



PREPARED FOR:

PREPARED BY:

**NORTH VILLAGE
SPECIAL SERVICE
DISTRICT**



**NORTH VILLAGE SPECIAL
SERVICE DISTRICT**

JANUARY 2023

SEWER RATE STUDY

NORTH VILLAGE SPECIAL SERVICE DISTRICT SEWER RATE STUDY

JANUARY 2023

Prepared by:



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EXECUTIVE SUMMARY

North Village Special Service District asked Bowen Collins & Associates to complete a rate study for their sewer utilities, which is documented in this report. The primary purpose of this study was to ensure NVSSD can manage the cost of its systems and keep user rates up to date, manageable, and equitable in the coming years.

The study considered a 10-year window of projected non-rate revenues and revenue requirements, which were based on historic budgets and projected growth within the District. The largest upcoming expense is a new sewer lift station (Coyote Lane Lift Station). Following this revenue requirement analysis, which is described further in this report, BC&A recommends NVSSD adopts the rates summarized in Table ES-1. These rates were adopted on January 10, 2023.

Table ES-1
Calculated Sewer Rates

Rate Component	2022	2023	2024	2025	2026	2027
Base Rate Per Month	\$43.40	\$51.21	\$52.75	\$54.33	\$55.96	\$57.64

CHAPTER 1 INTRODUCTION AND BACKGROUND

INTRODUCTION

In the fall of 2022, North Village Special Service District (NVSSD or the District) retained Bowen Collins & Associates (BC&A) to conduct and document a rate study for the District's sewer utilities. The rate updates are part of NVSSD's ongoing efforts to manage the cost of its systems and keep user rates up to date, manageable, and equitable.

Since the District's last update to sewer rates in 2015, rapidly increasing inflation and supply chain issues have affected the District's material availability and project costs. The District has also continued to expand and grow, changing the size and characteristics of the NVSSD sewer system. These impacts to the District require an adjustment in sewer rates. The primary purpose of this report is to document the sewer rate study and provide recommendations regarding updates to the District's sewer user rates. The updates are intended to become effective in February 2023.

EXISTING SEWER RATE STRUCTURE

The existing sewer rates were adopted in 2015 and provided for annual rate adjustments through 2021. The existing sewer rate structure is based on Equivalent Residential Units¹ (sewer ERUs) and consists of one base rate per sewer ERU. No volumetric charge is included in the existing sewer rate structure.

According to NVSSD personnel, the rate structure is operating well as it is. Therefore, there are no plans as part of this rate study to change the sewer rate structure—only to update the rate values to extend them beyond 2021 rates.

OVERALL DISTRICT FUNDING

NVSSD operates three utilities for sanitary sewer, secondary water, and culinary water and it is important for District costs to be recovered by the user rate revenues of each utility. It is also important to reflect the real costs of each utility individually in its respective user rates. Therefore, in the District's new 10-year budget plan, all costs have been split between each utility to ensure the recovery of costs for each utility by its respective user rates. Costs were divided based on analysis of each line item in the District's budget and estimates from District personnel.

The District accrues three basic categories of expenses as it operates its three utilities, which are described as follows.

- **Operations and Maintenance Expenditures.** These are the annual costs of running the system. They include items such as equipment and supplies, power costs, and all other costs associated with doing business throughout the year. Operation and maintenance (O&M) costs are relatively constant from year to year and tend to follow the rate of inflation. O&M costs for the District are slightly unique in that historically, no separate account was kept for some expenditures to distinguish between water, sewer, and secondary. Thus, where

¹ This rate study relies upon the term sewer ERU as the basis for sewer utility billing. This terminology is consistent with the existing and historic utility billing terminology. As a point of clarification, the District also utilizes a similar and related terminology for impact fee determination and master planning called a Sewer Capacity Unit (SCU). For the purposes of this rate study, both terms are equivalent. The minimum billing per connection is 1 sewer ERU.

combined expenditures exist, costs have been assigned roughly 65 percent to culinary, 23 percent to sewer, and 2 percent to secondary based on estimates from District personnel.

