



PREPARED FOR:

**NORTH VILLAGE
SPECIAL SERVICE
DISTRICT**

PREPARED BY:



**NORTH VILLAGE SPECIAL
SERVICE DISTRICT**

APRIL 2023

CULINARY RATE STUDY

NORTH VILLAGE SPECIAL SERVICE DISTRICT CULINARY AND SECONDARY WATER RATES STUDY

APRIL 2023

Prepared by:



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EXECUTIVE SUMMARY

In accordance with North Village Special Service District (NVSSD) objectives of maintaining its high-quality water services to its customers, NVSSD hired Bowen Collins & Associates (BC&A) to conduct a rate study to update and implement culinary and secondary user rates, respectively, which is documented in this report. The primary purpose of this study was to ensure NVSSD can manage the cost of its systems by understanding revenue needs and implementing culinary and secondary user rates that will be 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. Upcoming expenses include new booster stations, tanks, transmission and distribution lines, and raw water supply sources and capacity. Based on a revenue requirement analysis, which is described further in this report, BC&A recommends NVSSD adopt the rates as summarized in Tables ES-1, and ES-2.

Table ES-1
Recommended Culinary and Secondary Rates

	2022	2023	2024	2025	2026	2027
Monthly Water Service Base Rate						
1-inch and smaller Meters	\$80.02	\$94.95	\$99.70	\$103.69	\$106.80	\$110.00
1 ½-inch Meters	\$96.03	\$420.65	\$420.65	\$420.65	\$420.65	\$420.65
2-inch Meters	\$115.25	\$651.68	\$651.68	\$651.68	\$651.68	\$651.68
Secondary Only Accounts*	N/A	\$12.77	\$13.41	\$13.94	\$14.36	\$14.79
Rate Schedule A Volumetric Charges: Culinary use for users who also have access to secondary						
Tier 1	Included in Base Rate					
Tier 2	\$15.03	\$20.00	\$21.00	\$21.84	\$22.50	\$23.18
Rate Schedule B Volumetric Charges: Culinary use for users who do not have access to secondary						
Tier 1	Included in Base Rate					
Tier 2	\$15.03	\$7.11	\$7.47	\$7.77	\$8.00	\$8.24
Tier 3		\$10.05	\$10.55	\$10.97	\$11.30	\$11.64
Tier 4		\$20.00	\$21.00	\$21.84	\$22.50	\$23.18
Rate Schedule C Volumetric Charges: Secondary Use						
Tier 1	N/A	\$1.10	\$1.16	\$1.21	\$1.25	\$1.29
Tier 2		\$6.53	\$6.86	\$7.13	\$7.34	\$7.56
Tier 3		\$15.00	\$15.75	\$16.38	\$16.87	\$17.38

* This fee is for customers that do not receive culinary water service from NVSSD but do receive secondary service. For example, accounts who would pay this fee are those which have a private well for indoor use and no connection to the culinary system. Example accounts who would not pay this fee are: those with both a culinary and secondary connection; those associated with accounts that have culinary connections such as an common space irrigation meter within a development that has culinary service to its structures. Therefore, this fee will only apply to a very few accounts.

Table ES-2
Recommended Culinary and Secondary Volumetric Use Tier Definitions

MONTHLY VOLUMETRIC USE IN THOUSANDS OF GALLONS			
	1- inch	1 ½-inch	2-inch
<i>Rate Schedule A Volumetric Use: Culinary use for users who also have access to secondary</i>			
Tier 1	0 - 12	0 - 30	0 - 48
Tier 2	> 12	> 30	> 48
<i>Rate Schedule B Volumetric Use: Culinary use for users who do not have access to secondary</i>			
Tier 1	0 - 12	0 - 30	0 - 48
Tier 2	12 - 18	30 - 45	48 - 72
Tier 3	18 - 28	45 - 70	72 - 112
Tier 4	> 28	> 70	> 112
<i>Rate Schedule C Volumetric Use: Secondary Use*</i>			
Tier 1	0 - 4 for each IBU**		
Tier 2	4 - 8 for each IBU		
Tier 3	> 8 for each IBU		

* Secondary users are given IBUs based on water allocated to the property. An IBU is 0.07 acre-feet of allocation, which corresponds to 1,000 square feet of irrigable area. The following example illustrates how volumetric uses are adjusted based on IBUs.

IBU Example: A customer with 2 IBUs will receive 2x the water allocation per tier as follows:

Tier 1 is 0 – 8,000 gal

Tier 2 is 8,000 – 16,000 gal

Tier 3 is > 16,000 gal

** IBU = Irrigation Billing Unit

CHAPTER 1 INTRODUCTION AND BACKGROUND

INTRODUCTION

North Village Special Service District (NVSSD) has retained Bowen Collins & Associates (BC&A) to conduct and document a rates study for the District's culinary and secondary water utilities. NVSSD's culinary rate schedule expired at the end of 2021, and no previous secondary rates have been adopted for the NVSSD secondary system because the system is so new. The rate updates are part of NVSSD's ongoing efforts to manage the cost of its system and keep user rates up to date, manageable, and equitable.

The District's primary objectives for its financial planning and policies are:

- Maintaining high quality, reliable water service at affordable prices for customers;
- Encouraging wise use of resources through conservation;
- Maintaining stable revenue generation adequate to fund system needs; and
- Minimizing the District's long-term costs by avoiding debt where possible.

The primary purpose of this report is to document the secondary rate study and provide recommendations regarding implementation of and updates to the District's secondary user rates. The updates are intended to become effective in 2023.

EXISTING CULINARY RATE STRUCTURE

The existing culinary rates were adopted in 2015 and provided for annual rate adjustments through 2021. Existing rates are based on meter size and consist of a base rate with a volumetric allowance and a volumetric overage rate for users who exceed the 12,000-gallon allowance.

