GUNSTOCK ACRES VILLAGE WATER DISTRICT

ASSET MANAGEMENT PLAN



Prepared For: GUNSTOCK ACRES VILLAGE WATER DISTRICT



Date: May 20, 2022

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Executive Summary

Summary

The Gunstock Acres Village Water System (GAVWD) owns and operates a public community water system, PWS ID 881020. The water system serves a population of approximately 1440 through 750 water service connections. For 2022, the reported average daily water use was approximately 180,000 gallons per day. The water distribution system is supplied by 9 active wells, 4 are bedrock wells located off the lower end of Mountain Drive, 5 bedrock wells off of Leisure Drive, and 1 dug well located at the corner of Silver Street and Yasmin Drive (currently not in use). There is approximately 15.5 miles of water distribution main plus associated valves, blow-offs, bleeders, and service laterals.

The water system assets included in this plan are summarized as follows:

TABLE 1-1 SUMMARY OF ASSETS

SUMMARY OF ASSETS					
Asset	Inventory (Number)				
Wells	9				
Pumping Equipment	18				
Storage Tanks	4				
Distribution Mains	82,300 LF				
Buildings	4				
Booster Stations	2				
Treatment Equipment	2				
Transportation Equipment (Truck)					
Land					
Hydrants	0				
Pressure Reducing Vaults	0				
Blowoff					
Meters	8				

A map of these assets is included in Appendix D and a detailed summary of each component is included in Appendix C.



Conclusions

The following conclusions are offered based on our investigation:

- > Current infrastructure assets have a replacement value estimated at \$25M.
- In general, the system is in fair to poor condition with pipeline assets scoring predominantly in the "Medium-High Risk" to "High-Risk" levels, with 18 pipeline runs scoring at the "High Risk" level. This should not be a surprise as most of the system was installed in 1967 so is approaching its design life quickly, depending on how well construction was implemented.
 - Approximately 75% of the distribution system is approaching the end of its useful life, of the total linear footage approximately 14,000 linear feet or 25% scored in the "High Risk" category.
 - Wellfield No. 1 has 4 bedrock wells and was installed in 1989 and is producing consistent water quality and production. Wellfield No. 7 is comprised of 5 bedrock wells, 3 located adjacent to Pump House 7, and 2 wells located along the State ROW. These wells are producing fair water quality and production, and were installed in 1995 and 2005, respectively. Excessive fluoride is an issue currently being addressed at Pump House 7 by blending of the wells to reduce levels.
 - Replacement for pump Station No. 1 is currently in the design phase with construction scheduled for 2022-23. To include a new pump house building, 50,000- gallon steel tank, pumps, and treatment. DWSRF funding is being accessed for the new construction.
 - Pump Station No. 7 is in need of additional storage and upgrades to the fluoride treatment, booster pumps and controls. The abandoned fluoride filter system needs to be removed and replaced with modern filter equipment, it is likely the filter size could be reduced and a safer operational treatment system used. This upgrade is also part of the current DWSRF funding package.
- Implementing the O&M will require an additional \$90,000 in 2022 with a total average cost of \$300,000 per year and no change in full time employees.
- Costs for infrastructure improvements over the next 10 years, in current dollars is estimated at \$6 -9 million.
- Expenses for water system operations, maintenance, and improvements are funded through "flat rate" user fees and a Precinct Tax based on a percentage of property tax.



Recommendations

The utilities action plan for improving the overall management of the system and supporting the identified Level of Service Goals includes the following:

Urgency	Issue	Corrective Action Plan	Target Date for Completion
High	Pumping Infrastructure	Complete Design and Construction	2022-23
High	Pumping Infrastructure	Pump Station 7 Upgrade	2022-23
High	Excessive O&M Expenses	Replace Aging Water Main	2023 and ongoing
High	Source Water Compliance – Protective Radius	Complete Fencing for Wells 7C and 7D	2022
High	Abandoned Infrastructure	Decommission Pump Station 5	2022-23
High	Community Updates	Inform Rate payers of ongoing improvements	Ongoing
Medium	Consumer Confidence	Publish Consumer Confidence Brochure Annually	Ongoing
Medium	Financial Stability	Review rates annually and maintain level to fully fund system operations	Ongoing

1. Introduction

This Asset Management Plan is for the GAVWD and describes how the utility will manage the water system infrastructure assets. Customer service demands and regulations require utilities to actively manage drinking water assets through careful maintenance, repair and replacement decisions. This plan is an effective tool for combining technical, management, and financial practices to ensure that the level of service required by the community is provided at the appropriate cost.

