45	31.45
Admin Fee	4.23	4.44	4.66	4.90	5.14	5.40
Multi-Family						
Base Charge	\$25.10	\$32.25	\$36.50	\$40.00	\$42.25	\$44.25
Capital Improvement	31.45	31.45	31.45	31.45	31.45	31.45
Admin Fee	4.23	4.44	4.66	4.90	5.14	5.40
Commercial						
<i>Base Charge</i>						
3/4"	\$25.10	\$32.25	\$36.50	\$40.00	\$42.25	\$44.25
1"	41.92	53.86	60.96	66.80	70.56	73.90
1 1/2"	83.58	107.39	121.55	133.20	140.69	147.35
2"	133.78	171.89	194.55	213.20	225.19	235.85
3"	251.00	322.50	365.00	400.00	422.50	442.50
4"	418.42	537.61	608.46	666.80	704.31	737.65
6"	836.58	1,074.89	1,216.55	1,333.20	1,408.19	1,474.85
8"	1,338.58	1,719.89	1,946.55	2,133.20	2,253.19	2,359.85
10"	1,497.74	1,924.39	2,177.99	2,386.84	2,521.10	2,640.44
<i>Capital Improvement</i>						
3/4"	\$31.45	\$31.45	\$31.45	\$31.45	\$31.45	\$31.45
1"	52.52	52.52	52.52	52.52	52.52	52.52
1 1/2"	104.73	104.73	104.73	104.73	104.73	104.73
2"	167.63	167.63	167.63	167.63	167.63	167.63
3"	314.50	314.50	314.50	314.50	314.50	314.50
4"	524.27	524.27	524.27	524.27	524.27	524.27
6"	1,048.23	1,048.23	1,048.23	1,048.23	1,048.23	1,048.23
8"	1,677.23	1,677.23	1,677.23	1,677.23	1,677.23	1,677.23
10"	2,410.64	2,410.64	2,410.64	2,410.64	2,410.64	2,410.64
<i>Admin Fee</i>	\$4.23	\$4.44	\$4.66	\$4.90	\$5.14	\$5.40
Sewer Use						
Residential	\$4.00	\$4.75	\$5.37	\$5.88	\$6.00	\$6.22
Multi-Family	4.00	4.75	5.37	5.88	6.00	6.22
Commercial	4.70	5.60	6.35	6.95	7.10	7.37