According to NVSSD personnel and the rate analysis supporting this report, the existing rate structure will be insufficient going forward to meet ongoing District revenue needs. Furthermore, the existing rates were adopted at a time when no secondary system was available. Thus, a new system of rates is needed to address the varying conditions which have recently come to exist within NVSSD. These conditions consist of customers who are fully served by the culinary system and those whose indoor and outdoor needs are met by the culinary and secondary system respectively. Therefore, in addition to ensuring District revenue needs are met in future years, this rate study also updates the NVSSD culinary rate structure.

EXISTING SECONDARY RATE STRUCTURE

NVSSD is a retail secondary irrigation utility provider for a few—but not all—of the secondary system customers within the overall NVSSD culinary water and sewer utility service boundaries. Some of the connections within that boundary are still customers of Timpanogos Irrigation Company (TIC).

The NVSSD secondary system is relatively new, with only one active customer currently using secondary water. The District and this sole customer have agreed upon a volumetric rate of \$1.50 per thousand gallons as a temporary charge until secondary rates could be adopted. The NVSSD secondary system is expected to grow substantially in the near future as development continues and secondary infrastructure is constructed. NVSSD also expects that TIC will eventually transfer all of their residential secondary customers within the NVSSD secondary service area to NVSSD. This is expected to happen as the new NVSSD secondary system expands to properties adjacent to existing customers and interconnects the new and existing systems.

In anticipation of this growth of the secondary system and customers, NVSSD needs to adopt official secondary rates. Based on conversations with District personnel, the new rate structure will include a base rate with volumetric tiers based on irrigation water rights allocated to the customer. This structure is explained further in Chapter 3.

OVERALL DISTRICT FUNDING REQUIREMENTS

NVSSD operates 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. The sewer utility rates were recently updated (January 2023) based on the portion overall District costs associated with sewer services. This study and the associated recommended culinary and secondary rates complete the effort to meet NVSSD's overall revenue need across all three utilities.

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.
- **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 has no debt service expenditures in the 10-year planning window. NVSSD does not have any debt service expenditures.
- **Capital Improvement Expenditures.** These are costs for constructing new facilities within the District, updating existing facilities, and making other capital investments. 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 projects¹. 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.** Though 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.

¹ Capital projects identified in District planning documents but identified as Developer Funded are usually eligible for impact fee credit (and sometimes reimbursement from future impact fee receipts).

The revenue requirements, rate design methodology, and proposed rate structures for the culinary and secondary systems are presented below in Chapter 2. Chapter 2 discusses the overall district and respective culinary and secondary funding plans based on recent real expenditures, next year's proposed budgets, and longer-term funding needs.

CHAPTER 2 RATE STUDY

RATE CALCULATION APPROACH

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

1. **Projecting Culinary Water Use.** Future growth in the NVSSD culinary system were based on current billing information and the growth patterns projected in the recently prepared 2022 NVSSD Water Master Plan.
2. **Projecting Secondary Water Use.** Future growth in the NVSSD secondary system were based on current billing information and the growth patterns projected in the recently prepared 2022 NVSSD Water Master Plan.
3. **Calculating Revenue Requirements.** Total revenue requirements for the system were projected for the next several years based on the District funding plan discussed in Chapter 1. Non-rate revenue (including impact fee revenue) and expenses not funded by the District (e.g. grant funded, developer funded) were deducted from the total revenue requirement to determine the net revenue requirement to be recovered from system rate payers.
4. **Calculating Rates.** Rates were calculated to recover the system revenue requirement and maintain an adequate cash flow for the District's planned and necessary expenses. The rates were altered structurally by creating three rate structures as follows:
 - a. Rate Structure A: This is a culinary rate that applies to customers who also have access to secondary water. It is designed with the assumption that these customers will only use culinary in indoor applications.
 - b. Rate Structure B: This is a culinary rate that only applies to customers who do not have access to secondary water and therefore use culinary water for both indoor and outdoor applications.
 - c. Rate Structure C: This is the secondary rate that will apply to all customers using secondary water.

Key Assumptions

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

- The NVSSD operating fund will continue to be a self-funding enterprise-type fund.
- Meter size is an adequate method of distributing costs between users of various use characteristics for the culinary system.
- Water allocations (tied to irrigable area) is an adequate method of distributing costs between users of various use characteristics for the secondary system.
- The Utah Division of Water Resources issued regional conservation goal for NVSSD (located in the Provo River Region) is to reduce per capita culinary usage 32 percent by the year 2060, measured from the year 2015. NVSSD is projected to experience high growth rates in the next several years, which may impact water use. Additionally, many of NVSSD's large water users are vacation areas with large seasonal fluctuations in water use. These fluctuations make water conservation in these areas difficult to predict. Therefore, this rate study did not consider conservation in its water use projections.

- This rate study is based on projections of future demands and projected system operations, maintenance, and improvement costs. These projections are based on current economic conditions and weather patterns over the last several years. 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 culinary 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 CULINARY USE

Historic water use patterns and volumes were analyzed in depth in the 2022 NVSSD Culinary Master Plan. In addition to this analysis, volumetric water use was analyzed from 2021 and 2022 billing data based on customer meter sizes and application of water (i.e., indoor-only meters versus outdoor-only meters). These two data sources were used in this rate study to identify and project water use patterns in NVSSD.

Projected Accounts

Using recent billing data, the number of culinary customers and culinary accounts served in December 2022 were identified. These culinary accounts were separated by meter size and whether or not the customer would have access to secondary for analysis. Special consideration was made for the Wasatch Commons Apartments located in the district due nuances in historic billing methods for this one customer. Based on these existing accounts and the projected growth rates, the total number of future culinary accounts were projected as summarized below in Table 2-1.

Table 2-1
Projected Growth in Culinary System Accounts

Meter Size	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%
1-inch and smaller with secondary	142	166	186	208	233	261
1-inch and smaller, 100% Culinary	0	5	13	15	16	18
1 ½-inch with secondary	0	0	2	4	4	5
2-inch with secondary	0	0	2	2	3	3
2-inch 100% Culinary	2	2	2	2	2	2
Wasatch Commons Apartments*	163	15	15	15	15	15
Total	307	188	220	246	273	304

* Wasatch Commons Apartments was previously billed by number of ERU's. The new rate structure bills them by meter size.