- **Debt Service Expenditures.** These are the costs paid toward bonds taken out by the District in previous years. These costs are easily predictable because they are tied to set payment schedules for each bond. NVSSD sewer currently has no debt service.
- **Capital Improvement Expenditures.** These are costs for constructing new facilities within the District, updating and repairing existing facilities, and making other capital investments (such as purchasing vehicles). Capital improvement expenditures are usually the most volatile of expenditure categories. Because O&M and debt service costs are basically fixed, budgets are usually balanced by increasing or decreasing capital improvement expenditures as necessary. For this report, capital improvement expenditures have been based on upcoming capital projects that are anticipated and being budgeted for by NVSSD personnel. Within this category of improvement, sub-categories exist based on the planned source of funding:
 - **District Funded Capital.** These are planned-for capital projects and purchases which are funded within the District budget and affect user rates.
 - **Developer Funded Capital.** These are capital projects for which the District has not planned funding and will only be completed if land developers fund the projects². Thus, these projects have no impact on District budgets or user rates.
 - **Grant Funded Capital.** On occasion, the District is able to apply for and secure grant funding for capital projects. Grants do not need to be repaid. When grant funding is available and used, the portion of the project paid with the grant is not budgeted and does not impact user rates.
 - **Other.** While rare, other sources of funding are sometimes available. For example, if the District is liquidating an asset which does not need to be replaced, the proceeds from the sale may be used to pay for capital projects.

The revenue requirements for the sewer system are shown in the rate study below in Chapter 2. These are the sewer portion of overall district funding plan based on recent real expenditures, next year's proposed budgets, next year's proposed budgets, and foreseeable future needs.

² Capital projects identified in District planning documents but identified as District Funded are usually eligible for impact fee credit (and sometimes reimbursement from future impact fee receipts).

CHAPTER 2 SEWER RATE STUDY

SEWER RATE CALCULATION APPROACH

With the overall District funding plan in place, the next steps in the rate calculation process consist of the following principal tasks:

1. **Projecting Sewer ERU's.** Future growth in the NVSSD sewer system was based on current billing information and on the growth patterns projected in the recently prepared 2022 NVSSD Water Master Plan.
2. **Calculating Revenue Requirements.** Total sewer revenue requirements for the system were projected for the next several years based on the sewer portion of the overall funding plan discussed in Chapter 1. Non-rate revenue (including impact fee revenue) was deducted from the total revenue requirement to determine the net revenue requirement to be recovered from sewer system rate payers.
3. **Calculating Rates.** Rates were calculated to recover the sewer system revenue requirement (O&M, capital improvement, and debt service costs) based on uniform increases to the existing base rates.

Key Assumptions

The sewer rate study results in this report are based on the following key assumptions:

- The NVSSD sewer operating fund will continue to be a self-funding enterprise-type fund.
- The cost of service for all customers throughout the system is not significantly different. Therefore, customers will continue to be billed using the District's existing rate structure, with one base rate per sewer ERU.
- This rate study is based on projections of future system growth and projected system operations, maintenance, and improvement costs. These projections are based on current and historic economic conditions. Because conditions may change over time, it is recommended that the District review the rates regularly and adjust them if needed to provide a revenue stream that will adequately fund operation and maintenance costs as well as needed capital improvements. It is also recommended that a comprehensive review and updating of sewer rates be undertaken in three to five years so that the basic analytical foundations of this study can be re-evaluated.
- District staff are currently working on a policy which would introduce a modest hardship program for temporary utility rate relief for customers in need. Such programs can be a significant benefit to a very small number of customers who need it, while having a very small impact on the system as a whole. Thus, this rate study assumes: (i) that the cost of administration will be negligible by relying on other public assistance programs' qualification determinations for admittance to the District's program, (ii) that about 1 in 200 customers will qualify for and utilize the program, and (iii) that the program will provide up to a 50% reduction in utility billing while on the program. Therefore, the expected impact of this program on the recommended rates in this study is very small (about one quarter of one percent). This is within the margin of error of the other predictions made as a part of this study and thus would not require a change to recommended rates if the relief program is not adopted. However, if the program is adopted and utilization is significantly more than assumed, the recommendations of this rate study may need to be updated accordingly.

