MEMORANDUM

TO: Board of Trustees

THROUGH: Indra Winquest
District General Manager

FROM: Brad Underwood, P.E.
Director of Public Works

SUBJECT: Review, discuss and provide direction and comment to staff on the draft IVGID Utility Rate Study. Direct staff to prepare documents and Utility Rate Schedules for a Fiscal Year 2022/23 Water utility rate increase, a Sewer utility rate increase, and increase charges on the Public Works Fee Schedule.

Set the date/time of April 27, 2022 at 6:00 p.m. for the public hearing on the proposed amendments to the Sewer and Water Schedule of Service Charges, Fee Schedule, and to publish the notice in accordance with the NRS 318.199.

STRATEGIC PLAN: Long Range Principle #3 - Finance

DATE: March 9, 2022

I. RECOMMENDATION

1. Review, discuss and provide direction and comment to staff on the draft IVGID Utility Rate Study.

2. Direct Staff to prepare documents and updated Utility Rate Schedules, as proposed, to increase annualized Water Utility revenues by up to twenty percent (20%),

3. Direct Staff to prepare documents and updated Utility Rate Schedules, as proposed, to increase annualized Sewer Utility rate revenues by up to fifteen percent (15%), and,

4. Direct staff to prepare documents and updated Utility Rate Schedules to implement proposed increases to charges on the Public Works Fee Schedule by up to twelve percent (12%).

5. Set the date/time of April 27, 2022 at 6:00 p.m. for the public hearing on the proposed amendments to the Sewer and Water Schedule of Service Charges, Fee Schedule, and to publish the notice in accordance with the NRS 318.199.

II. DISTRICT STRATEGIC PLAN

The Utility Rate Study supports Long Range Principle #3 – Finance: The District will ensure fiscal responsibility and sustainability of service capacities through prudent fiscal management and maintaining effective financial policies for internal controls, operating budgets, fund balances, capital improvement and debt management.

III. BACKGROUND

The District provides water and sewer utility services through its Utility Fund (Fund 200). These utility operations are supported through annual revenues ($12.3 million for FY 2021/22) collected from utility customers based on Board-approved rate schedules for each utility.

The current budget assumed an 8% rate increase to begin in the second quarter of the fiscal year; however, actual revenues will be lagging the budgeted amount, since increases have not been implemented, pending completion of the Utility Rate Study and formal Board action.

The last approved rate increase was passed by the Board of Trustees on April 10, 2019 in the amount of 4%. At their meeting of February 26, 2020, the Board of Trustees reviewed and discussed the District's 2020 Utility Rate Study and further approved a motion to set the required public hearing for April 14, 2020. At the conclusion of the public hearing, the Board considered public testimony, as well as the impacts of the emerging COVID-19 pandemic, and the Board collectively decided to defer the proposed 2020/21 utility rate increase to a future date.

At the January 13, 2021 Board of Trustees meeting, the Board considered options relative to implementing utility rate increases to support ongoing operations and capital program requirements. The options included resuming the process for implementing the originally proposed 2020/21 utility rates or deferring action, pending completion of a utility rate study. The Board did not select to

resume the process of the originally proposed 2020/21 utility rate increase, which was recommended to be increases of 4.2% for water and 6.4% for sewer. At that time projections for the next five years were for the rate increases to average 4.2% per year. The Board's preference was to proceed with a third party rate analysis, and funding was included in the sewer and water operating budgets for FY 2021/22 to hire a consultant to perform a rate analysis for utility operations and capital program requirements.

Deferring recommended rate increases in FY 2020/21 and FY 2021/22 have resulted in revenues lagging beyond the levels needed to support the District's utility operations and, additionally, have negatively impacted the opportunity for the compounding of revenue over the last two fiscal years and into the future. The District is now subjected to higher inflationary costs, which include impacts to wages, materials, supplies, services and capital improvement projects. Therefore, it is anticipated that a substantial rate increase would be necessary to make up for these influences.

On September 2, 2021 the Board of Trustees awarded a Professional Services Contract to HDR Engineering, Inc. to conduct the Utility Rate Study for Provision of Water and Sewer Services (Rate Study). The Rate Study is intended to establish 5-year water and sewer utility rates for all customer types. On November 10, 2021, HDR presented their preliminary findings to the Board.

The Rate Study sets forth the appropriate rates for water and sewer service to meet revenue and expense requirements and to achieve the appropriate Fund Balance and Working Capital. Rate increases are necessary to fund current and future operating and capital expenses. The Summary of the Present and Proposed Water Rates are in Table 3-9 (page 38) and the Sewer Rates are in Table 4-8 (page 55) of the Preliminary Draft Water and Sewer Rate Study prepared by HDR which is attached.

IV. DISCUSSION

The draft Utility Rate Study reflects the need to significantly increase the District's water and sewer rates over the next five years in order to provide sufficient revenues to support the District's utility operations, capital improvements, and reserve requirements as well as provide for anticipated debt financing. As a point of reference, these are overall system adjustments and may not reflect the individual bill impacts given the cost of service and rate design recommendations.

Five-Year Utility Revenue Increase Plan

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Water Revenue Adjustment	20.0%	12.0%	9.5%	9.0%	3.5%
Sewer Revenue Adjustment	15.0%	12.5%	8.0%	8.0%	3.5%

The recommended utility rate increases for year one, as proposed, would increase Water Utility revenues by 20% and Sewer Utility revenues by 15%. If approved, the average residential customer would see an increase in their monthly water bill of 19.3% and average monthly sewer bill of 14.9% (based upon an average customer using 10,000 gallons per month for water and 3,000 gallons per month for sewer).

The need for the proposed increases has been compounded by continued annual inflationary increases in costs, increased costs of necessary capital improvements, and deferral of rate increases over the previous two years. Taking into effect the loss of compounding revenue and current unanticipated high inflation, these increases are generally consistent with what was proposed in FY 2020/21. Within the Rate Study, a fund balance amount of approximately $590,000 for water and approximately $680,000 for sewer was used, reducing the rate increase to the proposed level in FY 2022/23.

As noted above, inflationary impacts have been significant on District Capital Improvement and maintenance projects in both labor and materials. Therefore, built into year 1 of the rate model are a 6.5% increase in staff labor and 10% increases for materials and supplies, equipment, chemicals, and utilities.

The rate study informs the District that long-term borrowing is needed to provide the funding necessary for the updated 5-year Capital Plan. This includes $7.1 million for water projects and $36.0 million for sewer projects occurring during FY2023-26. As the Trustees are aware, the majority of the projected sewer borrowing will be needed for the Effluent Pipeline Project.

The following tables show the current versus proposed 2022/23 rate comparisons for water and sewer for the average customer when maintaining the current rate structure and adjusting rates to meet the revenue requirements.

Residential Water Rate Comparison

Rate Component	Current Rate	Proposed Rate	Change
Base Rate	$11.97	$15.88	$3.91
Capital Improvements	$15.10	$15.10	$0.00
Customer Admin Fee	$3.97	$4.23	$0.26
Defensible Space	$1.05	$1.05	$0.00
Total Monthly Base Water Bill	**$32.09**	**$36.26**	**$4.17**
Water Use	$1.55	$2.02	$0.47
1st Tier	$0.93	$1.21	$0.28
2nd Tier	$1.34	$1.75	$0.41

Residential Sewer Rate Comparison

Rate Component	Current Rate	Proposed Rate	Change
Base Rate	$19.54	$25.90	$6.36
Capital Improvements	$31.45	$31.45	$0.00
Customer Admin Fee	$3.97	$4.23	$0.26
Total Monthly Base Sewer Bill	**$54.96**	**$61.58**	**$6.62**
Sewer Use	$3.20	$4.00	$0.80

As part of the Rate Study, the consultant analyzed the cost of service for each rate class to determine if rates were equitable between the various user types. The consultant discovered the following:

- For water rates, the irrigation revenue could be increased greater than the system average to reflect the cost of service results. This is due to the significant peak demand that irrigation puts on the capacity needs of the water system and the resulting costs associated with providing this level of service if irrigation is viewed separately. There are currently 62 irrigation customers and 20 IVGID Public Service Recreation irrigation accounts. As the Board of Trustees is aware, there are Public Service Recreation irrigation accounts that do not pay excess water charges for the Tier 1 and Tier 2 water rates, per Ordinance No. 4, Water Ordinance, Section 2.40 Public Service Recreation. The proposed rates include the creation of separate rates for the irrigation customer accounts, which would be phased in over the five-year period. This would result in a savings of approximately $0.30 per month to the average residential customer for the FY 2023 proposed rates. These separate irrigation rates will be charged to all irrigation customers, including the Public Service Recreation irrigation

accounts. The Public Service Recreation account billing will continue to follow Ordinance No. 4 as outlined above.

- For sewer rates, the commercial class revenue could be increased to better reflect the cost of service results. The concentration of wastewater for a commercial property versus a residential property causes additional demand on the sewer system and the increase in the cost to provide service. The proposed rates include an increase to the commercial class as a phased adjustment over five years. This shifts revenue of approximately $34,000 in year 1 and approximately $55,000 by year 5 to the commercial class. In year one, this would result in a savings of approximately $0.60 per month to the average residential customer. There are approximately 233 commercial customers that will be impacted by this proposed change to the rates.

It is also important to understand that this is a cost of service study that reflects the current operating and customer characteristics. Over time, these change and the cost of service will show different results from year to year. Given this is the first comprehensive cost of service study completed for the District, further studies should confirm the results prior to the Board making full cost of service adjustments.

Connection Fees, Retroactive Capital Improvement Fees, and Public Works Fee Schedule

To keep pace with the increases seen for the Utility fund, the Connection Fees, Retroactive Capital Improvement Fees, and the items on the Public Works Fee Schedule are recommended to be increased by approximately twelve percent (12%), which reflects the Construction Cost Index increase from January 2019 to January 2022. These are one-time fees imposed on new development to cover retroactive capital costs.

Proposed 12% Increase to Sewer Connection and CIP Fees

Sewer CAF	Connection – Current	Connection – Proposed	CIP – Current	CIP – Proposed
3/4	$3,230	$3,540	$1,940	$2,130
1	$5,400	$5,920	$3,240	$3,550
1 1/2	$10,770	$11,790	$6,470	$7,080
2	$17,240	$18,880	$10,350	$11,340
3	$32,340	$35,420	$19,430	$21,280
4	$53,910	$59,050	$32,380	$35,470
6	$107,790	$118,050	$64,740	$70,910
8	$172,470	$188,890	$103,590	$113,460
10	$247,890	$271,490	$148,890	$163,070

Proposed 12% Increase to Water Connection and CIP Fees

Water CAF	Connection - Current	Connection - Proposed	CIP – Current	CIP – Proposed
3/4	$1,610	$1,800	$1,840	$2,060
1	$2,680	$3,010	$3,070	$3,440
1 1/2	$5,350	$6,000	$6,120	$6,860
2	$8,560	$9,610	$9,790	$10,980
3	$16,070	$18,030	$18,380	$ 20,610
4	$26,780	$30,060	$30,630	$34,350
6	$53,540	$60,100	$61,240	$68,690
8	$85,670	$96,160	$97,990	$109,900
10	$123,140	$138,220	$140,840	$157,960

Proposed 12% Increase to Public Works Fee Schedule

Miscellaneous Fees	Current	Proposed
Sewage Drop-off	$75.00	$85.00
Backflow	$65.00	$75.00
Plan Check	$90.00	$100.00
Inspection	$90.00	$100.00
Service Call	$40.00	$45.00
Hydrant Deposit	$1,000.00	$1,120.00
Hydrant Rental	$40.00	$45.00
1" Deposit	$100.00	$110.00
1" Rental	$20.00	$20.00
3/4" Deposit	$100.00	$110.00
3/4" Rental	$15.00	$15.00
Posting	$20.00	$20.00

Alternative Rate Modeling Scenarios

A significant factor contributing to the recommended rate adjustments over the five-year planning horizon is the financing required to support major sewer utility capital improvement projects. The rate model, base case scenario, assumes the issuance of approximately $43 million in bonds, amortized over 20 years at an annual interest rate of 4.5%.

Five-Year Utility Revenue Adjustments – Base Scenario

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Water Revenue Adjustment	20.0%	12.0%	9.5%	9.0%	3.5%
Sewer Revenue Adjustment	15.0%	12.5%	8.0%	8.0%	3.5%

Acknowledging that the District is actively pursuing outside funding support anticipated to be available through Federal and State grants and low-interest loan programs, alternative modeling scenarios are provided to inform how alternative financing scenarios may impact future rate adjustments. As a point of reference, these percentages are overall system adjustments and may not reflect the individual bill impacts given the cost of service and rate design recommendations. The following alternatives were developed:

Low-Interest Loan (2.5%)

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Sewer Revenue Adjustment	15.0%	10%	8.0%	5.0%	4%
Water Revenue Adjustment	20%	12%	9.5%	7.0%	3.0%

Grant Awards - $5.0 million

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Sewer Revenue Adjustment	15.0%	9.5%	6.5%	6.5%	4.5%

Grant Award - $10 million:

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Sewer Revenue Adjustment	15%	9.5%	5.0%	5.0%	5.0%

Utility Reserve Levels

These recommended revenue increases take into account a gradual approach over a five-year period to achieve operating and capital reserve fund targets, per

Board policy. Doing so gradually lessens the immediate impact to customers, as opposed to an even greater rate increase to meet these policies in the short-term. The following table shows the likely annual reserves each year for the Utility Fund based upon the proposed rate increases.

Utility Reserve Funds

Operating Fund	FY 2023	FY 2024	FY2025	FY 2026	FY 2027
Ending Balance	$1,026,042	$1,097,999	$1,771,147	$2,678,148	$3,283,271
Target	$2,661,855	$2,681,860	$2,807,222	$2,939,222	$3,077,774
Capital Fund	FY 2023	FY 2024	FY2025	FY 2026	FY 2027
Ending Balance	$2,095,876	$3,542,344	$4,775,987	$4,516,986	$4,030,467
Target	$3,782,338	$3,884,461	$3,989,342	$4,097,054	$4,207,675

The above table illustrates that the Fund Reserve target is met for both Operating Funds in FY2027 and Capital Funds in FY2025. The Capital Reserve does drop slightly below the target in FY 2027, which is indicative of Capital Fund reserve balances depending on what spending is planned in any particular year.

Area Water and Sewer Rates

The table below demonstrates that, even with these significant rate increases, IVGD's combined monthly water and sewer rates are one of the lowest in the area for the average customer (10,000 gallons of water and 3,000 gallons of sewer per month). It is important to note when reviewing the table that the rates for the other agencies does not include any potential increases for FY 2023.

Agency	Monthly Water and Sewer Rate
Incline Village GID (FY 2023 Proposed)	**$130.12**
Alpine Springs CWD (FY 2022) *	$186.36
North Tahoe PUD (FY 2022)	$162.88
Northstar CSD (FY 2022)	$219.79
OVCSD (2021-22) *	$227.00
Round Hill GID (2019)	$126.19
Skyland (FY 2023)	$128.32
South Tahoe PUD (2021-22)	$118.65
Tahoe City PUD (2021) *	$192.61
Truckee Sanitary * / TDPUD	$139.88

* Rates include TTSA charge for treatment services

Schedule

The schedule for the proposed rate adoption is as follows:

Utility Rate Study Schedule	Date
Preliminary Results of the Public Utility Rate Study	November 10, 2021
Rate Study Presentation	February 9, 2022
Revised Rate Study Presentation	March 9, 2022
Set Date of Public Hearing to Adopt New Utility Rates	March 9, 2022
Publish Notice of Public Hearing in Newspaper	March 18, 2022
Conduct Public Hearing and Adopt New Utility Rates	April 27, 2022
New Utility Rates Become Effective – Pending Approval	May 19, 2022

V. BID RESULTS

There are no bid results associated with this Memorandum.

VI. FINANCIAL IMPACT AND BUDGET

The water and sewer utility rates are recommended to increase to provide a combined revenue requirement of approximately $14.29 million (FY2022/23) which is collected from the District's water and sewer customer via monthly utility bills. The proposed 2022/23 rate adjustments would result in additional revenues of approximately $1.0 million for the water utility and approximately $980,000 for the sewer utility.

The update to the District's utility rate model is intended to evaluate the revenue required to support current and future operating and capital expenses, and contemplates increases over the next five years, pending Board direction and final approval of water and sewer rates at a future meeting.

VII. ALTERNATIVES

Not set a date for the public hearing, keep Ordinance 2 and Ordinance 4 the same, and not increase water and sewer rates. This will have a long-term negative impact on the assets, including not meeting the District reserve balance policies and financial health of the District's Utility Fund. Water and sewer

systems have regulatory oversight, so the District must meet operation and infrastructure standards, which requires applicable funding levels.

VIII. BUSINESS IMPACT

This item is not a "rule" within the meaning of Nevada Revised Statutes, Chapter 237, and does not require a Business Impact Statement.

Attachment:

- Preliminary Draft Report Water and Sewer Rate Study (HDR)
- Water and Sewer Rate Study Questions & Answers
- Water and Sewer Rate Study Presentation (HDR)

Water and Sewer Rate Study
Questions & Answers
March 2022

1) *What are the main assumptions built into the rate model to arrive at the proposed Water and Sewer rate increases?*

Assumptions for the Rate Study in each utility are as follows:

- Labor, professional/special services increased by 6.5%
- Materials and supplies, equipment, utilities increased by 10%
- Water and sewer increased by 17.5%
- Annual customer growth of 0.1% annually
- Operating budget contingency in year 1 in the amount of $200,000 for both utilities
- Salaries for additional positions in the amount of $230,000 for both utilities
- Combined beginning reserve balance was approximately $16.5 million at the beginning of FY 2022
- Analysis assumes annual debt service terms of 4.5% for 20 years
- Future year projections based upon inflationary assumption of 3.5%

2) *How much of the recommended rate increase(s) are due to the deferral of rate increases for 2020/21 and 2021/22?*

Rate increases in for FY 2021 were recommended to be 4.2% for water and 6.4% for sewer with future years estimated at 4.2%. The deferral of rate increases for the last 2 years account for approximately 8.4% of the proposed water utility rate increase and 10.6% of the proposed sewer utility rate increase.

3) *What cost increases have been built into the rate model(s) (i.e. Staffing, O&M, Capital adjustments)?*

See assumptions as provided in question #1 above. No other increases over and above the budget and assumptions for projecting O&M have been included. The rate model also takes into consideration the identified capital needs for each of the utilities. In this way, the proposed rates are sufficient to meet ongoing capital replacement and improvements over the long-term. Capital improvement projects provided by the District were also increased annually by a 2.7% inflationary factor to reflect the future costs of the project.

4) *Do the recommended Sewer Rates eliminate the $ 2million per year Capital Charge currently being collected to support the Effluent Pipeline Project?*

Yes and no. The analysis eliminates the $2 million in annual funding for the effluent pipeline funding (e.g., prefunding of the project). However, roughly $2 million is required in the future years to fund the annual debt service need pay for the remaining effluent pipeline project costs. The manner in which the District establishes the capital charge will result in increases, and decreases, over time as the capital plan is updated

and refined. As a result, the Board should expect that as the capital plan is updated, or project costs change (like we've seen recently) the capital charge will need to be revised to reflect the projected costs from year to year.

5) *How much of the Sewer Rate increase(s) is attributable to the cost the Effluent Pipeline Project?*

Pipeline cost in the rate model is estimated to be $44.8 million. Prior rate studies included $2.0 million per year in annual funding contributions for the Effluent Pipeline Project, with an underlying assumed project cost of $23.0 million.

The impact on required rates is not an exact calculation, and varies over the projected time period, given the debt service impact to rate levels for this project. In addition, the debt service is funded through the annual capital charge. Given this, the capital charge has increased by approximately 21% from FY2022/23-FY 2025/26 when annual debt service is being fully funded.

6) *What is the baseline funding plan for the Effluent Pipeline Project used in the Sewer rate model?*

As outlined in the capital funding analysis, the effluent pipeline project costs are being funded entirely through existing reserves in FY2022/23. Project costs in FY 2023/24-FY 2025/26 are funded entirely through long-term borrowing.

7) *How might alternative financing options impact future sewer rates?*

Alternative financing (e.g., low interest loans) or grant funding would reduce the overall capital charge revenue necessary to support the effluent pipeline project. Three alternatives were developed to provide the Board an understanding of how future rate levels may be impacted.

As noted in question #5, the effluent pipeline project costs in FY2022/23 are funded entirely from current reserves. Given this, alternative funding approaches for the effluent pipeline project has no impact on the FY2022/23 rate revenue adjustment need.

When reviewing the loan alternative, the assumption was for a low interest loan for 20 years at 2.5% interest. This results in the ability to decrease the rate adjustments in FY2023/24-FY2026/27 by 7% cumulatively over that time period.
Assuming a grant of $5 million in FY2023/24, the overall revenue adjustment could also be lowered by 7% cumulatively over the FY2023/24-FY2026/27 time period.

When assuming a total of $10 million in grant revenues ($5 million in both FY2023/24 and FY2024/25), the overall revenue adjustment could be decreased by 12% cumulatively over the FY2023/24-FY2026/27 time period.

Again, it is important to note, that as the Board is considering rate revenue adjustments for FY2022/23, these alternatives do not change the FY2022/2023 revenue adjustment needs. The study should also not develop proposed rates based on an assumed grant or lower-interest borrowing given that they are not certain. Should the District be successful in receiving additional grant funding, or receive a low interest loan, the Board can revise the rate plan to reflect this in the future.

8) *Why have water and sewer rate revenues increased over the past two years, given that rates have not been adjusted since FY2019/20?*

Rate revenues will vary from year to year based on the actual consumption patterns of the District's customers. In dry years, outdoor use generally increases and higher levels of revenue may be received. The opposite is also true, in wet years, revenues will be less than projected given the lower than average water consumption.

As the District continues to evaluate rates on an annual basis, these considerations can be taken into account. However, from a planning perspective (i.e., rate study) we cannot plan on a dry year, or wet year, to project revenues. This will continue to occur regardless of the level of the rates. However, the additional revenue from consumption is not sufficient to fund the identified operating and capital needs as outlined in the rate study.

9) *How sensitive is the rate model (recommended rates) to assumptions related to water consumption?*

Consumption plays a role in the overall revenue profile. However, the majority, approximately 63%, of the District's revenue is received through the fixed charges (meter charge, capital charge, admin fee, defensible space). As a result, changes in consumption should have a minimal impact on the overall revenues. For example, if residential consumption was reduced by 10%, the revenue only decreases by 4%.

However, for the irrigation customer class, the majority of the revenue is collected through the consumption charge. For these customers, a reduction in consumption would have a larger impact on irrigation revenues. However, irrigation revenues are a smaller proportion of the overall District revenues, and therefore, it does not have a significant impact on total revenue levels.

10) *What growth factor is built into the rate model? What is the basis for this factor?*

For both water and sewer, a 0.10% annual growth factor was used. This was based on a review of the historical change in the number of accounts for the District. This average reflects the typical increase in the number of customers annually. While additional customer growth on the system can have an impact, it is generally minimal, and a one-time increase to revenues through fees.

However, the majority of the fees charged to customers reflect the cost of providing the service to the customer (e.g., plan check, inspections, meter) and therefore only offset costs being incurred. For the connection charges, these revenues would be placed into reserves and used as appropriate. As noted in the rate study, District reserve minimums are not being met until the outer years of the five-year plan. Given this, additional revenues would simply allow the District to meet minimum target levels sooner.

11) *Are utility connection charges and PW inspection fees being adjusted? How much revenue does these adjustments account for?*

The fees are recommended to be adjusted by 12% which reflects the Construction Cost Index increase from January 2019 to January 2022. The proposed increase in water and sewer connection fees is estimated to yield an additional revenue of $2,400 and $3,780, respectively.

12) *How does the rate model factor in the funding reserved by the Board for the Effluent Pipeline Project?*

The available effluent reserve funds are used in their entirety to fund the costs of the effluent pipeline project in FY2022/23. If these reserves were not available, the District would need outside funding (e.g., loans, grants), or absent these funds annual rate revenues, to fund the costs in FY2022/23. This would result in a larger increase in rate revenues being necessary to fund these costs, or fund the annual debt service payments, increasing the overall revenue adjustments necessary for the sewer utility.

13) *What is the impact of the recently-approved Reserve Policy on the proposed water and sewer rates?*

Since the reserves identified under the policy are not met, the policy does have an effect on the rates as revenue needs to be generated to meet the reserve levels. However, as developed, the rate model achieves the reserve levels over time rather than in year 1 which is a best practice and minimizes the rate impacts in the short-term.

14) *Do the proposed rates result in achieving reserve levels established by the new policy*?

Yes, the reserve levels will meet the policy requirements within 3 to 5 years.

15) *What options does the Board have to reduce the required Year 1 rate increases?*

The Board can reduce rates by reducing capital or operating expenses. Any reduction of the recommended year 1 rate increase will likely lead to higher than proposed increases in future years to fund the identified O&M and capital needs.

16) *Why are CIP costs in rate model significantly greater than last Board-approved Multi-Year CIP Plan?*

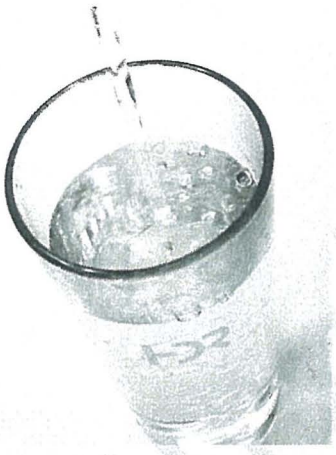
The CIP project list and costs were updated as the Rate Study got underway in the fall of 2021. The CIP is a living document and PW staff updated the Board approved FY2021/22 CIP to reflect new projects and costs that had been recently identified. This was done to reflect the anticipated future costs so that the rate analysis could support the identified needs. Since CIP costs in the Utility Rate Study are largely consistent with the costs reflected in the updated Multi-year CIP plan presented to the Board of Trustees at the Budget Workshop held on March 1st. In addition, funding for the Pipeline project is reflected at approximately $10M over each of the first four years for construction of the project, which is $8M over the $2M that was annually being collected as funding for the project.

17) *Can the anticipated connection and CIP fees from the proposed 40-unit condominium development be used to offset the proposed rate increases?*

PW staff has estimated the connection fees from the proposed development to be approximately $230,000 for water and $340,000 for sewer. Receipt of these fees is not guaranteed until the development receives their permit at which time the fees are paid to the District. The collected fees would also be considered "one-time money" as they are not recurring on an annual basis.

It is important that the revenue collected to support the ongoing maintenance and capital costs of the water and sewer utilities be received annually. Should the project move forward and the District collect the fees, the funds would be placed in the associated utility fund balance. This would help achieve required policy reserves and potentially reduced revenue requirements in future years.

PRELIMINARY DRAFT REPORT



INCLINE VILLAGE
GENERAL IMPROVEMENT DISTRICT
ONE DISTRICT – ONE TEAM

Incline Village General Improvement District
Water and Sewer Rate Study

February 2022

February 25, 2022

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

Subject: 2021 Water and Sewer Rate Study Draft Report

Dear Mr. Underwood:

HDR Engineering, Inc. (HDR) is pleased to present to Incline Village General Improvement District (District) the draft report for the 2021 water and sewer rate study (Study). The District's Study was developed to provide a financial plan and calculated rates for each utility that will generate sufficient revenues to fund the operating and capital needs. More specifically, the Study was specifically designed to develop 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.

The District owns, operates, and maintains the water and sewer systems. 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

hdrinc.com

900 108th Ave NE, Suite 1300, Bellevue, WA 98004
T 425-450-6200

Table of Contents

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 (Study). The main objectives of the Study were to:

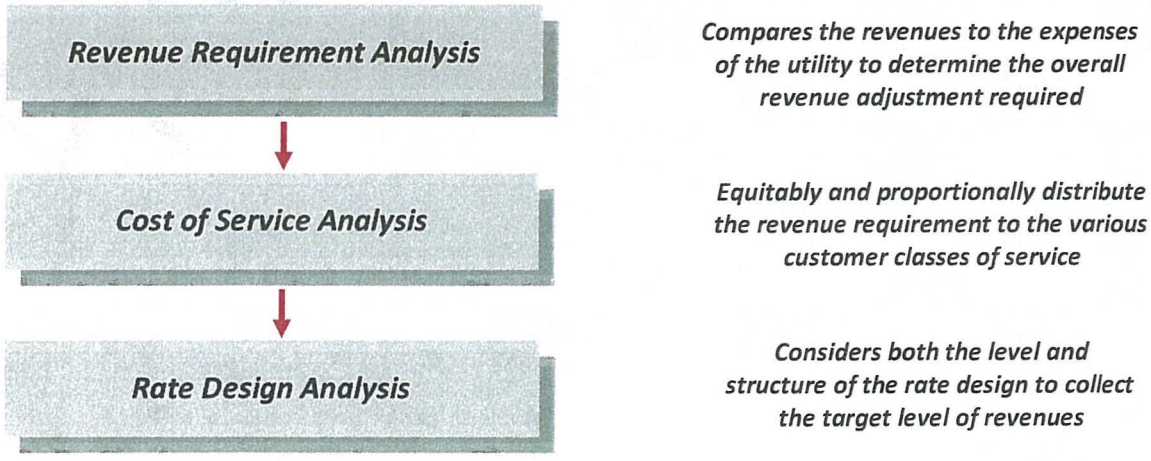
- Develop a projection of water and sewer revenues to support the operating and capital costs of each utility
- Provide an equitable allocation and proportional distribution of the costs for providing water and sewer services to the District's customers
- Propose cost-based water and sewer rates for 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 equity 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 below in Figure ES - 1.