PROJECTING SECONDARY WATER USE

Irrigation Billing Units (IBUs)

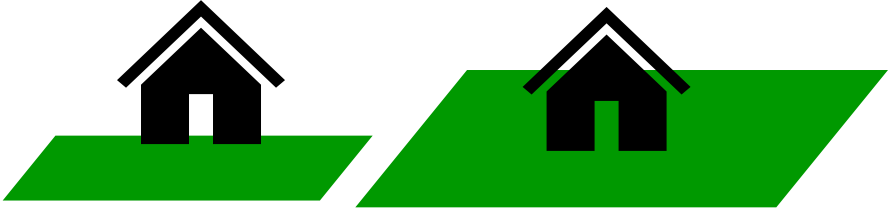
Before discussion of historic water use or projected water use, it is essential to introduce the new concept of an Irrigation Billing Unit (IBU). As the name implies, this is the basic billing unit of the proposed secondary rate structure. This method of billing is used by neighboring Twin Creeks Special Service District for their secondary system and by other entities (although sometimes under different names).

The necessity of the IBU is best understood in terms of a common billing structure of volumetric charges. In many water rate structures users are charged based on every residential equivalent amount of water rights or water shares that are turned in for the user's particular lot. This charge can be in a base rate or using volume tiers and associated charges.

For the example below, we will assume a user with 1 equivalent water share has no base rate but is charged \$2.00 for every thousand gallons of water up to 5 thousand gallons. Between 5 thousand and 10 thousand gallons the user is charged \$5.00 for every thousand gallons of water, and the cost of water above 10 thousand gallons is \$10.00 per thousand gallons.

Therefore, as illustrated in Table 2-2 below, if the original developer of a certain residential lot turned in double the typical residential amount of water rights or water shares, the current customer on that lot would be allowed up to twice the monthly volume in each tier before paying the higher volumetric charge.

Table 2-2
IBU Billing Structure Example (not actual proposed rates)

		
Equivalent Water Shares:	1	2
Number of IBUs:	1	2
Tier 1 Volume (gal) (at \$2.00 per thousand gallons):	5,000	10,000
Tier 2 Volume (gal) (at \$5.00 per thousand gallons):	5,000 – 10,000	10,000 – 20,000
Tier 3 Volume (gal) (at \$10.00 per thousand gallons):	Greater than 10,000	Greater than 20,000

The IBU allows for a manageable, uniform administration of secondary billing. It also yields a better equity in cost allocation among the various users since there is so much a wide variation in how much irrigable area and thus how much secondary water should be used. In essence, it normalizes the bases of secondary billing to a common unit. It is similar to the “Equivalent Residential Connections (ERCs)” and “Equivalent Residential Units (ERUs)” which are commonly used in planning and billing by other entities and utilities.

Based on an audit of the District’s water dedications of the past, each customer has been assigned a number of IBUs consistent with the District’s current level of service, which is 1 IBU for the amount of dedicated secondary water associated with the reference typical residence with about 1,000 square feet of irrigable area (currently 0.07 acre-foot of dedicated water per IBU). It should be emphasized that assignment of IBUs represents the District’s commitment to provide services in accordance with the historic level of service associated with each property. It is not a guaranteed volume of water to be delivered.

Historical Water Use Analysis

NVSSD has historically served one customer with secondary water, with usage monitored on three 2-inch meters. Usage in 2021 and 2022 for this customer was used to identify and project outdoor water use trends for this study. We found the use patterns typical for outdoor water use in Wasatch County. All future developments and customers are planned to be metered.

The historic usage data is valuable to understand the character and magnitude of the seasonal fluctuations in water use that is always observed as weather changes from spring to summer and then to fall. This understanding is essential for predicting the revenues that will be generated by volumetric charges as customers use more or less water depending on the month.

Projected IBUs

In conjunction with these rate studies, the District recently updated the NVSSD secondary water system master plans. This is useful here because new District-wide growth projections have been created for the secondary system. In addition to new development, some growth is expected by way of existing residents being converted from TIC customers to NVSSD secondary retail customers, or

some customers that are currently using culinary water for irrigation connecting to the secondary system. The projected number of IBUs are summarized below in Table 2-3.

Table 2-3
Projected Growth in Secondary System IBUs

Type	2022	2023	2024	2025	2026	2027
Metered IBUs	--	690	1087	1322	1603	1928

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 culinary use 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 2-4.

Table 2-4
Projected District Non-Rate Revenues

Item	2022	2023	2024	2025	2026	2027
Construction Inspection Fees	\$88,300	\$120,000	\$134,388	\$150,380	\$168,110	\$187,745
Penalty Revenue	\$5,000	\$2,700	\$3,024	\$3,384	\$3,782	\$4,224
Water Reserve Fees	\$977,800	\$1,006,800	\$1,008,854	\$991,098	\$974,091	\$957,804
Secondary Irrigation Fees	\$8,900	\$9,000	\$10,079	\$11,279	\$12,608	\$14,081
Meter Set Revenue	\$27,600	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500
Interest Revenue	\$64,000	\$68,100	\$71,505	\$73,650	\$75,860	\$78,135
Sewer Impact Revenue	\$11,466	\$12,471	\$13,881	\$15,428	\$17,116	\$18,954
Water Impact Revenue	\$4,262	\$4,636	\$5,160	\$5,735	\$6,362	\$7,045
Secondary Impact Fee	\$8,918	\$9,700	\$10,797	\$12,000	\$13,313	\$14,743
Miscellaneous Revenue	\$21,900	\$24,500	\$25,725	\$26,497	\$27,292	\$28,110
Sale of Pump Skid	\$0	\$250,000	\$0	\$0	\$0	\$0
Total Non-Rate Revenue	\$1,218,146	\$1,525,407	\$1,300,913	\$1,306,949	\$1,316,035	\$1,328,343

Gross Revenue Requirement

The gross District revenue requirements have 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. Detailed budgetary information can be found in Tables A-1 and A-2 of the appendix.