PROJECTING SEWER GROWTH

Using recent billing data, the number of sewer system ERUs served in December 2022 were identified. Based on these existing accounts and the projected growth rates, the total number of future sewer system ERU's were projected. These projections are summarized below in Table 2-1.

Table 2-1
Projected Growth in Sewer System ERU's

	Number of Accounts by Year With Predicted Annual Growth Rate					
	2022	2023	2024	2025	2026	2027
	Existing	12.1%	12.0%	11.9%	11.8%	11.7%
Total Number of Sewer ERU's	390	437	489	548	612	684

Table 2-1 indicates that NVSSD is predicted to experience significant growth within the next several years.

CALCULATING REVENUE REQUIREMENTS

The revenue requirement to be recovered by user rates is based on the actual cash expenditures of the system to make sure that revenues meet the cash needs of the system. And, as mentioned previously, the revenue requirement for user rates is the total gross revenue requirement less non-rate revenues (i.e., grants, impact fees, etc.).

Non-Rate Revenues

Like the updated projections of sewer system growth above, non-rate revenue projections have been updated based on existing real revenues over the past several years, projected growth, and inflation. Projections in non-rate Revenues are summarized below in Table 2-2.

Table 2-2
Projected Sewer Non-Rate Revenues

Item	2022	2023	2024	2025	2026	2027
Construction Inspection Fees	\$17,660	\$24,000	\$27,598	\$31,710	\$36,399	\$41,743
Penalty Revenue	\$1,250	\$675	\$675	\$675	\$675	\$675
Interest Revenue	\$16,000	\$17,025	\$17,536	\$18,062	\$18,604	\$19,162
Impact Fees	\$11,466	\$22,180	\$25,042	\$28,272	\$31,920	\$36,038
ARPA Grant	\$0	\$1,000,000	\$0	\$0	\$0	\$0
Sale of Pump Skid	\$0	\$250,000	\$0	\$0	\$0	\$0
Total Non-Rate Revenue	\$46,376	\$1,313,880	\$70,850	\$78,719	\$87,598	\$97,617

Gross Revenue Requirement

The gross sewer revenue requirements have also been projected based on real expenditures from recent years (as described in the *Overall District Funding Section* of Chapter 1), projected growth, upcoming expenses, and inflation. Revenue requirement projections were also updated to reflect expected O&M budget requirements, updated capital expenditures, and changes in debt service as described below.

- **Operations and Maintenance Costs.** As discussed in Chapter 1, these are the annual costs of running the system, including equipment and supplies, power costs, and all other costs associated with doing business throughout the year. Typical O&M expenditures as well as

expected and budgeted costs of O&M were projected forward based on a typical inflation rate (3%) and projected NVSSD system growth. These projections constitute the anticipated future O&M needs for the District and contribute to the gross revenue requirement. Additionally, NVSSD recently began pumping wastewater to JSSD for treatment. This additional cost to NVSSD is included in the operations and maintenance cost estimated shown below³.

- **Debt Service.** NVSSD sewer currently has no debt service, therefore debt payments were neglected for this study.
- **Upcoming Capital Improvements.** Although an updated NVSSD Sewer Master Plan has not been completed, the District anticipates it will construct a new lift station between 2023 and 2024. Therefore, estimated costs for this project has been accounted for in capital costs.

Projections in gross sewer revenue requirements are summarized below in Table 2-3.

Table 2-3
Projected Gross Sewer Revenue Requirement

Item	2022	2023	2024	2025	2026	2027
O&M	\$132,200	\$289,118	\$326,451	\$368,674	\$416,355	\$470,172
Debt Service	\$0	\$0	\$0	\$0	\$0	\$0
Capital Expenses	\$383,107	\$1,196,736	\$1,074,613	\$591,395	\$20,293	\$23,272
Less Developer Funded Capital	\$0	(\$404,691)	(\$416,832)	(\$429,337)	\$0	\$0
Total Revenue Requirement	\$515,307	\$1,081,162	\$984,232	\$530,733	\$436,648	\$493,443

Net Rate Revenue Requirement

The net revenue to be recovered by sewer rates (the difference between the projected gross revenue requirement and the projected non-rate revenues) is summarized below in Table 2-4.