Figure ES – 1
Overview of the Comprehensive Rate Analysis



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 2022 through FY 2032 for the water and sewer utilities on a stand-alone basis
  - ✓ The rate setting period was established for FY 2023 through FY 2027
- The District's FY 2022 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 or anticipated extraordinary expenses
- The proposed water and sewer rates were developed based on the results of the cost of service analysis

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 2022 with a projected time period of FY 2023 – FY 2032. A multi-year time frame is recommended 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. For rate setting purposes, the focus of the Study was on the next five-year period of FY 2023 – FY 2027.

For the revenue requirement analysis, a "cash basis" approach was utilized. 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 2022 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 2022 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.

The proper and adequate funding of capital projects is important to help minimize rate increases over time. General financial guidelines state that, at a minimum, a utility should fund an amount equal to, or greater than, the annual depreciation expense through rates. The annual depreciation expense reflects the current investment in infrastructure in service being depreciated or "losing" their useful life. This portion of infrastructure investment needs to be replaced to maintain the existing level of service. However, in theory, the annual depreciation expense reflects an investment in infrastructure that was placed in service an average of 15 years ago, assuming a 30-year useful, depreciable, life. Simply funding an amount equal to the annual depreciation expense will not be sufficient to fund the replacement of an existing or depreciated infrastructure. Therefore, consideration should be given to funding through rates an amount greater than the annual depreciation expense for renewals and replacements of infrastructure.

A major factor of this 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. Provided below in Table ES - 1 is a summary of the capital funding plan over the five-year rate setting period.

Table ES – 1 Summary of the Water Capital Funding Analysis ($000)						
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Total Capital Projects	**$1,589**	**$2,478**	**$1,599**	**$1,905**	**$3,442**	**$2,010**
Less: Other Funding						
Operating Fund	$0	$125	$0	$0	$0	$0
Capital Fund	1,589	1,553	49	55	42	1,410
Long-Term Borrowing	0	800	1,550	1,850	2,900	0
Total Other Funding Source	**$1,589**	**$2,478**	**$1,599**	**$1,905**	**$2,942**	**$1,410**
Additional Capital Funding	**$0**	**$0**	**$0**	**$0**	**$500**	**$600**

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. As noted, the capital funding analysis has assumed long-term borrowing in addition to the use of capital improvement charge revenues and available reserve funds to fund the planned capital improvements. In developing the water capital funding plan, HDR is not acting in a municipal advisory role to the District for the issuance of debt but rather deficiencies in funding are identified.

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 2022, the total annual debt service is approximately $300,000. This decreases in FY 2027 to $193,000 – prior to any new issuances - as one of the debt issuances will be retired. As noted in the capital funding approach above, additional long-term borrowing has been assumed to fund the District's water capital improvements. The assumed additional debt will start in FY 2023 and continues to increase reaching annual debt service payments of approximately $715,000 by FY 2027.

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 - 2 is a summary of the revenue requirement analysis for the District's water utility.

Table ES - 2
Summary of the Water Revenue Requirement Analysis ($000)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Revenue						
Rate Revenues	$5,129	$5,132	$5,135	$5,138	$5,141	$5,144
Non-Operating Revenues	273	279	281	295	307	312
Total Revenue	**$5,402**	**$5,411**	**$5,416**	**$5,432**	**$5,448**	**$5,456**
Expenses						
Total O & M	$4,552	$5,421	$5,455	$5,701	$5,960	$6,233
Net Debt Service	0	0	0	0	0	0
Operating Fund Transfer	(755)	(590)	119	545	483	407
Capital Fund Transfer	1,605	1,606	1,608	1,609	1,611	1,613
Additional Capital Funding	0	0	0	0	500	600
Total Expenses	**$5,402**	**$6,437**	**$7,182**	**$7,856**	**$8,554**	**$8,852**
Bal. / (Def.) of Funds	$0	($1,026)	($1,766)	($2,423)	($3,106)	($3,396)
Balance as a % of Rate Adj.	0.0%	20.0%	34.4%	47.2%	60.4%	66.0%
Proposed Rate Adjustment	**0.0%**	**20.0%**	**12.0%**	**9.5%**	**9.0%**	**3.5%**
Add'l Revenue with Rate Adj.	$0	$1,026	$1,766	$2,423	$3,106	$3,396
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 is $3.4 million.

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 2023 – FY 2027). 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 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 2023 through FY 2027. Based on the Study assumptions, this would provide sufficient funding for the O&M and capital

improvement needs over the projected time period. A detailed discussion of the development of the revenue requirement is provided in Section 3.2 of this report and the technical analysis is provided in Exhibit 1 through Exhibit 6 of the Water Technical Appendix.

Summary of the Water Cost of Service Analysis

A cost of service analysis determines the equitable allocation and proportional distribution of the revenue requirement to the District's various 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 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 2023 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 used. This included residential, multi-family, commercial, irrigation, and snowmaking. As explained in more detail later in this report, the functionalized revenue requirement was then equitably allocated to the various cost components. The individual allocation totals were then proportionally distributed to the customer class of service based upon each 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 - 3 provides the summary of the cost of service analysis based on the water system specific costs and the District's customer characteristics.

Table ES - 3
Summary of the Water Cost of Service Analysis ($000)

Class of Service	Present Revenues	Distributed Costs	$ Difference	% Difference
Residential	$2,429	$2,790	($361)	14.8%
Multi-Family	1,800	2,070	(271)	15.0%
Commercial	395	465	(70)	17.7%
Irrigation	397	693	(296)	74.4%
Snowmaking	110	140	(30)	26.7%
Total System	**$5,021**	**$6,018**	**($997)**	**20.0%**

A key element of the cost of service was developing a distribution approach to reflect the level of service for the 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. Additionally, the District has not performed a cost of service analysis in some 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 more detailed summary of this will be provided in the water rate design discussion.

A detailed discussion of the development of the cost of service analysis is provided in Section 3.3 of this report and in Exhibit 6 through Exhibit 16 of the Water Technical Appendix.

Summary of the Water Rate Designs

The final step of the water rate study 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 currently has a single rate structure for all customers. The rate structure includes a monthly fixed charge per account which is flat for all residential and multi-family customers for the meter and for capital improvement charge. For all other customers, these two charges very in cost based on the service meter size and the proportion by size is ratioed based on safe meter operating capacity. Customers are also charged an administration fee and a defensible space fee (for fire fuel management) which are both charged on a flat, fixed basis per account or living unit. The consumption charges are the same for all customers which is a two-tiered increasing block structure. The residential customers have a fixed tier size whereas the multi-family customers very by number of units and all other customers vary by service meter size.

HDR and District staff reviewed the current rate structure applied to all customers. For this study, it was determined that that the current structure would be largely maintained. The exception is the development of a separate consumption rate structure for Irrigation customers given 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 – 4 is a summary of the present and proposed rates for the water utility.

Table ES - 4
Summary of the Present and Proposed Water Rates

	Present Rates	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Meter Fee						
3/4"	$11.97	$15.88	$18.70	$21.15	$21.85	$22.40
1"	19.99	26.52	31.23	35.32	36.49	37.41
1 1/2"	39.86	52.88	62.27	70.43	72.76	74.59
2"	63.80	84.64	99.67	112.73	116.46	119.39
3"	119.70	158.80	187.00	211.50	218.50	224.00
4"	199.54	264.72	311.73	352.57	364.24	373.41
6"	398.96	529.28	623.27	704.93	728.26	746.59
8"	638.36	846.88	997.27	1,127.93	1,165.26	1,194.59
10"	917.74	1,217.20	1,433.35	1,621.15	1,674.80	1,716.96
Capital Improvement Fee						
3/4"	$15.10	$15.10	$15.10	$15.10	$19.70	$20.64
1"	25.22	25.22	25.22	25.22	32.89	34.47
1 1/2"	50.28	50.28	50.28	50.28	65.58	68.74
2"	80.48	80.48	80.48	80.48	104.98	110.03
3"	151.00	151.00	151.00	151.00	196.95	206.43
4"	251.72	251.72	251.72	251.72	328.32	344.12
6"	503.28	503.28	503.28	503.28	656.44	688.04
8"	805.28	805.28	805.28	805.28	1,050.34	1,100.90
10"	1,157.72	1,157.41	1,157.41	1,157.41	1,509.63	1,582.29
Admin Fee	$3.97	$15.10	$15.10	$15.10	$19.70	$20.64
Defensible Space	1.05	25.22	25.22	25.22	32.89	34.47
Water Use						
All	$1.55	$2.02	$2.35	$2.62	$2.66	$2.70
Tier 1	0.93	1.21	1.41	1.57	1.60	1.62
Tier 2	2.27	2.96	3.44	3.84	3.90	3.95
Irrigation						
All	--	$2.20	$2.76	$3.20	$3.60	$3.85
Tier 1	--	1.32	1.66	1.92	2.16	2.31
Tier 2	--	3.22	4.04	4.69	5.27	5.64

Table ES – 4 shows that the current rate structure has been maintained for all customers with the exception of an updated consumption (water use) rates for the irrigation 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 3.4 of this Study and in the Water Technical Appendix.

Summary of the Sewer Revenue Requirement Analysis

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 2022 with a projected time period of FY 2022 – FY 2032 which is the same time period that was used in water. 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 2023 through FY 2027.

For the sewer revenue requirement analysis, a "cash basis" approach was 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. The primary financial inputs in the development of the revenue requirement were the District's FY 2022 sewer budget, customer characteristics, and capital 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.

Given the development of the O&M projections for the projected time period, the next step is the development of the capital funding plan for the sewer utility. As noted in the water capital discussion, at a minimum, a utility should fund an amount equal to, or greater than, the annual depreciation expense through rates. However, simply funding an amount equal to the annual depreciation expense will not be sufficient to fund the replacement of an existing or depreciated facility. Therefore, consideration is given to funding within rates an amount greater than the annual depreciation expense for renewals and replacements. As with water, the District has in place a component of their sewer rates that is specifically in place to fund capital improvement projects. This provides a specific source or allotment of annual funding for capital needs.

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. The District has identified capital needs for both the treatment plant and the collection system. Provided below in Table ES - 5 is a summary of the capital improvement plan for the sewer system. A more detailed discussion of the capital funding plan is included in Section 4.2 of this report and in Exhibit 4 of the Sewer Technical Appendix.

Table ES – 5
Summary of the Sewer Capital Funding Analysis ($000)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Total Capital Projects	**$7,636**	**$11,507**	**$12,871**	**$13,523**	**$14,764**	**$1,473**
Less: Other Funding						
Operating Fund	$0	$0	$0	$0	$0	$0
Capital Fund	3,261	125	821	823	1,089	498
Effluent Reserve Fund	1,000	11,382	1,000	0	0	0
USDA Grant	3,375	0	0	0	0	0
Revenue Bonds	0	0	10,800	12,200	13,000	0
Total Other Funding	**$7,636**	**$11,507**	**$12,621**	**$13,023**	**$14,089**	**$498**
Rate Funded Capital	**$0**	**$0**	**$250**	**$500**	**$675**	**$975**

As a point of reference, the District's sewer utility annual depreciation expense is approximately $1.9 million (FY 2022). This financial plan shows the need to increase the District's rate funding for capital improvements at $250,000 in FY 2024 which is additional to the amount that comes from the rate structure component. This amount increases over time to fund capital renewal and replacement needs with an additional $975,000 million by FY 2027. Other funding is provided through a USDA grant and through the issuance of long-term debt primarily to fund the Effluent Pipeline Project. The use of debt for large projects is an efficient method of spreading the costs over the useful life to minimize the impacts of these types of projects. In developing the sewer capital funding plan, HDR is not acting in a municipal advisory role to the District's for the issuance of debt.

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 2022. Over the review period, the two existing issuances are retired, however, with the addition of new long-term debt issues the annual debt service payments increase in total to approximately $2.8 million by FY 2027. As noted in the capital funding analysis the District is planning on issuing debt to fund the Effluent Pipeline Project.

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 - 6 is a summary of the revenue requirement analysis for the District's sewer utility.

Table ES - 6
Summary of the Sewer Revenue Requirement Analysis ($000)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Revenues						
Rate Revenues	$6,522	$6,529	$6,535	$6,542	$6,548	$6,555
Other Revenues	384	339	325	326	332	339
Total Revenues	**$6,907**	**$6,868**	**$6,860**	**$6,868**	**$6,880**	**$6,894**
Expenses						
Total O & M	$4,449	$5,301	$5,347	$5,606	$5,878	$6,164
Additional Capital Funding	0	0	250	500	675	975
Net Debt Service	0	0	0	0	0	0
Operating Fund Transfer	(766)	(680)	(47)	128	424	198
Capital Fund Transfer	3,223	3,227	3,230	3,233	3,236	3,239
Total Expenses	**$6,907**	**$7,847**	**$8,780**	**$9,467**	**$10,214**	**$10,576**
Bal./(Def.) of Funds	$0	($979)	($1,920)	($2,599)	($3,333)	($3,683)
Bal as a % of Rate Adj	0.0%	15.0%	29.4%	39.7%	50.9%	56.2%
Proposed Rate Adjustment	**0.0%**	**15.0%**	**12.5%**	**8.0%**	**8.0%**	**3.5%**
Add'l Revenue with Rate Adj	$0	$979	$1,920	$2,599	$3,333	$3,683
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 2023 – FY 2027). 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 2023 through FY 2027 to provide sufficient funding for the O&M and capital improvement needs identified in this Study. A detailed discussion of the development of the sewer revenue requirement is provided in Section 4.2 of this report.

Summary of the Sewer Cost of Service Analysis

A cost of service analysis determines equitable allocation and 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 different from determining the revenue requirement. Whereas the revenue requirement analysis determines the utility's overall revenue needs, the cost of service analysis determines 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 District's Study, the sewer revenue requirement for FY 2023 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 used. 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 - 7 provides the summary of the cost of service analysis based on the water system specific costs and the District's customer characteristics.

Table ES - 7
Summary of the Sewer Cost of Service Analysis ($000)

Class of Service	Present Revenues	Distributed Costs	$ Difference	% Difference
Residential	$2,861	$3,130	($269)	9.4%
Multi-Family	2,971	3,421	(450)	15.2%
Commercial	697	957	(260)	37.3%
Total System	**$6,529**	**$7,508**	**($979)**	**15.0%**

The cost of service analysis results in some differences between the customer classes of service. The cost of service reflects the level of service provided to each customer class. 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 4.3 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 adjustment provided a review of the proportionality between customers. As noted, the cost of service resulted in cost differences. Given this, it was determined that commercial sewer rates would be adjusted 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 Districts goals and objectives. Given these two recommendations, the proposed rates maintain the current rate structure, with the addition of a separate commercial sewer rate.

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. As noted, a separate sewer use fee is proposed for commercial customers to reflect the cost of service results.

Given the result of the prior analyses, the revenue requirement and cost of service, the proposed rates can be developed. One minor transition is the unique rate for commercial sewer use. Provided in Table ES – 8 is a summary of the present and proposed rates for the District's sewer utility.

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

	Present Rates	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Base Charge						
3/4", Res, Multi Fam	$19.54	$25.90	$30.30	$32.90	$36.40	$36.50
1"	32.63	43.25	50.60	54.94	60.79	60.96
1 1/2"	65.07	86.25	100.90	109.56	121.21	121.55
2"	104.15	138.05	161.50	175.36	194.01	194.55
3"	195.40	259.00	303.00	329.00	364.00	365.00
4"	325.73	431.75	505.10	548.44	606.79	608.46
6"	651.27	863.25	1,009.90	1,096.56	1,213.21	1,216.55
8"	1,042.07	1,381.25	1,615.90	1,754.56	1,941.21	1,946.55
10"	1,498.13	1,985.75	2,323.10	2,522.44	2,790.79	2,798.46
Capital Improvement Charge						
3/4", Res, Multi Fam	$31.45	$31.45	$33.92	$36.39	$38.13	$41.08
1"	52.52	52.53	56.65	60.77	63.67	68.61
1 1/2"	104.73	104.74	112.96	121.18	126.96	136.81
2"	167.63	167.64	180.80	193.96	203.22	218.97
3"	314.50	314.53	339.21	363.89	381.27	410.83
4"	524.27	524.31	565.46	606.61	635.58	684.85
6"	1,048.23	1,048.31	1,130.59	1,212.86	1,270.77	1,369.29
8"	1,677.23	1,677.36	1,809.01	1,940.65	2,033.31	2,190.95
10"	2,411.27	2,411.47	2,600.72	2,789.98	2,923.19	3,149.82
Admin Fee	$3.97	$4.23	$4.44	$4.66	$4.89	$5.14
Sewer Use						
Residential	$3.20	$4.00	$4.70	$5.10	$5.65	$5.70
Multi-Family	3.20	4.00	4.70	5.10	5.65	5.70
Commercial	3.20	4.70	5.50	6.00	6.40	6.50

Table ES – 8 shows that the current rate structure has been maintained for all customers. The creation of the commercial use rate and the level of rates has been adjusted to meet the revenue target calculated in the revenue requirement analysis and cost of service analyses. These proposed rates provide the proportionality between the various customers.

The development of the sewer rate design and discussion of other customer classes are each outlined in detail in Section 4.4 of this Study.

Summary of the Water and Sewer Rate Study

This rate study focused on the adequacy and proportionality of the District's water and sewer water 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 Introduction and Overview

HDR was retained by Incline Village General Improvement District (District) to conduct a comprehensive rate study (Study) for both the water and sewer systems. The objective of a rate study is to review the District's operating and capital costs to develop a projection of revenue needs and subsequent cost-based rates for the water and sewer customers. This study determined the adequacy of the existing rates and provides the framework and cost basis for future proposed rates.

The District owns and independently operates water and sewer systems. The costs associated with providing these services to customers has been developed based on District provided information and included within the development of the proposed rates.

1.1 Goals and Objectives

The District had several key objectives in developing the Study. These key objectives provided a framework for policy decisions in the analysis that follows.

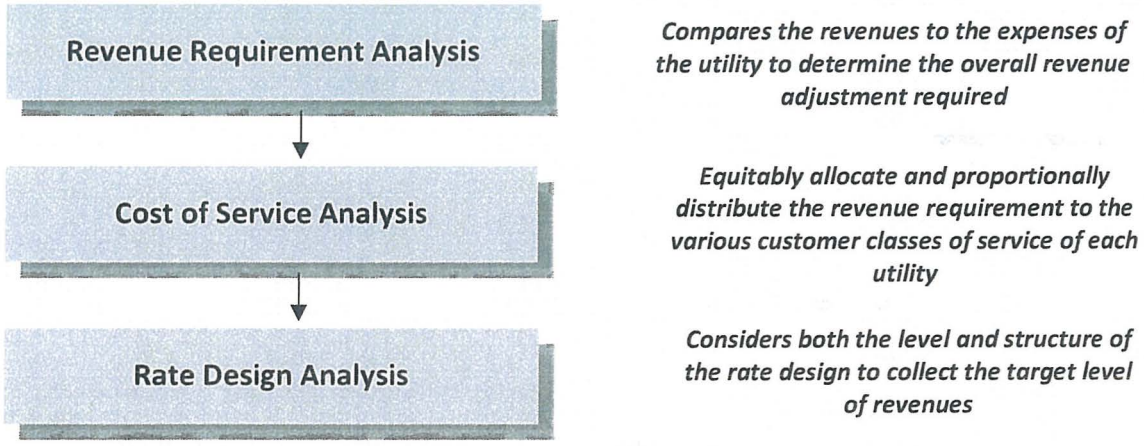
- Develop the Study in a manner that is consistent with the principles and methodologies established by the American Water Works Association (AWWA), M1 Manual, Principles of Water Rates, Fees and Charges and Water Environment Federation (WEF) Manual of Practice No. 27, Financing and Charges for Wastewater Systems
- In financial planning and establishing the proposed rates, review and utilize best industry practices, while recognizing and acknowledging the specific and unique characteristics of the District's utilities and customers
- Review the District's rates utilizing generally accepted rate making methodologies to determine adequacy and equity of the utility rates
- Meet the financial planning criteria and goals of the District. For example, debt service coverage ratios, adequate funding of capital infrastructure, and maintenance of adequate and prudent reserve levels
- Develop a final proposed financial plan which adequately supports the utility's annual funding requirements, while attempting to minimize overall impacts to rates
- Develop an equitable allocation and proportional distribution of costs to the District's water and sewer customers
- Develop final proposed water and sewer rates for the next five year period (FY 2023 – FY 2027)

1.2 Overview of the Rate Study Process

User rates must be set at a level where a utility's operating and capital expenses are met with the revenues received from customers. This is an important point, as failure to achieve this objective may lead to insufficient funds to maintain system integrity. To evaluate the adequacy of the water and sewer rates, each on a standalone basis, a comprehensive rate study is often

performed. A comprehensive rate study consists of three interrelated analyses. Figure 1 – 1 provides an overview of these analyses.

Figure 1 – 1
Overview of the Comprehensive Rate Analyses



The above framework for reviewing and evaluating rates was utilized for the District's water and sewer utilities.

1.3 Organization of the Study

This report is organized in a sequential manner that first provides an overview of utility rate setting principles, followed by sections that detail the specific steps used to review the District's utility rates. The following sections comprise the District's water and sewer rate study report:

Section 2 – Overview of Rate Setting Principles

Section 3 – Development of the Water Rate Study

Section 4 – Development of the Sewer Rate Study

Technical Appendices are attached at the end of this report, which detail the technical analyses that were undertaken in the preparation of this study.

1.4 Summary

This report will review the Study prepared for Incline Village General Improvement District. This report has been prepared utilizing generally accepted and industry standard rate setting techniques as outlined in the AWWA M1 Manual and WEF MOP 27.

2 Overview of Rate Setting Principles

This section of the report provides background information about the rate setting process, including descriptions of generally accepted principles, types of utilities, methods of determining a revenue requirement, the cost of service analysis, and rate design. This information is useful for gaining a better understanding of the details presented in Sections 3 and 4 of this report.

2.1 Generally Accepted Rate Setting Principles

As a practical matter, all utilities should consider setting their rates around some generally accepted or global principles and guidelines. Utility rates should be:

- Cost-based, equitable, and set at a level that meets the utility's full revenue requirement
- Easy to understand and administer
- Designed to conform to "generally accepted" rate setting techniques
- Stable in their ability to provide adequate revenues for meeting the utility's financial, operating, and regulatory requirements
- Established at a level that is stable from year-to-year from a customer's perspective

2.2 Determining the Revenue Requirement

Most public utilities use the "cash basis[1]" approach for establishing their revenue requirement and setting rates. This approach conforms to most public utility budgetary requirements and the calculation is easy to understand. A public utility totals its cash expenditures for a period of time to determine required revenues. The revenue requirement for a public utility is usually comprised of the following costs or expenses:

Total Operating Expenses: This includes a utility's operation and maintenance (O&M) expenses, plus any applicable taxes or transfer payments. Operation and maintenance expenses include the materials, electricity, labor, supplies, etc., needed to keep the utility functioning.

Total Capital Expenses: Capital expenses are calculated by adding debt service payments (principal and interest) to capital improvements financed with rate revenues. In lieu of including capital improvements financed with rate revenues, a utility sometimes includes depreciation expense to stabilize the annual revenue requirement.

[1] "Cash basis" as used in the context of rate setting is not the same as the terminology used for accounting purposes and recognition of revenues and expenses. As used for rate setting, "cash basis" simply refers to the specific cost components to be included within the revenue requirement analysis.

Under the cash basis approach, the sum of the total O&M expenses plus the total capital expenses equals the utility's revenue requirement during any selected period (historical or projected).

Note that the two portions of the capital expense component (debt service and rate funded capital) are necessary under the cash basis approach as public utilities generally cannot finance all their capital facilities with long-term debt. At the same time, it is often difficult to pay for capital expenditures on a "pay-as-you-go" basis given that some major capital projects may have significant rate impacts upon a utility, even when financed with long-term debt. Many utilities have found that some combination of pay-as-you-go funding and long-term financing will often lead to minimization of rate increases over time.

While public utilities typically use the cash basis approach to establish their revenue requirement, an exception may occur if the public utility provides service to a large wholesale or contract customer. In this situation, a public utility could use the "utility basis" approach (see Table 2 - 1) regarding earning a fair return on its investment.

Table 2 – 1
Cash versus Utility Basis Comparison

	Cash Basis		Utility Basis (Accrual)
+	O&M Expenses	+	O&M Expenses
+	Taxes/Transfer Payments	+	Taxes/Transfer Payments
+	Rate Funded Capital	+	Depreciation Expense
+	Debt Service (Principal + Interest)	+	Return on Investment
=	**Total Revenue Requirement**	=	**Total Revenue Requirement**

2.3 Designing Utility Rates

Rates that meet the utility's objectives are designed based on both the revenue requirement and the cost of service analysis. This approach results in rates that are cost-based and equitable. However, this may not reflect other non-cost-based goals and objectives (conservation, economic development, ability to pay, revenue stability, etc.). In designing the final proposed rates these non-cost-based rate design goals may be taken into consideration. However, the proposed rates should take into consideration each customer class's proportional share of costs allocated through the cost of service analysis.

2.4 Economic Theory and Rate Setting

One of the major justifications for a comprehensive rate study is founded in economic theory. Economic theory suggests that the price of a commodity must roughly equal its cost if equity among customers is to be maintained. This statement's implications on utility rate designs are significant. For example, a water utility usually incurs capacity-related costs to meet summer lawn watering needs. It follows that the customers who create excessive peak demands on the

system and create the need for upsizing of the distribution system should pay for those over-sized facilities in proportion to their contribution to total peaking requirements. When costing and pricing techniques are refined, consumers have a more accurate understanding of what the commodity costs to produce and deliver. The same principals discussed are applicable to sewer utility as well, but the example of such was only given for illustration purposes. This price-equals-cost concept provides the basis for the subsequent analysis and comments.

2.5 Summary

This section of the report has provided a brief introduction to the general principles, techniques, and economic theory used to set cost-based and equitable water and sewer rates. These principles and techniques are the basis for the District's comprehensive rate study.

3 Development of the Water Study

This section of the report will describe the development of the water analysis. 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.

3.1 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.

3.1.1 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.

3.1.2 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 2022 through FY 2032). 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 setting rates, the study focuses on the next five years as the rate setting period of FY 2023 through FY 2027.

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. As described in Section 2, the cash basis approach is the most common methodology used by municipal utilities to set their revenue requirement. Table 3 - 1 provides a summary of the cash basis approach and cost components used to develop the District's water revenue requirement.

Table 3 – 1
Overview of the Water "Cash Basis" Revenue Requirement

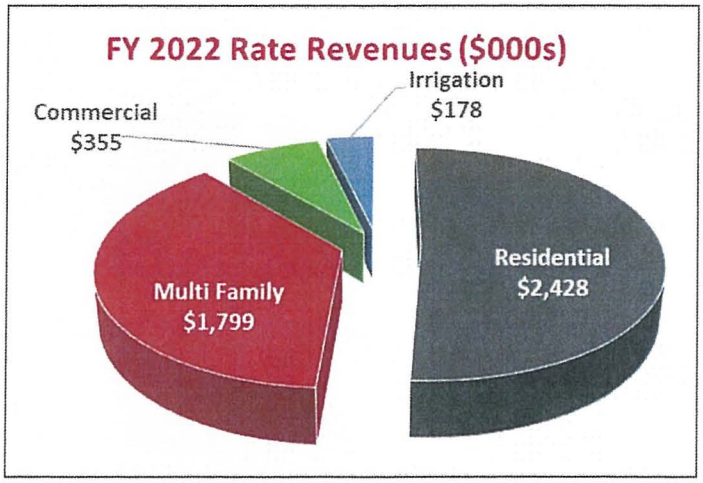
+	Operation and Maintenance Expenses
+	Taxes and Transfers
+	Rate Funded Capital
+	Debt Service (Principal + Interest) – Existing and Future
±	Reserve Funding
=	**Total Revenue Requirement**
–	Miscellaneous Revenues
=	**Net Revenue Requirement (Balance Required from water Rates)**

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.

3.1.3 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; currently, there is a single rate structure that applies to all customers. 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 $5.2 million in rate revenue in FY 2022. 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 $273,000 in FY 2022.

On a combined basis, incorporating the rate revenues and the miscellaneous revenues, the District's water utility has total projected revenues of approximately $5.4 million in FY 2022 which remains essentially flat through FY 2027 to $5.5 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.

3.1.4 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. As mentioned, the District provided detailed O&M expenses based on the FY 2022 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 3 - 2 is a summary of the primary escalation factors used to develop the projection of O&M expenses for both the water and sewer water utilities.

Table 3 – 2
Summary of the O&M Escalation Factors

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Labor	5.0%	5.0%	5.0%	5.0%	5.0%
Benefits - Medical	5.0%	10.0%	10.0%	10.0%	10.0%
Benefits - Other	6.0%	6.0%	6.0%	6.0%	6.0%
Professional / Special Srvcs	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 2022 adopted budget, the total O&M expenses for the District's water utility are $4.6 million. Over the planning horizon, total O&M expenses for the District are projected to

increase to approximately $6.2 million by FY 2027 based on the corresponding escalation factors. In addition to the FY 2022 budget, additional expenses related to future staff were included starting in FY 2023. Also included, was a one time inflationary contingency in FY 2023 to reflect the uncertainty currently being experienced in the utility industry for labor, supplies, and material expenses. The projection of O&M expenses reflects an average inflationary increase of 6.5% per year over the projected time period through FY 2027.