The plan has the following purposes:

- > To demonstrate responsible management of the drinking water and wastewater assets
- > To communicate and justify funding requirements indicated by the plan
- > To provide a management roadmap for the utility
- > To serve as a link between the GAVWD and its customers

The Asset Management Plan contains an overview of the utility, mission statement, level of service agreement, critical asset list, operation and maintenance strategy, capital investment program, and financial strategies.



1.1. Development of the Plan

The development of the plan included the following work items:

Task 1 Inventory, Hydraulic Profile and Condition Assessment

For each system component including source, treatment, distribution, and storage, Horizons will qualitatively assess condition, capacity, consequence of failure, redundancy, useful life and replacement costs. This will be based on a review of:

- repair history and expenses over the previous 5 years;
- water use and system loss data;
- > well field performance, including yield and water quality for each of the active sources;
- > an inspection of visible components; and
- conversations with system staff and contractors.

Upon completion of the inventory, Horizons will prepare process diagrams and narratives for each pump station location. The diagrams will show the operational relationship between system controls (pressure switches, flow meters, etc.) and equipment (pumps, solenoid valves, etc.) The diagrams will be formatted so that copies of the diagrams can be laminated and placed in each pump station for reference by the water system operator.

In addition, Horizons will complete GPS survey of the floor elevations of each pump station, as well as system well heads and major valve locations. Horizons will then prepare a hydraulic profile of the system that shows pressure zones and static pressure gradelines. As the system is not equipped with fire flow a hydraulic model is not necessary.

Task 2 System Map

Using information gathered from Task 1 and a review of existing mapping, plans and water system records; develop a base plan of the existing system in AutoCad format including best available locations and sizes for water distribution main, water supply and storage with estimated elevations of major system components, etc. The mapping will then be converted to ArcGIS and provided to the District in both formats.

Task 3 Asset Management Plan

A prioritized list of Capital Improvement Projects will be developed based on the results of the inventory and condition assessment with a strategy for future funding while maintaining an agreed upon level of service.

The financial management portion of the plan will include:

- A review of existing system users, rates and connection fees and a discussion of projected growth
- A review of current and historical revenue, operating and maintenance expenses, capital expenditures and capital reserves, debt payments, etc.

The capital improvement plan will include a prioritized list of short, intermediate, and long- term system upgrades required to address deficiencies identified from the inventory and condition assessment along with associated preliminary opinions of cost (for planning purposes).



The final portion of the plan will include a summary of system income and expense along with a summary of available and anticipated funding options for improvements and proposed adjustments to rates to accommodate system upgrade.

Plan preparation will also include populating an asset management database program (CUPPS, Microsoft Excel, or equivalent).

Task 4 Community Outreach

Horizons will attend a public informational meeting to review the draft Asset Management Plan and solicit input from system customers and other stakeholders. Based on input from customers, system staff, and leadership; Horizons will make revisions and prepare the final Asset Management Plan for adoption by the Village District.

Task 5 Implementation Plan / Commitment

Horizons Engineering, Inc. will provide training for the implementation and update of the CUPPS software program utilized to develop the Gunstock Acres Village District Asset Management Plan.

1.2. Mission Statement

The mission statement defines the goals of the GAVWD and is the guide for the level of service agreements discussed in section 3. The GAVWD mission statement is as follows:

We commit to improving and maintaining the public health protection and performance of our drinking water source, storage, and distribution assets, while minimizing the long-term cost of operating those assets. We strive to make the most cost-effective renewal and replacement investments and provide the highest-quality customer service possible.

GAVWD is committed to providing the community with exceptional drinking water. To that end, the GAVWD will:

- Ensure that our potable water customers are provided with drinking water that meets or exceeds state and federal water quality standards.
- Provide ongoing preventive maintenance and improvements to potable water infrastructure to ensure continuous service.
- Continue to ensure the long-term viability of the district's water source including wellfield protections and well explorations.
- Work in continued outreach to educate the community on the challenges public water utilities face in order to maintain a better understanding of our practices and goals.

1.3. Asset Management Team

The GAVWD has a CONTRACT OPERATOR who performs day-to-day functions to keep the utility functioning properly. The Asset Management Team is responsible for implementing and updating this plan. More specific roles and responsibilities are listed in Figure 1-1 below.