Table 2-4
Projected Net Sewer Rate Revenue Requirement

Item	2022	2023	2024	2025	2026	2027
Gross Revenue Requirement	\$515,307	\$1,081,162	\$984,232	\$530,733	\$436,648	\$493,443
Non-Rate Revenue	\$46,376	\$1,313,880	\$70,850	\$78,719	\$87,598	\$97,617
Net Rate Revenue Requirement	\$468,931	\$0	\$913,382	\$452,014	\$349,050	\$395,826

Figure 2-1 below compares the gross revenue and the gross revenue need and thus illustrates the net revenue requirement (as shown in Table 2-4) graphically over the next 10 years. A few pieces of background information are useful when interpreting this information, including the following:

³ Due to the lack of sewer flow records, it is not possible to determine a direct cost of service for NVSSD wastewater treatment at this time. The values used in this study are approximated and acceptable to JSSD and NVSSD. After flow data from NVSSD is available and more data on the cost of treatment is available, a cost-of-service analysis may be completed and the treatment cost to NVSSD refined.

- A large amount of Jordanelle Ridge Plat B impact fees were paid in 2021, resulting in the spike in the overall income to NVSSD sewer.
- NVSSD sewer was awarded a \$1 million ARPA federal grant in 2022 (effective 2023). This will help with paying for the capital costs of building the Coyote Lane lift station in 2023-2024. The District, as required per the grant agreement, will spend an additional \$1 million on the lift station and various other improvement projects between 2023 and 2026.
- NVSSD has historically sent its sewer flows to JSSD, which were then sent to Heber Valley Special Service District to be treated. Starting in 2021, JSSD completed a new water reclamation facility (WRF) and began treating their own and NVSSD wastewater flows. Due to the low flow rates produced by NVSSD, these customers have not paid JSSD for wastewater treatment through 2022. Beginning in 2023, JSSD and NVSSD agreed upon an annual fee of \$96,000 for wastewater treatment.