3.1.5 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 3 - 3 along with the expected funding sources developed as part of the rate study.

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

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Total Capital Projects	**$1,589**	**$2,478**	**$1,599**	**$1,905**	**$3,442**	**$2,010**
Less: Other Funding						
Operating Fund	$0	$125	$0	$0	$0	$0
Capital Fund	1,589	1,553	49	55	42	1,410
Long-Term Borrowing	0	800	1,550	1,850	2,900	0
Total Other Funding Source	**$1,589**	**$2,478**	**$1,599**	**$1,905**	**$2,942**	**$1,410**
Total Rate Funded Capital	**$0**	**$0**	**$0**	**$0**	**$500**	**$600**

The capital improvements are primarily related to renewal and replacement of aging water system 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 at $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. In developing this financial plan, HDR and the District have attempted to minimize rate impacts while funding the necessary capital improvement projects.

3.1.6 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 2022 is approximately $307,000. Over the review period, one of the of issuances is retired in FY 2026 which results in a reduction of $114,000 per year. However, 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 $715,000 per year by FY 2027.

As part of this 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.

3.1.7 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.

3.1.8 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 3 - 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 3 - 4
Summary of the Sewer Revenue Requirement Analysis ($000)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Revenues						
Rate Revenues	$5,129	$5,132	$5,135	$5,138	$5,141	$5,144
Other Revenues	273	279	281	295	308	314
Total Revenues	**$5,402**	**$5,411**	**$5,416**	**$5,433**	**$5,449**	**$5,458**
Expenses						
Total O & M	$4,552	$5,386	$5,417	$5,661	$5,917	$6,186
Net Debt Service	0	0	0	0	0	0
Operating Transfer	(755)	(555)	157	586	527	414
Capital Transfer	1,605	1,606	1,608	1,609	1,611	1,613
Additional Capital Funding	0	0	0	0	500	600
Total Expenses	**$5,402**	**$6,437**	**$7,182**	**$7,856**	**$8,555**	**$8,813**
Bal./(Def.) of Funds	$0	($1,026)	($1,766)	($2,423)	($3,106)	($3,355)
Balance as a % of Rate Adj.	0.0%	20.0%	34.4%	47.2%	60.4%	65.2%
Proposed Rate Adjustments	**0.0%**	**20.0%**	**12.0%**	**9.5%**	**9.0%**	**3.0%**
Add'l Revenue with Rate Adj.	$0	$1,026	$1,766	$2,423	$3,106	$3,355
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 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. It should also be noted that even with the proposed revenue adjustment in FY 2023, operating reserves are needed to fund operating costs. This funding allows for a lower increase in the overall revenue adjustment for FY 2023. Based on the analysis, the District will need to adjust rate revenue levels in FY 2023 by 20.0%, 12.0% in FY 2024, 9.5% in FY 2025, 9.0% in FY 2026, and 3.0% in FY 2027. 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.

3.1.9 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 two 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% of annual O&M expenses and is approximately $1.1 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 levelized projection of rates over time. Again, these funds are in place to help support the capital needs of the system. For the rate study, a target minimum was set at annual depreciation which for FY 2022 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.

3.1.10 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 2023 – FY 2027). 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 adopts the proposed annual revenue adjustments for FY 2023 through FY 2027. This is in order to provide sufficient funding for the O&M and capital improvement needs for the Study time period.

3.2 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 2023 was utilized in the development of the cost of service analysis.

3.2.1 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 capacity[2] to meet 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.

3.2.2 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. Currently, the District has a single rate structure for all customers. Based on the District's desire to evaluate and develop cost of service based rates, the customer classes of service were developed for rate setting purposes. This is a key aspect of the cost of service analysis that allows for the proportional and equitable 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.

3.2.3 General Cost of Service Procedures

In order to evaluate the equity and 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.

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[2] 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 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.

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

3.2.3.2 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:

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 or utilities (i.e., electricity) are examples 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

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).

of the 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.

3.2.4 Development of Distribution Factors

Once the allocation process is complete, and the customer groups have been defined, the various allocated costs are distributed to each customer group. The District's allocated costs were proportionally distributed to the previously identified customer groups using the following distribution factors.

- **Commodity Distribution Factor:** As noted earlier, 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 2023 cost of service.
- **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 2023 for each customer class of service. These same revenues were used within the revenue requirement analysis discussed previously.

As mentioned previously, in a cost of service study, the distribution factors represent a group of similar customers. For example, based on the review of the customer types and consumption characteristics the previously discussed customer classes of residential, commercial, irrigation, and snow making. Details related to the distribution of costs is found in Exhibits 6 through 10 of the Water Technical Appendix.

3.2.5 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. For example, the District's assets were allocated as: commodity-related, capacity-related, customer-related, revenue-related, public fire protection-related, or a direct assignment. The following approach is based on the methodology as described in the AWWA M1 Manual and the District's specific water system operating and customer characteristics.

Water Distribution – Assets related to improvements for water distribution were allocated 45.0% to weighted customer meters, 51.0% to capacity, and 4.0% to fire protection. This is based on the minimum system analysis of the District's water pipeline length by diameter. This reflects the fact that a portion of the system is designed around customer peak demands based on the number of equivalent meters, system oversizing to reflect peak day needs, and oversizing to meet fire protection needs. Land assets were allocated 100.0% to commodity.

Water Treatment Plant – Water treatment plant assets related to the systems was allocated as 50.5% commodity related and 49.5% capacity related. This reflects the operation of the treatment facilities as meeting both average day and peak day demands on the system based on how the system operates.

Distribution Storage – Storage assets we allocated 92.0% capacity related and 8.0% to fire protection. This was based on the need to meet peak day demands of the system and oversizing to meet fire protection needs.

Table 3 – 5 provides a summary of the basic functionalization and allocation of the major water plant items.

Table 3 - 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 12.

3.2.6 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 2023 was functionalized and allocated based on the approach noted above. 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 3 – 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 14 to the Water Technical Appendix.

Table 3 - 6 Summary of the Allocation of the Revenue Requirement ($000)							
	Commodity	Capacity	Actual Customer	Wt. Cust. Actg.	Wt. Cust Mtrs & Srvcs	Fire Protection	Revenue Related
Net Revenue Requirement	$1,119	$2,010	$20	$0	$2,838	$171	$0

3.2.7 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 2023 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 study.
- A cash basis approach was utilized which conforms to generally accepted water cost of service approaches and methodologies
- The allocation of plant in service was developed based upon generally accepted cost allocation techniques. Furthermore, they were developed using the District's specific 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's
- Peak day capacity allocation factors were calculated based upon each customer group's average to peak month relationship

3.2.8 Summary Results of the Cost of Service Analysis

In summary form, the cost of service analysis began by functionalizing the previously developed water revenue requirement for FY 2023. The functionalized revenue requirement was then allocated into the various cost components. The individual allocation totals were then distributed to the various 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 is distributed their proportional share of commodity costs based on total annual water consumption by tier. Similarly, capacity costs were distributed proportionally based on the capacity distribution factor. This factor reflects the peaking characteristics of each 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 3 – 7 is a summary of the distributed costs to each customer class of service, also described in Exhibit 14b to the Water Technical Appendix.

Table 3 – 7 Summary of the Distribution of the Water Revenue Requirement ($000)						
Component	**Residential**	**Multi-Family**	**Commercial**	**Irrigation**	**Snowmaking**	**Total**
Commodity	$524	$272	$83	$180	$61	**$1,119**
Capacity	1,006	422	115	411	55	**2,010**
Actual Customer	17	1	1	0	0	**20**
Cust. Acctg.	0	0	0	0	0	**0**
Meters & Services	1,173	1,298	240	101	24	**2,838**
Fire Protection	69	76	26	0	0	**171**
Revenue Related	0	0	0	0	0	**0**
Direct Assign.	0	0	0	0	0	**0**
Total	**$2,790**	**$2,070**	**$465**	**$693**	**$140**	**$6,158**

The District's water cost of service study distributes the FY 2023 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 3 - 8 is a summary of the cost of service analysis.

Table 3 - 8 Summary of the Water Cost of Service Analysis ($000)				
Class of Service	**Present Revenues**	**Distributed Costs**	**$ Difference**	**% Difference**
Residential	$2,429	$2,790	($361)	14.8%
Multi-Family	1,800	2,070	(271)	15.0%
Commercial	395	465	(70)	17.7%
Irrigation	397	693	(296)	74.4%
Snowmaking	110	140	(30)	26.7%
Total System	**$5,021**	**$6,018**	**($997)**	**20.0%**

As can be seen in Table 3 - 8, while an overall revenue adjustment of 20.0% 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 inputs. 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 customer class.

3.2.9 Consultant's Conclusions and Recommendations

The results of the cost of service show differences in the cost to serve each customer class. The District currently has a single rate structure, that applies to all customers. However, in discussion with staff it was decided to develop a separate consumption charge for Irrigation customers to address the results of the cost of service analysis. The next section – 3.4 or the 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 perform future cost of service analyses and review the results to see if any trends are apparent.

3.2.10 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.

3.3 Water Rate Design

The final step of the District's water rate study is the design of 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 various customer classes has been developed in the cost of service analysis which provides the revenue levels to be collected from each class of service.

3.3.1 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 structure. 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 the customer's ability to pay, and one which is cost-based. In designing rates, there are always trade-offs between these various goals and objectives.

3.3.2 Present Water Rates

The District currently has the same rate structure for all customers. The 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 all usage, use from 20,000 to 60,000 gallons, and over 60,000 gallons. These tiers are fixed for residential customer, but are adjusted based the CAF factor corresponding to the service meter size. 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.

3.3.3 Summary of the Proposed Water Rates

Developing cost-based 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.

Based on the results of the cost of service and in discussion with the District, it was determined that the current rate structure should be adjusted reflect the results of the cost of service analysis. The most concise and direct way to address this was to develop a separate volumetric charge for irrigation customers to reflect the peak capacity requirements these customers place on the system. The following discussion provides a more detailed analysis of the costing techniques and methodologies used to support the District's proposed water rate design.

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 review period. Provided below in Table 3 – 9 is a summary of the current and proposed rates for the District's customers.

Table 3 - 9
Summary of the Present and Proposed Water Rates

	Present Rates	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Meter Fee						
3/4"	$11.97	$15.88	$18.70	$21.15	$21.85	$22.40
1"	19.99	26.52	31.23	35.32	36.49	37.41
1 1/2"	39.86	52.88	62.27	70.43	72.76	74.59
2"	63.80	84.64	99.67	112.73	116.46	119.39
3"	119.70	158.80	187.00	211.50	218.50	224.00
4"	199.54	264.72	311.73	352.57	364.24	373.41
6"	398.96	529.28	623.27	704.93	728.26	746.59
8"	638.36	846.88	997.27	1,127.93	1,165.26	1,194.59
10"	917.50	1,217.20	1,433.35	1,621.15	1,674.80	1,716.96
Capital Improv. Fee						
3/4"	$15.10	$15.10	$15.10	$15.10	$19.70	$20.64
1"	25.22	25.22	25.22	25.22	32.89	34.47
1 1/2"	50.28	50.28	50.28	50.28	65.58	68.74
2"	80.48	80.48	80.48	80.48	104.98	110.03
3"	151.00	151.00	151.00	151.00	196.95	206.43
4"	251.72	251.72	251.72	251.72	328.32	344.12
6"	503.28	503.28	503.28	503.28	656.44	688.04
8"	805.28	805.28	805.28	805.28	1,050.34	1,100.90
10"	1,157.42	1,157.41	1,157.41	1,157.41	1,509.63	1,582.29
Admin Fee	$3.97	$4.23	$4.44	$4.66	$4.89	$5.14
Defensible Space	1.05	1.05	1.05	1.05	1.05	1.05
Water Use (Res & Com)						
All Use	$1.55	$2.02	$2.35	$2.62	$2.66	$2.70
Tier 1	0.93	1.21	1.41	1.57	1.60	1.62
Tier 2	2.27	2.96	3.44	3.84	3.90	3.95
Water Use (Irrigation)						
All Use	$1.55	$2.20	$2.76	$3.20	$3.60	$3.85
Tier 1	0.93	1.32	1.66	1.92	2.16	2.31
Tier 2	2.27	3.22	4.04	4.69	5.27	5.64

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.

For the irrigation customer class of service, a separate consumption charge was developed to reflect the results of the cost of service which showed the need to increase the revenue specifically for this customer class of service. As can be seen above, the fixed and capital charges are the same for all customers and only the consumption charge varies for irrigation customers.

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 this Study, as well as a transition of the implementation of the cost of service results, specifically for the irrigation customers.

3.3.4 Water Rate Study 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 20.0% in FY 2023, 12.0% in FY 2024, 9.5% in FY 2025, 9.0% in FY 2026, and 3.5% in FY 2027
- 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.

3.4 Summary of the Water Rate Study

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.

4 Development of the Sewer Study

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 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 sewer rates.

4.1 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 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. A significant objective of a rate study is to develop cost-based rates over the rate setting period.

4.1.1 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.

4.1.2 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 was determined to be an appropriate amount of time for the revenue requirement and matches the approach taken for the water utility. This financial plan was composed of the District's FY 2022 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.

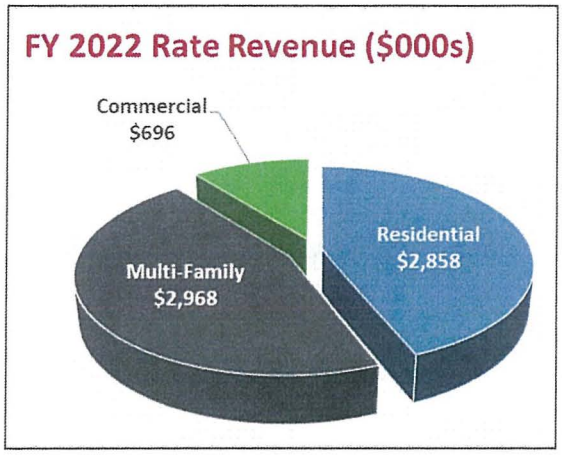
The second step in determining the sewer revenue requirement was to decide on the basis of accumulating costs. In this particular case, for the revenue requirement analysis a "cash basis" approach was utilized just as for the District's the water utility. The cash basis approach is the most commonly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

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.

4.1.3 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 (fixed based on the number of accounts). The billing units were based on the most recent 12-month period (August 2020 to July 2021) 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 2022.



In total, and at adopted rate levels, the District's sewer utility is projected to receive approximately $6.5 million in rate revenue in FY 2022. Based on current District planning documents, the Study has assumed a conservative assumption for customer growth of 0.1% per year. By FY 2027, the rate revenues - assuming no rate adjustments - are projected to be approximately $6.6 million. The detailed calculation of the revenues at present rates is included in Exhibit 6 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 $384,000 in FY 2022. Non-operating revenues were estimated to decrease over the Study time period and reach approximately $343,000 by FY 2027 given declining fund balance as existing reserves are used to fund the effluent pipeline project.

On a combined basis, considering the rate revenues and the miscellaneous revenues, the District's sewer utility has total projected revenues of approximately $6.9 million in FY 2022. This amount is anticipated to remain flat at approximately $6.9 million in FY 2027. 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.

4.1.4 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 2022 budget. Budgeted O&M expenses were projected over the rate 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.

Table 4 – 1
Summary of the Sewer O&M Escalation Factors

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Labor	6.5%	5.0%	5.0%	5.0%	5.0%
Benefits - Medical	5.0%	10.0%	10.0%	10.0%	10.0%
Benefits - Other	6.0%	6.0%	6.0%	6.0%	6.0%
Professional Srvcs.	6.5%	5.0%	5.0%	5.0%	5.0%
Materials & Supplies	10.0%	3.0%	3.0%	3.0%	3.0%
Equipment	10.0%	4.0%	4.0%	4.0%	4.0%
Chemicals	10.0%	5.0%	5.0%	5.0%	5.0%
Utilities	10.0%	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 6.9% 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 2023 as well as a one time contingency adjustment in FY 2023 given the uncertainty of current inflation trends and recent increases in costs experienced by the District.

The total operation and maintenance expenses for the sewer utility are budgeted to be approximately $4.4 million in FY 2022. Over the five-year projected rate setting period, the total O&M expenses are projected to increase to approximately $6.2 million by FY 2027.

4.1.5 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

A renewal and replacement project is essentially a project to maintain the existing system that is in place today. Existing facilities become worn out, obsolete, etc. The District should continuously be making investments to maintain the integrity of its facilities with renewal and replacement projects. Growth / capacity expansion projects are related to providing service to new customers. This may be through expansion of the existing system or construction of new facilities to provide service to customers within the District service area. Additionally, 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 regulatory standards. 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 rate adjustment.

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 4 - 1 is a summary of the sewer utility capital funding analysis, based on the District's CIP.

Table 4 – 2 Summary of the Sewer Capital Funding Plan ($000)						
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Total Capital Improvement Projects	**$7,636**	**$11,507**	**$12,871**	**$13,523**	**$14,764**	**$1,473**
Less: Other Funding						
Operating Fund	$0	$0	$0	$0	$0	$0
Capital Fund	3,261	125	821	823	1,089	498
Effluent Reserve Fund	1,000	11,382	1,000	0	0	0
USDA Grant	3,375	0	0	0	0	0
Revenue Bonds	0	0	10,800	12,200	13,000	0
Total Other Funding	**$7,636**	**$11,507**	**$12,621**	**$13,023**	**$14,089**	**$498**
Rate Funded Capital	**$0**	**$0**	**$250**	**$500**	**$675**	**$975**

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, and assumed long-term debt issuance, additional capital funding is necessary. As noted in the table above, this funding level will need to be increased by $250,000 in FY 2024 and increasing to $975,000 in FY 2027.

As a point of reference, the District's annual depreciation expense for FY 2022 is approximately $1.8 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. However, as part of the focus of developing the capital funding analysis, the District will need to increase the level of the capital charge by $975,000 by FY 2027 to fund the identified capital and annual debt service payments.

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.

4.1.6 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 2022. Over the rate setting period, both of the existing issuances are fully paid for. At this time, it is assumed that the District will need to issue new long-term debt 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 $2.8 million in FY 2027.

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.

4.1.7 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.

4.1.8 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 4 - 2 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 4 - 3
Summary of the Sewer Revenue Requirement Analysis ($000)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Revenues						
Rate Revenues	$6,522	$6,529	$6,535	$6,542	$6,548	$6,555
Other Revenues	384	339	325	326	332	339
Total Revenues	**$6,907**	**$6,868**	**$6,860**	**$6,868**	**$6,880**	**$6,894**
Expenses						
Total O & M	$4,449	$5,301	$5,347	$5,606	$5,878	$6,164
Additional Capital Funding	0	0	250	500	675	975
Net Debt Service	0	0	0	0	0	0
Operating Fund Transfers	(766)	(680)	(47)	128	424	198
Capital Fund Transfers	3,223	3,227	3,230	3,233	3,236	3,239
Total Expenses	**$6,907**	**$7,847**	**$8,780**	**$9,467**	**$10,214**	**$10,576**
Bal./(Deficiency) of Funds	$0	($979)	($1,920)	($2,599)	($3,333)	($3,683)
Balance as % of Rev from Rates	0.0%	15.0%	29.4%	39.7%	50.9%	56.2%
Proposed Rate Adjustments	**0.0%**	**15.0%**	**12.5%**	**8.0%**	**8.0%**	**3.5%**
Add'l Revenue with Rate Adj.	$0	$979	$1,920	$2,599	$3,333	$3,683
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 this Study time period, the total deficiency in revenues is approximately $3.7 million.

The revenue requirement in Table 4 - 3 have 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 4 - 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. It should also be noted that even with the proposed rate revenue adjustment in FY 2023, existing reserves are being used to reduce the overall necessary revenue needs.

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.

4.1.9 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 2023 – FY 2027). 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.

4.1.10 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.

4.2 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 equitable rates for each customer class of service. The previously developed revenue requirement was utilized in the development of the cost of service analysis.

4.2.1 Objectives of a Cost of Service Study

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

- Proportionally allocate 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.

4.2.2 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. It is important to note that – currently – the District has a single rate structure for all customers. For purposes of the development of the cost of service analysis, the following customer classes of service were as follows:

- 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.

4.2.3 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.

4.2.3.1 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 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.

4.2.3.2 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:

- **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 demand[3]

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 classified 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.

3 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.

(BOD) and total suspended solids[4] (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.

4.2.3.3 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 estimated based on billed usage flows for the District's customers. 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. Exhibit 8 in the Technical Appendix provides the calculation of the strength distribution factor.

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

- **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 2023 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.

4.2.4 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.

Collection – Collection related plant in service (i.e., assets) were allocated as 100.0% volume. This is based on the methodology and approach that the collection system is sized and operated based on the total volumes of wastewater. In this way, the allocation reflects the manner in which why the system is sized, in the District's study, based on volumes.

Treatment – Treatment related assets benefit all customers. Therefore, the treatment assets were allocated as volume and strength related. The allocation of the treatment plant assets was based on general engineering design considerations. This resulted in the allocation of 50.0% being volume related, 25.0% being BOD related, and 25.0% TSS related. This allocation reflects the purpose and process of the District's wastewater treatment facility.

General Plant – General plant is allocated in the same proportions as the total plant before general plant.

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

Table 4 – 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%

4.2.5 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 2023 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 4 – 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 4 – 5 Summary of the Allocation of the FY 2023 Revenue Requirement ($000's)						
Total	**Volume**	**BOD**	**TSS**	**Customer**	**CCD**	**RR / DA**
$7,508	$2,841	$733	$733	$0	$3,201	$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 12 of the Technical Appendix provides a detailed summary of the classification of the District's revenue requirement.

4.2.6 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 4 – 5 the total revenue requirement for FY 2023 has been allocated between the various cost components based on generally accepted methodologies. Next, the individual allocation totals are distributed proportionally to the various customer groups based on the appropriate distribution factors. These are the distribution factors 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 4 – 6 is a summary of the distribution of the revenue requirement to the customer classes of service.

Table 4 – 6 Summary of the Distributed of the FY 2023 Revenue Requirement ($000's)				
	Total	**Residential**	**Multi-Family**	**Commercial**
Volume	**$2,841**	$1,151	$1,247	$443
BOD	**733**	297	322	114
TSS	**733**	297	322	114
Actual Customer	**0**	0	0	0
Cust. Capacity Demand	**3,201**	1,385	1,530	286
RR	**0**	0	0	0
DA	**0**	0	0	0
Total	**$7,508**	**$3,130**	**$3,421**	**$957**

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 4 – 7 is a summary of the cost of service analysis for the District's Study.

Table 4 – 7
Summary of the Sewer Cost of Service Analysis ($000)

Class of Service	Current Rate Revenues	Distributed Costs	$ Difference	% Difference
Residential	$2,861	$3,130	($269)	9.4%
Multi-Family	2,971	3,421	(450)	15.2%
Commercial	697	957	(260)	37.3%
Total	**$6,529**	**$7,508**	**($979)**	**15.0%**

The results of the cost of service analysis indicate cost differences between the customer classes of service. Specifically the commercial customer class of service. A general rule of thumb when evaluating the results is to look at +/- 5% of the overall system adjustment (i.e., 15.0%). 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, it was decided to develop a separate sewer use rate for the commercial customer class. The fixed base charge, the capital improvement charge, and the administration fee will remain the same for all customers.

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

4.2.7 Consultant's Conclusions

As noted, the results of the cost of service analysis show that 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. Given that this is a point in time, FY 2023, HDR recommends an adjustment to the commercial sewer charge to reflect the results of the cost of service analysis.

4.2.8 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.

4.3 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.

4.3.1 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.

4.3.2 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 are being proposed at this time. However, based on the results of the cost of service – which showed cost differences between customer classes – it was determined that a separate volume charge would be developed for the commercial customer class that reflects the costs of providing service. Provided in Table 4 - 8 is a summary of the current and proposed sewer rates.

Table 4 - 8
Summary of the Present and Proposed Sewer Rates

	Present Rates	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Base Charge						
3/4"	$19.54	$25.90	$30.30	$32.90	$36.40	$36.50
1"	32.63	43.25	50.60	54.94	60.79	60.96
1 1/2"	65.07	86.25	100.90	109.56	121.21	121.55
2"	104.15	138.05	161.50	175.36	194.01	194.55
3"	195.40	259.00	303.00	329.00	364.00	365.00
4"	325.73	431.75	505.10	548.44	606.79	608.46
6"	651.27	863.25	1,009.90	1,096.56	1,213.21	1,216.55
8"	1,042.07	1,381.25	1,615.90	1,754.56	1,941.21	1,946.55
10"	1,498.13	1,985.75	2,323.10	2,522.44	2,790.79	2,798.46
Capital Improvement						
3/4"	$31.45	$31.45	$33.92	$36.39	$38.13	$41.08
1"	52.52	52.53	56.65	60.77	63.67	68.61
1 1/2"	104.73	104.74	112.96	121.18	126.96	136.81
2"	167.63	167.64	180.80	193.96	203.22	218.97
3"	314.50	314.53	339.21	363.89	381.27	410.83
4"	524.27	524.31	565.46	606.61	635.58	684.85
6"	1,048.23	1,048.31	1,130.59	1,212.86	1,270.77	1,369.29
8"	1,677.23	1,677.36	1,809.01	1,940.65	2,033.31	2,190.95
10"	2,411.27	2,411.47	2,600.72	2,789.98	2,923.19	3,149.82
Admin Fee	$3.97	$4.23	$4.44	$4.66	$4.89	$5.14
Sewer Use						
Residential	$3.20	$4.20	$4.90	$5.30	$5.85	$5.90
Multi-Family	3.20	4.20	4.90	5.30	5.85	5.90
Commercial	3.20	4.70	5.50	6.00	6.40	6.50

4.4 Summary of the Sewer Rate Study

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.