- **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 an assumed 5% inflation rate for 2023 and a return to baseline inflation of 3% for years thereafter. Adjustments in projections also account for projected NVSSD baseline growth in operations as needed by budgetary line item. In NVSSD, a large portion of this category cost is incurred by water leases and water assessments. Much, but not all, of this cost is off-set by non-rate revenue (reservation share assessments) and that has been accounted for in this study. These projections constitute the anticipated future O&M needs for the District and contribute to the gross revenue requirement.
- **Debt Service.** NVSSD currently has no debt service, therefore debt payments were neglected for this study.
- **Upcoming Capital Improvements.** The District has several capital facilities projects scheduled for the next 10 years. Estimated costs of these projects have been considered in the gross revenue requirement. These projects include booster stations, tanks, control valve stations, and a large amount of transmission lines. The project and project costs (including an indication on whether they are district-funded or not) is included in Table A-1 of Appendix A.

Projections in gross District revenue requirements are summarized below in Table 2-5.

Table 2-5
Projected Gross District Revenue Requirement

Item	2022	2023	2024	2025	2026	2027
O&M	\$1,569,500	\$1,755,076	\$1,911,946	\$2,045,555	\$2,189,391	\$2,344,325
Debt Service	\$0	\$0	\$0	\$0	\$0	\$0
Capital Expenses	\$47,360	\$311,978	\$178,964	\$377,618	\$233,928	\$40,158
Total Revenue Requirement	\$1,616,860	\$2,067,053	\$2,090,910	\$2,423,173	\$2,423,320	\$2,384,482

Net Rate Revenue Requirement

The net revenue to be recovered by culinary and secondary rates (the difference between the projected gross revenue requirement and the projected non-rate revenues) is summarized below in Table 2-6.

Table 2-6
Projected Net Water Rate Revenue Requirement

Item	2022	2023	2024	2025	2026	2027
Total Revenue Requirement	\$1,616,860	\$2,067,053	\$2,090,910	\$2,423,173	\$2,423,320	\$2,384,482
Non-Rate Revenue	\$1,218,146	\$1,525,407	\$1,300,913	\$1,306,949	\$1,316,035	\$1,328,343
Total Projected Sewer Rate Revenue	\$187,371	\$247,165	\$285,104	\$328,602	\$378,364	\$435,234
Net Revenue Requirement for Culinary & Secondary Rates	\$211,343	\$294,482	\$504,894	\$787,622	\$728,920	\$620,905

Figure 2-1 below compares the gross revenue and the gross revenue need and thus illustrates the net revenue requirement for water utilities (as shown in Table 2-5) graphically over the next 10 years.

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 2-7 below shows the value and estimated service life of the NVSSD culinary system components in 2022. Table 2-8 shows the same information for the secondary system. For planning purposes, this value was projected into future years based on inflation and estimated system growth.

After careful consideration and coordination with District staff, we have not made rate recommendations which would directly fund the system at the recommended long-term funding level. The systems (especially the secondary system) are very new and with the Developer funded improvements to install initial infrastructure, system investment is adequate. There will come a time in the future where this funding will need to transition over to more rehabilitation and replacement. At that time, rates will need to be adequate to make that investment.