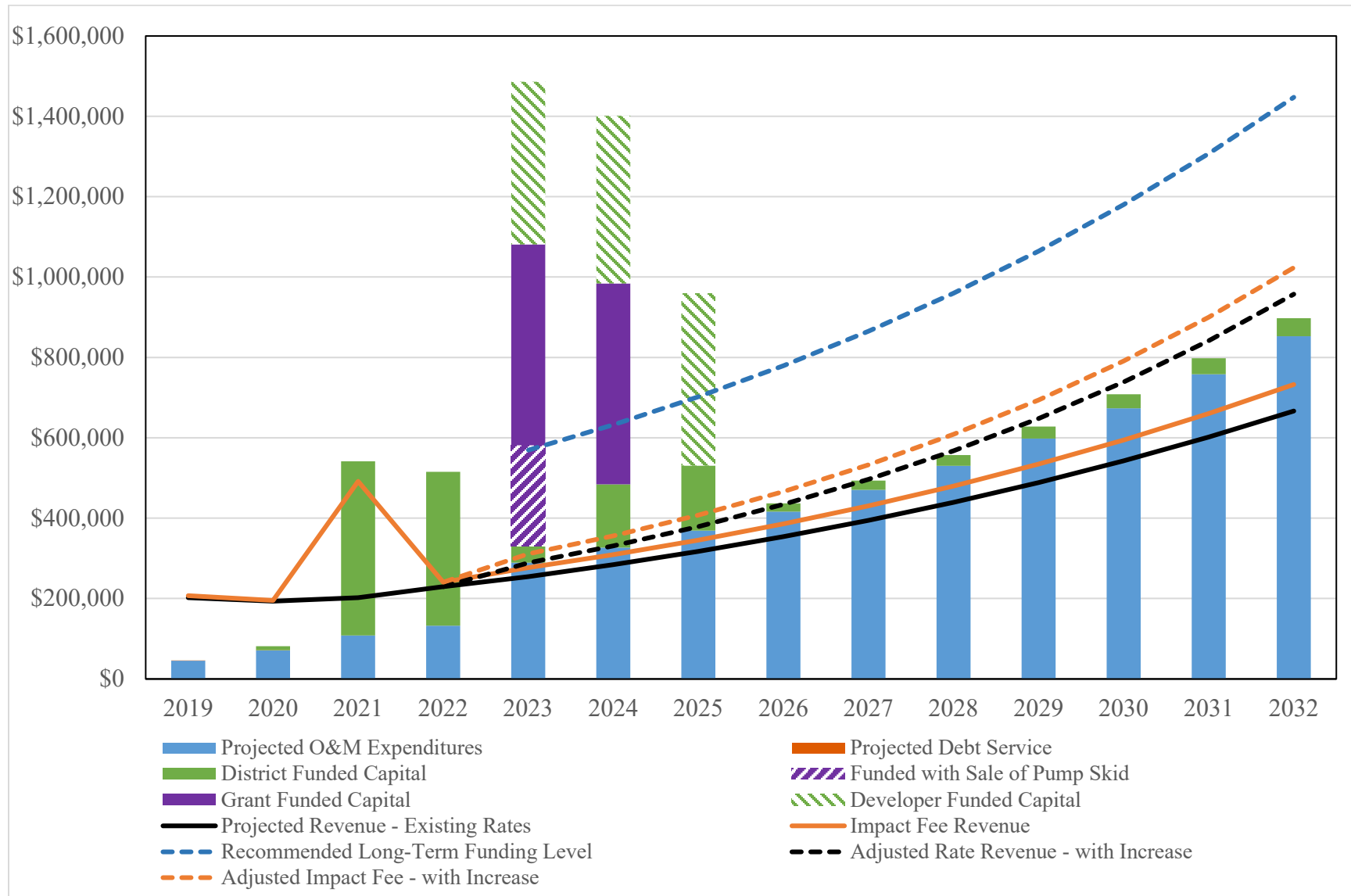
Recommended Long Term Funding Levels

An important part of maintaining existing infrastructure is anticipating and planning for rehabilitation and replacement of system components. The purpose of including a recommended long term funding level in this report is to help the District understand the theoretical value of their current system compared to their current funding levels. This value is calculated by summing the estimated cost of rehabilitation or replacement of each system averaged over its typical lifespan. Table 2-5 below shows the value and estimated service life of the NVSSD system components in 2022. For planning purposes, this value was projected into future years based on inflation and estimated system growth.

**Table 2-5
System Valuation**

System Component	Quantity	Estimated Total Value (with contingency and engineering/admin)	Maximum Estimated Total Service Life
Lift Stations			
Wasatch Commons Sewer Lift Station	1	\$1,555,000	30 years
<i>Subtotal Minimum Annual Budget</i>			\$132,600
Pipes			
Less than 8 inches	32 ft	\$14,000	80 years
8 inches	20,700 ft	\$9,264,000	80 years
10 inches	1,500 ft	\$690,000	80 years
15 inches	13,000 ft	\$7,269,000	80 years
18 inches	300 ft	\$214,000	80 years
Unknown Size	7,100 ft	\$3,621,000	80 years
<i>Subtotal Minimum Annual Budget</i>			\$1,428,000
Manholes			
48" Manhole	64	\$733,000	80 years
60" Manhole	138	\$1,781,000	80 years
<i>Subtotal Minimum Annual Budget</i>			\$1,667,000
Total Recommended Long Term Funding Level			\$3,326,900

Figure 2-1
10-Year Projected Sewer Revenue and Expenditures



Because NVSSD sewer is a new and still developing system, it is important for the District to establish a reliable reserve fund as it grows in order to have the funds necessary for operation and maintenance in the future. The target fund balance for NVSSD sewer is 180 days of operating costs. In 2022, the reserve balance was roughly 70% of the target amount. That ratio is projected to decrease in the next five years due to the large capital expenses expected to occur between 2023 and 2025. Therefore, to provide reliable sewer service to its customers now and in the coming years by maintaining adequate reserve funds, it is recommended that rates are increased as shown in the figure, resulting in total rate increases as summarized in Table 2-5.

Table 2-5
Recommended Overall Rate Revenue Increases

Year	Increase
2023	18.0%
2024	3.0%
2025	3.0%
2026	3.0%
2027	3.0%

DESIGNING THE RATE STRUCTURE

BC&A has consulted closely with District personnel to formulate a rate structure that meets the identified goals of this rate study.