5 Water Technical Appendix

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

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Revenue											
Rate Revenues	$5,128,528	$5,131,625	$5,134,726	$5,137,826	$5,140,930	$5,144,038	$5,147,149	$5,150,264	$5,153,379	$5,156,497	$5,159,619
Non-Operating Revenues	273,106	279,335	280,977	294,583	307,393	311,888	313,504	317,860	321,303	323,213	324,476
Total Revenues	**$5,401,634**	**$5,410,960**	**$5,415,702**	**$5,432,409**	**$5,448,323**	**$5,455,925**	**$5,460,653**	**$5,468,123**	**$5,474,682**	**$5,479,710**	**$5,484,095**
Expenses											
Total Operations & Maintenance	$4,552,125	$5,421,040	$5,455,287	$5,701,486	$5,960,462	$6,232,766	$6,519,441	$6,821,379	$7,139,535	$7,474,935	$7,828,678
Net Debt Service	0	0	0	0	0	0	0	0	0	0	0
Reserve Funding	849,509	1,016,245	1,726,761	2,154,333	2,593,658	2,619,643	2,596,120	2,568,086	2,531,173	2,483,993	2,426,593
Total Revenue Requirement	**$5,401,634**	**$6,437,285**	**$7,182,048**	**$7,855,819**	**$8,554,119**	**$8,852,409**	**$9,115,561**	**$9,389,465**	**$9,670,708**	**$9,958,928**	**$10,255,271**
Bal. / Def.) of Funds	$0	($1,026,325)	($1,766,346)	($2,423,410)	($3,105,796)	($3,396,484)	($3,654,908)	($3,921,342)	($4,196,026)	($4,479,217)	($4,771,176)
Bal. / (Def.) as a % of Rate Rev.	0.0%	20.0%	34.4%	47.2%	60.4%	66.0%	71.0%	76.1%	81.4%	86.9%	92.5%
Proposed Rate Adjustment	**0.0%**	**20.0%**	**12.0%**	**9.5%**	**9.0%**	**3.5%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**
Add'l Revenue from Adj.	$0	$1,026,325	$1,766,346	$2,423,410	$3,105,796	$3,396,484	$3,654,908	$3,921,342	$4,196,026	$4,479,217	$4,771,176
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)	**$47.59**	**$56.76**	**$63.39**	**$69.16**	**$75.59**	**$78.03**	**$80.37**	**$82.78**	**$85.27**	**$87.83**	**$90.46**

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

	Budgeted	*Proposed*									
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Revenues											
Customer Growth	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Single Family - Cust Growth	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Multi-Family - Cust Growth	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Commercial - Cust Growth	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Irrigation - Cust Growth	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
IVGID - Cust Growth	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Consump Growth											
Single Family - Cons Growth	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Multi-Family - Cons Growth	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Commercial - Cons Growth	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Irrigation - Cons Growth	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
IVGID - Cons Growth	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	6.5%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Benefits - Medical	Budgeted	5.0%	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 Srvcs	Budgeted	6.5%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Materials & Supplies	Budgeted	10.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Equipment	Budgeted	10.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Miscellaneous	Budgeted	10.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Utilities	Budgeted	10.0%	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%
Rate Revenue Adj	0.0%	20.0%	12.0%	9.5%	9.0%	3.5%	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

	Budgeted	*Proposed*										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	*Notes*
Revenues												
Rate Revenues												
Residential	$2,427,652	$2,429,076	$2,430,501	$2,431,926	$2,433,350	$2,434,779	$2,436,208	$2,437,640	$2,439,073	$2,440,505	$2,441,941	
Multi Family	1,798,519	1,799,909	1,801,301	1,802,694	1,804,090	1,805,486	1,806,885	1,808,284	1,809,684	1,811,086	1,812,489	
Commercial	354,852	355,041	355,231	355,421	355,610	355,800	355,989	356,179	356,369	356,558	356,748	
Irrigation	177,834	177,882	177,930	177,979	178,027	178,075	178,124	178,172	178,220	178,269	178,317	
Commercial - IVGID	39,760	39,799	39,838	39,876	39,915	39,953	39,992	40,031	40,069	40,108	40,147	
Irrigation - IVGID	219,561	219,568	219,574	219,581	219,587	219,594	219,601	219,607	219,614	219,621	219,627	
Snowmaking - IVGID	110,350	110,350	110,350	110,350	110,350	110,350	110,350	110,350	110,350	110,350	110,350	
Total Rate Revenues	**$5,128,528**	**$5,131,625**	**$5,134,726**	**$5,137,826**	**$5,140,930**	**$5,144,038**	**$5,147,149**	**$5,150,264**	**$5,153,379**	**$5,156,497**	**$5,159,619**	
Non-Operating Revenues												
Interest	$1,500	$7,457	$8,827	$22,161	$34,699	$38,921	$40,265	$44,347	$47,516	$49,153	$50,142	Calculated
Snow Removal Fees	100,100	100,200	100,300	100,401	100,501	100,602	100,702	100,803	100,904	101,005	101,106	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	21,300	21,321	21,343	21,364	21,385	21,407	21,428	21,450	21,471	21,492	21,514	As Misc Revenues
Back Flows Tests	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
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	18,096	18,114	18,132	18,150	18,168	18,187	18,205	18,223	18,241	18,260	18,278	As Misc Revenues
Inspection/Plan Fees	40,000	40,040	40,080	40,120	40,160	40,200	40,241	40,281	40,321	40,361	40,402	As Misc Revenues
Other Water	28,800	28,829	28,858	28,886	28,915	28,944	28,973	29,002	29,031	29,060	29,089	As Misc Revenues
Interfund Revenue Transfers	(201,890)	(202,092)	(202,294)	(202,496)	(202,699)	(202,901)	(203,104)	(203,307)	(203,511)	(203,714)	(203,918)	As Misc Revenues
Total Non-Operating Revenues	**$273,106**	**$279,335**	**$280,977**	**$294,583**	**$307,393**	**$311,888**	**$313,504**	**$317,860**	**$321,303**	**$323,213**	**$324,476**	
Total Revenues	**$5,401,634**	**$5,410,960**	**$5,415,702**	**$5,432,409**	**$5,448,323**	**$5,455,925**	**$5,460,653**	**$5,468,123**	**$5,474,682**	**$5,479,710**	**$5,484,095**	

	Budgeted	*Proposed*										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	*Notes*
Expenses												
Wages												
Other Earnings	$50,755	$54,054	$56,757	$59,595	$62,574	$65,703	$68,988	$72,438	$76,060	$79,862	$83,856	As Labor
Regular Earnings	1,379,813	1,469,501	1,542,976	1,620,125	1,701,131	1,786,187	1,875,497	1,969,272	2,067,735	2,171,122	2,279,678	As Labor
Salary Savings from Vacant Positions	(69,152)	0	0	0	0	0	0	0	0	0	0	As Labor
Total Wages	**$1,361,416**	**$1,523,555**	**$1,599,733**	**$1,679,719**	**$1,763,705**	**$1,851,891**	**$1,944,485**	**$2,041,709**	**$2,143,795**	**$2,250,985**	**$2,363,534**	
Benefits												
Dental Fringe Ben	$19,443	$20,415	$22,457	$24,702	$27,173	$29,890	$32,879	$36,167	$39,783	$43,762	$48,138	As Benefits - Medical
Disability Fringe Ben	7,099	7,525	7,976	8,455	8,962	9,500	10,070	10,674	11,315	11,994	12,713	As Benefits - Other
Life Ins Fringe Ben	2,691	2,826	3,108	3,419	3,761	4,137	4,551	5,006	5,506	6,057	6,662	As Benefits - Medical
Medical Fringe Ben	269,219	282,680	310,948	342,043	376,247	413,872	455,259	500,785	550,864	605,950	666,545	As Benefits - Medical
Retirement Fringe Ben	252,759	267,925	284,000	301,040	319,102	338,249	358,543	380,056	402,859	427,031	452,653	As Benefits - Other
Taxes	114,255	121,110	128,377	136,080	144,244	152,899	162,073	171,797	182,105	193,031	204,613	As Benefits - Other
Unemployment Fringe Ben	22,439	23,785	25,212	26,725	28,329	30,028	31,830	33,740	35,764	37,910	40,185	As Benefits - Other
Vision Fringe Ben	2,172	2,303	2,441	2,587	2,743	2,907	3,082	3,267	3,463	3,670	3,891	As Benefits - Other
Work Comp Fringe Ben	35,813	37,962	40,239	42,654	45,213	47,926	50,801	53,850	57,080	60,505	64,136	As Benefits - Other
Total Benefits	**$725,891**	**$766,531**	**$824,759**	**$887,705**	**$955,774**	**$1,029,408**	**$1,109,088**	**$1,195,341**	**$1,288,740**	**$1,389,910**	**$1,499,536**	
Services & Supplies												
Advertising - Paid	$1,000	$1,100	$1,133	$1,167	$1,202	$1,238	$1,275	$1,313	$1,353	$1,393	$1,435	As Materials & Supplies
BLDGS Maintenance Services	77,304	85,034	87,585	90,213	92,919	95,707	98,578	101,536	104,582	107,719	110,951	As Materials & Supplies
Chemical	171,879	189,067	194,739	200,581	206,599	212,797	219,181	225,756	232,529	239,505	246,690	As Materials & Supplies
Computer & IT Small Equip	3,000	3,300	3,399	3,501	3,606	3,714	3,826	3,940	4,059	4,180	4,306	As Materials & Supplies
Computer License & Fees	78,474	86,321	88,911	91,578	94,326	97,155	100,070	103,072	106,164	109,349	112,630	As Materials & Supplies
Contractual Services	35,043	38,547	39,704	40,895	42,121	43,385	44,687	46,027	47,408	48,830	50,295	As Materials & Supplies
Dues & Subscriptions	8,238	9,062	9,334	9,614	9,902	10,199	10,505	10,820	11,145	11,479	11,824	As Materials & Supplies
Employee Recruit & Retain	14,950	16,445	16,938	17,447	17,970	18,509	19,064	19,636	20,225	20,832	21,457	As Materials & Supplies
Fleet Maintenance Services	186,260	204,886	211,033	217,364	223,884	230,601	237,519	244,645	251,984	259,543	267,330	As Materials & Supplies
Fuel	38,880	42,768	44,479	46,258	48,108	50,033	52,034	54,115	56,280	58,531	60,872	As Utilities
Janitorial	21,000	23,100	23,793	24,507	25,242	25,999	26,779	27,583	28,410	29,262	30,140	As Materials & Supplies
Lab	17,600	19,360	19,941	20,539	21,155	21,790	22,444	23,117	23,810	24,525	25,260	As Materials & Supplies
Office Supplies	11,696	12,866	13,252	13,649	14,059	14,480	14,915	15,362	15,823	16,298	16,787	As Materials & Supplies
Operating	59,640	65,604	67,572	69,599	71,687	73,838	76,053	78,335	80,685	83,105	85,598	As Materials & Supplies
Permits & Fees	16,972	18,669	19,229	19,806	20,400	21,012	21,643	22,292	22,961	23,650	24,359	As Materials & Supplies
Postage	18,600	20,460	21,074	21,706	22,357	23,028	23,719	24,430	25,163	25,918	26,696	As Materials & Supplies
R& M General	71,520	78,672	81,032	83,463	85,967	88,546	91,202	93,938	96,757	99,659	102,649	As Materials & Supplies
R&M Corrective	141,500	155,650	160,320	165,129	170,083	175,185	180,441	185,854	191,430	197,173	203,088	As Materials & Supplies
R&M Preventative	95,700	105,270	108,428	111,681	115,031	118,482	122,037	125,698	129,469	133,353	137,353	As Materials & Supplies
Rental & Lease	960	1,056	1,088	1,120	1,154	1,189	1,224	1,261	1,299	1,338	1,378	As Materials & Supplies
Repairs & Maintenance	549,475	604,423	622,555	641,232	660,469	680,283	700,691	721,712	743,363	765,664	788,634	As Materials & Supplies
Safety	6,300	6,930	7,138	7,352	7,573	7,800	8,034	8,275	8,523	8,779	9,042	As Materials & Supplies
Security	6,600	7,260	7,478	7,702	7,933	8,171	8,416	8,669	8,929	9,197	9,473	As Materials & Supplies
Small Equipment	9,800	10,780	11,103	11,437	11,780	12,133	12,497	12,872	13,258	13,656	14,065	As Materials & Supplies
Tools	7,000	7,700	7,931	8,169	8,414	8,666	8,926	9,194	9,470	9,754	10,047	As Materials & Supplies
Training & Education	15,800	17,380	17,901	18,438	18,992	19,561	20,148	20,753	21,375	22,016	22,677	As Materials & Supplies
Travel & Conferences	19,200	21,120	21,754	22,406	23,078	23,771	24,484	25,218	25,975	26,754	27,557	As Materials & Supplies
Uniforms	12,100	13,310	13,709	14,121	14,544	14,981	15,430	15,893	16,370	16,861	17,367	As Materials & Supplies
Total Services & Supplies	**$1,696,491**	**$1,866,140**	**$1,922,552**	**$1,980,674**	**$2,040,556**	**$2,102,254**	**$2,165,822**	**$2,231,317**	**$2,298,798**	**$2,368,324**	**$2,439,959**	

	Budgeted	*Proposed*										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	*Notes*
Other												
Central Services Allocation Cs	$214,819	$236,301	$243,390	$250,692	$258,212	$265,959	$273,938	$282,156	$290,620	$299,339	$308,319	As Materials & Supplies
Defensible Space Costs	50,000	55,000	56,650	58,350	60,100	61,903	63,760	65,673	67,643	69,672	71,763	As Materials & Supplies
General Liability - Insurance	115,900	119,377	122,958	126,647	130,446	134,360	138,391	142,542	146,819	151,223	155,760	As Insurance
Audit	5,850	6,435	6,628	6,827	7,032	7,243	7,460	7,684	7,914	8,152	8,396	As Materials & Supplies
Legal	12,000	13,200	13,596	14,004	14,424	14,857	15,302	15,761	16,234	16,721	17,223	As Materials & Supplies
Professional Consultants	70,000	74,550	78,278	82,191	86,301	90,616	95,147	99,904	104,899	110,144	115,652	As Professional / Special Srvcs
Interfund Expense Transfers	(164,808)	(181,289)	(186,727)	(192,329)	(198,099)	(204,042)	(210,163)	(216,468)	(222,962)	(229,651)	(236,541)	As Miscellaneous
Total Other	**$303,761**	**$323,574**	**$334,772**	**$346,381**	**$358,416**	**$370,895**	**$383,834**	**$397,252**	**$411,168**	**$425,601**	**$440,571**	
Utilities												
Cable TV	$1,800	$1,980	$2,059	$2,142	$2,227	$2,316	$2,409	$2,505	$2,606	$2,710	$2,818	As Utilities
Electricity	409,100	450,010	468,010	486,731	506,200	526,448	547,506	569,406	592,182	615,870	640,505	As Utilities
Heating	11,200	12,320	12,813	13,325	13,858	14,413	14,989	15,589	16,212	16,861	17,535	As Utilities
Internet	11,400	12,540	13,042	13,563	14,106	14,670	15,257	15,867	16,502	17,162	17,848	As Utilities
Telephone	21,066	23,173	24,100	25,063	26,066	27,109	28,193	29,321	30,494	31,713	32,982	As Utilities
Trash	7,100	7,810	8,122	8,447	8,785	9,137	9,502	9,882	10,277	10,689	11,116	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	**$464,566**	**$511,240**	**$531,971**	**$553,431**	**$575,756**	**$598,752**	**$622,667**	**$647,538**	**$673,402**	**$700,300**	**$728,272**	
Future O&M												
Additional Staffing Needs	$0	$230,000	$241,500	$253,575	$266,254	$279,566	$293,545	$308,222	$323,633	$339,815	$356,805	As Labor
One-Time Inflation Contingency	0	200,000	0	0	0	0	0	0	0	0	0	As Labor
Open	0	0	0	0	0	0	0	0	0	0	0	As Labor
Open	0	0	0	0	0	0	0	0	0	0	0	As Labor
Total Future O&M	**$0**	**$430,000**	**$241,500**	**$253,575**	**$266,254**	**$279,566**	**$293,545**	**$308,222**	**$323,633**	**$339,815**	**$356,805**	
Total Operations & Maintenance	$4,552,125	$5,421,040	$5,455,287	$5,701,486	$5,960,462	$6,232,766	$6,519,441	$6,821,379	$7,139,535	$7,474,935	$7,828,678	
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	56,289	168,330	304,456	521,639	521,639	521,639	521,639	521,639	521,639	521,639	Calc @ 4.6% for 20 Yrs
Total Debt Service	$307,020	$363,309	$475,350	$611,476	$771,835	$715,011	$715,011	$715,011	$715,011	$715,011	$715,011	
Less Capital Reserve Funding	$307,020	$363,309	$475,350	$611,476	$771,835	$715,011	$715,011	$715,011	$715,011	$715,011	$715,011	
Net Debt Service	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	

	Budgeted	*Proposed*										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	*Notes*
Reserve Funding												
Operating Fund Transfer	($755,111)	($589,980)	$118,930	$544,895	$482,609	$406,984	$281,848	$152,200	$113,670	$64,873	$5,854	
Capital Fund Transfer	1,604,620	1,606,225	1,607,831	1,609,439	1,611,048	1,612,659	1,614,272	1,615,886	1,617,502	1,619,120	1,620,739	As Customer Growth
Additional Capital Funding	0	0	0	0	500,000	600,000	700,000	800,000	800,000	800,000	800,000	
Debt Reserve Fund	0	0	0	0	0	0	0	0	0	0	0	
Total Reserve Funding	**$849,509**	**$1,016,245**	**$1,726,761**	**$2,154,333**	**$2,593,658**	**$2,619,643**	**$2,596,120**	**$2,568,086**	**$2,531,173**	**$2,483,993**	**$2,426,593**	
Total Revenue Requirement	**$5,401,634**	**$6,437,285**	**$7,182,048**	**$7,855,819**	**$8,554,119**	**$8,852,409**	**$9,115,561**	**$9,389,465**	**$9,670,708**	**$9,958,928**	**$10,255,271**	
Bal/(Def.) of Funds	$0	($1,026,325)	($1,766,346)	($2,423,410)	($3,105,796)	($3,396,484)	($3,654,908)	($3,921,342)	($4,196,026)	($4,479,217)	($4,771,176)	
Rate Adj. as a % of Rate Rev.	0.0%	20.0%	34.4%	47.2%	60.4%	66.0%	71.0%	76.1%	81.4%	86.9%	92.5%	
Proposed Rate Adjustment	**0.0%**	**20.0%**	**12.0%**	**9.5%**	**9.0%**	**3.5%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	
Effective Months	*12*	*12*	*12*	*12*	*12*	*12*	*12*	*12*	*12*	*12*	*12*	
Add'l Revenue from Adj.	$0	$1,026,325	$1,766,346	$2,423,410	$3,105,796	$3,396,484	$3,654,908	$3,921,342	$4,196,026	$4,479,217	$4,771,176	
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	2.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
After Rate Adjustment	2.77	2.80	3.63	3.52	3.36	3.66	3.63	3.59	3.54	3.47	3.39	
Avg Res Mo Bill (Fees + 10,000 gal)	**$47.59**											
After Proposed Rate Adjustment	$47.59	$56.76	$63.39	$69.16	$75.59	$78.03	$80.37	$82.78	$85.27	$87.83	$90.46	
Annual $ Change		9.17	6.63	5.77	6.43	2.44	2.34	2.41	2.48	2.56	2.63	
Cumulative Change		9.17	15.80	21.57	28.00	30.44	32.78	35.19	37.68	40.24	42.87	

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

Inflation	2.7%

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	*Total*
Capital Improvements - Water												
Replace Commercial Water Meters, Vaults and Lids	$40,000	$41,080	$21,095	$21,664	$22,249	$45,700	$46,933	$24,100	$24,751	$25,419	$0	$312,992
Residential meter and electronics replacement	0	0	158,209	270,802	278,113	571,245	0	0	0	0	0	1,278,369
SCADA Management Servers/Network - BCDP	0	51,350	263,682	75,824	0	0	0	0	99,004	0	0	489,861
Water Pumping Station Improvements	70,000	51,350	52,736	54,160	55,623	79,974	58,667	60,251	61,878	63,548	104,423	712,610
Burnt Cedar Water Disinfection Plant Improvements	25,000	25,675	26,368	162,481	1,668,680	0	0	0	0	0	0	1,908,204
Removal of Washoe 1 Water Intake Line	30,000	0	0	0	0	0	0	0	0	0	0	30,000
Water Pump Station 2-1 Improvements	0	328,640	0	0	0	0	117,334	0	0	0	0	445,974
2013 Mid Size Truck #630 Compliance	0	0	32,697	0	0	0	0	0	0	0	45,685	78,381
Watermain Replacement - Crystal Peak Road	50,000	1,012,622	0	0	0	0	0	0	0	0	0	1,062,622
Watermain Replacement - Slott Pk Ct	280,000	0	0	0	0	0	0	0	0	0	0	280,000
Watermain Replacement - Alder Avenue	0	51,350	564,280	0	0	0	0	0	0	0	0	615,630
Watermain Replacement - Future	0	0	52,736	649,924	667,472	685,494	704,002	723,010	742,531	762,580	783,169	5,770,919
R6-1 Tank Road Construction	0	128,375	0	0	0	0	0	0	0	0	0	128,375
Water Reservoir Coatings and Site Improvements	85,000	61,620	84,378	59,576	94,559	68,549	93,867	66,276	105,192	76,258	104,423	899,698
Total Capital Improvements - Water	**$580,000**	**$1,752,062**	**$1,256,182**	**$1,294,432**	**$2,786,695**	**$1,450,962**	**$1,020,803**	**$873,637**	**$1,033,356**	**$927,805**	**$1,037,699**	**$14,013,634**

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

Inflation 2.7%

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	*Total*
Capital Improvements - Shared (50% Water)												
Paint Interior Building #A	$0	$25,162	$0	$0	$0	$0	$0	$0	$34,775	$0	$0	$59,937
New Carpet Building #A	0	24,135	0	0	0	0	28,817	0	0	0	0	52,952
Replace Public Works Front Security Gate	0	0	0	42,960	0	0	0	0	0	0	0	42,960
Replace Roof Public Works #B	30,000	0	0	0	0	0	0	0	0	0	0	30,000
Building B Replacement	0	0	0	0	0	0	0	0	61,878	0	0	61,878
Rain Gutters Building C	0	25,675	0	0	0	0	0	0	0	0	0	25,675
Loader Tire Chains - 2 Sets	10,000	0	0	0	11,514	0	0	0	13,366	0	0	34,879
2002 Caterpillar 950G Loader #523	132,500	0	0	0	0	0	0	0	0	0	186,003	318,503
2002 Caterpillar 950G Loader #525	132,500	0	0	0	0	0	0	0	0	0	0	132,500
2018 MultiHog MX120 Snowblower #783	0	0	0	0	97,896	0	0	0	0	0	0	97,896
1997 Forklift #315	0	0	18,985	0	0	0	0	0	0	0	0	18,985
2013 Trackless Snowblower #687	0	89,863	0	0	0	0	0	0	0	117,564	0	207,427
2001 105KW Mobile Generator #313	0	25,675	0	0	0	0	0	0	0	0	0	25,675
2020 Vac-Con Truck #807	0	0	0	0	0	271,341	0	0	0	0	0	271,341
2004 Freightliner Vactor Truck #534	0	0	0	0	211,366	0	0	0	0	0	0	211,366
2020 Chevy Dump Truck #829	0	0	0	0	0	0	0	0	49,502	0	0	49,502
2001 Peterbilt Bin Truck #468	0	0	0	102,905	0	0	0	0	0	0	0	102,905
Snowplow #300A	9,500	0	0	0	0	0	0	0	0	0	13,705	23,205
Snowplow #307A	9,500	0	0	0	0	0	0	0	0	0	0	9,500
Slurry Liquidator #326	0	0	0	0	0	23,421	0	0	0	0	0	23,421
2004 9' Western Snow Plow #542A	0	0	0	0	0	0	4,693	0	0	0	0	4,693
2019 Sander/Spreader #808	0	0	0	5,416	0	0	0	0	7,425	0	0	12,841
2012 Snowplow #669B	0	0	0	38,995	0	0	0	0	0	0	5,221	44,217
2017 Caterpillar 420F2 Backhoe #755	0	0	0	0	0	79,974	0	0	0	0	0	79,974
2013 Chevy Equinox #691	0	0	19,512	0	0	0	0	0	0	0	0	19,512
2009 Chevrolet 1/2 ton Pick-up #826 Compliance Dept.	0	0	0	0	0	0	18,187	0	0	0	0	18,187
2013 1/2 Ton Pick-Up #677 Treatment	0	0	19,512	0	0	0	0	0	0	0	0	19,512
2003 GMC 3/4-Ton Pick-up #702	0	0	0	18,415	0	0	0	0	0	0	0	18,415
2005 Chevy 1/2-Ton Pick-up #553	0	0	0	17,331	0	0	0	0	0	0	0	17,331
2009 Chevrolet 1/2 Ton Pick-up Truck #631	0	0	0	17,331	0	0	0	0	0	0	0	17,331
2009 Chevrolet 1/2 Ton Pick-up Truck #632 Engineering	0	0	0	0	17,799	0	0	0	0	0	0	17,799
2012 Extend-A-Cab Pick-up #678 Pipeline Dept.	0	16,432	0	0	0	0	0	0	0	21,606	0	38,038
2004 3/4-Ton Service Truck w/liftgate & crane #703	0	0	0	31,413	0	0	0	0	0	0	0	31,413
2013 1-Ton Flatbed #679 Pipeline Dept.	0	0	23,204	0	0	0	0	0	0	0	0	23,204
2012 1-Ton Service Truck w/ Liftgate #668 Treatment	0	22,081	0	0	0	0	0	0	0	0	0	22,081
2013 1-Ton Service Truck #680 Utilities Electrician	0	0	23,204	0	0	0	0	0	0	0	0	23,204
2004 GMC 1-Ton Flatbed #825 Pipeline Dept.	0	0	0	0	0	0	0	0	39,602	0	0	39,602
2008 Chevrolet Service Truck #810	0	0	0	0	0	0	0	0	21,038	0	0	21,038
2008 Chevrolet Service Truck #680	0	23,108	0	0	0	0	0	0	0	0	0	23,108
2011 Chevrolet Service Truck #647 Treatment	0	0	0	0	0	0	0	0	0	31,139	0	31,139
Public Works Billing Software Replacement	5,000	51,350	52,736	27,080	0	0	0	0	0	0	0	136,167
Large Format Printer Replacement	0	0	15,294	0	0	0	0	0	0	0	0	15,294
Adjust Utility Facilities in NDOT/Washoe County Right of	90,000	30,810	31,642	32,496	33,374	34,275	35,200	129,539	37,127	38,129	39,158	531,750
Pavement Maintenance, Utility Facilities	78,750	92,430	6,592	140,817	144,619	7,141	39,600	7,531	191,821	197,000	8,158	914,458
Pavement Maintenance, Reservoir 3-1 WPS 4-2/5-1	65,000	46,215	0	0	0	0	0	0	0	0	0	111,215
Utilities System and Plant Controls Master Plan	0	128,375	0	0	0	0	0	0	0	0	0	128,375
Utilities System and Plant Controls Upgrade	0	0	131,841	135,401	139,057	142,811	0	0	0	0	0	549,110
Total Capital Improvements - Shared (50% Water)	**$562,750**	**$601,309**	**$342,523**	**$610,560**	**$655,624**	**$558,963**	**$126,497**	**$137,071**	**$456,533**	**$405,438**	**$252,246**	**$4,709,514**

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

Inflation	2.7%

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	*Total*
Future Unidentified Projects	$446,019	$125,000	$0	$0	$0	$0	$400,000	$400,000	$175,000	$300,000	$400,000	**$2,246,019**
To Capital Reserves	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Total Capital Improvement Projects	**$1,588,769**	**$2,478,371**	**$1,598,705**	**$1,904,992**	**$3,442,320**	**$2,009,925**	**$1,547,300**	**$1,410,708**	**$1,664,889**	**$1,633,244**	**$1,689,945**	**$20,969,168**
Less: Outside Funding Sources												
Operating Fund	$0	$125,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$125,000
Capital Fund	1,588,769	1,553,371	48,705	54,992	42,320	1,409,925	847,300	610,708	864,889	833,244	889,945	8,744,168
Grant Funding	0	0	0	0	0	0	0	0	0	0	0	0
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	800,000	1,550,000	1,850,000	2,900,000	0	0	0	0	0	0	7,100,000
Total Outside Funding Sources	**$1,588,769**	**$2,478,371**	**$1,598,705**	**$1,904,992**	**$2,942,320**	**$1,409,925**	**$847,300**	**$610,708**	**$864,889**	**$833,244**	**$889,945**	**$15,969,168**
Rate Funded Capital	$0	$0	$0	$0	$500,000	$600,000	$700,000	$800,000	$800,000	$800,000	$800,000	**$5,000,000**

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

Year	NV DWSRF 2012	NV Drk Wtr Loan 2005	Total
FY 2022	$193,372	$113,648	$307,020
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	56,824	250,196
FY 2027	193,372	0	193,372
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	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
	$2,127,090	**$511,416**	**$2,638,506**

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

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Residential															
Meter Fee	*$ / Acct.*	*Capital Improv*													
3/4"	$11.97	$15.10	3,696	3,692	3,692	3,692	3,693	3,693	3,693	3,693	3,694	3,694	3,695	3,696	3,694
			3,696	**3,692**	**3,692**	**3,692**	**3,693**	**3,693**	**3,693**	**3,693**	**3,694**	**3,694**	**3,695**	**3,696**	**3,694**
	Total Meter Fee Revenue		$100,051	$99,942	$99,942	$99,942	$99,970	$99,970	$99,970	$99,970	$99,997	$99,997	$100,024	$100,051	**$1,199,824**
Admin Fee	$3.97		3,696	3,692	3,692	3,692	3,693	3,693	3,693	3,693	3,694	3,694	3,695	3,696	
Defensible Space	$1.05		3,696	3,692	3,692	3,692	3,693	3,693	3,693	3,693	3,694	3,694	3,695	3,696	
			$18,554	$18,534	$18,534	$18,534	$18,539	$18,539	$18,539	$18,539	$18,544	$18,544	$18,549	$18,554	**$222,501**
Water Use	***$ / 1,000 gal***														
All Use	$1.55		84,035	80,942	65,992	45,964	10,931	13,478	10,969	10,693	10,383	19,699	54,275	68,816	476,178
20,000 - 60,000	0.93		29,449	39,152	27,706	13,392	372	671	0	0	0	0	16,785	23,660	151,188
60,000+	2.27		15,315	14,014	7,556	2,564	46	337	0	0	0	0	6,628	9,333	55,792
	Total Water Use Revenue		$192,407	$193,682	$145,207	$89,519	$17,392	$22,280	$17,002	$16,574	$16,094	$30,534	$114,783	$149,854	**$1,005,327**
Total Residential			**$311,011**	**$312,158**	**$263,683**	**$207,995**	**$135,900**	**$140,788**	**$135,510**	**$135,082**	**$134,634**	**$149,074**	**$233,356**	**$268,459**	**$2,427,652**
Multi Family															
Meter Fee	*$ / Acct.*														
3/4"	$11.97	$15.10	4,091	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,091	4,091	4,091	4,086
			4,091	**4,083**	**4,083**	**4,083**	**4,083**	**4,083**	**4,083**	**4,083**	**4,083**	**4,091**	**4,091**	**4,091**	**4,086**
	Total Meter Fee Revenue		$110,743	$110,527	$110,527	$110,527	$110,527	$110,527	$110,527	$110,527	$110,527	$110,743	$110,743	$110,743	**$1,327,188**
Admin Fee	$3.97		258	258	258	258	258	258	258	258	258	258	258	258	258
Defensible Space	1.05		4,091	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,091	4,091	4,091	4,086
			$5,320	$5,311	$5,311	$5,311	$5,311	$5,311	$5,311	$5,311	$5,311	$5,320	$5,320	$5,320	**$63,771**
Water Use	***$ / 1,000 gal***														
All Use	$1.55		35,313	35,311	27,974	21,854	10,851	13,960	11,407	11,803	11,784	14,156	24,911	28,473	247,795
Tier 1	0.93		2,191	2,732	1,647	670	153	71	0	0	0	0	1,268	1,391	10,124
Tier 2	2.27		1,418	1,214	920	381	12	0	0	0	0	0	1,135	1,115	6,195
	Total Water Use Revenue		$59,992	$60,029	$46,981	$35,361	$16,987	$21,704	$17,681	$18,295	$18,265	$21,941	$42,367	$47,958	**$407,560**
Total Multi Family			**$176,055**	**$175,867**	**$162,819**	**$151,199**	**$132,826**	**$137,542**	**$133,519**	**$134,133**	**$134,103**	**$138,004**	**$158,430**	**$164,021**	**$1,798,519**