FIGURE 1-1. GUNSTOCK ACRES VILLAGE WATER DISTRICT ORGANIZATION CHART



2. Utility Overview

2.1. General

The **GAVWD** drinking water system serves Gunstock Acres Village with a population of approximately 1440. The initial water system infrastructure was built in 1967 by the developer. As lots within the development sold and houses built, they were connected to the system. The population that is served varies by season since many of the connection are second homes. The system was not designed to provide fire flows and there are no fire hydrants available to the local fire department. The following table lists key statistics about the utility and the population it serves. Maps of the utility are maintained by the utility at the office located at the Gilford Town Hall in the Basement Lunchroom. GAVWD has no formal offices, although they would like to find space in the future.



TABLE 2-1 GAVWD UTILITY OVERVIEW

UTILITY OVERVIEW		
	Quantity	Unit of Measure
Water Supply Connection - Customer Breakdown		
Residential Facilities connected to potable water		575
Commercial Facilities connected to potable water		1
Industrial Facilities connected to potable water		0
The Drinking Water Network		
Wells		9
Pumping Equipment		21
Concrete & Metal Storage Tanks		4
Distribution / Collection Mains		82,300 LF
Buildings		4
Booster Stations		4
Treatment Equipment		2
Transportation Equipment (Truck)		Number
Land		Acres
Hydrants		0
Meters		8
General Water Supply Information		
Number of connections		576
Storage Capacity		81,400 gal
Interconnected or Shared with other Drinking Utilities		0
Total Volume Produced (2019)		155,000 g/d
Total Volume Sold (2019)		Gallons/Day
Total Volume Flushing		Gallons/Day
Water Loss		Percentage
Water Supply Asset Values		
Replacement Value		Dollars

The GAVWD does not expect any significant customer growth. It will reach a maximum when all of the developable home lots in the community are used, which is estimated to be about **100** additional connections. Expansion of the water system network is not anticipated as the new connections will be from infill of the existing development, not expansion into new areas. Therefore, the **GAVWD**'s Capital Improvement Plan needs to focus on improving the condition of the water system and its financial capacity. This plan assumes 1-2 new connections per year until final buildout is completed.

2.2. Existing Facilities

The **GAVWD** serves its 1440 water customers with nine bedrock wells that feed two separate pump stations. A closed isolation valve off Silver St separates the system into two essentially separate systems. Due to the elevation changes, each system consists of a pump station and a booster station. Pump Station 1 and Booster Station 3 serve the East side of the system while Pump Station 7 and Booster Station 6 serve the West side. Pump Station 1 is to be replaced and is in the design phase with construction slated for 2022-23. Pump Station 7 is currently the only facility with a Supervisory Controls and Data Acquisition (SCADA) system. The SCADA system at Pump Station 7 allows for monitoring the system and provides alarm functions, and allows the filling of tanks at Pump Stations 3 and 6. It is currently not programmed for further control of the system. It should be noted Pump Station 7 serves approximately 85% of the homes within Gunstock Acres making it critical infrastructure. Pump Station 7 is also slated to be upgraded with new pumps and controls.

As a result of the topography the two additional booster stations (3 and 6) help decrease excessive pressures in the system, but the operating pressure in several locations remain above the State's recommended maximum of 100 psi.

In 2020, the GAVWD decommissioned Pump Station 5 as well as the dug well feeding the pump station. This pump station has yet to be demolished but is part of the current DWSRF funding.

The distribution system consists of roughly 15.75 miles of pipe, with installation dates ranging from 1967 to 2014. The majority of the water system distribution pipes were installed when the development was constructed in 1967, with additional piping and replacement piping constructed in the late 1990's and more recently (refer to Appendix C for complete listing). The system also includes gate valves, flush valves, and pressure reducing valves. The system does not include any hydrants intended for fire protection and the mains and storage were not sized for fire protection. Pipe materials are cast iron, ductile iron, and polyvinyl chloride (PVC) and range in size from 1-inch to 6-inch diameter. Service lines are typically ¾-inch copper or polyethylene.

The GAVWD serves 750 connections with 9 active wells, 4 bedrock wells located off Mountain Road, and 5 bedrock wells located off Leisure Drive. The well fields also include the pump stations, controls and piping to deliver the water to the distribution system and storage tanks.