The District currently utilizes a base monthly charge for all of its sewer rate arrangements. Base charges are the most straightforward method of structuring sewer rates, as monitoring volumetric use on sewage is not generally practicable. This is especially true of the NVSSD area, where industrial and commercial land use is rare, and most customers are residential users. Thus, it has been determined that the future rate structure will continue to be based on sewer ERUs (as mentioned above) and be operated on a monthly basis with a base rate charge per sewer ERU.

CALCULATING RATES

Rates have been calculated to recover the projected net sewer rate revenue requirement (Table 2-4) as well as maintain an adequate reserve fund in accordance with the goals of this rate study and cost-of-service requirements. Highlighted calculation methods and rationale are listed as follows and the final calculated rates are shown below in Table 2-6. It should be noted that the District's convention is to adopt rates in five-year rate schedules. Therefore, the rate schedule shown below goes through 2027.

- **Base Rate.** These rates were adjusted to provide the proper rate revenue to meet the revenue requirements.
- **Annual Increases.** Rates for the next 5 years have been set to meet revenue requirements.

Table 2-6
Calculated Monthly Sewer Rates

Rate Component	2022	2023	2024	2025	2026	2027
Base Rate Per Sewer ERU	\$43.40	\$51.21	\$52.75	\$54.33	\$55.96	\$57.64

SEWER RATE STUDY CONCLUSIONS

Based on the analysis contained in this report, the following actions are recommended:

1. **Adopt and Implement New Rates.** It is recommended that NVSSD adopt the rates summarized above in Table 2-7. These changes are needed: to continue to meet immediate operations and maintenance needs; to fund capital expenditures necessary to meet the District's longer-term system investment goals; to keep rates current with inflation and projected system growth; and to provide a manageable uniform rate structure for the District's entire sewer system.
2. **Continue Monitoring System Costs and Revenues.** After the implementation of any rate changes, we would suggest NVSSD monitor actual costs and revenues, as well as customer responses. Doing so is especially critical. Therefore, it is critical to continue to monitoring system costs and revenues, especially now due to the volatile inflationary environment that we're in and due to the high growth that is expected to continue in the District.
3. **Update this Rate Study Periodically.** All rates are calculated based on existing conditions and assumptions about the future which may need to be revised from time to time. Therefore, in addition to monitoring system costs and revenues, it is recommended that this rate study be updated every 3 to 5 years at a minimum and more often as dictated by changing conditions. Doing so will ensure rates are as up-to-date as possible and will also keep the District ahead of expiring rate schedules.