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Commercial															
Meter Fee	*$ / Acct.*														
3/4"	$11.97	$15.10	72	72	72	72	72	72	72	72	72	72	72	72	72
1"	19.99	25.22	53	53	53	53	53	53	53	53	53	53	53	53	53
1 1/2"	39.86	50.28	41	41	41	41	41	41	41	41	41	41	41	41	41
2"	63.80	80.48	26	26	26	26	26	26	26	26	26	26	26	26	26
3"	119.70	151.00	6	6	6	6	6	6	6	6	6	6	6	6	6
4"	199.54	251.72	3	3	3	3	3	3	3	3	3	3	3	3	3
6"	398.96	503.28	2	2	2	2	2	2	2	2	2	2	2	2	2
8"	638.36	805.28	1	1	1	1	1	1	1	1	1	1	1	1	1
10"	917.50	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		$18,018	$18,018	$18,018	$18,018	$18,018	$18,018	$18,018	$18,018	$18,018	$18,018	$18,018	$18,018	**$216,220**
Admin Fee	$3.97		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	
			$1,024	$1,024	$1,024	$1,024	$1,024	$1,024	$1,024	$1,024	$1,024	$1,024	$1,024	$1,024	**$12,289**
Water Use	***$ / 1,000 gal***														
All Use	$1.55		8,945	8,370	6,718	5,927	3,583	4,737	3,966	4,484	4,495	4,985	6,550	7,373	70,133
Tier 1	0.93		3,178	2,615	1,551	1,311	431	1,151	788	974	809	950	1,439	2,088	17,284
Tier 2	2.27		263	132	3	0	0	51	31	33	33	0	82	61	688
	Total Water Use Revenue		$17,416	$15,704	$11,862	$10,405	$5,955	$8,528	$6,950	$7,933	$7,793	$8,610	$11,677	$13,508	**$126,343**
Total Commercial			**$36,458**	**$34,747**	**$30,905**	**$29,448**	**$24,997**	**$27,570**	**$25,993**	**$26,975**	**$26,836**	**$27,653**	**$30,720**	**$32,550**	$354,852

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Irrigation															
Meter Fee	*$ / Acct.*														
3/4"	$11.97	$15.10	16	16	16	16	16	16	16	16	16	16	16	16	16
1"	19.99	25.22	20	20	20	20	20	20	20	20	20	20	20	20	20
1 1/2"	39.86	50.28	10	10	10	10	10	10	10	10	10	10	10	10	10
2"	63.80	80.48	12	12	12	12	12	12	12	12	12	12	12	12	12
3"	119.70	151.00	2	2	2	2	2	2	2	2	2	2	2	2	2
4"	199.54	251.72	2	2	2	2	2	2	2	2	2	2	2	2	2
6"	398.96	503.28	0	0	0	0	0	0	0	0	0	0	0	0	0
8"	638.36	805.28	0	0	0	0	0	0	0	0	0	0	0	0	0
10"	917.50	1,157.42	0	0	0	0	0	0	0	0	0	0	0	0	0
			62	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**
	Total Meter Fee Revenue		$5,414	$5,414	$5,414	$5,414	$5,414	$5,414	$5,414	$5,414	$5,414	$5,414	$5,414	$5,414	**$64,968**
Admin Fee	$3.97		62	62	62	62	62	62	62	62	62	62	62	62	
Defensible Space	0.00		62	62	62	62	62	62	62	62	62	62	62	62	
			$246	$246	$246	$246	$246	$246	$246	$246	$246	$246	$246	$246	**$2,954**
Water Use	*$ / 1,000 gal*														
All Use	$1.55		9,896	9,518	7,091	4,100	64	9	20	134	24	1,347	6,749	8,822	47,772
Tier 1	0.93		3,188	2,671	2,005	1,061	0	0	0	40	0	136	2,282	2,664	14,045
Tier 2	2.27		2,764	2,593	1,561	298	0	0	0	52	0	0	681	2,097	10,046
	Total Water Use Revenue		$24,578	$23,121	$16,398	$8,017	$99	$14	$31	$362	$37	$2,214	$14,129	$20,912	**$109,912**
Total Irrigation			**$30,238**	**$28,781**	**$22,058**	**$13,677**	**$5,759**	**$5,674**	**$5,691**	**$6,022**	**$5,697**	**$7,874**	**$19,789**	**$26,573**	**$177,834**

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

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Commercial - IVGID															
Meter Fee	*$ / Acct.*														
3/4"	$11.97	$15.10	5	5	5	5	5	5	5	5	5	5	5	5	5
1"	19.99	25.22	7	7	7	7	7	7	7	7	7	7	7	7	7
1 1/2"	39.86	50.28	5	5	5	5	5	5	5	5	5	5	5	5	5
2"	63.80	80.48	9	9	9	9	9	9	9	9	9	9	9	9	9
3"	119.70	151.00	1	1	1	1	1	1	1	1	1	1	1	1	1
4"	199.54	251.72	0	0	0	0	0	0	0	0	0	0	0	0	0
6"	398.96	503.28	0	0	0	0	0	0	0	0	0	0	0	0	0
8"	638.36	805.28	0	0	0	0	0	0	0	0	0	0	0	0	0
10"	917.50	1,157.42	0	0	0	0	0	0	0	0	0	0	0	0	0
			27	**27**	**27**	**27**	**27**	**27**	**27**	**27**	**27**	**27**	**27**	**27**	**27**
	Total Meter Fee Revenue		$2,472	$2,472	$2,472	$2,472	$2,472	$2,472	$2,472	$2,472	$2,472	$2,472	$2,472	$2,472	**$29,661**
Admin Fee	$3.97		27	27	27	27	27	27	27	27	27	27	27	27	27
Defensible Space	1.05		27	27	27	27	27	27	27	27	27	27	27	27	27
			$136	$136	$136	$136	$136	$136	$136	$136	$136	$136	$136	$136	**$1,626**
Water Use	*$ / 1,000 gal*														
All Use	$1.55		640	621	464	448	283	358	331	311	326	436	384	535	5,137
Tier 1	0.93		61	95	32	90	10	18	41	4	25	91	43	37	548
Tier 2	2.27		0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Water Use Revenue		$1,049	$1,052	$750	$778	$448	$571	$551	$486	$529	$760	$635	$865	**$8,473**
Total Commercial - IVGID			**$3,656**	**$3,659**	**$3,357**	**$3,385**	**$3,056**	**$3,178**	**$3,159**	**$3,093**	**$3,136**	**$3,367**	**$3,242**	**$3,472**	**$39,760**

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Irrigation - IVGID															
Meter Fee	*$ / Acct.*														
3/4"	$11.97	$15.10	3	3	3	3	3	3	3	3	3	3	3	3	3
1"	19.99	25.22	5	5	5	5	5	5	5	5	5	5	5	5	5
1 1/2"	39.86	50.28	2	2	2	2	2	2	2	2	2	2	2	2	2
2"	63.80	80.48	4	4	4	4	4	4	4	4	4	4	4	4	4
3"	119.70	151.00	3	3	3	3	3	3	3	3	3	3	3	3	3
4"	199.54	251.72	3	3	3	3	3	3	3	3	3	3	3	3	3
6"	398.96	503.28	0	0	0	0	0	0	0	0	0	0	0	0	0
8"	638.36	805.28	0	0	0	0	0	0	0	0	0	0	0	0	0
10"	917.50	1,157.42	0	0	0	0	0	0	0	0	0	0	0	0	0
			20	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**	**20**
	Total Meter Fee Revenue		$3,231	$3,231	$3,231	$3,231	$3,231	$3,231	$3,231	$3,231	$3,231	$3,231	$3,231	$3,231	**$38,766**
Admin Fee	$3.97		20	20	20	20	20	20	20	20	20	20	20	20	20
Defensible Space	1.05		20	20	20	20	20	20	20	20	20	20	20	20	20
			$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	$100	**$1,205**
Water Use	*$ / 1,000 gal*														
All Use	$1.55		24,501	22,364	14,244	8,415	331	14	16	14	53	6,480	16,266	23,102	115,800
Tier 1	0.93		32	56	7	0	0	0	0	0	0	0	0	13	108
Tier 2	2.27		0	0	0	0	0	0	0	0	0	0	0	0	0
	Total Water Use Revenue		$38,006	$34,717	$22,085	$13,044	$514	$22	$25	$21	$82	$10,044	$25,212	$35,819	**$179,590**
Total Irrigation - IVGID			**$41,337**	**$38,047**	**$25,416**	**$16,375**	**$3,845**	**$3,353**	**$3,356**	**$3,352**	**$3,413**	**$13,375**	**$28,543**	**$39,150**	**$219,561**

			July	August	September	October	November	December	January	February	March	April	May	June	Total
Snowmaking - IVGID															
Meter Fee	*$ / Acct.*														
3/4"	$11.97	$15.10	0	0	0	0	0	0	0	0	0	0	0	0	0
1"	19.99	25.22	0	0	0	0	0	0	0	0	0	0	0	0	0
1 1/2"	39.86	50.28	0	0	0	0	0	0	0	0	0	0	0	0	0
2"	63.80	80.48	0	0	0	0	0	0	0	0	0	0	0	0	0
3"	119.70	151.00	0	0	0	0	0	0	0	0	0	0	0	0	0
4"	199.54	251.72	0	0	0	0	0	0	0	0	0	0	0	0	0
6"	398.96	503.28	0	0	0	0	0	0	0	0	0	0	0	0	0
8"	638.36	805.28	0	0	0	0	0	0	0	0	0	0	0	0	0
10"	917.50	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		$2,075	$2,075	$2,075	$2,075	$2,075	$2,075	$2,075	$2,075	$2,075	$2,075	$2,075	$2,075	$24,899
Admin Fee	$3.97		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	$48
Water Use	*$ / 1,000 gal*														
All Use	$1.55		77	551	248	1,903	29,084	23,170	0	0	0	0	67	0	55,099
Tier 1	0.93														0
Tier 2	2.27														0
	Total Water Use Revenue		$119	$854	$385	$2,949	$45,080	$35,914	$0	$0	$0	$0	$104	$0	$85,404
Total Snowmaking - IVGID			$2,198	$2,932	$2,464	$5,028	$47,159	$37,993	$2,079	$2,079	$2,079	$2,079	$2,183	$2,079	$110,350

	July	August	September	October	November	December	January	February	March	April	May	June	Total
Summary													
Customer													
Residential	3,696	3,692	3,692	3,692	3,693	3,693	3,693	3,693	3,694	3,694	3,695	3,696	3,694
Multi Family	258	258	258	258	258	258	258	258	258	258	258	258	258
Commercial	204	204	204	204	204	204	204	204	204	204	204	204	204
Irrigation	62	62	62	62	62	62	62	62	62	62	62	62	62
Commercial - IVGID	27	27	27	27	27	27	27	27	27	27	27	27	27
Irrigation - IVGID	20	20	20	20	20	20	20	20	20	20	20	20	20
Snowmaking - IVGID	1	1	1	1	1	1	1	1	1	1	1	1	1
	4,268	**4,264**	**4,264**	**4,264**	**4,265**	**4,265**	**4,265**	**4,265**	**4,266**	**4,266**	**4,267**	**4,268**	**4,266**
Consumption (1,000 gal)													
Residential	84,035	80,942	65,992	45,964	10,931	13,478	10,969	10,693	10,383	19,699	54,275	68,816	476,178
Multi Family	35,313	35,311	27,974	21,854	10,851	13,960	11,407	11,803	11,784	14,156	24,911	28,473	247,795
Commercial	8,945	8,370	6,718	5,927	3,583	4,737	3,966	4,484	4,495	4,985	6,550	7,373	70,133
Irrigation	9,896	9,518	7,091	4,100	64	9	20	134	24	1,347	6,749	8,822	47,772
Commercial - IVGID	640	621	464	448	283	358	331	311	326	436	384	535	5,137
Irrigation - IVGID	24,501	22,364	14,244	8,415	331	14	16	14	53	6,480	16,266	23,102	115,800
Snowmaking - IVGID	77	551	248	1,903	29,084	23,170	0	0	0	0	67	0	55,099
	163,406	**157,677**	**122,731**	**88,610**	**55,126**	**55,727**	**26,710**	**27,438**	**27,065**	**47,102**	**109,201**	**137,120**	**1,017,914**
Total Revenue													
Residential	$311,011	$312,158	$263,683	$207,995	$135,900	$140,788	$135,510	$135,082	$134,634	$149,074	$233,356	$268,459	$2,427,652
Multi Family	176,055	175,867	162,819	151,199	132,826	137,542	133,519	134,133	134,103	138,004	158,430	164,021	1,798,519
Commercial	36,458	34,747	30,905	29,448	24,997	27,570	25,993	26,975	26,836	27,653	30,720	32,550	354,852
Irrigation	30,238	28,781	22,058	13,677	5,759	5,674	5,691	6,022	5,697	7,874	19,789	26,573	177,834
Commercial - IVGID	3,656	3,659	3,357	3,385	3,056	3,178	3,159	3,093	3,136	3,367	3,242	3,472	39,760
Irrigation - IVGID	41,337	38,047	25,416	16,375	3,845	3,353	3,356	3,352	3,413	13,375	28,543	39,150	219,561
Snowmaking - IVGID	2,198	2,932	2,464	5,028	47,159	37,993	2,079	2,079	2,079	2,079	2,183	2,079	110,350
	$600,953	**$596,192**	**$510,701**	**$427,108**	**$353,542**	**$356,099**	**$309,308**	**$310,737**	**$309,898**	**$341,425**	**$476,262**	**$536,304**	**$5,128,528**
												FY 2021 Actual	**$4,974,287**
												Difference	*$154,241*
												Percent	*3.1%*
												FY 2022 Budget	**$5,100,593**
												Difference	*$27,935*
												Percent	*0.5%*

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

		Exhibit 6 - RPR	Projected										
		FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Notes
Residential													
Meter Fee	*$ / Acct.*												
3/4"	$27.07	3,694	3,697	3,701	3,705	3,708	3,712	3,716	3,720	3,723	3,727	3,731	As Single Family - Cust Growth
		3,694	**3,697**	**3,701**	**3,705**	**3,708**	**3,712**	**3,716**	**3,720**	**3,723**	**3,727**	**3,731**	
Revenue		*$1,199,824*	*$1,201,024*	*$1,202,226*	*$1,203,428*	*$1,204,630*	*$1,205,835*	*$1,207,040*	*$1,208,249*	*$1,209,457*	*$1,210,666*	*$1,211,877*	
Admin Fee	$3.97	3,694	3,697	3,701	3,705	3,708	3,712	3,716	3,720	3,723	3,727	3,731	
Defensible Space	$1.05	3,694	3,697	3,701	3,705	3,708	3,712	3,716	3,720	3,723	3,727	3,731	
		$222,501	*$222,724*	*$222,947*	*$223,170*	*$223,393*	*$223,616*	*$223,840*	*$224,064*	*$224,288*	*$224,512*	*$224,737*	
Water Use	*$ / 1,000 gal*												
All Use	$1.55	476,178	476,178	476,178	476,178	476,178	476,178	476,178	476,178	476,178	476,178	476,178	As Single Family - Cons Growth
20,000 - 60,000	0.93	151,188	151,188	151,188	151,188	151,188	151,188	151,188	151,188	151,188	151,188	151,188	As Single Family - Cons Growth
60,000+	2.27	55,792	55,792	55,792	55,792	55,792	55,792	55,792	55,792	55,792	55,792	55,792	As Single Family - Cons Growth
Total Water Use - Residential		**683,157**	**683,157**	**683,157**	**683,157**	**683,157**	**683,157**	**683,157**	**683,157**	**683,157**	**683,157**	**683,157**	
Revenue		*$1,005,327*	*$1,005,327*	*$1,005,327*	*$1,005,327*	*$1,005,327*	*$1,005,327*	*$1,005,327*	*$1,005,327*	*$1,005,327*	*$1,005,327*	*$1,005,327*	
Total Revenue		**$2,427,652**	**$2,429,076**	**$2,430,501**	**$2,431,926**	**$2,433,350**	**$2,434,779**	**$2,436,208**	**$2,437,640**	**$2,439,073**	**$2,440,505**	**$2,441,941**	
Multi Family													
Meter Fee													
3/4"	$27.07	4,086	4,090	4,094	4,098	4,102	4,106	4,110	4,114	4,118	4,123	4,127	As Multi-Family - Cust Growth
		4,086	**4,090**	**4,094**	**4,098**	**4,102**	**4,106**	**4,110**	**4,114**	**4,118**	**4,123**	**4,127**	
Revenue		*$1,327,188*	*$1,328,514*	*$1,329,843*	*$1,331,172*	*$1,332,503*	*$1,333,835*	*$1,335,170*	*$1,336,505*	*$1,337,841*	*$1,339,179*	*$1,340,517*	
Admin Fee	$3.97	258	258	259	259	259	259	260	260	260	260	261	As Multi-Family - Cust Growth
Defensible Space	$1.05	4,086	4,090	4,094	4,098	4,102	4,106	4,110	4,114	4,118	4,123	4,127	As Multi-Family - Cust Growth
		$63,771	*$63,834*	*$63,898*	*$63,962*	*$64,026*	*$64,090*	*$64,154*	*$64,219*	*$64,283*	*$64,347*	*$64,411*	
Water Use													
All Use	$1.55	247,795	247,795	247,795	247,795	247,795	247,795	247,795	247,795	247,795	247,795	247,795	As Multi-Family - Cons Growth
Tier 1	$0.93	10,124	10,124	10,124	10,124	10,124	10,124	10,124	10,124	10,124	10,124	10,124	As Multi-Family - Cons Growth
Tier 2	$2.27	6,195	6,195	6,195	6,195	6,195	6,195	6,195	6,195	6,195	6,195	6,195	As Multi-Family - Cons Growth
Total Water Use - Multi Family		**264,114**	**264,114**	**264,114**	**264,114**	**264,114**	**264,114**	**264,114**	**264,114**	**264,114**	**264,114**	**264,114**	
Revenue		*$407,560*	*$407,560*	*$407,560*	*$407,560*	*$407,560*	*$407,560*	*$407,560*	*$407,560*	*$407,560*	*$407,560*	*$407,560*	
Total Revenue		**$1,798,519**	**$1,799,909**	**$1,801,301**	**$1,802,694**	**$1,804,090**	**$1,805,486**	**$1,806,885**	**$1,808,284**	**$1,809,684**	**$1,811,086**	**$1,812,489**	

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

		Exhibit 6 - RPR	Projected									
		FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Notes
Commercial													
Meter Fee	*$ / Acct.*												
3/4"	$27.07	72	72	72	72	72	72	72	72	73	73	73	As Commercial - Cust Growth
1"	45.21	53	53	53	53	53	53	53	53	53	53	54	As Commercial - Cust Growth
1 1/2"	90.14	41	41	41	41	41	41	41	41	41	41	41	As Commercial - Cust Growth
2"	144.28	26	26	26	26	26	26	26	26	26	26	26	As Commercial - Cust Growth
3"	270.70	6	6	6	6	6	6	6	6	6	6	6	As Commercial - Cust Growth
4"	451.26	3	3	3	3	3	3	3	3	3	3	3	As Commercial - Cust Growth
6"	902.24	2	2	2	2	2	2	2	2	2	2	2	As Commercial - Cust Growth
8"	1,443.64	1	1	1	1	1	1	1	1	1	1	1	As Commercial - Cust Growth
10"	2,074.92	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		*$216,220*	*$216,398*	*$216,575*	*$216,753*	*$216,930*	*$217,108*	*$217,285*	*$217,463*	*$217,640*	*$217,818*	*$217,996*	
Admin Fee	$3.97	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	
		$12,289	*$12,301*	*$12,313*	*$12,325*	*$12,337*	*$12,349*	*$12,361*	*$12,373*	*$12,385*	*$12,397*	*$12,409*	
Water Use	*$ / 1,000 gal*												
All Use	$1.55	70,133	70,133	70,133	70,133	70,133	70,133	70,133	70,133	70,133	70,133	70,133	As Commercial - Cons Growth
Tier 1	$0.93	17,284	17,284	17,284	17,284	17,284	17,284	17,284	17,284	17,284	17,284	17,284	As Commercial - Cons Growth
Tier 2	$2.27	688	688	688	688	688	688	688	688	688	688	688	As Commercial - Cons Growth
Total Water Use - Commercial		**88,105**	**88,105**	**88,105**	**88,105**	**88,105**	**88,105**	**88,105**	**88,105**	**88,105**	**88,105**	**88,105**	
		$126,343	*$126,343*	*$126,343*	*$126,343*	*$126,343*	*$126,343*	*$126,343*	*$126,343*	*$126,343*	*$126,343*	*$126,343*	
Total Revenue		**$354,852**	**$355,041**	**$355,231**	**$355,421**	**$355,610**	**$355,800**	**$355,989**	**$356,179**	**$356,369**	**$356,558**	**$356,748**	

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

		Exhibit 6 - RPR	*Projected*										
		FY 2022	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**FY 2030**	**FY 2031**	**FY 2032**	***Notes***
Irrigation													
Meter Fee	***$ / Acct.***												
3/4"	$27.07	16	16	16	16	16	16	16	16	16	16	16	As Irrigation - Cust Growth
1"	45.21	20	20	20	20	20	20	20	20	20	20	20	As Irrigation - Cust Growth
1 1/2"	90.14	10	10	10	10	10	10	10	10	10	10	10	As Irrigation - Cust Growth
2"	144.28	12	12	12	12	12	12	12	12	12	12	12	As Irrigation - Cust Growth
3"	270.70	2	2	2	2	2	2	2	2	2	2	2	As Irrigation - Cust Growth
4"	451.26	2	2	2	2	2	2	2	2	2	2	2	As Irrigation - Cust Growth
6"	902.24	0	0	0	0	0	0	0	0	0	0	0	As Irrigation - Cust Growth
8"	1,443.64	0	0	0	0	0	0	0	0	0	0	0	As Irrigation - Cust Growth
10"	2,074.92	0	0	0	0	0	0	0	0	0	0	0	As Irrigation - Cust Growth
		62	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**62**	**63**	**63**	
Revenue		*$64,968*	*$65,013*	*$65,059*	*$65,104*	*$65,150*	*$65,195*	*$65,241*	*$65,286*	*$65,332*	*$65,377*	*$65,423*	
Admin Fee	$3.97	62	62	62	62	62	62	62	62	62	63	63	
Defensible Space	$0.00	62	62	62	62	62	62	62	62	62	63	63	
		$2,954	*$2,957*	*$2,959*	*$2,962*	*$2,965*	*$2,968*	*$2,971*	*$2,974*	*$2,977*	*$2,979*	*$2,982*	
Water Use	***$ / 1,000 gal***												
All Use	$1.55	47,772	47,772	47,772	47,772	47,772	47,772	47,772	47,772	47,772	47,772	47,772	As Irrigation - Cons Growth
Tier 1	0.93	14,045	14,045	14,045	14,045	14,045	14,045	14,045	14,045	14,045	14,045	14,045	As Irrigation - Cons Growth
Tier 2	2.27	10,046	10,046	10,046	10,046	10,046	10,046	10,046	10,046	10,046	10,046	10,046	As Irrigation - Cons Growth
Total Water Use - Irrigation		**71,863**	**71,863**	**71,863**	**71,863**	**71,863**	**71,863**	**71,863**	**71,863**	**71,863**	**71,863**	**71,863**	
Revenue		*$109,912*	*$109,912*	*$109,912*	*$109,912*	*$109,912*	*$109,912*	*$109,912*	*$109,912*	*$109,912*	*$109,912*	*$109,912*	
Total Revenue		**$177,834**	**$177,882**	**$177,930**	**$177,979**	**$178,027**	**$178,075**	**$178,124**	**$178,172**	**$178,220**	**$178,269**	**$178,317**	

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

		Exhibit 6 - RPR	Projected									
		FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Notes
Commercial - IVGID													
Meter Fee	*$ / Acct.*												
3/4"	$27.07	5	5	5	5	5	5	5	5	5	5	5	As IVGID - Cust Growth
1"	45.21	7	7	7	7	7	7	7	7	7	7	7	As IVGID - Cust Growth
1 1/2"	90.14	5	5	5	5	5	5	5	5	5	5	5	As IVGID - Cust Growth
2"	144.28	9	9	9	9	9	9	9	9	9	9	9	As IVGID - Cust Growth
3"	270.70	1	1	1	1	1	1	1	1	1	1	1	As IVGID - Cust Growth
4"	451.26	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
6"	902.24	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
8"	1,443.64	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
10"	2,074.92	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
		27	**27**	**27**	**27**	**27**	**27**	**27**	**27**	**27**	**27**	**27**	
Revenue		*$29,661*	*$29,698*	*$29,735*	*$29,772*	*$29,808*	*$29,845*	*$29,882*	*$29,919*	*$29,956*	*$29,992*	*$30,029*	
Admin Fee	$3.97	27	27	27	27	27	27	27	27	27	27	27	As IVGID - Cust Growth
Defensible Space	$1.05	27	27	27	27	27	27	27	27	27	27	27	As IVGID - Cust Growth
		$1,626	*$1,628*	*$1,630*	*$1,632*	*$1,634*	*$1,636*	*$1,637*	*$1,639*	*$1,641*	*$1,643*	*$1,645*	
Water Use	*$ / 1,000 gal*												
All Use	$1.55	5,137	5,137	5,137	5,137	5,137	5,137	5,137	5,137	5,137	5,137	5,137	As IVGID - Cons Growth
Tier 1	0.93	548	548	548	548	548	548	548	548	548	548	548	As IVGID - Cons Growth
Tier 2	2.27	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cons Growth
Total Water Use - Commercial - IVGI		**5,686**	**5,686**	**5,686**	**5,686**	**5,686**	**5,686**	**5,686**	**5,686**	**5,686**	**5,686**	**5,686**	
Revenue		*$8,473*	*$8,473*	*$8,473*	*$8,473*	*$8,473*	*$8,473*	*$8,473*	*$8,473*	*$8,473*	*$8,473*	*$8,473*	
Total Revenue		**$39,760**	**$39,799**	**$39,838**	**$39,876**	**$39,915**	**$39,953**	**$39,992**	**$40,031**	**$40,069**	**$40,108**	**$40,147**	

		Exhibit 6 - RPR	Projected										
		FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Notes
Irrigation - IVGID													
Meter Fee	*$ / Acct.*												
3/4"	$27.07	3	3	3	3	3	3	3	3	3	3	3	As IVGID - Cust Growth
1"	45.21	5	5	5	5	5	5	5	5	5	5	5	As IVGID - Cust Growth
1 1/2"	90.14	2	2	2	2	2	2	2	2	2	2	2	As IVGID - Cust Growth
2"	144.28	4	4	4	4	4	4	4	4	4	4	4	As IVGID - Cust Growth
3"	270.70	3	3	3	3	3	3	3	3	3	3	3	As IVGID - Cust Growth
4"	451.26	3	3	3	3	3	3	3	3	3	3	3	As IVGID - Cust Growth
6"	902.24	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
8"	1,443.64	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
10"	2,074.92	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
		20	20	20	20	20	20	20	20	20	20	20	
Revenue		*$38,766*	*$38,772*	*$38,777*	*$38,783*	*$38,788*	*$38,794*	*$38,799*	*$38,804*	*$38,810*	*$38,815*	*$38,821*	
Admin Fee	$3.97	20	20	20	20	20	20	20	20	20	20	20	As IVGID - Cust Growth
Defensible Space	$1.05	20	20	20	20	20	20	20	20	20	20	20	As IVGID - Cust Growth
		$1,205	*$1,206*	*$1,207*	*$1,208*	*$1,210*	*$1,211*	*$1,212*	*$1,213*	*$1,214*	*$1,216*	*$1,217*	
Water Use	*$ / 1,000 gal*												
All Use	$1.55	115,800	115,800	115,800	115,800	115,800	115,800	115,800	115,800	115,800	115,800	115,800	As IVGID - Cons Growth
Tier 1	0.93	108	108	108	108	108	108	108	108	108	108	108	As IVGID - Cons Growth
Tier 2	2.27	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cons Growth
Total Water Use - Irrigation - IVGID		115,907	115,907	115,907	115,907	115,907	115,907	115,907	115,907	115,907	115,907	115,907	
Revenue		*$179,590*	*$179,590*	*$179,590*	*$179,590*	*$179,590*	*$179,590*	*$179,590*	*$179,590*	*$179,590*	*$179,590*	*$179,590*	
Total Revenue		$219,561	$219,568	$219,574	$219,581	$219,587	$219,594	$219,601	$219,607	$219,614	$219,621	$219,627	
Snowmaking - IVGID													
Meter Fee	*$ / Acct.*												
3/4"	$27.07	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
1"	45.21	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
1 1/2"	90.14	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
2"	144.28	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
3"	270.70	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
4"	451.26	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
6"	902.24	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
8"	1,443.64	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cust Growth
10"	2,074.92	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		*$24,899*	*$24,899*	*$24,899*	*$24,899*	*$24,899*	*$24,899*	*$24,899*	*$24,899*	*$24,899*	*$24,899*	*$24,899*	
Admin Fee	$3.97	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
		$48	*$48*	*$48*	*$48*	*$48*	*$48*	*$48*	*$48*	*$48*	*$48*	*$48*	
Water Use	*$ / 1,000 gal*												
All Use	$1.55	55,099	55,099	55,099	55,099	55,099	55,099	55,099	55,099	55,099	55,099	55,099	As IVGID - Cons Growth
Tier 1	0.93	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cons Growth
Tier 2	2.27	0	0	0	0	0	0	0	0	0	0	0	As IVGID - Cons Growth
Total Water Use - Snowmaking - IVGI		55,099	55,099	55,099	55,099	55,099	55,099	55,099	55,099	55,099	55,099	55,099	
Revenue		*$85,404*	*$85,404*	*$85,404*	*$85,404*	*$85,404*	*$85,404*	*$85,404*	*$85,404*	*$85,404*	*$85,404*	*$85,404*	
Total Revenue		$110,350	$110,350	$110,350	$110,350	$110,350	$110,350	$110,350	$110,350	$110,350	$110,350	$110,350	
Revenues													
Fixed		$3,205,920	$3,209,017	$3,212,117	$3,215,218	$3,218,322	$3,221,429	$3,224,540	$3,227,655	$3,230,770	$3,233,889	$3,237,011	
Variable		1,922,609	1,922,609	1,922,609	1,922,609	1,922,609	1,922,609	1,922,609	1,922,609	1,922,609	1,922,609	1,922,609	
		$5,128,528	$5,131,625	$5,134,726	$5,137,826	$5,140,930	$5,144,038	$5,147,149	$5,150,264	$5,153,379	$5,156,497	$5,159,619	