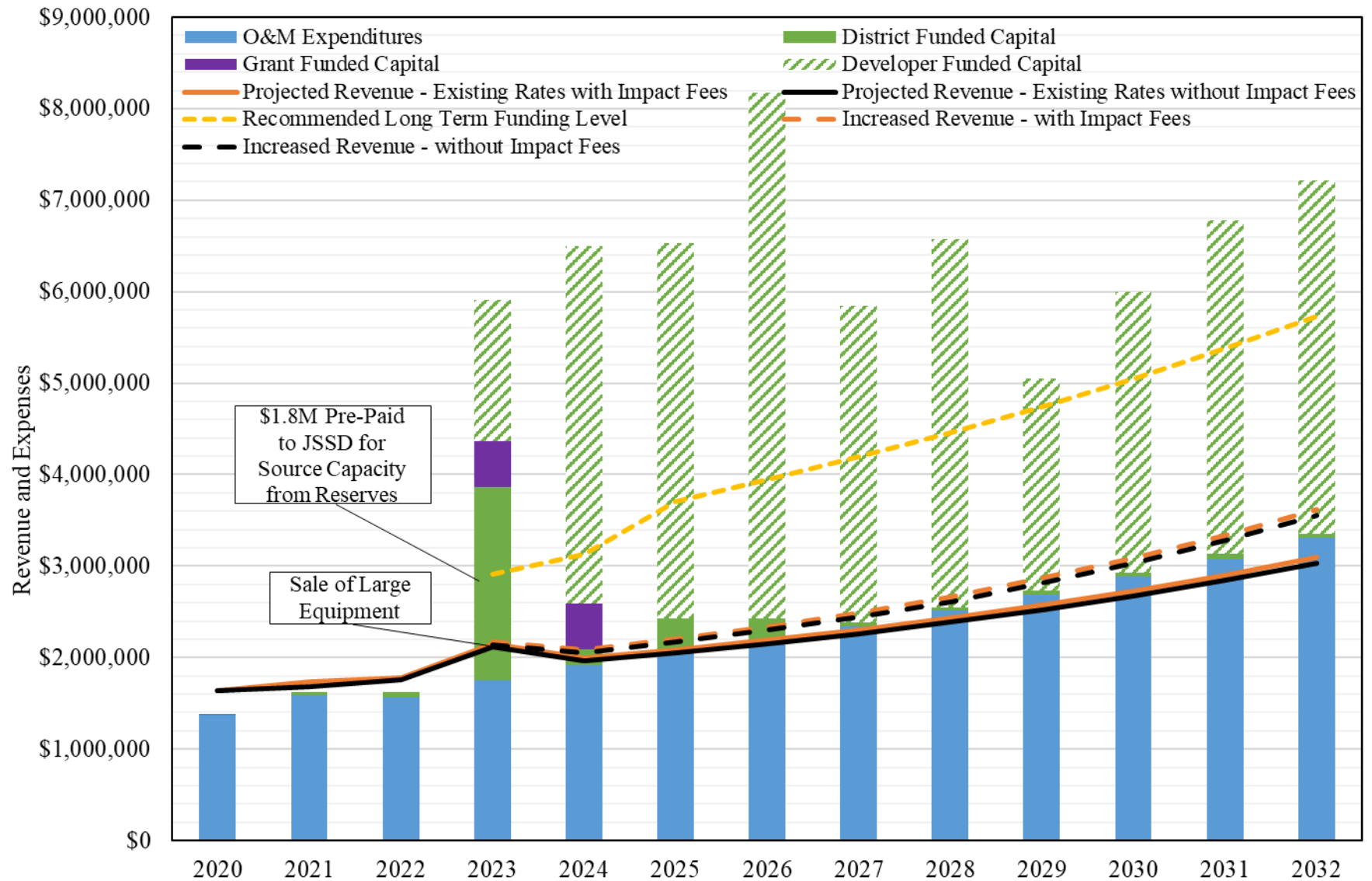
**Table 2-7
Culinary System Valuation**

System Component	Quantity	Estimated Total Value (with contingency)	Max Estimated Total Service Life
Tanks			
Existing HWY 32	1.5 MGD	\$6,177,000	80 yrs
Existing 6800	0.5 MGD	\$2,335,000	80 yrs
<i>Minimum Annual Budget</i>			\$106,000
Pipes			
8" Pipe	31532 ft	\$10,661,000	80 yrs
10" Pipe	1756 ft	\$618,000	80 yrs
12" Pipe	24722 ft	\$9,143,000	80 yrs
14" Pipe	9030 ft	\$3,539,000	80 yrs
16" Pipe	44303 ft	\$18,403,000	80 yrs
20" Pipe	3054 ft	\$1,340,000	80 yrs
<i>Minimum Annual Budget</i>			\$546,000
Total Recommended Long Term Funding Level (Annual)			\$652,000

**Table 2-8
Secondary System Valuation**

System Component	Quantity	Estimated Total Value (with contingency)	Max Estimated Total Service Life
Booster Stations			
Moulton Lane Booster Station	1	\$361,100	30 years
<i>Minimum Annual Budget</i>			\$13,800
Pipes			
4" Pipe	4,887	\$1,436,800	80 years
6" Pipe	26,010	\$7,646,900	
8" Pipe	6,681	\$1,964,200	
10" Pipe	2,987	\$914,000	
12" Pipe	2,412	\$775,700	
<i>Minimum Annual Budget</i>			\$183,100
Total Minimum Recommended Long Term Funding Level			\$196,900

Figure 2-1
10-Year District Revenue and Expenditures



As shown in Figure 2-1, projected revenue from existing rates may fall short of projected needs next year if operations and maintenance costs continue as expected. This is largely due to increase costs from historic and projected inflation. Additionally, the District's reserve and replacement savings is expected to be depleted in the next three years due to sewer capital projects. This reserve account will need to be replenished through impact fee receipts and rate revenues so that sufficient funds are available for future capital improvements and normal district operations. To meet these projected funding needs, the District has the option of cutting expenses by curbing services or increasing revenue. Upon review of the District's budgets and infrastructure needs, the appropriate response is to increase user rates to meet District's revenue need.

DESIGNING THE CULINARY RATE STRUCTURE

BC&A has consulted closely with District personnel to formulate a culinary rate structure that meets the identified goals of this rate study. It has been determined that the culinary rate structure will be based on meter size as it has historically been. Changes to the culinary rate structure include having different rates for customers with access to secondary water and those using only culinary water; and adding additional volumetric tiers. The rate structure will consist of a base rate and volumetric charges in multiple blocks.

Base Rate

The District currently utilizes a base monthly charge for its culinary rate arrangements. The new rate structure will keep this approach and include a monthly base charge per account. Base charges have the advantage of spreading revenues over the entire year (not just during the irrigation season) for proper upkeep and management of the system and the advantage of providing a stable revenue stream (as opposed to revenue from volumetric charges that can be volatile depending on weather, economic circumstances, and conservation).

It may be observed that larger meter sizes have unchanging base rates in future years. This is a transitional measure to better reflect cost of service and will adjust the distribution costs as we begin to add many more residential customers in future years.

It is anticipated that some future customers will receive their culinary water from a source other than the District (i.e., a private well) but will purchase secondary water from the District for outdoor use. A secondary base rate specific to these customers has been considered and included in the final rate structure.

Volumetric Charges

There are several different types of rate structures that are commonly used for billing volumetric charges to customers. These include uniform, seasonal, and increasing block rates. The State of Utah has mandated that most culinary rate structures use an increasing block rate (aka tiered rate structure). To comply with this requirement and to encourage water conservation, we have structured the recommended rates contained in this report using an increasing block structure.

The increasing block structure proposed is similar to the existing rate structure, with a few key adjustments.

- Culinary customers with access to secondary service will continue to have only two volume tiers.
- Culinary customers using only culinary water (indoor and outdoor) will now have four volume tiers. This better matches with general expectations and goals of equitability. Because these customers do not have access to the secondary system, it is expected that more water will be used by them for outdoor irrigation.

- Tier 1 in both culinary rate schedules continues the 12,000 gallon allowance at no additional cost to the base rate.
- Subsequent of use are accompanied by increasing cost to account for the additional system capacity and overall costs associated with that higher use (and eventually over use for the highest tiers).
- Greater volume is included in each tier for meters larger than 1-inch. For example, a 2-inch meter doesn't hit Tier 2 use until 48 thousand gallons as opposed to 12 thousand gallons for a 1-inch meter.