There are 35,900 gallons of storage in 4 tanks with the largest located in pump station 7. It is a 25,000-gallon atmospheric tank installed in 1993. All storage tanks are of steel construction. The proposed new storage tank for Pump Station 1 is an above-ground 50,000-gallon steel tank.

The distribution system consists of 82,300 linear feet of pipe, most are approximately 55 years into the service life, and some that were recently installed ranging in size from two-inch to six-inch diameter pipe. The system also includes gate valves, PRV's, and service line piping.

Water meters are not installed at each home, all customers pay a flat rate.

Appendix C contains a detailed listing of all system assets and their condition.



2.3. Condition of Existing Facilities 2.3.1. Source

Wells 1, 1A, 1B, & 1C

Four bedrock wells are in the fenced-in area next to Pump Station 1. All wells enter the existing pump station individually and combine once inside. These four wells combine for a total of about 200,000 gallons per day (gpd). Well 1, 1A, 1B, 1C were drilled in 1070's, 1987, 1989, and 1989, respectively.

Wells 7, 7A, 7B 7C, & 7D

Fenced in, Wells 7, 7A, and 7B are located directly next to and behind Pump Station 7. Wells 7C and 7D are located further north off a state ROW at a lower elevation near Poor Brook Farm. These wells were drilled from 1989 to 2005 and are fenced.

Well No. 5

Well No. 5 is a dug well installed to a depth of 15 ft. This well was installed in 1995 (estimated) and has a permitted production of 50,400 gpd. It was decommissioned in 2020 due to water quality issues. In summary, the current permitted water supply has more than adequate permitted capacity to meet the current maximum day demand.

Water Source	Capacity GPM	Daily Production (GPD)	Continuous Rate (GPM)	Note	Pressure Zone
WELL NO 1	45	64,800			1,2,3
WELL NO 1A	60	86,400			1,2,3
WELL NO 1B	24	34,560			1,2,3
WELL NO 1C	15	21,600			
WELL NO 7	55	79,200			4,5
WELL NO 7A	55	79,200			4,5
WELL NO 7B	55	79,200			4,5
WELL NO 7C	55	79,200			4,5
WELL NO 7D	55	79,200			4,5
Total		603,360	0		

TABLE 2-2 SOURCE SUMMARY

2.3.2. Treatment, Controls and Structures

The GAVWD has actively managed the water utility and accomplished the installation of new or replacement infrastructure as needed in order to keep pace with the building of new homes within the development. New bedrock wells have come on line in recent years while older wells with diminished yield or water quality have been abandoned. Pump stations 4 and 5 have been abandoned with Booster Station 3 replacing Pump Station 4.



Pump Station 1

Pump Station 1 is located on the southern part of Mountain Drive. Wells 1, 1A, 1B, and 1C are all treated at Pump Station 1. Two chemicals are added at Pump Station 1: Caustic Soda and Orthophosphate. Caustic Soda is added for pH adjustment and Orthophosphate is added for corrosion control. Pump Station 1 currently has two 25,000-gallon atmospheric storage tanks. This pump station also pumps into two different pressure zones: two pumps feed zone 1 and two pumps feed zone 2. The pressures leaving the pump station into zone 1 range from 35-52 psi. The pressures leaving the pump station into zone 2 range from 100-115 psi. This pump station is slated to be completely replaced with an ongoing DWSRF-funded project.

Pump Station 7

Pump Station 7 is located on Wade's Way. Wells 7, 7A, 7B, 7C, and 7D are all treated at Pump Station 7. The only chemical added at Pump Station 7 is Orthophosphate for corrosion control. Pump Station 7 houses a 20,000-gallon atmospheric storage tank and a 5,000-gallon hydropneumatic tank. Three booster pumps, 2-10hp and 1-5hp, pull water from the atmospheric storage tank and pump water into the distribution system at pressures ranging from 100-120 psi. The hydropneumatic tank is used to maintain pressures throughout the system. While all pump/booster stations are equipped with alarms; Pump Station 7 is currently the only station with a SCADA system. The 5,000-gallon hydropneumatic tank has a maximum of 100 psi gage pressure, often exceeded by 10-20 psi under normal operation.