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

	FY 2023 Consumption (1,000 gal)	5.0% Unaccounted [1]	Net Water Delivered *(Flow + Losses)*	Total Consumption (MGD)	Component % of Total	Class Total % of Total
Residential						**46.8%**
All Use	269,199	13,460	282,659	0.77	26.4%	
20,000 - 60,000	151,188	7,559	158,747	0.43	14.9%	
60,000+	55,792	2,790	58,581	0.16	5.5%	
Multi Family	247,795	12,390	260,185	0.71	24.3%	**24.3%**
Commercial	70,133	3,507	73,639	0.20	6.9%	**6.9%**
Irrigation	47,772	2,389	50,161	0.14	4.7%	**4.7%**
Commercial - IVGID	5,137	257	5,394	0.01	0.5%	**0.5%**
Irrigation - IVGID	115,800	5,790	121,590	0.33	11.4%	**11.4%**
Snowmaking - IVGID	55,099	2,755	57,854	0.16	5.4%	**5.4%**
	1,017,914	**50,896**	**1,068,810**	**2.93**	**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					**50.1%**
All Use	0.77	2.12	1.64	28.3%	
20,000 - 60,000	0.43	2.12	0.92	15.9%	
60,000+	0.16	2.12	0.34	5.9%	
Multi Family	0.71	1.71	1.22	21.0%	**21.0%**
Commercial	0.20	1.53	0.31	5.3%	**5.3%**
Irrigation	0.14	2.49	0.34	5.9%	**5.9%**
Commercial - IVGID	0.01	1.50	0.02	0.4%	**0.4%**
Irrigation - IVGID	0.33	2.54	0.85	14.6%	**14.6%**
Snowmaking - IVGID	0.16	1.00	0.16	2.7%	**2.7%**
	2.93		**5.80**	**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

	Actual Customer		*Customer Service & Acctng.*		*Meters & Services [1]*	
	Number of Accounts	% of Total	Number of Living Units	% of Total	Weighted Customer	% of Total
Residential	3,694	86.6%	3,694	45.6%	3,694	41.4%
Multi Family	258	6.0%	4,086	50.5%	4,086	45.7%
Commercial	204	4.8%	204	2.5%	666	7.5%
Irrigation	62	1.5%	62	0.8%	200	2.2%
Commercial - IVGID	27	0.6%	27	0.3%	91	1.0%
Irrigation - IVGID	20	0.5%	20	0.2%	119	1.3%
Snowmaking - IVGID	1	0.0%	1	0.0%	77	0.9%
Total	**4,266**	**100.0%**	**8,093**	**100.0%**	**8,932**	**100.0%**

Notes

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

Factor	***(AC)***	***(WCA)***	***(WCMS)***

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	3,694	0	0	0	0	0	0	0	0	**3,694**	45.6%
Multi Family	4,086	0	0	0	0	0	0	0	0	**4,086**	50.5%
Commercial	72	53	41	26	6	3	2	1	0	**204**	2.5%
Irrigation	16	20	10	12	2	2	0	0	0	**62**	0.8%
Commercial - IVGID	5	7	5	9	1	0	0	0	0	**27**	0.3%
Irrigation - IVGID	3	5	2	4	3	3	0	0	0	**20**	0.2%
Snowmaking - IVGID	0	0	0	0	0	0	0	0	1	**1**	0.0%
Total Meters	**7,875**	**85**	**58**	**51**	**12**	**8**	**2**	**1**	**1**	**8,093**	
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	3,694	0	0	0	0	0	0	0	0	**3,694**	1.00
Multi Family	4,086	0	0	0	0	0	0	0	0	**4,086**	1.00
Commercial	72	89	137	139	60	50	67	53	0	**666**	3.26
Irrigation	16	33	33	64	20	33	0	0	0	**200**	3.23
Commercial - IVGID	5	12	17	48	10	0	0	0	0	**91**	3.38
Irrigation - IVGID	3	8	7	21	30	50	0	0	0	**119**	5.97
Snowmaking - IVGID	0	0	0	0	0	0	0	0	77	**77**	76.67
Total Equiv. Meters	**7,875**	**142**	**193**	**272**	**120**	**133**	**67**	**53**	**77**	**8,932**	

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	3,694	1,000	90	332,423	40.3%
Multi Family	4,086	1,000	90	367,710	44.6%
Commercial	204	3,000	180	110,160	13.4%
Irrigation	62	0	0	0	0.0%
Commercial - IVGID	27	3,000	180	14,580	1.8%
Irrigation - IVGID	20	0	0	0	0.0%
Snowmaking - IVGID	1	0	0	0	0.0%
Total	**8,093**			**824,873**	**100.0%**
Factor					***(FP)***

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

	Projected FY 2023	% of Total
Residential	$2,429,076	47.3%
Multi Family	1,799,909	35.1%
Commercial	355,041	6.9%
Irrigation	177,882	3.5%
Commercial - IVGID	39,799	0.8%
Irrigation - IVGID	219,568	4.3%
Snowmaking - IVGID	110,350	2.2%
Total Rate Revenues	**$5,131,625**	**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: Actual Customer (AC)	Customer Related: Cust. Acctg. (WCA)	Customer Related: Meters & Services (WCMS)	Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification	
Land	$5,028,320	$5,028,320	$0	$0	$0	$0	$0	$0	$0	100.0% COM	
Source of Supply	$1,055	$532	$522	$0	$0	$0	$0	$0	$0	50.5% COM	49.5% CAP
Treatment	$4,815,026	$2,431,106	$2,383,919	$0	$0	$0	$0	$0	$0	50.5% COM	49.5% CAP
Pump Station	$1,772,867	$895,120	$877,746	$0	$0	$0	$0	$0	$0	50.5% COM	49.5% 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**	**$8,471,622**	**$10,456,859**	**$0**	**$0**	**$6,644,346**	**$615,510**	**$0**	**$0**		
Percent Plant Before General Plant	*100.0%*	*32.3%*	*39.9%*	*0.0%*	*0.0%*	*25.4%*	*2.4%*	*0.0%*	*0.0%*	*Factor PBG*	
General Plant											
Building & Structures	$3,225,599	$1,043,444	$1,287,964	$0	$0	$818,379	$75,812	$0	$0	As Factor PBG	
Equipment	1,076,397	348,202	429,799	0	0	273,097	25,299	0	0	As Factor PBG	
Vehicles	416,021	134,578	166,115	0	0	105,550	9,778	0	0	As Factor PBG	
Misc	13,650	4,416	5,450	0	0	3,463	321	0	0	As Factor PBG	
Office Equipment	4,326	1,399	1,727	0	0	1,098	102	0	0	As Factor PBG	
Total General Plant	**$4,735,994**	**$1,532,039**	**$1,891,056**	**$0**	**$0**	**$1,201,588**	**$111,311**	**$0**	**$0**		
Total Net Plant in Service	**$30,924,331**	**$10,003,661**	**$12,347,916**	**$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	2.93	*COM*	50.5%
Peak Day	5.80	*(1-COM) = CAP*	49.5%

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**
Transmission	16"	13,468	148.64	2,001,840
	18"	3,949	173.64	685,678
	20"	2,053	198.64	407,856
	24"	3,793	223.64	848,367
	30"	61	248.64	15,229
	36"	72	273.64	19,639
	60"	275	298.64	81,977
	Total 16" - 60"	**23,671**		**$4,060,587**

		Adjusted
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%

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

	FY 2023	Commodity (COM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for Cust. Acctg. (WCA)	Customer Related: Weighted for Meters & Services (WCMS)	Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Allocation
Expenses										
Wages										
Other Earnings	$54,054	$17,486	$21,583	$0	$0	$13,714	$1,270	$0	$0	As Net Plant in Service
Regular Earnings	1,469,501	475,366	586,764	0	0	372,833	34,538	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	**$1,523,555**	**$492,852**	**$608,347**	**$0**	**$0**	**$386,547**	**$35,808**	**$0**	**$0**	
Benefits										
Dental Fringe Ben	$20,415	$6,604	$8,152	$0	$0	$5,180	$480	$0	$0	As Net Plant in Service
Disability Fringe Ben	7,525	2,434	3,005	0	0	1,909	177	0	0	As Net Plant in Service
Life Ins Fringe Ben	2,826	914	1,128	0	0	717	66	0	0	As Net Plant in Service
Medical Fringe Ben	282,680	91,444	112,873	0	0	71,720	6,644	0	0	As Net Plant in Service
Retirement Fringe Ben	267,925	86,670	106,981	0	0	67,976	6,297	0	0	As Net Plant in Service
Taxes	121,110	39,178	48,359	0	0	30,727	2,846	0	0	As Net Plant in Service
Unemployment Fringe Ben	23,785	7,694	9,497	0	0	6,035	559	0	0	As Net Plant in Service
Vision Fringe Ben	2,303	745	920	0	0	584	54	0	0	As Net Plant in Service
Work Comp Fringe Ben	37,962	12,280	15,158	0	0	9,631	892	0	0	As Net Plant in Service
Total Benefits	**$766,531**	**$247,964**	**$306,071**	**$0**	**$0**	**$194,479**	**$18,016**	**$0**	**$0**	
Services & Supplies										
Advertising - Paid	$1,100	$356	$439	$0	$0	$279	$26	$0	$0	As Net Plant in Service
BLDGS Maintenance Services	85,034	27,508	33,954	0	0	21,574	1,999	0	0	As Bldgs & Structures
Chemical	189,067	189,067	0	0	0	0	0	0	0	100.0% COM
Computer & IT Small Equip	3,300	1,068	1,318	0	0	837	78	0	0	As Net Plant in Service
Computer License & Fees	86,321	27,924	34,468	0	0	21,901	2,029	0	0	As Net Plant in Service
Contractual Services	38,547	12,470	15,392	0	0	9,780	906	0	0	As Net Plant in Service
Dues & Subscriptions	9,062	2,931	3,618	0	0	2,299	213	0	0	As Net Plant in Service
Employee Recruit & Retain	16,445	5,320	6,566	0	0	4,172	387	0	0	As Net Plant in Service
Fleet Maintenance Services	204,886	66,278	81,810	0	0	51,982	4,815	0	0	As Net Plant in Service
Fuel	42,768	13,835	17,077	0	0	10,851	1,005	0	0	As Net Plant in Service
Janitorial	23,100	7,473	9,224	0	0	5,861	543	0	0	As Net Plant in Service
Lab	19,360	9,775	9,585	0	0	0	0	0	0	As Treatment
Office Supplies	12,866	4,162	5,137	0	0	3,264	302	0	0	As Net Plant in Service
Operating	65,604	21,222	26,195	0	0	16,645	1,542	0	0	As Net Plant in Service
Permits & Fees	18,669	6,039	7,455	0	0	4,737	439	0	0	As Net Plant in Service
Postage	20,460	0	0	20,460	0	0	0	0	0	100.0% AC
R& M General	78,672	25,449	31,413	0	0	19,960	1,849	0	0	As Net Plant in Service
R&M Corrective	155,650	50,351	62,150	0	0	39,491	3,658	0	0	As Net Plant in Service
R&M Preventative	105,270	34,054	42,034	0	0	26,708	2,474	0	0	As Net Plant in Service
Rental & Lease	1,056	342	422	0	0	268	25	0	0	As Net Plant in Service
Repairs & Maintenance	604,423	195,524	241,343	0	0	153,350	14,206	0	0	As Net Plant in Service
Safety	6,930	2,242	2,767	0	0	1,758	163	0	0	As Net Plant in Service
Security	7,260	2,349	2,899	0	0	1,842	171	0	0	As Net Plant in Service
Small Equipment	10,780	3,487	4,304	0	0	2,735	253	0	0	As Net Plant in Service
Tools	7,700	2,491	3,075	0	0	1,954	181	0	0	As Net Plant in Service
Training & Education	17,380	5,622	6,940	0	0	4,410	408	0	0	As Net Plant in Service
Travel & Conferences	21,120	6,832	8,433	0	0	5,358	496	0	0	As Net Plant in Service
Uniforms	13,310	4,306	5,315	0	0	3,377	313	0	0	As Net Plant in Service
Total Services & Supplies	**$1,866,140**	**$728,474**	**$663,331**	**$20,460**	**$0**	**$415,394**	**$38,481**	**$0**	**$0**	

	FY 2023	Commodity *(COM)*	Capacity *(CAP)*	Customer Related: Actual Customer *(AC)*	Customer Related: Weighted for Cust. Acctg. *(WCA)*	Customer Related: Weighted for Meters & Services *(WCMS)*	Public Fire Protection *(FP)*	Revenue Related *(RR)*	Direct Assign. *(DA)*	*Basis of Allocation*
Other										
Central Services Allocation Cs	$236,301	$76,441	$94,354	$0	$0	$59,953	$5,554	$0	$0	As Net Plant in Service
Defensible Space Costs	55,000	0	0	0	0	0	55,000	0	0	100.0% FP
General Liability - Insurance	119,377	38,617	47,667	0	0	30,288	2,806	0	0	As Net Plant in Service
Audit	6,435	2,082	2,569	0	0	1,633	151	0	0	As Net Plant in Service
Legal	13,200	4,270	5,271	0	0	3,349	310	0	0	As Net Plant in Service
Professional Consultants	74,550	24,116	29,767	0	0	18,914	1,752	0	0	As Net Plant in Service
Interfund Expense Transfers	(181,289)	(58,645)	(72,388)	0	0	(45,995)	(4,261)	0	0	As Net Plant in Service
Total Other	**$323,574**	**$86,881**	**$107,240**	**$0**	**$0**	**$68,141**	**$61,312**	**$0**	**$0**	
Utilities										
Cable TV	$1,980	$641	$791	$0	$0	$502	$47	$0	$0	As Net Plant in Service
Electricity	450,010	145,573	179,687	0	0	114,174	10,577	0	0	As Net Plant in Service
Heating	12,320	3,985	4,919	0	0	3,126	290	0	0	As Net Plant in Service
Internet	12,540	4,057	5,007	0	0	3,182	295	0	0	As Net Plant in Service
Telephone	23,173	7,496	9,253	0	0	5,879	545	0	0	As Net Plant in Service
Trash	7,810	2,526	3,118	0	0	1,982	184	0	0	As Net Plant in Service
Water & Sewer	3,408	1,102	1,361	0	0	865	80	0	0	As Net Plant in Service
Total Utilities	**$511,240**	**$165,380**	**$204,135**	**$0**	**$0**	**$129,709**	**$12,016**	**$0**	**$0**	
Future O&M										
Additional Staffing Needs	$230,000	$74,402	$91,838	$0	$0	$58,354	$5,406	$0	$0	As Net Plant in Service
One-Time Inflation Contingency	200,000	64,698	79,859	0	0	50,743	4,701	0	0	As Net Plant in Service
Open	0	0	0	0	0	0	0	0	0	As Net Plant in Service
Open	0	0	0	0	0	0	0	0	0	As Net Plant in Service
Total Future O&M	**$430,000**	**$139,100**	**$171,697**	**$0**	**$0**	**$109,097**	**$10,106**	**$0**	**$0**	
Total Operations & Maintenance	**$5,421,040**	**$1,860,651**	**$2,060,822**	**$20,460**	**$0**	**$1,303,367**	**$175,740**	**$0**	**$0**	
Debt Service										
NV DWSRF 2012	$193,372	$62,554	$77,212	$0	$0	$49,061	$4,545	$0	$0	As Net Plant in Service
NV Drk Wtr Loan 2005	113,648	36,764	45,379	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	56,289	18,209	22,476	0	0	14,281	1,323	0	0	As Net Plant in Service
Total Debt Service	$363,309	$117,526	$145,067	$0	$0	$92,176	$8,539	$0	$0	
Less Capital Reserve Funding	$363,309	$117,526	$145,067	$0	$0	$92,176	$8,539	$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

	FY 2023	Commodity (COM)	Capacity (CAP)	Customer Related: Actual Customer (AC)	Customer Related: Weighted for Cust. Acctg. (WCA)	Customer Related: Weighted for Meters & Services (WCMS)	Public Fire Protection (FP)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Allocation
Reserve Funding										
Operating Fund Transfer	($589,980)	($589,980)	$0	$0	$0	$0	$0	$0	$0	100.0% COM
Capital Fund Transfer	1,606,225	0	0	0	0	1,606,225	0	0	0	100.0% WCMS
Debt Reserve Fund	0	0	0	0	0	0	0	0	0	100.0% RR
Total Reserve Funding	**$1,016,245**	**($589,980)**	**$0**	**$0**	**$0**	**$1,606,225**	**$0**	**$0**	**$0**	
Total Revenue Requirement	**$6,437,285**	**$1,270,671**	**$2,060,822**	**$20,460**	**$0**	**$2,909,592**	**$175,740**	**$0**	**$0**	
Less: Non-Operating Revenues										
Interest	$7,457	$1,472	$2,387	$24	$0	$3,371	$204	$0	$0	As Total Rev Req
Snow Removal Fees	100,200	19,779	32,078	318	0	45,290	2,735	0	0	As Total Rev Req
Work Order Charges Labor	120,120	23,711	38,455	382	0	54,293	3,279	0	0	As Total Rev Req
Work Order Chgs Eq & Materials	21,321	4,209	6,826	68	0	9,637	582	0	0	As Total Rev Req
Back Flows Tests	120,120	120,120	0	0	0	0	0	0	0	100.0% COM
Fines & Penalties	25,225	4,979	8,076	80	0	11,402	689	0	0	As Total Rev Req
Fire Protection	18,114	3,576	5,799	58	0	8,187	495	0	0	As Total Rev Req
Inspection/Plan Fees	40,040	7,904	12,818	127	0	18,098	1,093	0	0	As Total Rev Req
Other Water	28,829	5,691	9,229	92	0	13,030	787	0	0	As Total Rev Req
Interfund Revenue Transfers	(202,092)	(39,891)	(64,697)	(642)	0	(91,344)	(5,517)	0	0	As Total Rev Req
Total Non-Operating Revenues	**$279,335**	**$151,548**	**$50,971**	**$506**	**$0**	**$71,964**	**$4,347**	**$0**	**$0**	
Net Revenue Requirement	**$6,157,950**	**$1,119,123**	**$2,009,851**	**$19,954**	**$0**	**$2,837,629**	**$171,393**	**$0**	**$0**	

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

		Residential									
		All Use	*20,000 - 60,000*	*60,000+*	Multi Family	Commercial	Irrigation	Commercial - IVGID	Irrigation - IVGID	Snowmaking - IVGID	*Factor*
Commodity	$1,119,123	$295,965	$166,220	$61,339	$272,433	$77,106	$52,522	$5,648	$127,313	$60,578	*COM*
Capacity	$2,009,851	$568,926	$319,521	$117,910	$422,435	$107,001	$118,379	$7,657	$293,094	$54,928	*CAP*
Direct Assign.	$0	$0			$0	$0	$0	$0	$0	$0	*Exhibit 15.2*
Net Revenue Requirement	**$3,128,975**	**$864,891**	**$485,740**	**$179,249**	**$694,868**	**$184,107**	**$170,901**	**$13,305**	**$420,408**	**$115,505**	

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

	Total	Residential	Multi-Family	Commercial	Irrigation	Snowmaking - IVGID	*Factor*
Commodity	**$1,119,123**	$523,523	$272,433	$82,754	$179,835	$60,578	*From Exhibit 14*
Capacity	**$2,009,851**	$1,006,357	$422,435	$114,659	$411,473	$54,928	*From Exhibit 14*
Customer							
Actual Customer	$19,954	$17,278	$1,207	$1,081	$384	$5	*(AC)*
Cust. Acctg.	$0	0	0	0	0	0	*(WCA)*
Meters & Services	$2,837,629	1,173,398	1,297,958	240,466	101,450	24,357	*(WCMS)*
Total Customer	**$2,857,583**	**$1,190,677**	**$1,299,165**	**$241,546**	**$101,833**	**$24,362**	
Public Fire Protection	**$171,393**	$69,071	$76,403	$25,919	$0	$0	*(FP)*
Revenue Related	**$0**	$0	$0	$0	$0	$0	*(RR)*
Direct Assign.	**$0**	$0	$0	$0	$0	$0	*From Exhibit 14*
Net Revenue Requirement	**$6,157,950**	**$2,789,628**	**$2,070,436**	**$464,878**	**$693,142**	**$139,867**	

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	**$5,131,625**	$2,429,076	$1,799,909	$394,840	$397,450	$110,350	
Net Revenue Requirement	**$6,157,950**	$2,789,628	$2,070,436	$464,878	$693,142	$139,867	
Bal. / (Def.) of Funds	**($1,026,325)**	**($360,552)**	**($270,527)**	**($70,037)**	**($295,692)**	**($29,517)**	
Required % Change in Rates	**20.0%**	**14.8%**	**15.0%**	**17.7%**	**74.4%**	**26.7%**	

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

		Residential						
		All Use	*20,000 - 60,000*	*60,000+*	**Multi-Family**	**Commercial**	**Irrigation**	**Snowmaking - IVGID**
Consumption Related	***$ / 1,000 gal***							
Commodity	$1.10	$1.10	$1.10	$1.10	$1.10	$1.10	$1.10	$1.10
Capacity	1.97	2.11	2.11	2.11	1.70	1.52	2.52	1.00
RR/FP/DA - $/CCF	0.17	0.15	0.15	0.15	0.31	0.34	0.00	0.00
	$3.24	**$3.36**	**$3.36**	**$3.36**	**$3.11**	**$2.96**	**$3.62**	**$2.10**
Customer Related	***$ / Eqiv. Mtr. / Mo***							
Actual Customer	$0.19							
Cust. Acctg.	0.00							
Meters & Services	26.47							
	$26.66							
Basic Data								
Consumption	1,017,914	269,199	151,188	55,792	247,795	75,270	163,572	55,099
# of Equiv. Meters	8,932	3,694			4,086	757	319	77
# of Meters	4,266	3,694			258	231	82	1
# of Living Units	8,093	3,694			4,086	231	82	1

	Present Rates	*Proposed*				
		FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Meter Fee						
3/4"	$11.97	$15.88	$18.70	$21.15	$21.85	$22.40
1"	19.99	26.52	31.23	35.32	36.49	37.41
1 1/2"	39.86	52.88	62.27	70.43	72.76	74.59
2"	63.80	84.64	99.67	112.73	116.46	119.39
3"	119.70	158.80	187.00	211.50	218.50	224.00
4"	199.54	264.72	311.73	352.57	364.24	373.41
6"	398.96	529.28	623.27	704.93	728.26	746.59
8"	638.36	846.88	997.27	1,127.93	1,165.26	1,194.59
10"	917.50	1,217.20	1,433.35	1,621.15	1,674.80	1,716.96
Capital Improvement Fee						
3/4"	$15.10	$15.10	$15.10	$15.10	$19.70	$20.64
1"	25.22	25.22	25.22	25.22	32.89	34.47
1 1/2"	50.28	50.28	50.28	50.28	65.58	68.74
2"	80.48	80.48	80.48	80.48	104.98	110.03
3"	151.00	151.00	151.00	151.00	196.95	206.43
4"	251.72	251.72	251.72	251.72	328.32	344.12
6"	503.28	503.28	503.28	503.28	656.44	688.04
8"	805.28	805.28	805.28	805.28	1,050.34	1,100.90
10"	1,157.42	1,157.41	1,157.41	1,157.41	1,509.63	1,582.29
Admin Fee	$3.97	$4.23	$4.44	$4.66	$4.89	$5.14
Defensible Space	1.05	1.05	1.05	1.05	1.05	1.05
Residential and Commercial Water Use						
All Use	$1.55	$2.02	$2.35	$2.62	$2.66	$2.70
Tier 1	0.93	1.21	1.41	1.57	1.60	1.62
Tier 2	2.27	2.96	3.44	3.84	3.90	3.95
Irrigation Water Use						
All Use	$1.55	$2.20	$2.76	$3.20	$3.60	$3.85
Tier 1	0.93	1.32	1.66	1.92	2.16	2.31
Tier 2	2.27	3.22	4.04	4.69	5.27	5.64

Incline Village General Improvement District
Water Rate Study
Residential Rates
Proposed Rate Alternative 1: FY 2023

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$32.09	$36.26	$4.17	13.0%
2	$35.19	$40.30	5.11	14.5%
4	$38.29	$44.34	6.05	15.8%
6	$41.39	$48.38	6.99	16.9%
8	$44.49	$52.42	7.93	17.8%
10	$47.59	$56.46	8.87	18.6%
15	$55.34	$66.56	11.22	20.3%
20	$63.09	$76.66	13.57	21.5%
25	$67.74	$82.72	14.98	22.1%
35	$77.04	$94.84	17.80	23.1%
45	$86.34	$106.96	20.62	23.9%
60	$100.29	$125.14	24.85	24.8%
75	$134.34	$169.51	35.17	26.2%
90	$168.39	$213.89	45.50	27.0%
130	$259.19	$332.22	73.03	28.2%

Present Rates

	$ / Acct
Base Fee	$11.97
Capital Fee	15.10
Admin Fee	3.97
Defensible Space	1.05

Water Use	**$ / 1,000 gal**
All Use	$1.55
20,000 - 60,000	0.93
60,000+	2.27

Proposed Rates

	$ / Acct
Base Fee	$15.88
Capital Fee	15.10
Admin Fee	4.23
Defensible Space	1.05

Water Use	**$ / 1,000 gal**
All Use	$2.02
20,000 - 60,000	1.21
60,000+	2.96

Incline Village General Improvement District
Water Rate Study
Residential Rates
Proposed Rate Alternative 1: FY 2024

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$36.26	$39.29	$3.03	8.4%
2	40.30	43.99	3.69	9.2%
4	44.34	48.69	4.35	9.8%
6	48.38	53.39	5.01	10.4%
8	52.42	58.09	5.67	10.8%
10	56.46	62.79	6.33	11.2%
15	66.56	74.54	7.98	12.0%
20	76.66	86.29	9.63	12.6%
25	82.72	93.34	10.62	12.8%
35	94.84	107.44	12.60	13.3%
45	106.96	121.54	14.58	13.6%
60	125.14	142.69	17.55	14.0%
75	169.51	194.31	24.80	14.6%
90	213.89	245.94	32.05	15.0%
130	332.22	383.60	51.38	15.5%

Present Rates

	$ / Acct
Base Fee	$15.88
Capital Fee	15.10
Admin Fee	4.23
Defensible Space	1.05

Water Use	**$ / 1,000 gal**
All Use	$2.02
20,000 - 60,000	1.21
60,000+	2.96

Proposed Rates

	$ / Acct
Base Fee	$18.70
Capital Fee	15.10
Admin Fee	4.44
Defensible Space	1.05

Water Use	**$ / 1,000 gal**
All Use	$2.35
20,000 - 60,000	1.41
60,000+	3.44

Incline Village General Improvement District
Water Rate Study
Residential Rates
Proposed Rate Alternative 1: FY 2025

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$39.29	$41.96	$2.67	6.8%
2	43.99	47.20	3.21	7.3%
4	48.69	52.44	3.75	7.7%
6	53.39	57.68	4.29	8.0%
8	58.09	62.92	4.83	8.3%
10	62.79	68.16	5.37	8.6%
15	74.54	81.26	6.72	9.0%
20	86.29	94.36	8.07	9.4%
25	93.34	102.22	8.88	9.5%
35	107.44	117.94	10.50	9.8%
45	121.54	133.66	12.12	10.0%
60	142.69	157.24	14.55	10.2%
75	194.31	214.80	20.48	10.5%
90	245.94	272.35	26.41	10.7%
130	383.60	425.83	42.23	11.0%

Present Rates

	$ / Acct
Base Fee	$18.70
Capital Fee	15.10
Admin Fee	4.44
Defensible Space	1.05

Water Use	**$ / 1,000 gal**
All Use	$2.35
20,000 - 60,000	1.41
60,000+	3.44

Proposed Rates

	$ / Acct
Base Fee	$21.15
Capital Fee	15.10
Admin Fee	4.66
Defensible Space	1.05

Water Use	**$ / 1,000 gal**
All Use	$2.62
20,000 - 60,000	1.57
60,000+	3.84

Incline Village General Improvement District
Water Rate Study
Residential Rates
Proposed Rate Alternative 1: FY 2026

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$41.96	$47.49	$5.53	13.2%
2	47.20	52.81	5.61	11.9%
4	52.44	58.13	5.69	10.8%
6	57.68	63.45	5.77	10.0%
8	62.92	68.77	5.85	9.3%
10	68.16	74.09	5.93	8.7%
15	81.26	87.39	6.13	7.5%
20	94.36	100.69	6.33	6.7%
25	102.22	108.67	6.45	6.3%
35	117.94	124.63	6.69	5.7%
45	133.66	140.59	6.93	5.2%
60	157.24	164.53	7.29	4.6%
75	214.80	222.96	8.17	3.8%
90	272.35	281.40	9.05	3.3%
130	425.83	437.22	11.39	2.7%