DESIGNING THE SECONDARY RATE STRUCTURE

As discussed previously, the secondary rate schedule was designed using IBUs. The structure of the secondary rates is similar to the culinary system with a few key differences:

- Fixed District costs (e.g., administrative, billing, etc.) are included in the overall water base rate shown on the culinary rate schedule, therefore the secondary rates do not include a separate base rate.
- To maintain appropriate cost of service among water users, secondary rates have been designed to be less expensive than culinary rates. This difference accounts for the fact that secondary water does not need to be treated and maintained to culinary standards.
- Similar to the culinary rate schedule, the multiple volume tiers were used to equitably allocate costs to users that use more or less than the expected amount for irrigation. The increasing costs of higher tiers also encourages customers to conserve water used in irrigation.

CALCULATING RATES

Based on the rate structures described above, BC&A calculated rates to recover the projected revenue requirement (Table 2-6) in accordance with the goals of this rate study. The final calculated rates are shown below in Tables 2-9 and 2-10. 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 and accounts for projected growth, revenue needs, and inflation.

Table 2-9
Recommended Culinary Rates by Meter Size (Schedules A, B, & C)

	2022	2023	2024	2025	2026	2027
Monthly Water Service Base Rate						
1-inch and smaller Meters	\$80.02	\$94.95	\$99.70	\$103.69	\$106.80	\$110.00
1 ½-inch Meters	\$96.03	\$420.65	\$420.65	\$420.65	\$420.65	\$420.65
2-inch Meters	\$115.25	\$651.68	\$651.68	\$651.68	\$651.68	\$651.68
Secondary Only Accounts*	N/A	\$12.77	\$13.41	\$13.94	\$14.36	\$14.79
Rate Schedule A Volumetric Charges: Culinary use for users who also have access to secondary						
Tier 1	Included in Base Rate					
Tier 2	\$15.03	\$20.00	\$21.00	\$21.84	\$22.50	\$23.18
Rate Schedule B Volumetric Charges: Culinary use for users who do not have access to secondary						
Tier 1	Included in Base Rate					
Tier 2	\$15.03	\$7.11	\$7.47	\$7.77	\$8.00	\$8.24
Tier 3		\$10.05	\$10.55	\$10.97	\$11.30	\$11.64
Tier 4		\$20.00	\$21.00	\$21.84	\$22.50	\$23.18
Rate Schedule C Volumetric Charges: Secondary Use						
Tier 1	N/A	\$1.10	\$1.16	\$1.21	\$1.25	\$1.29
Tier 2		\$6.53	\$6.86	\$7.13	\$7.34	\$7.56
Tier 3		\$15.00	\$15.75	\$16.38	\$16.87	\$17.38

* This fee is for customers that do not receive culinary water service from NVSSD but do receive secondary service. For example, accounts who would pay this fee are those which have a private well for indoor use and no connection to the culinary system. Example accounts who would not pay this fee are: those with both a culinary and secondary connection; those associated with accounts that have culinary connections such as an common space irrigation meter within a development that has culinary service to its structures. Therefore, this fee will only apply to a very few accounts.

Table 2-10
Recommended Culinary and Secondary Volumetric Use Tier Definitions

MONTHLY VOLUMETRIC USE IN THOUSANDS OF GALLONS			
	1- inch	1 ½-inch	2-inch
<i>Rate Schedule A Volumetric Use: Culinary use for users who also have access to secondary</i>			
Tier 1	0 - 12	0 - 30	0 - 48
Tier 2	> 12	> 30	> 48
<i>Rate Schedule B Volumetric Use: Culinary use for users who do not have access to secondary</i>			
Tier 1	0 - 12	0 - 30	0 - 48
Tier 2	12 - 18	30 - 45	48 - 72
Tier 3	18 - 28	45 - 70	72 - 112
Tier 4	> 28	> 70	> 112
<i>Rate Schedule C Volumetric Use: Secondary Use*</i>			
Tier 1	0 - 4 for each IBU**		
Tier 2	4 - 8 for each IBU		
Tier 3	> 8 for each IBU		

* Secondary users are given IBUs based on water allocated to the property. An IBU is 0.07 acre-feet of allocation, which corresponds to 1,000 square feet of irrigable area. The following example illustrates how volumetric uses are adjusted based on IBUs.

IBU Example: A customer with 2 IBUs will receive 2x the water allocation per tier as follows:

Tier 1 is 0 - 8,000 gal

Tier 2 is 8,000 - 16,000 gal

Tier 3 is > 16,000 gal

** IBU = Irrigation Billing Unit

RATE STUDY CONCLUSIONS

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

1. **Adopt and Implement New Rate Structure and New Rates.** It is recommended that NVSSD adopt the rates summarized above in Tables 2-9, and 2-10. 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 culinary water 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 considering the significant changes to culinary rate structure and the implementation of a completely new secondary rate. 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: CALCULATIONS

Table A-1
North Village Special Service District
Historic and Projected Revenue Requirement