**APPENDIX A
DETAILED CALCULATION TABLES**

Table A-1
NVSSD
Historic and Projected Revenue Requirement

Assumed Annual Rate of Inflation: 3.0%														
	Actual	Actual	Actual	Projected	Budgeted	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	
Item	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<u>O&M</u>	<u>\$45,311</u>	<u>\$70,775</u>	<u>\$107,987</u>	<u>\$132,200</u>	<u>\$289,118</u>	<u>\$326,451</u>	<u>\$368,674</u>	<u>\$416,355</u>	<u>\$470,172</u>	<u>\$530,279</u>	<u>\$597,779</u>	<u>\$673,457</u>	<u>\$758,093</u>	<u>\$852,555</u>
Utilities	\$2,002	\$2,399	\$2,253	\$2,508	\$3,168	\$3,643	\$4,186	\$4,805	\$5,510	\$6,305	\$7,204	\$8,221	\$9,366	\$10,653
Overhead/Management	\$20,138	\$30,047	\$60,849	\$55,308	\$77,814	\$84,813	\$92,404	\$100,624	\$109,519	\$119,058	\$129,338	\$140,403	\$152,288	\$165,035
Legal Fees	\$3,175	\$5,964	\$2,669	\$6,600	\$6,600	\$6,798	\$7,002	\$7,212	\$7,428	\$7,651	\$7,881	\$8,117	\$8,361	\$8,612
North Village Water Lease	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Bank Charges	\$695	\$836	\$990	\$1,089	\$1,122	\$1,156	\$1,190	\$1,226	\$1,263	\$1,301	\$1,340	\$1,380	\$1,421	\$1,464
Repairs & Maintenance	\$2,490	\$6,834	\$5,238	\$2,117	\$18,980	\$21,825	\$25,077	\$28,786	\$33,012	\$37,772	\$43,162	\$49,252	\$56,113	\$63,823
Supplies	\$4,230	\$526	\$3,375	\$9,765	\$13,725	\$15,782	\$18,134	\$20,816	\$23,872	\$27,314	\$31,212	\$35,616	\$40,577	\$46,152
Postage	\$0	\$0	\$0	\$33	\$33	\$38	\$44	\$51	\$58	\$66	\$76	\$86	\$99	\$112
Tools and Equipment	\$0	\$0	\$1,710	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Services	\$8,531	\$21,310	\$26,606	\$51,282	\$66,561	\$76,538	\$87,943	\$100,949	\$115,769	\$132,463	\$151,365	\$172,723	\$196,783	\$223,821
Insurance- Liability	\$2,036	\$2,394	\$2,376	\$2,871	\$3,465	\$3,569	\$3,676	\$3,786	\$3,900	\$4,017	\$4,137	\$4,262	\$4,389	\$4,521
Bad Debt	\$2,014	\$0	\$6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
JSSD Sewer Treatment Costs	\$0	\$0	\$0	\$0	\$96,000	\$110,390	\$126,839	\$145,598	\$166,972	\$191,049	\$218,312	\$249,116	\$283,817	\$322,814
Miscellaneous Expense	\$0	\$465	\$1,914	\$627	\$1,650	\$1,897	\$2,180	\$2,502	\$2,870	\$3,284	\$3,752	\$4,282	\$4,878	\$5,548
<u>Debt Service</u>	<u>\$250</u>	<u>\$250</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Debt Service	\$250	\$250	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>Capital Expenses</u>	<u>\$0</u>	<u>\$10,133</u>	<u>\$433,102</u>	<u>\$383,107</u>	<u>\$1,196,736</u>	<u>\$1,074,613</u>	<u>\$591,395</u>	<u>\$20,293</u>	<u>\$23,272</u>	<u>\$26,628</u>	<u>\$30,427</u>	<u>\$34,721</u>	<u>\$39,557</u>	<u>\$44,992</u>
Capital Outlay - Operating/Impact Fee Funded	\$0	\$10,133	\$433,102	\$383,107	\$292,044	\$157,781	\$162,058	\$20,293	\$23,272	\$26,628	\$30,427	\$34,721	\$39,557	\$44,992
Capital Outlay - Grant Funded	\$0	\$0	\$0	\$0	\$500,000	\$500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Capital Outlay - Developer Funded	\$0	\$0	\$0	\$0	\$404,691	\$416,832	\$429,337	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$45,561	\$81,158	\$541,089	\$515,307	\$1,485,854	\$1,401,064	\$960,070	\$436,648	\$493,443	\$556,907	\$628,207	\$708,178	\$797,650	\$897,547

Table A-2
NVSSD
Historic and Projected Revenue (Projections Assume No Change to Existing Rate Structure)