Present Rates

	$ / Acct
Base Fee	$21.15
Capital Fee	15.10
Admin Fee	4.66
Defensible Space	1.05

Water Use	**$ / 1,000 gal**
All Use	$2.62
20,000 - 60,000	1.57
60,000+	3.84

Proposed Rates

	$ / Acct
Base Fee	$21.85
Capital Fee	19.70
Admin Fee	4.89
Defensible Space	1.05

Water Use	**$ / 1,000 gal**
All Use	$2.66
20,000 - 60,000	1.60
60,000+	3.90

Incline Village General Improvement District
Water Rate Study
Residential Rates
Proposed Rate Alternative 1: FY 2027

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$47.49	$49.23	$1.74	3.7%
2	52.81	54.63	1.82	3.5%
4	58.13	60.03	1.90	3.3%
6	63.45	65.43	1.98	3.1%
8	68.77	70.83	2.06	3.0%
10	74.09	76.23	2.14	2.9%
15	87.39	89.73	2.34	2.7%
20	100.69	103.23	2.54	2.5%
25	108.67	111.33	2.66	2.5%
35	124.63	127.53	2.90	2.3%
45	140.59	143.73	3.14	2.2%
60	164.53	168.03	3.50	2.1%
75	222.96	227.35	4.38	2.0%
90	281.40	286.66	5.26	1.9%
130	437.22	444.83	7.60	1.7%

Present Rates

	$ / Acct
Base Fee	$21.85
Capital Fee	19.70
Admin Fee	4.89
Defensible Space	1.05

Water Use	**$ / 1,000 gal**
All Use	$2.66
20,000 - 60,000	1.60
60,000+	3.90

Proposed Rates

	$ / Acct
Base Fee	$22.40
Capital Fee	20.64
Admin Fee	5.14
Defensible Space	1.05

Water Use	**$ / 1,000 gal**
All Use	$2.70
20,000 - 60,000	1.62
60,000+	3.95

Incline Village General Improvement District
Water Rate Study
Irrigation Rates
Proposed Rate Alternative: FY 2023

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$31.04	$36.26	$5.22	16.8%
5	$38.79	$47.26	8.47	21.8%
10	$46.54	$58.26	11.72	25.2%
15	$54.29	$69.26	14.97	27.6%
20	$62.04	$80.26	18.22	29.4%
25	$66.69	$86.86	20.17	30.2%
40	$80.64	$106.66	26.02	32.3%
55	$94.59	$126.46	31.87	33.7%
70	$121.94	$165.28	43.34	35.5%
85	$155.99	$213.61	57.62	36.9%
100	$190.04	$261.94	71.90	37.8%
125	$246.79	$342.48	95.69	38.8%
150	$303.54	$423.03	119.49	39.4%
175	$360.29	$503.58	143.29	39.8%
200	$417.04	$584.13	167.09	40.1%

Present Rates

	$ / Acct
Base Fee	$11.97
Capital Fee	15.10
Admin Fee	3.97
Defensible Space	0.00

Water Use	$ / 1,000 gal
All Use	$1.55
20,000 - 60,000	0.93
60,000+	2.27

Proposed Rates

	$ / Acct
Base Fee	$15.88
Capital Fee	15.10
Admin Fee	4.23
Defensible Space	1.05

Water Use	$ / 1,000 gal
All Use	$2.20
20,000 - 60,000	1.32
60,000+	3.22

Incline Village General Improvement District
Water Rate Study
Irrigation Rates
Proposed Rate Alternative: FY 2024

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$36.26	$39.29	$3.03	8.4%
5	47.26	53.09	5.83	12.3%
10	58.26	66.89	8.63	14.8%
15	69.26	80.69	11.43	16.5%
20	80.26	94.49	14.23	17.7%
25	86.86	102.77	15.91	18.3%
40	106.66	127.61	20.95	19.6%
55	126.46	152.45	25.99	20.6%
70	165.28	201.15	35.87	21.7%
85	213.61	261.78	48.17	22.6%
100	261.94	322.41	60.48	23.1%
125	342.48	423.46	80.98	23.6%
150	423.03	524.52	101.48	24.0%
175	503.58	625.57	121.99	24.2%
200	584.13	726.62	142.49	24.4%

Present Rates

	$ / Acct
Base Fee	$15.88
Capital Fee	15.10
Admin Fee	4.23
Defensible Space	1.05

Water Use	$ / 1,000 gal
All Use	$2.20
20,000 - 60,000	1.32
60,000+	3.22

Proposed Rates

	$ / Acct
Base Fee	$18.70
Capital Fee	15.10
Admin Fee	4.44
Defensible Space	1.05

Water Use	$ / 1,000 gal
All Use	$2.76
20,000 - 60,000	1.66
60,000+	4.04

Incline Village General Improvement District
Water Rate Study
Irrigation Rates
Proposed Rate Alternative: FY 2025

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$39.29	$41.96	$2.67	6.8%
5	53.09	57.96	4.87	9.2%
10	66.89	73.96	7.07	10.6%
15	80.69	89.96	9.27	11.5%
20	94.49	105.96	11.47	12.1%
25	102.77	115.56	12.79	12.4%
40	127.61	144.36	16.75	13.1%
55	152.45	173.16	20.71	13.6%
70	201.15	229.63	28.48	14.2%
85	261.78	299.92	38.14	14.6%
100	322.41	370.22	47.81	14.8%
125	423.46	487.38	63.92	15.1%
150	524.52	604.54	80.03	15.3%
175	625.57	721.70	96.14	15.4%
200	726.62	838.86	112.25	15.4%

Present Rates

	$ / Acct
Base Fee	$18.70
Capital Fee	15.10
Admin Fee	4.44
Defensible Space	1.05

Water Use	$ / 1,000 gal
All Use	$2.76
20,000 - 60,000	1.66
60,000+	4.04

Proposed Rates

	$ / Acct
Base Fee	$21.15
Capital Fee	15.10
Admin Fee	4.66
Defensible Space	1.05

Water Use	$ / 1,000 gal
All Use	$3.20
20,000 - 60,000	1.92
60,000+	4.69

Incline Village General Improvement District
Water Rate Study
Irrigation Rates
Proposed Rate Alternative: FY 2026

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$41.96	$47.49	$5.53	13.2%
5	57.96	65.49	7.53	13.0%
10	73.96	83.49	9.53	12.9%
15	89.96	101.49	11.53	12.8%
20	105.96	119.49	13.53	12.8%
25	115.56	130.29	14.73	12.7%
40	144.36	162.69	18.33	12.7%
55	173.16	195.09	21.93	12.7%
70	229.63	258.61	28.99	12.6%
85	299.92	337.70	37.77	12.6%
100	370.22	416.78	46.56	12.6%
125	487.38	548.59	61.21	12.6%
150	604.54	680.39	75.85	12.5%
175	721.70	812.20	90.50	12.5%
200	838.86	944.01	105.14	12.5%

Present Rates

	$ / Acct
Base Fee	$21.15
Capital Fee	15.10
Admin Fee	4.66
Defensible Space	1.05

Water Use	$ / 1,000 gal
All Use	$3.20
20,000 - 60,000	1.92
60,000+	4.69

Proposed Rates

	$ / Acct
Base Fee	$21.85
Capital Fee	19.70
Admin Fee	4.89
Defensible Space	1.05

Water Use	$ / 1,000 gal
All Use	$3.60
20,000 - 60,000	2.16
60,000+	5.27

Incline Village General Improvement District
Water Rate Study
Irrigation Rates
Proposed Rate Alternative: FY 2027

Consumption (1,000 gal)	Present Rates	Proposed Rates	Difference $	Difference %
0	$47.49	$49.23	$1.74	3.7%
5	65.49	68.48	2.99	4.6%
10	83.49	87.73	4.24	5.1%
15	101.49	106.98	5.49	5.4%
20	119.49	126.23	6.74	5.6%
25	130.29	137.78	7.49	5.8%
40	162.69	172.43	9.74	6.0%
55	195.09	207.08	11.99	6.1%
70	258.61	275.02	16.40	6.3%
85	337.70	359.59	21.90	6.5%
100	416.78	444.17	27.39	6.6%
125	548.59	585.13	36.54	6.7%
150	680.39	726.09	45.69	6.7%
175	812.20	867.05	54.85	6.8%
200	944.01	1,008.01	64.00	6.8%

Present Rates

	$ / Acct
Base Fee	$21.85
Capital Fee	19.70
Admin Fee	4.89
Defensible Space	1.05

Water Use	$ / 1,000 gal
All Use	$3.60
20,000 - 60,000	2.16
60,000+	5.27

Proposed Rates

	$ / Acct
Base Fee	$22.40
Capital Fee	20.64
Admin Fee	5.14
Defensible Space	1.05

Water Use	$ / 1,000 gal
All Use	$3.85
20,000 - 60,000	2.31
60,000+	5.64

Incline Village General Improvement District
Water Rate Study
Revenue Check - Proposed Rate Alternative

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Residential					
Fixed	$1,608,674	$1,744,914	$1,863,581	$2,109,098	$2,186,495
Variable	1,310,169	1,524,206	1,699,328	1,725,271	1,751,215
	$2,918,843	**$3,269,120**	**$3,562,908**	**$3,834,370**	**$3,937,710**
Multi Family					
Fixed	$1,585,040	$1,725,751	$1,848,577	$2,109,688	$2,184,110
Variable	531,143	617,914	688,908	699,426	709,944
	$2,116,183	**$2,343,665**	**$2,537,485**	**$2,809,114**	**$2,894,054**
Commercial					
Fixed	$260,587	$283,648	$303,777	$346,677	$359,250
Variable	164,653	191,552	213,560	216,820	220,081
	$425,240	**$475,200**	**$517,337**	**$563,497**	**$579,331**
Irrigation					
Fixed	$78,335	$85,265	$91,314	$104,205	$107,984
Variable	156,004	195,714	226,915	255,280	273,007
	$234,339	**$280,979**	**$318,230**	**$359,485**	**$380,992**
Commercial - IVGID					
Fixed	$35,699	$38,862	$41,621	$47,507	$49,229
Variable	11,042	12,846	14,322	14,540	14,759
	$46,741	**$51,707**	**$55,943**	**$62,047**	**$63,988**
Irrigation - IVGID					
Fixed	$45,640	$49,730	$53,292	$60,932	$63,137
Variable	254,901	319,786	370,766	417,112	446,078
	$300,542	**$369,515**	**$424,058**	**$478,044**	**$509,214**
Snowmaking - IVGID					
Fixed	$28,559	$31,155	$33,411	$38,284	$39,665
Variable	111,300	129,483	144,360	146,564	148,768
	$139,859	**$160,638**	**$177,771**	**$184,848**	**$188,433**
Fixed	$3,642,533	$3,959,324	$4,235,574	$4,816,392	$4,989,870
Variable	2,539,213	2,991,500	3,358,158	3,475,013	3,563,852
	$6,181,746	**$6,950,824**	**$7,593,732**	**$8,291,405**	**$8,553,722**
	$6,157,950	***$6,901,071***	***$7,561,236***	***$8,246,726***	***$8,540,521***
	$23,795	*$49,753*	*$32,496*	*$44,678*	*$13,200*
	0.4%	*0.7%*	*0.4%*	*0.5%*	*0.2%*

6 Sewer Technical Appendix

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

	Budget	*Projected*								
	FY 2022	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**FY 2030**	**FY 2031**
Revenues										
Rate Revenues	$6,522,131	$6,528,653	$6,535,182	$6,541,717	$6,548,258	$6,554,807	$6,561,362	$6,567,923	$6,574,491	$6,581,065
Miscellaneous Revenues	384,390	339,086	324,817	326,370	332,209	338,748	341,950	343,388	343,198	343,194
Total Revenues	**$6,906,521**	**$6,867,739**	**$6,859,999**	**$6,868,087**	**$6,880,468**	**$6,893,554**	**$6,903,312**	**$6,911,311**	**$6,917,689**	**$6,924,259**
Expenses										
Total O&M Expenses	$4,449,104	$5,300,640	$5,346,884	$5,605,503	$5,878,076	$6,163,712	$6,464,955	$6,782,785	$7,118,249	$7,472,473
Additional Capital Funding	0	0	250,000	500,000	675,000	975,000	1,150,000	1,325,000	1,375,000	1,425,000
Net Debt Service	0	0	0	0	0	0	0	0	0	0
Reserve Funding	2,457,416	2,546,397	3,432,824	3,861,281	4,335,651	4,412,635	4,483,506	4,549,320	4,609,644	4,665,663
Total Revenue Requirement	**$6,906,521**	**$7,847,037**	**$8,779,708**	**$9,466,784**	**$10,213,728**	**$10,576,347**	**$10,948,461**	**$11,332,105**	**$11,727,893**	**$12,138,136**
Bal /(Def) of Funds	$0	($979,298)	($1,919,710)	($2,598,697)	($3,333,260)	($3,682,792)	($4,045,149)	($4,420,794)	($4,810,204)	($5,213,877)
Proposed Rate Adjustment	**0.0%**	**15.0%**	**12.5%**	**8.0%**	**8.0%**	**3.5%**	**3.5%**	**3.5%**	**3.5%**	**3.5%**
Add'l Revenue with Rate Adj	$0	$979,298	$1,919,710	$2,598,697	$3,333,260	$3,682,792	$4,045,149	$4,420,794	$4,810,204	$5,213,877
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.	$64.56	$74.18	$83.36	$89.85	$96.97	$100.42	$103.94	$107.57	$111.34	$115.24
Bill Difference - Monthly		9.62	9.18	6.49	7.12	3.45	3.51	3.64	3.77	3.90
Cumulative Bill Difference		9.62	18.80	25.29	32.41	35.86	39.38	43.01	46.78	50.68
Debt Service Coverage Ratio (all debt)										
Before Rate Adjustment	7.31	4.66	1.46	0.64	0.34	0.26	0.16	0.05	0.00	0.00
After Proposed Rate Adjustment	7.31	7.58	3.31	1.95	1.46	1.59	1.62	1.64	1.67	1.69

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

	Budget	*Projected*										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	*Notes*
Revenues												
Customer Growth	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	
Misc Revenues	Budget	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	
Expenses												
Labor	Budget	6.5%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Benefits - Medical	Budget	5.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	
Benefits - Other	Budget	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Professional Srvcs	Budget	6.5%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Materials & Supplies	Budget	10.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Equipment	Budget	10.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Chemicals	Budget	10.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Utilities	Budget	10.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Water and Sewer	Budget	17.5%	12.3%	8.8%	8.5%	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	
Insurance	Budget	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Power	Budget	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
O&M	--	19.1%	0.9%	4.8%	4.9%	4.9%	4.9%	4.9%	4.9%	5.0%	5.0%	
Miscellaneous	Budget	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%	

	Budget	Projected										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Notes
Revenues												
Rate Revenues												
Residential	$2,858,228	$2,861,086	$2,863,947	$2,866,811	$2,869,678	$2,872,547	$2,875,420	$2,878,295	$2,881,174	$2,884,055	$2,886,939	As Customer Growth
Multi-Family	2,967,696	2,970,664	2,973,634	2,976,608	2,979,585	2,982,564	2,985,547	2,988,532	2,991,521	2,994,512	2,997,507	As Customer Growth
Commercial	696,207	696,903	697,600	698,298	698,996	699,695	700,395	701,095	701,796	702,498	703,201	As Customer Growth
Total Rate Revenues	**$6,522,131**	**$6,528,653**	**$6,535,182**	**$6,541,717**	**$6,548,258**	**$6,554,807**	**$6,561,362**	**$6,567,923**	**$6,574,491**	**$6,581,065**	**$6,587,646**	
Other Revenues												
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	72,500	26,884	12,303	13,543	19,070	25,295	28,184	29,309	28,805	28,485	28,272	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	201,890	202,092	202,294	202,496	202,699	202,901	203,104	203,307	203,511	203,714	203,918	As Misc Revenues
Other Sewer	15,000	15,015	15,030	15,045	15,060	15,075	15,090	15,105	15,120	15,136	15,151	As Misc Revenues
Total Other Revenues	**$384,390**	**$339,086**	**$324,817**	**$326,370**	**$332,209**	**$338,748**	**$341,950**	**$343,388**	**$343,198**	**$343,194**	**$343,295**	
Total Revenues	**$6,906,521**	**$6,867,739**	**$6,859,999**	**$6,868,087**	**$6,880,468**	**$6,893,554**	**$6,903,312**	**$6,911,311**	**$6,917,689**	**$6,924,259**	**$6,930,942**	
Expenses												
Wages												
Other Earnings	$58,225	$62,010	$65,110	$68,366	$71,784	$75,373	$79,142	$83,099	$87,254	$91,616	$96,197	As Labor
Regular Earnings	1,553,763	1,654,758	1,737,495	1,824,370	1,915,589	2,011,368	2,111,937	2,217,533	2,328,410	2,444,831	2,567,072	As Labor
Salary Savings from Vacant Positions	(69,152)	0	0	0	0	0	0	0	0	0	0	
Total Wages	**$1,542,836**	**$1,716,767**	**$1,802,606**	**$1,892,736**	**$1,987,373**	**$2,086,741**	**$2,191,078**	**$2,300,632**	**$2,415,664**	**$2,536,447**	**$2,663,269**	

	Budget	Projected										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Notes
Benefits												
Dental Fringe Ben	$22,392	$23,736	$25,160	$26,670	$28,270	$29,966	$31,764	$33,670	$35,690	$37,832	$40,102	As Benefits - Other
Disability Fringe Ben	7,982	8,461	8,969	9,507	10,077	10,682	11,323	12,002	12,722	13,485	14,295	As Benefits - Other
Life Ins Fringe Ben	3,040	3,222	3,416	3,621	3,838	4,068	4,312	4,571	4,845	5,136	5,444	As Benefits - Other
Medical Fringe Ben	313,831	329,523	362,475	398,723	438,595	482,454	530,700	583,770	642,147	706,362	776,998	As Benefits - Medical
Retirement Fringe Ben	284,170	301,220	319,293	338,451	358,758	380,284	403,101	427,287	452,924	480,099	508,905	As Benefits - Other
Taxes	128,681	131,898	135,195	138,575	142,040	145,591	149,231	152,961	156,785	160,705	164,723	As Miscellaneous
Unemployment Fringe Ben	25,254	26,769	28,375	30,078	31,883	33,796	35,823	37,973	40,251	42,666	45,226	As Benefits - Other
Vision Fringe Ben	2,495	2,645	2,803	2,971	3,150	3,339	3,539	3,751	3,976	4,215	4,468	As Benefits - Other
Work Comp Fringe Ben	40,349	42,770	45,336	48,056	50,940	53,996	57,236	60,670	64,310	68,169	72,259	As Benefits - Other
Total Benefits	**$828,195**	**$870,244**	**$931,023**	**$996,652**	**$1,067,550**	**$1,144,175**	**$1,227,028**	**$1,316,655**	**$1,413,651**	**$1,518,669**	**$1,632,419**	
Professional Services												
Audit	$11,200	$11,928	$12,524	$13,151	$13,808	$14,499	$15,223	$15,985	$16,784	$17,623	$18,504	As Professional Srvcs
Legal	13,000	13,845	14,537	15,264	16,027	16,829	17,670	18,554	19,481	20,455	21,478	As Professional Srvcs
Professional Consultants	70,000	74,550	78,278	82,191	86,301	90,616	95,147	99,904	104,899	110,144	115,652	As Professional Srvcs
Total Professional Services	**$94,200**	**$100,323**	**$105,339**	**$110,606**	**$116,136**	**$121,943**	**$128,040**	**$134,442**	**$141,165**	**$148,223**	**$155,634**	
Services & Supplies												
BLDGS Maintenance Services	$40,637	$44,701	$46,042	$47,423	$48,846	$50,311	$51,820	$53,375	$54,976	$56,626	$58,324	As Materials & Supplies
Chemical	176,000	193,600	203,280	213,444	224,116	235,322	247,088	259,443	272,415	286,035	300,337	As Chemicals
Contractual Services	18,147	19,327	20,293	21,308	22,373	23,492	24,667	25,900	27,195	28,555	29,982	As Professional Srvcs
Dues & Subscriptions	6,000	6,600	6,798	7,002	7,212	7,428	7,651	7,881	8,117	8,361	8,612	As Materials & Supplies
Employee Recruit & Retain	2,650	2,915	3,002	3,093	3,185	3,281	3,379	3,481	3,585	3,693	3,803	As Materials & Supplies
Fleet Maintenance Services	164,800	181,280	186,718	192,320	198,090	204,032	210,153	216,458	222,952	229,640	236,529	As Materials & Supplies
Fuel	37,500	41,250	42,900	44,616	46,401	48,257	50,187	52,194	54,282	56,453	58,712	As Utilities
Janitorial	10,000	11,000	11,330	11,670	12,020	12,381	12,752	13,135	13,529	13,934	14,353	As Materials & Supplies
Lab	33,200	36,520	37,616	38,744	39,906	41,104	42,337	43,607	44,915	46,262	47,650	As Materials & Supplies
Office Supplies	2,600	2,860	2,946	3,034	3,125	3,219	3,316	3,415	3,517	3,623	3,732	As Materials & Supplies
Operating	44,880	49,368	50,849	52,375	53,946	55,564	57,231	58,948	60,716	62,538	64,414	As Materials & Supplies
Permits & Fees	15,060	16,566	17,063	17,575	18,102	18,645	19,205	19,781	20,374	20,985	21,615	As Materials & Supplies
R&M Corrective	160,000	176,000	181,280	186,718	192,320	198,090	204,032	210,153	216,458	222,952	229,640	As Materials & Supplies
R&M Preventative	51,300	56,430	58,123	59,867	61,663	63,512	65,418	67,380	69,402	71,484	73,628	As Materials & Supplies
Repairs & Maintenance	190,730	209,803	216,097	222,580	229,257	236,135	243,219	250,516	258,031	265,772	273,745	As Materials & Supplies
Safety	9,300	10,230	10,537	10,853	11,179	11,514	11,859	12,215	12,582	12,959	13,348	As Materials & Supplies
Security	3,480	3,828	3,943	4,061	4,183	4,308	4,438	4,571	4,708	4,849	4,995	As Materials & Supplies
Small Equipment	6,400	7,040	7,251	7,469	7,693	7,924	8,161	8,406	8,658	8,918	9,186	As Materials & Supplies
Tools	9,700	10,670	10,990	11,320	11,659	12,009	12,369	12,741	13,123	13,516	13,922	As Materials & Supplies
Training & Education	9,900	10,890	11,217	11,553	11,900	12,257	12,624	13,003	13,393	13,795	14,209	As Materials & Supplies
Travel & Conferences	6,000	6,600	6,798	7,002	7,212	7,428	7,651	7,881	8,117	8,361	8,612	As Materials & Supplies
Uniforms	8,100	8,910	9,177	9,453	9,736	10,028	10,329	10,639	10,958	11,287	11,626	As Materials & Supplies
Total Services & Supplies	**$1,006,384**	**$1,106,388**	**$1,144,250**	**$1,183,478**	**$1,224,124**	**$1,266,241**	**$1,309,887**	**$1,355,121**	**$1,402,003**	**$1,450,599**	**$1,500,973**	

	Budget	*Projected*										
	FY 2022	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**FY 2030**	**FY 2031**	**FY 2032**	*Notes*
Utilities												
Cable TV	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	As Utilities
Electricity	367,400	404,140	420,306	437,118	454,603	472,787	491,698	511,366	531,821	553,093	575,217	As Utilities
Heating	28,400	31,240	32,490	33,789	35,141	36,546	38,008	39,529	41,110	42,754	44,464	As Utilities
Internet	11,400	12,540	13,042	13,563	14,106	14,670	15,257	15,867	16,502	17,162	17,848	As Utilities
Telephone	31,188	34,307	35,679	37,106	38,590	40,134	41,739	43,409	45,145	46,951	48,829	As Utilities
Trash	5,400	5,940	6,178	6,425	6,682	6,949	7,227	7,516	7,817	8,129	8,454	As Utilities
Water & Sewer	22,400	26,320	29,544	32,129	34,860	35,993	37,163	38,371	39,618	40,905	42,235	As Water and Sewer
Total Utilities	**$466,188**	**$514,487**	**$537,238**	**$560,131**	**$583,982**	**$607,079**	**$631,093**	**$656,058**	**$682,012**	**$708,995**	**$737,048**	
Other												
Central Services Allocation Cs	$201,393	$221,532	$230,394	$239,609	$249,194	$259,161	$269,528	$280,309	$291,521	$303,182	$315,310	As Utilities
Defensible Space Costs	50,000	55,000	57,200	59,488	61,868	64,342	66,916	69,593	72,376	75,271	78,282	As Utilities
General Liability	95,100	104,610	108,794	113,146	117,672	122,379	127,274	132,365	137,660	143,166	148,893	As Utilities
Interfund Expense Transfers	164,808	181,289	188,540	196,082	203,925	212,082	220,566	229,388	238,564	248,106	258,030	As Utilities
Total Other	**$511,301**	**$562,431**	**$584,928**	**$608,325**	**$632,658**	**$657,965**	**$684,283**	**$711,655**	**$740,121**	**$769,726**	**$800,515**	
Future O&M												
Additional Staffing Needs	$0	$230,000	$241,500	$253,575	$266,254	$279,566	$293,545	$308,222	$323,633	$339,815	$356,805	As Labor
O&M Contingency	0	200,000	0	0	0	0	0	0	0	0	0	As Labor
Open	0	0	0	0	0	0	0	0	0	0	0	As Labor
Open	0	0	0	0	0	0	0	0	0	0	0	As Labor
Total Future O&M	**$0**	**$430,000**	**$241,500**	**$253,575**	**$266,254**	**$279,566**	**$293,545**	**$308,222**	**$323,633**	**$339,815**	**$356,805**	
Total Operations & Maintenance	**$4,449,104**	**$5,300,640**	**$5,346,884**	**$5,605,503**	**$5,878,076**	**$6,163,712**	**$6,464,955**	**$6,782,785**	**$7,118,249**	**$7,472,473**	**$7,846,664**	
Debt Service												
NV Clean Wtr Loan 2005	$128,578	$128,578	$0	$0	$0	$0	$0	$0	$0	$0	$0	Exhibit 5
NV Clean Wtr Loan 2007	207,536	207,536	207,536	207,536	207,536	0	0	0	0	0	0	Exhibit 5
Low Interest Loans	0	0	0	0	0	0	0	0	0	0	0	Calc'd @ 2.5% for 20 yrs
Asssumed Revenue Bond	0	0	830,262	1,768,151	2,767,541	2,767,541	2,767,541	2,767,541	2,767,541	2,767,541	2,767,541	Calc'd @ 4.5% for 20 yrs
Total Debt Service	$336,114	$336,114	$1,037,799	$1,975,688	$2,975,078	$2,767,541	$2,767,541	$2,767,541	$2,767,541	$2,767,541	$2,767,541	
Less: Debt Service Funding												
From Capital Reserve	$336,114	$336,114	$1,037,799	$1,975,688	$2,975,078	$2,767,541	$2,767,541	$2,767,541	$2,767,541	$2,767,541	$2,767,541	
Total Less Debt Service Funding	$336,114	$336,114	$1,037,799	$1,975,688	$2,975,078	$2,767,541	$2,767,541	$2,767,541	$2,767,541	$2,767,541	$2,767,541	
Net Debt Service	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	

	Budget	Projected										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Notes
Reserve Funding												
Operating Fund Transfer	($765,931)	($680,173)	($46,973)	$128,254	$424,392	$198,139	$90,771	($21,658)	($14,580)	($11,811)	($14,121)	
Capital Fund Transfer	3,223,347	3,226,570	3,229,797	3,233,027	3,236,260	3,239,496	3,242,735	3,245,978	3,249,224	3,252,473	3,255,726	As Customer Growth
Additional Capital Funding	0	0	250,000	500,000	675,000	975,000	1,150,000	1,325,000	1,375,000	1,425,000	1,475,000	FY 2022 Depr Exp = $1,876,600
Effluent Reserve Fund	0	0	0	0	0	0	0	0	0	0	0	
Total Reserve Funding	**$2,457,416**	**$2,546,397**	**$3,432,824**	**$3,861,281**	**$4,335,651**	**$4,412,635**	**$4,483,506**	**$4,549,320**	**$4,609,644**	**$4,665,663**	**$4,716,605**	
Total Revenue Requirement	**$6,906,521**	**$7,847,037**	**$8,779,708**	**$9,466,784**	**$10,213,728**	**$10,576,347**	**$10,948,461**	**$11,332,105**	**$11,727,893**	**$12,138,136**	**$12,563,268**	
Bal /(Def) of Funds	$0	($979,298)	($1,919,710)	($2,598,697)	($3,333,260)	($3,682,792)	($4,045,149)	($4,420,794)	($4,810,204)	($5,213,877)	($5,632,327)	
Bal as a % of Rate Adj	0.0%	15.0%	29.4%	39.7%	50.9%	56.2%	61.7%	67.3%	73.2%	79.2%	85.5%	
Proposed Rate Adjustment	**0.0%**	**15.0%**	**12.5%**	**8.0%**	**8.0%**	**3.5%**	**3.5%**	**3.5%**	**3.5%**	**3.5%**	**3.5%**	
Add'l Revenue with Rate Adj	$0	$979,298	$1,919,710	$2,598,697	$3,333,260	$3,682,792	$4,045,149	$4,420,794	$4,810,204	$5,213,877	$5,632,327	
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)	**$64.56**											
Customer Bill on Proposed Adj.	$64.56	$74.18	$83.36	$89.85	$96.97	$100.42	$103.94	$107.57	$111.34	$115.24	$119.27	
Bill Difference - Monthly		9.62	9.18	6.49	7.12	3.45	3.51	3.64	3.77	3.90	4.03	
Cumulative Bill Difference		9.62	18.80	25.29	32.41	35.86	39.38	43.01	46.78	50.68	54.71	
Debt Service Coverage Ratio *(all debt)*												
Before Rate Adjustment	7.31	4.66	1.46	0.64	0.34	0.26	0.16	0.05	0.00	0.00	0.00	Min. Target 1.00
After Proposed Rate Adjustment	7.31	7.58	3.31	1.95	1.46	1.59	1.62	1.64	1.67	1.69	1.70	Min. Target 1.00