	Actual	Actual	Estimated	Budgeted	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
Item	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<u>O&M</u>	<u>\$1,371,404</u>	<u>\$1,591,428</u>	<u>\$1,569,500</u>	<u>\$1,755,076</u>	<u>\$1,911,946</u>	<u>\$2,045,555</u>	<u>\$2,189,391</u>	<u>\$2,344,325</u>	<u>\$2,510,055</u>	<u>\$2,688,278</u>	<u>\$2,879,897</u>	<u>\$3,085,746</u>	<u>\$3,306,780</u>
Utilities	\$7,268	\$6,829	\$7,600	\$9,600	\$11,231	\$12,904	\$14,813	\$16,988	\$19,437	\$22,211	\$25,345	\$28,875	\$32,843
Overhead/Management	\$91,051	\$184,392	\$167,600	\$181,276	\$190,340	\$196,050	\$201,931	\$207,989	\$214,229	\$220,656	\$227,275	\$234,094	\$241,117
Legal Fees	\$18,073	\$8,089	\$20,000	\$20,000	\$21,000	\$21,630	\$22,279	\$22,947	\$23,636	\$24,345	\$25,075	\$25,827	\$26,602
North Village Water Lease	\$1,168,707	\$1,277,001	\$1,180,300	\$1,219,800	\$1,324,666	\$1,411,697	\$1,503,979	\$1,601,798	\$1,704,730	\$1,813,509	\$1,928,358	\$2,049,440	\$2,176,956
Bank Charges	\$2,532	\$3,000	\$3,300	\$3,400	\$3,570	\$3,677	\$3,787	\$3,901	\$4,018	\$4,139	\$4,263	\$4,391	\$4,522
Repairs & Maintenance	\$9,362	\$7,175	\$2,900	\$26,000	\$30,417	\$34,950	\$40,119	\$46,008	\$52,642	\$60,154	\$68,642	\$78,204	\$88,949
Supplies	\$1,169	\$7,500	\$21,700	\$30,500	\$35,682	\$40,999	\$47,062	\$53,971	\$61,754	\$70,566	\$80,523	\$91,739	\$104,344
Postage	\$0	\$0	\$100	\$100	\$117	\$134	\$154	\$177	\$202	\$231	\$264	\$301	\$342
Tools and Equipment	\$0	\$3,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Services	\$64,575	\$80,623	\$155,400	\$155,400	\$167,828	\$177,856	\$188,434	\$199,589	\$211,275	\$223,566	\$236,482	\$250,039	\$264,254
Insurance- Liability	\$7,256	\$7,200	\$8,700	\$10,500	\$12,284	\$14,114	\$16,202	\$18,580	\$21,259	\$24,293	\$27,721	\$31,582	\$35,922
Miscellaneous Expense	\$1,410	\$5,800	\$1,900	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
JSSD Sewer Treatment Cost	\$0	\$0	\$0	\$96,000	\$112,310	\$129,045	\$148,130	\$169,876	\$194,372	\$222,109	\$253,448	\$288,754	\$328,429
<u>Debt Service</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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>Capital Expenditures</u>	<u>\$0</u>	<u>\$34,700</u>	<u>\$47,360</u>	<u>\$4,149,969</u>	<u>\$4,586,102</u>	<u>\$4,487,299</u>	<u>\$5,978,988</u>	<u>\$3,498,196</u>	<u>\$4,068,529</u>	<u>\$2,356,572</u>	<u>\$3,114,076</u>	<u>\$3,690,728</u>	<u>\$3,907,593</u>
Historic Capital (District Funded)	\$0	\$34,700	\$14,700	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Miscellaneous Capital Expense	\$0	\$0	\$0	\$35,000	\$36,750	\$37,853	\$38,988	\$40,158	\$41,362	\$42,603	\$43,881	\$45,198	\$46,554
Upper NVSSD South Booster	\$0	\$0	\$0	\$62,400	\$589,680	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Upper Wasatch Commons Booster	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$569,667	\$0	\$0	\$0
Upper NVSSD South Tank	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$206,525	\$1,489,048	\$438,206	\$0	\$0	\$0
Upper Wasatch Commons Tank	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$150,451	\$1,239,713	\$159,613
Wasatch Commons Tank	\$0	\$0	\$0	\$0	\$0	\$415,296	\$1,283,265	\$440,588	\$0	\$0	\$0	\$0	\$0
Pressure Zone 1 Central Connection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$127,080	\$1,047,136	\$134,819	\$0
Pressure Zone 1 North Connection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$104,859	\$972,043
Pressure Zone 2 Transmission South	\$0	\$0	\$0	\$131,400	\$91,980	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pressure Zone 2 Transmission Central	\$0	\$0	\$0	\$109,200	\$76,440	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pressure Zone 2 Transmission North	\$0	\$0	\$0	\$157,800	\$110,460	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pressure Zone 4/5 Transmission to Tank	\$0	\$0	\$0	\$0	\$0	\$303,036	\$936,382	\$321,491	\$0	\$0	\$0	\$0	\$0
Pressure Zone 2 Transmission to Tank	\$0	\$0	\$0	\$0	\$330,225	\$340,132	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pressure Zone 6 Transmission to Tank	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$750,181
Flow Control Valve	\$0	\$0	\$0	\$0	\$0	\$112,476	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Source Capacity Deficiency	\$0	\$0	\$0	\$1,800,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Future Source Capacity	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
New NVSSD Culinary Well	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Match for Grant Project	\$0	\$0	\$0	\$276,978	\$142,214	\$146,177	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Grant Funded Expenses	\$0	\$0	\$0	\$500,000	\$500,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Developer Funded Expenses	\$0	\$0	\$0	\$404,691	\$416,832	\$429,337	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pressure Zone 1 South Booster	\$0	\$0	\$0	\$0	\$725,760	\$186,883	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pressure Zone 3C Booster	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$296,020	\$304,900	\$0	\$0	\$0	\$0

	Actual	Actual	Estimated	Budgeted	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
Item	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Pressure Zone 1 North Booster Upgrade	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,173,515	\$0	\$0
Pressure Zone 2 South Tank	\$0	\$0	\$0	\$0	\$511,560	\$2,107,627	\$2,713,570	\$0	\$0	\$0	\$0	\$0	\$0
Pressure Zone 3C Tank	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$454,356	\$1,091,969	\$0	\$0	\$0	\$0
Pressure Zone 1 North Tank	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$373,117	\$1,537,244	\$1,979,202
Pressure Zone 1 South Transmission	\$0	\$0	\$0	\$120,500	\$1,012,200	\$130,321	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Coyote Lane Zone 0 Distribution	\$0	\$0	\$0	\$282,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Wasatch Canal Distribution	\$0	\$0	\$0	\$240,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pressure Zone 1 Distribution South Connection	\$0	\$0	\$0	\$30,000	\$42,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pressure Zone 3C Transmission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$631,050	\$0	\$0	\$0	\$0	\$0
Pressure Zone 1 North Transmission	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$628,896	\$0
Pressure Zone 0 Transmission Upsize	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$288,364	\$0	\$0
Pressure Zone 1 Distribution North	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$37,613	\$0	\$0
Pressure Zone 3A Transmission (Developer Driven)	\$0	\$0	\$0	\$0	\$0	\$197,049	\$811,843	\$0	\$0	\$0	\$0	\$0	\$0
Pressure Zone 3A Transmission (District Driven)	\$0	\$0	\$0	\$0	\$0	\$81,113	\$194,940	\$0	\$0	\$0	\$0	\$0	\$0
New Coyote Lane Diversion (Complete)	\$0	\$0	\$32,660	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
New NVSSD Secondary Well	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,108,009	\$1,141,249	\$1,179,017	\$0	\$0	\$0
Total	\$1,371,654	\$1,626,128	\$1,616,860	\$5,905,045	\$6,498,047	\$6,532,855	\$8,168,380	\$5,842,521	\$6,578,583	\$5,044,851	\$5,993,974	\$6,776,475	\$7,214,373
Total (excluding Developer/Grant/Other Driven Capital)	\$1,371,654	\$1,626,128	\$1,616,860	\$2,067,053	\$2,090,910	\$2,423,173	\$2,423,320	\$2,384,482	\$2,551,417	\$2,730,882	\$2,923,779	\$3,130,944	\$3,353,334