Assumed Annual Rate of Inflation: 3.0%														
	Actual	Actual	Actual	Projected	Budgeted	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
Item	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<u>Operations</u>	<u>\$201,715</u>	<u>\$193,285</u>	<u>\$202,254</u>	<u>\$229,437</u>	<u>\$254,500</u>	<u>\$284,123</u>	<u>\$317,121</u>	<u>\$353,793</u>	<u>\$394,515</u>	<u>\$439,130</u>	<u>\$488,345</u>	<u>\$542,513</u>	<u>\$601,944</u>	<u>\$666,980</u>
Sewer Revenue	\$163,911	\$167,189	\$171,400	\$187,300	\$212,800	\$238,315	\$266,674	\$298,115	\$332,935	\$370,956	\$412,763	\$458,621	\$508,748	\$563,388
Construction Inspection Fees	\$280	\$280	\$17,833	\$17,660	\$24,000	\$27,598	\$31,710	\$36,399	\$41,743	\$47,762	\$54,578	\$62,279	\$70,954	\$80,703
Administration Fees	\$6,505	\$6,818	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Penalty Revenue	\$2,119	\$845	\$1,600	\$1,250	\$675	\$675	\$675	\$675	\$675	\$675	\$675	\$675	\$675	\$675
Miscellaneous Revenue	\$4,331	\$7,567	\$7,821	\$7,227	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Interest Revenue	\$24,568	\$10,587	\$3,600	\$16,000	\$17,025	\$17,536	\$18,062	\$18,604	\$19,162	\$19,737	\$20,329	\$20,939	\$21,567	\$22,214
<u>Expansion and Replacement</u>	<u>\$5,480</u>	<u>\$2,079</u>	<u>\$289,193</u>	<u>\$11,466</u>	<u>\$1,272,180</u>	<u>\$25,042</u>	<u>\$28,272</u>	<u>\$31,920</u>	<u>\$36,038</u>	<u>\$40,687</u>	<u>\$45,936</u>	<u>\$51,863</u>	<u>\$58,554</u>	<u>\$66,108</u>
Sewer Impact Revenue	\$5,480	\$2,079	\$289,193	\$11,466	\$22,180	\$25,042	\$28,272	\$31,920	\$36,038	\$40,687	\$45,936	\$51,863	\$58,554	\$66,108
Federal Grants	\$0	\$0	\$0	\$0	\$1,000,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sale of Pump Skid	\$0	\$0	\$0	\$0	\$250,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$207,195	\$195,365	\$491,447	\$240,903	\$1,526,680	\$309,165	\$345,393	\$385,713	\$430,552	\$479,817	\$534,281	\$594,376	\$660,498	\$733,088

Table A-3
NVSSD

Existing and Projected Customers by Class

	Actual	Actual	Actual	Projected	Budgeted	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
Customer Base	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Connected ERUs	294	323	355	390	437	489	548	612	684	762	848	942	1,045	1,157
Total ERUs			355	390	437	489	548	612	684	762	848	942	1,045	1,157

Table A-4
NVSSD

Historic and Projected Expenses and Revenues

	Actual	Actual	Actual	Projected	Budgeted	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
Item	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Total Expenses	\$45,561	\$81,158	\$541,089	\$515,307	\$1,485,854	\$1,401,064	\$960,070	\$436,648	\$493,443	\$556,907	\$628,207	\$708,178	\$797,650	\$897,547
Total Non-Rate Revenue	\$43,284	\$28,176	\$320,047	\$53,603	\$1,313,880	\$70,850	\$78,719	\$87,598	\$97,617	\$108,861	\$121,518	\$135,755	\$151,750	\$169,700
<u>Scenario 1: Do Nothing and Keep Existing Rates</u>														
Total Rate Revenues	\$163,911	\$167,189	\$171,400	\$187,300	\$212,800	\$238,315	\$266,674	\$298,115	\$332,935	\$370,956	\$412,763	\$458,621	\$508,748	\$563,388
Total Revenues	\$207,195	\$195,365	\$491,447	\$240,903	\$1,526,680	\$309,165	\$345,393	\$385,713	\$430,552	\$479,817	\$534,281	\$594,376	\$660,498	\$733,088
Revenue Surplus (Shortfall)	\$161,634	\$114,207	-\$49,642	-\$274,404	\$40,826	-\$1,091,900	-\$614,677	-\$50,935	-\$62,891	-\$77,090	-\$93,926	-\$113,802	-\$137,152	-\$164,460
<u>Scenario 2:</u>														
Percent Overall Rate Increase					18.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Total Rate Revenues				\$187,300	\$247,165	\$285,104	\$328,602	\$378,364	\$435,234	\$499,486	\$572,451	\$655,132	\$748,540	\$853,801
Total Revenues				\$240,903	\$1,561,045	\$355,953	\$407,321	\$465,962	\$532,851	\$608,347	\$693,969	\$790,887	\$900,290	\$1,023,501
Revenue Surplus (Shortfall)				-\$274,404	\$75,191	-\$1,045,111	-\$552,749	\$29,314	\$39,408	\$51,440	\$65,763	\$82,709	\$102,640	\$125,954

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