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total	*Notes*
Sewer Capital													
Update Camera Equipment	$60,000	$0	$0	$0	$0	$0	$0	$0	$80,441	$0	$0	$140,441	
SCADA Management Servers/Network - WRRF	0	51,350	263,682	0	77,872	0	0	0	99,004	0	0	491,908	
Pond Lining Project	1,500,000	3,081,000	0	0	0	0	0	0	0	0	0	4,581,000	
Effluent Pipeline Annual Repairs	0	102,700	105,473	108,321	111,245	0	0	0	0	0	0	427,739	
Effluent Pipeline Project	2,000,000	10,270,000	10,547,290	10,832,067	11,124,533	0	0	0	0	0	0	44,773,889	
Sewer Pumping Station Improvements	70,000	51,350	52,736	54,160	222,491	79,974	58,667	60,251	61,878	254,193	104,423	1,070,123	
Sewer Pumping Station 14 Improvements	0	0	31,642	92,073	222,491	0	0	0	0	0	0	346,205	
2001 Sellick Forklift #499	0	0	68,557	0	0	0	0	0	0	0	0	68,557	
2006 Kenworth T800 Bin truck #587	0	0	0	0	220,266	0	0	0	0	0	0	220,266	
2018 Flail Mower #784	0	0	15,821	0	0	0	0	0	19,801	0	0	35,622	
2001 Jet-Away Line Cleaner #767	0	0	0	0	0	0	55,147	0	0	0	0	55,147	
2008 Chevrolet Camera Truck #615	0	0	89,652	0	0	0	0	0	0	0	0	89,652	
Sewer Main Rehabilitation	0	0	0	0	556,227	342,747	352,001	361,505	618,776	381,290	391,585	3,004,130	
Replace & Reline Sewer Mains, Manholes and Appurtenances	60,000	56,485	110,747	59,576	61,185	62,837	187,734	66,276	68,065	69,903	13,053	815,861	
WRRF Drainage Improvements	0	12,838	0	0	0	0	0	0	0	0	0	12,838	
Wetlands Effluent Disposal Facility Improvements	183,000	102,700	105,473	54,160	55,623	228,498	117,334	120,502	123,755	317,742	130,528	1,539,314	
Roof Replacement Water Resource Recovery Facility	0	0	52,736	297,882	0	0	0	0	0	0	0	350,618	
Building Upgrades Water Resource Recovery Facility	60,000	30,810	0	0	0	0	0	0	0	0	0	90,810	
Water Resource Recovery Facility Improvements	140,000	102,700	184,578	514,523	444,981	199,936	205,334	1,205,017	0	254,193	0	3,251,262	
WRRF Biosolids Bins	0	0	0	0	111,245	0	0	0	0	0	0	111,245	
Total Sewer Capital	**$4,073,000**	**$13,861,933**	**$11,628,387**	**$12,012,762**	**$13,208,158**	**$913,992**	**$976,216**	**$1,813,550**	**$1,071,720**	**$1,277,321**	**$639,588**	**$61,476,627**	

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total	Notes
Capital Improvements - Shared (50% Sewer)													**Sewer Share**
Paint Interior Building #A	$0	$25,162	$0	$0	$0	$0	$0	$0	$34,775	$0	$0	$59,937	50.0%
New Carpet Building #A	0	24,135	0	0	0	0	28,817	0	0	0	0	52,952	
Replace Public Works Front Security Gate	0	0	0	42,960	0	0	0	0	0	0	0	42,960	
Replace Roof Public Works #B	30,000	0	0	0	0	0	0	0	0	0	0	30,000	
Building B Replacement	0	0	0	0	0	0	0	0	61,878	0	0	61,878	
Rain Gutters Building C	0	25,675	0	0	0	0	0	0	0	0	0	25,675	
Loader Tire Chains - 2 Sets	10,000	0	0	0	11,514	0	0	0	13,366	0	0	34,879	
2002 Caterpillar 950G Loader #523	132,500	0	0	0	0	0	0	0	0	0	186,003	318,503	
2002 Caterpillar 950G Loader #525	132,500	0	0	0	0	0	0	0	0	0	0	132,500	
2018 MultiHog MX120 Snowblower #783	0	0	0	0	97,896	0	0	0	0	0	0	97,896	
1997 Forklift #315	0	0	18,985	0	0	0	0	0	0	0	0	18,985	
2013 Trackless Snowblower #687	0	89,863	0	0	0	0	0	0	0	117,564	0	207,427	
2001 105KW Mobile Generator #313	0	25,675	0	0	0	0	0	0	0	0	0	25,675	
2020 Vac-Con Truck #807	0	0	0	0	0	271,341	0	0	0	0	0	271,341	
2004 Freightliner Vactor Truck #534	0	0	0	0	211,366	0	0	0	0	0	0	211,366	
2020 Chevy Dump Truck #829	0	0	0	0	0	0	0	0	49,502	0	0	49,502	
2001 Peterbilt Bin Truck #468	0	0	0	102,905	0	0	0	0	0	0	0	102,905	
Snowplow #300A	9,500	0	0	0	0	0	0	0	0	0	13,705	23,205	
Snowplow #307A	9,500	0	0	0	0	0	0	0	0	0	0	9,500	
Slurry Liquidator #326	0	0	0	0	0	23,421	0	0	0	0	0	23,421	
2004 9' Western Snow Plow #542A	0	0	0	0	0	0	4,693	0	0	0	0	4,693	
2019 Sander/Spreader #808	0	0	0	5,416	0	0	0	0	7,425	0	0	12,841	
2012 Snowplow #669B	0	0	0	38,995	0	0	0	0	0	0	5,221	44,217	
2017 Caterpillar 420F2 Backhoe #755	0	0	0	0	0	79,974	0	0	0	0	0	79,974	
2013 Chevy Equinox #691	0	0	19,512	0	0	0	0	0	0	0	0	19,512	
2009 Chevrolet 1/2 ton Pick-up #826 Compliance Dept.	0	0	0	0	0	0	18,187	0	0	0	0	18,187	
2013 1/2 Ton Pick-Up #677 Treatment	0	0	19,512	0	0	0	0	0	0	0	0	19,512	
2003 GMC 3/4-Ton Pick-up #702	0	0	0	18,415	0	0	0	0	0	0	0	18,415	
2005 Chevy 1/2-Ton Pick-up #553	0	0	0	17,331	0	0	0	0	0	0	0	17,331	
2009 Chevrolet 1/2 Ton Pick-up Truck #631	0	0	0	17,331	0	0	0	0	0	0	0	17,331	
2009 Chevrolet 1/2 Ton Pick-up Truck #632 Engineering Dept.	0	0	0	0	17,799	0	0	0	0	0	0	17,799	
2012 Extend-A-Cab Pick-up #678 Pipeline Dept.	0	16,432	0	0	0	0	0	0	0	21,606	0	38,038	
2004 3/4-Ton Service Truck w/liftgate & crane #703	0	0	0	31,413	0	0	0	0	0	0	0	31,413	
2013 1-Ton Flatbed #679 Pipeline Dept.	0	0	23,204	0	0	0	0	0	0	0	0	23,204	
2012 1-Ton Service Truck w/ Liftgate #668 Treatment	0	22,081	0	0	0	0	0	0	0	0	0	22,081	
2013 1-Ton Service Truck #680 Utilities Electrician	0	0	23,204	0	0	0	0	0	0	0	0	23,204	
2004 GMC 1-Ton Flatbed #825 Pipeline Dept.	0	0	0	0	0	0	0	0	39,602	0	0	39,602	
2008 Chevrolet Service Truck #810	0	0	0	0	0	0	0	0	21,038	0	0	21,038	
2008 Chevrolet Service Truck #680	0	23,108	0	0	0	0	0	0	0	0	0	23,108	
2011 Chevrolet Service Truck #647 Treatment	0	0	0	0	0	0	0	0	0	31,139	0	31,139	
Public Works Billing Software Replacement	5,000	51,350	52,736	27,080	0	0	0	0	0	0	0	136,167	
Large Format Printer Replacement	0	0	15,294	0	0	0	0	0	0	0	0	15,294	
Adjust Utility Facilities in NDOT/Washoe County Right of Way	90,000	30,810	31,642	32,496	33,374	34,275	35,200	129,539	37,127	38,129	39,158	531,750	
Pavement Maintenance, Utility Facilities	78,750	92,430	6,592	140,817	144,619	7,141	39,600	7,531	191,821	197,000	8,158	914,458	
Pavement Maintenance, Reservoir 3-1 WPS 4-2/5-1	65,000	46,215	0	0	0	0	0	0	0	0	0	111,215	
Utilities System and Plant Controls Master Plan	0	128,375	0	0	0	0	0	0	0	0	0	128,375	
Utilities System and Plant Controls Upgrade	0	0	131,841	135,401	139,057	142,811	0	0	0	0	0	549,110	
Total Capital Improvements - Shared (50% Sewer)	**$562,750**	**$601,309**	**$342,523**	**$610,560**	**$655,624**	**$558,963**	**$126,497**	**$137,071**	**$456,533**	**$405,438**	**$252,246**	**$4,709,514**	

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	Total	*Notes*
Future Unidentified Capital Improvements	$0	$0	$0	$0	$0	$0	$347,286	$0	$0	$0	$583,166	**$930,452**	
Transfer to Capital Fund	$0	$0	$900,000	$900,000	$900,000	$0	$0	$0	$0	$0	$0	**$2,700,000**	
Total Capital Improvement Projects	**$4,635,750**	**$14,463,241**	**$12,870,910**	**$13,523,322**	**$14,763,782**	**$1,472,955**	**$1,450,000**	**$1,950,621**	**$1,528,253**	**$1,682,759**	**$1,475,000**	**$69,816,594**	
Less: Other Funding Sources													
Operating Fund	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	Input
Capital Fund	2,510,750	770,250	820,910	823,322	1,088,782	497,955	300,000	625,621	153,253	257,759	0	7,848,602	Input
Effluent Reserve Fund	1,000,000	11,382,241	1,000,000	0	0	0	0	0	0	0	0	13,382,241	
USDA Grant	1,125,000	2,310,750	0	0	0	0	0	0	0	0	0	3,435,750	
Other Grants	0	0	0	0	0	0	0	0	0	0	0	0	Input
Low Interest Loans	0	0	0	0	0	0	0	0	0	0	0	0	Input
Revenue Bonds	0	0	10,800,000	12,200,000	13,000,000	0	0	0	0	0	0	36,000,000	Calculated
Total Other Funding Sources	**$4,635,750**	**$14,463,241**	**$12,620,910**	**$13,023,322**	**$14,088,782**	**$497,955**	**$300,000**	**$625,621**	**$153,253**	**$257,759**	**$0**	**$60,666,593**	
Additional Capital Funding	**$0**	**$0**	**$250,000**	**$500,000**	**$675,000**	**$975,000**	**$1,150,000**	**$1,325,000**	**$1,375,000**	**$1,425,000**	**$1,475,000**	**$7,675,000**	

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 2022	$128,578	$207,536	**$336,114**
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**
	$257,156	**$1,037,682**	**$1,294,838**

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

		Jul-21	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Total
Residential														
	$ / Acct													
Base Charge	$19.54	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	**3,694**
Capital Improvement	$31.45	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	
Admin Fee	$3.97	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	
	$ / 1,000 gal													
Sewer Use	$3.20	12,059	12,037	11,530	11,300	10,901	13,344	8,898	10,396	9,974	9,108	10,738	11,578	**131,863**
Total Revenue		**$241,611**	**$241,541**	**$239,918**	**$239,182**	**$237,905**	**$245,723**	**$231,495**	**$236,289**	**$234,939**	**$232,168**	**$237,384**	**$240,072**	**$2,858,228**
Multi-Family														
	$ / Unit													
Base Charge	$19.54	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	**4,083**
Capital Improvement	$31.45	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	4,083	
Admin Fee	$3.97	258	258	258	258	258	258	258	258	258	258	258	258	**258**
	$ / 1,000 gal													
Sewer Use	$3.20	13,194	13,243	12,744	12,730	10,851	13,956	10,272	10,732	9,848	9,917	12,334	13,022	**142,843**
Total Revenue		**$251,437**	**$251,594**	**$249,997**	**$249,952**	**$243,940**	**$253,876**	**$242,088**	**$243,559**	**$240,730**	**$240,951**	**$248,685**	**$250,887**	**$2,967,696**

			Jul-21	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Total
Commercial															
Base Charge	$ / Acct.														
3/4"	$19.54	$31.45	77	77	77	77	77	77	77	77	77	77	77	77	77
1"	32.63	52.52	61	61	61	61	61	61	61	61	61	61	61	61	61
1 1/2"	65.07	104.73	46	46	46	46	46	46	46	46	46	46	46	46	46
2"	104.15	167.63	36	36	36	36	36	36	36	36	36	36	36	36	36
3"	195.40	314.50	7	7	7	7	7	7	7	7	7	7	7	7	7
4"	325.73	524.27	3	3	3	3	3	3	3	3	3	3	3	3	3
6"	651.27	1,048.23	2	2	2	2	2	2	2	2	2	2	2	2	2
8"	1,042.07	1,677.23	1	1	1	1	1	1	1	1	1	1	1	1	1
10"	1,498.13	2,411.27	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues			**233**	**233**	**233**	**233**	**233**	**233**	**233**	**233**	**233**	**233**	**233**	**233**	**233**
Admin Fee	$3.97		233	233	233	233	233	233	233	233	233	233	233	233	
	$ / CCF														
Sewer Use	$3.20		8,178	8,941	7,109	6,373	3,865	5,091	5,139	4,873	3,637	2,737	4,832	7,248	68,023
Total Revenue			**$66,047**	**$68,489**	**$62,627**	**$60,271**	**$52,246**	**$56,169**	**$56,323**	**$55,471**	**$51,516**	**$48,636**	**$55,340**	**$63,071**	**$696,207**

	Jul-21	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Total
Summary													
Number of Customers													
Residential	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	**3,694**
Multi-Family	258	258	258	258	258	258	258	258	258	258	258	258	**258**
Commercial	233	233	233	233	233	233	233	233	233	233	233	233	**233**
Total Number of Customers	**4,185**	**4,185**	**4,185**	**4,185**	**4,185**	**4,185**	**4,185**	**4,185**	**4,185**	**4,185**	**4,185**	**4,185**	**4,185**
Consumption													
Residential	12,059	12,037	11,530	11,300	10,901	13,344	8,898	10,396	9,974	9,108	10,738	11,578	**131,863**
Multi-Family	13,194	13,243	12,744	12,730	10,851	13,956	10,272	10,732	9,848	9,917	12,334	13,022	**142,843**
Commercial	8,178	8,941	7,109	6,373	3,865	5,091	5,139	4,873	3,637	2,737	4,832	7,248	**68,023**
Total Consumption	**33,431**	**34,221**	**31,383**	**30,403**	**25,617**	**32,391**	**24,309**	**26,001**	**23,459**	**21,762**	**27,904**	**31,848**	**342,729**
Revenues													
Residential	$241,611	$241,541	$239,918	$239,182	$237,905	$245,723	$231,495	$236,289	$234,939	$232,168	$237,384	$240,072	**$2,858,228**
Multi-Family	251,437	251,594	249,997	249,952	243,940	253,876	242,088	243,559	240,730	240,951	248,685	250,887	**2,967,696**
Commercial	66,047	68,489	62,627	60,271	52,246	56,169	56,323	55,471	51,516	48,636	55,340	63,071	**696,207**
Total Revenues	**$559,096**	**$561,624**	**$552,542**	**$549,406**	**$534,091**	**$555,768**	**$529,906**	**$535,320**	**$527,185**	**$521,755**	**$541,409**	**$554,030**	**$6,522,131**

FY 2022 Budget	$6,815,982
Difference	*($293,851)*
Percent	*-4.3%*
FY 2021 Actual	$6,579,995
Difference	*($57,864)*
Percent	*-0.9%*

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	131,863	6,593	138,456	0.38	40.5%
Multi-Family	142,843	7,142	149,986	0.41	43.9%
Commercial	50,684	2,534	53,218	0.15	15.6%
Total	**325,390**		**341,660**	**0.94**	**100.0%**
		Actual Flows [1]	***453,640***	***0.93***	
Distribution Factor					***(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

		Biochemical Oxygen Demand			*Suspended Solids*		
	Annual Flow *(MGD)*	**Avg. Factor** *(mg/l)*	**Calculated Pounds**	**% of Total**	**Avg. Factor** *(mg/l)*	**Calculated Pounds**	**% of Total**
Residential	0.38	275	870	40.5%	250	791	40.5%
Multi-Family	0.41	275	942	43.9%	250	857	43.9%
Commercial	0.15	275	334	15.6%	250	304	15.6%
Total	**0.94**		**2,147**	**100.0%**		**1,952**	**100.0%**
		275			*250*		
Distribution Factor				***(BOD)***			***(SS)***

Notes

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

	Actual Customer		*Customer Capacity Demand*	
	Number of Accounts [1]	% of Total	Weighted Customer	% of Total
Residential	3,698	88.3%	3,698	43.3%
Multi-Family	258	6.2%	4,087	47.8%
Commercial	233	5.6%	764	8.9%
Total	**4,189**	**100.0%**	**8,549**	**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 2023	% of Total
Residential	$2,861,086	43.8%
Multi-Family	2,970,664	45.5%
Commercial	696,903	10.7%
Total	**$6,528,653**	**100.0%**
Distribution Factor		***(RR)***

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

			Strength Related		*Customer Related*				
	Net Plant	**Volume** *(VOL)*	**Bio-Oxygen Demand** *(BOD)*	**Suspended Solids** *(SS)*	**Actual Customer** *(AC)*	**Customer Capacity Demand** *(CCD)*	**Revenue Related** *(RR)*	**Direct Assign.** *(DA)*	*Basis of Classification*
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**	

Incline Village General Improvement District
Wastewater Rate Study
Functionalization and Allocation
of the Revenue Requirement
Exhibit 12.1

	Expenses FY 2023	Volume (VOL)	Strength Related: Bio-Oxygen Demand (BOD)	Strength Related: Suspended Solids (SS)	Customer Related: Actual Customer (AC)	Customer Related: Customer Capacity Demand (CCD)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Expenses									
Wages									
Other Earnings	$62,010	$41,593	$10,208	$10,208	$0	$0	$0	$0	As Net Plant in Service
Regular Earnings	1,654,758	1,109,935	272,411	272,411	0	0	0	0	As Net Plant in Service
Salary Savings from Vacant Positions	0	0	0	0	0	0	0	0	As Net Plant in Service
Total Wages	**$1,716,767**	**$1,151,528**	**$282,619**	**$282,619**	**$0**	**$0**	**$0**	**$0**	
Benefits									
Dental Fringe Ben	$23,736	$15,921	$3,907	$3,907	$0	$0	$0	$0	As Net Plant in Service
Disability Fringe Ben	8,461	5,675	1,393	1,393	0	0	0	0	As Net Plant in Service
Life Ins Fringe Ben	3,222	2,161	530	530	0	0	0	0	As Net Plant in Service
Medical Fringe Ben	329,523	221,029	54,247	54,247	0	0	0	0	As Net Plant in Service
Retirement Fringe Ben	301,220	202,045	49,588	49,588	0	0	0	0	As Net Plant in Service
Taxes	131,898	88,471	21,713	21,713	0	0	0	0	As Net Plant in Service
Unemployment Fringe Ben	26,769	17,956	4,407	4,407	0	0	0	0	As Net Plant in Service
Vision Fringe Ben	2,645	1,774	435	435	0	0	0	0	As Net Plant in Service
Work Comp Fringe Ben	42,770	28,688	7,041	7,041	0	0	0	0	As Net Plant in Service
Total Benefits	**$870,244**	**$583,720**	**$143,262**	**$143,262**	**$0**	**$0**	**$0**	**$0**	
Professional Services									
Audit	$11,928	$8,001	$1,964	$1,964	$0	$0	$0	$0	As Net Plant in Service
Legal	13,845	9,287	2,279	2,279	0	0	0	0	As Net Plant in Service
Professional Consultants	74,550	50,005	12,273	12,273	0	0	0	0	As Net Plant in Service
Total Professional Services	**$100,323**	**$67,292**	**$16,515**	**$16,515**	**$0**	**$0**	**$0**	**$0**	

	Expenses FY 2023	Volume (VOL)	Strength Related: Bio-Oxygen Demand (BOD)	Strength Related: Suspended Solids (SS)	Customer Related: Actual Customer (AC)	Customer Related: Customer Capacity Demand (CCD)	Revenue Related (RR)	Direct Assign. (DA)	Basis of Classification
Services & Supplies									
BLDGS Maintenance Services	$44,701	$29,983	$7,359	$7,359	$0	$0	$0	$0	As Net Plant in Service
Chemical	193,600	193,600	0	0	0	0	0	0	100.0% VOL
Computer License & Fees	0	0	0	0	0	0	0	0	As Net Plant in Service
Contractual Services	19,327	12,964	3,182	3,182	0	0	0	0	As Net Plant in Service
Dues & Subscriptions	6,600	4,427	1,087	1,087	0	0	0	0	As Net Plant in Service
Employee Recruit & Retain	2,915	1,955	480	480	0	0	0	0	As Net Plant in Service
Fleet Maintenance Services	181,280	121,594	29,843	29,843	0	0	0	0	As Net Plant in Service
Fuel	41,250	27,669	6,791	6,791	0	0	0	0	As Net Plant in Service
Janitorial	11,000	7,378	1,811	1,811	0	0	0	0	As Net Plant in Service
Lab	36,520	36,520	0	0	0	0	0	0	100.0% VOL
Office Supplies	2,860	1,918	471	471	0	0	0	0	As Net Plant in Service
Operating	49,368	33,114	8,127	8,127	0	0	0	0	As Net Plant in Service
Permits & Fees	16,566	11,112	2,727	2,727	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	176,000	118,053	28,974	28,974	0	0	0	0	As Net Plant in Service
R&M Preventative	56,430	37,851	9,290	9,290	0	0	0	0	As Net Plant in Service
Repairs & Maintenance	209,803	140,726	34,538	34,538	0	0	0	0	As Net Plant in Service
Safety	10,230	6,862	1,684	1,684	0	0	0	0	As Net Plant in Service
Security	3,828	2,568	630	630	0	0	0	0	As Net Plant in Service
Small Equipment	7,040	4,722	1,159	1,159	0	0	0	0	As Net Plant in Service
Tools	10,670	7,157	1,757	1,757	0	0	0	0	As Net Plant in Service
Training & Education	10,890	7,305	1,793	1,793	0	0	0	0	As Net Plant in Service
Travel & Conferences	6,600	4,427	1,087	1,087	0	0	0	0	As Net Plant in Service
Uniforms	8,910	5,976	1,467	1,467	0	0	0	0	As Net Plant in Service
Total Services & Supplies	**$1,106,388**	**$817,880**	**$144,254**	**$144,254**	**$0**	**$0**	**$0**	**$0**	
Utilities									
Cable TV	$0	$0	$0	$0	$0	$0	$0	$0	As Net Plant in Service
Electricity	404,140	404,140	0	0	0	0	0	0	100.0% VOL
Heating	31,240	20,954	5,143	5,143	0	0	0	0	As Net Plant in Service
Internet	12,540	8,411	2,064	2,064	0	0	0	0	As Net Plant in Service
Telephone	34,307	23,011	5,648	5,648	0	0	0	0	As Net Plant in Service
Trash	5,940	3,984	978	978	0	0	0	0	As Net Plant in Service
Water & Sewer	26,320	17,654	4,333	4,333	0	0	0	0	As Net Plant in Service
Total Utilities	**$514,487**	**$478,156**	**$18,166**	**$18,166**	**$0**	**$0**	**$0**	**$0**	

	Expenses FY 2023	Volume *(VOL)*	*Strength Related* Bio-Oxygen Demand *(BOD)*	*Strength Related* Suspended Solids *(SS)*	*Customer Related* Actual Customer *(AC)*	*Customer Related* Customer Capacity Demand *(CCD)*	Revenue Related *(RR)*	Direct Assign. *(DA)*	*Basis of Classification*
Other									
Central Services Allocation Cs	$221,532	$148,594	$36,469	$36,469	$0	$0	$0	$0	As Net Plant in Service
Defensible Space Costs	55,000	36,891	9,054	9,054	0	0	0	0	As Net Plant in Service
General Liability	104,610	70,168	17,221	17,221	0	0	0	0	As Net Plant in Service
Interfund Expense Transfers	181,289	121,600	29,844	29,844	0	0	0	0	As Net Plant in Service
Total Other	**$562,431**	**$377,253**	**$92,589**	**$92,589**	**$0**	**$0**	**$0**	**$0**	
Future O&M									
Additional Staffing Needs	$230,000	$154,273	$37,863	$37,863	$0	$0	$0	$0	As Net Plant in Service
O&M Contingency	200,000	134,151	32,925	32,925	0	0	0	0	As Net Plant in Service
Open	0	0	0	0	0	0	0	0	As Net Plant in Service
Open	0	0	0	0	0	0	0	0	As Net Plant in Service
Total Future O&M	**$430,000**	**$288,424**	**$70,788**	**$70,788**	**$0**	**$0**	**$0**	**$0**	
Total Operations & Maintenance	**$5,300,640**	**$3,764,253**	**$768,194**	**$768,194**	**$0**	**$0**	**$0**	**$0**	
Debt Service									
NV Clean Wtr Loan 2005	$128,578	$86,244	$21,167	$21,167	$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
Asssumed Revenue Bond	0	0	0	0	0	0	0	0	As Net Plant in Service
Total Debt Service	**$336,114**	**$225,450**	**$55,332**	**$55,332**	**$0**	**$0**	**$0**	**$0**	
Less: Debt Service Funding									
From Capital Reserve	$336,114	$225,450	$55,332	$55,332	$0	$0	$0	$0	As Debt
Total Less Debt Service Funding	$336,114	$225,450	$55,332	$55,332	$0	$0	$0	$0	
Net Debt Service	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	
Reserve Funding									
Operating Fund Transfer	($680,173)	($680,173)	$0	$0	$0	$0	$0	$0	100.0% VOL
Capital Fund Transfer	3,226,570	0	0	0	0	3,226,570	0	0	100.0% CCD
Total Reserve Funding	**$2,546,397**	**($680,173)**	**$0**	**$0**	**$0**	**$3,226,570**	**$0**	**$0**	
Total Revenue Requirement	**$7,847,037**	**$3,084,080**	**$768,194**	**$768,194**	**$0**	**$3,226,570**	**$0**	**$0**	
Less: Other Revenues									
Effluent Disposal Sales	$75,075	$75,075	$0	$0	$0	$0	$0	$0	100.0% VOL
Interest Income	26,884	10,566	2,632	2,632	0	11,054	0	0	As Net Revenue Requirement
Hunting Fees	20,020	7,868	1,960	1,960	0	8,232	0	0	As Net Revenue Requirement
Interfund Revenue Transfers	202,092	143,516	29,288	29,288	0	0	0	0	As Total O&M
Other Sewer	15,015	5,901	1,470	1,470	0	6,174	0	0	As Net Revenue Requirement
Total Other Revenues	**$339,086**	**$242,927**	**$35,350**	**$35,350**	**$0**	**$25,460**	**$0**	**$0**	
Net Revenue Requirement	**$7,507,951**	**$2,841,153**	**$732,844**	**$732,844**	**$0**	**$3,201,110**	**$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	**$2,841,153**	$1,151,363	$1,247,241	$442,549	*(VOL)*
Strength					
Bio-Oxygen Demand	$732,844	$296,981	$321,712	$114,151	*(BOD)*
Suspended Solids	732,844	296,981	321,712	114,151	*(SS)*
Total Strength	**$1,465,688**	$593,963	$643,424	$228,301	
Customer					
Actual Customer	$0	$0	$0	$0	*(AC)*
Customer Capacity Demand	3,201,110	1,384,610	1,530,418	286,082	*(CCD)*
Total Customer Related	**$3,201,110**	$1,384,610	$1,530,418	$286,082	
Revenue Related	**$0**	$0	$0	$0	*(RR)*
Direct Assign.	**$0**	$0	$0	$0	*(DA)*
Net Revenue Requirement	**$7,507,951**	**$3,129,936**	**$3,421,083**	**$956,932**	

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

	FY 2023 Expenses	Residential	Multi-Family	Commercial
Revenues at Present Rates	$6,528,653	$2,861,086	$2,970,664	$696,903
Allocated Revenue Requirement	$7,507,951	$3,129,936	$3,421,083	$956,932
Bal / (Def) of Funds	**($979,298)**	**($268,851)**	**($450,419)**	**($260,028)**
Required % Change in Rates	**15.0%**	**9.4%**	**15.2%**	**37.3%**