Table A-2
North Village Special Service District
Historic and Projected Revenue (Projections Assume No Change to Existing Rate Structure)

	Actual	Actual	Estimated	Budgeted	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
Item	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<u>Operations</u>	<u>\$1,573,822</u>	<u>\$1,649,033</u>	<u>\$1,674,500</u>	<u>\$1,780,000</u>	<u>\$1,872,662</u>	<u>\$1,955,617</u>	<u>\$2,050,263</u>	<u>\$2,157,630</u>	<u>\$2,277,633</u>	<u>\$2,411,881</u>	<u>\$2,561,324</u>	<u>\$2,726,781</u>	<u>\$2,909,120</u>
Water Revenue	\$390,394	\$369,466	\$379,600	\$411,200	\$460,503	\$515,303	\$576,057	\$643,340	\$716,810	\$797,594	\$886,207	\$983,069	\$1,088,651
Sewer Revenue	\$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	\$1,400	\$89,167	\$88,300	\$120,000	\$134,388	\$150,380	\$168,110	\$187,745	\$209,186	\$232,761	\$258,621	\$286,888	\$317,700
Administration Fees	\$27,270	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Penalty Revenue	\$3,381	\$6,400	\$5,000	\$2,700	\$3,024	\$3,384	\$3,782	\$4,224	\$4,707	\$5,237	\$5,819	\$6,455	\$7,148
Water Reserve Fees	\$979,287	\$976,700	\$977,800	\$1,006,800	\$1,008,854	\$991,098	\$974,091	\$957,804	\$942,786	\$928,568	\$915,160	\$902,604	\$890,906
Secondary Irrigation Fees	\$0	\$0	\$8,900	\$9,000	\$10,079	\$11,279	\$12,608	\$14,081	\$15,689	\$17,457	\$19,397	\$21,517	\$23,827
Meter Set Revenue	\$4,900	\$35,900	\$27,600	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500
<u>Interest Revenue</u>	<u>\$42,346</u>	<u>\$14,400</u>	<u>\$64,000</u>	<u>\$68,100</u>	<u>\$71,505</u>	<u>\$73,650</u>	<u>\$75,860</u>	<u>\$78,135</u>	<u>\$80,480</u>	<u>\$82,894</u>	<u>\$85,381</u>	<u>\$87,942</u>	<u>\$90,580</u>
Interest Revenue	\$42,346	\$14,400	\$64,000	\$68,100	\$71,505	\$73,650	\$75,860	\$78,135	\$80,480	\$82,894	\$85,381	\$87,942	\$90,580
<u>Expansion and Replacement</u>	<u>\$27,500</u>	<u>\$78,029</u>	<u>\$46,546</u>	<u>\$301,307</u>	<u>\$55,563</u>	<u>\$59,658</u>	<u>\$64,084</u>	<u>\$68,853</u>	<u>\$73,976</u>	<u>\$79,459</u>	<u>\$85,301</u>	<u>\$91,493</u>	<u>\$98,020</u>
Sewer Impact Revenue	\$2,079	\$35,100	\$11,466	\$12,471	\$13,881	\$15,428	\$17,116	\$18,954	\$20,945	\$23,092	\$25,393	\$27,846	\$30,441
Water Impact Revenue	\$2,490	\$3,597	\$4,262	\$4,636	\$5,160	\$5,735	\$6,362	\$7,045	\$7,786	\$8,583	\$9,439	\$10,350	\$11,315
Secondary Impact Fee	\$0	\$15,631	\$8,918	\$9,700	\$10,797	\$12,000	\$13,313	\$14,743	\$16,292	\$17,961	\$19,751	\$21,659	\$23,677
Miscellaneous Revenue	\$22,930	\$23,700	\$21,900	\$24,500	\$25,725	\$26,497	\$27,292	\$28,110	\$28,954	\$29,822	\$30,717	\$31,639	\$32,588
Sale of Pump Skid	\$0	\$0	\$0	\$250,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>Bond Special Assessment Revenue</u>	<u>\$27,008</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>
Special Assessment Revenue	\$27,008	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$1,670,676	\$1,741,462	\$1,785,046	\$2,149,407	\$1,999,731	\$2,088,926	\$2,190,207	\$2,304,618	\$2,432,089	\$2,574,234	\$2,732,005	\$2,906,216	\$3,097,721
Total (excluding ineligible for District Expenses)	\$1,643,668	\$1,741,462	\$1,785,046	\$2,149,407	\$1,999,731	\$2,088,926	\$2,190,207	\$2,304,618	\$2,432,089	\$2,574,234	\$2,732,005	\$2,906,216	\$3,097,721
Total Non-Rate (excluding ineligible for District Expenses)	\$1,086,085	\$1,200,596	\$1,209,246	\$1,516,407	\$1,290,834	\$1,295,670	\$1,303,427	\$1,314,262	\$1,328,634	\$1,346,419	\$1,367,781	\$1,392,882	\$1,421,855

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