Booster Stations

Pump Station 3

Pump Station 3 is located on the north side of Mountain Drive. The pressure entering Pump Station 3 coming from Pump Station 1 ranges between 30-50 psi. There is a 5,000-gallon atmospheric tank, which provides additional storage for the higher elevations in the community east of Poor Farm Brook. The pump station has three booster pumps, 2-7.5hp and 1-3hp jockey pump, which provide an outgoing pressure ranging between 125-145 psi. Pump Station 3 is located on privately owned property and the 25-year lease ends in 2023. The storage tank acts as just a wide spot in the pipe as it is not currently configured to act as a separate atmospheric storage tank, it is under incoming system pressure. The existing hydropnematic tank is not being used as the internal bladder has failed, as a result, the jockey pump is cycling frequently to maintain pressure. The pressure tank needs to be repaired or replaced.

Pump Station 6

Pump Station 6 is located on Sagamore Drive. The pressure entering Pump Station 6 coming from Pump Station 7 ranges between 50-70 psi, with outlet system pressure as much as 147 psi, exceeding the 100 psi limit. Pump Station 6 houses a 10,000-gallon atmospheric tank which is filled from system pressure through a motorized valve connected to a level control associated with the tank. The pump station also has two pressure tanks; one for the two 15 hp booster pumps and one for the 5 hp jockey pump.

Controls

For purposes of this report, the controls include the mechanical and electrical systems which allow the water system's equipment to be operated, devices that collect data, and the communication systems which connect this equipment to the operators.

Pump Station 7 is monitored using a SCADA system. At this time, the SCADA system can only be accessed on the computer inside Pump Station 7. The 3 booster pumps are operated in a hand/off/auto fashion without Variable Frequency Drives (VFD), well pumps are operated in the same fashion except they have VFD's that are set manually to adjust well-pumping rate. An auto dialer is capable of 47 specific alarms/alerts to the operator. GAVWD would like to incorporate zone metering throughout the community to facilitate the control of unaccounted for water.

Pump Station 6 has more up-to-date VFD controls for each of the 3 booster pumps, the controls automatically start and stop the three pumps depending on the demand in the system.

Each pump station and booster station have an alarm call system that contacts a designated operator with any issues at each facility.

2.3.3. Storage Tanks and Pressure Zones

Not including the new tank proposed for pump station 1, the GAVWD has 2 atmospheric tanks and 1 hydropneumatic tank. A 25,000-gallon tank at pump station 7, a 10,000-gallon tank at pump station 6, and a 5,400 hydropneumatic tank at pump station 7. There are 5 different pressure zones throughout the Community, 2 associated with Pump Station 7 and 3 associated with Pump Station 1.

Tank Name	Volume Gallons	Overflow Elev	Туре	Material
PS 1	50,000		ATM	STEEL
PS3	5,400		ATM	STEEL
PS6	10,000		ATM	STEEL
PS7	20,000		ATM	STEEL
PS7	5,000		HYDRO	STEEL

TABLE 2-3 STORAGE SUMMARY



Location	Building	Pump Rate GPM	Pump Type	Нр	Avg Daily GPD	Pump From	Pump To	Pressure Range psi	# customers (approx)
PUMP STA.	YES					WELLFIELD			
1	(NEW)					1	PS 3		80
PUMP STA.	YES -		GRUNDFOS						
3	14'X14'		Vertical Turbine	7.5		PS 1	DIST.	125-145	20
			GRUNDFOS						
			Vertical Turbine	7.5					
			GRUNDFOS						
			Vertical Turbine	3					
PUMP STA.	YES -								
6	12'X16'		GOULDS	15		PS 7	DIST.	140	80
			GOULDS	15					
			GOULDS	5					
PUMP STA.	YES -		GRUNDFOS			WELLFIELD			
7	22'X24'		Vertical Turbine	10		7	PS 6	110-120	570
			GRUNDFOS						
			Vertical Turbine	10					
			GRUNDFOS						
			Vertical Turbine	5					

2.3.4. Watermain and Appurtenances

The GAVWD water system consists of 82,300 linear feet or approximately 15.7 miles of watermain. It includes watermain ranging in size from 1" to 6" diameter and includes Cast Iron, Ductile Iron and PVC. The majority (48%) of the distribution system is 4-inch cast iron, and another 25% is 6-inch cast iron, with the remaining 25% split between 2-inch and 3-inch or less. Table 2-5 below shows the approximate distribution by pipe age, size, and condition.

The water system was first constructed approximately 55 years ago and most of that water main is still being used today.



TABLE 2-5a

Distribution Pipe by Age						
Age Years	Linear Feet	%				
55	69,100	84.00%				
42	3600	4.30%				
27	1200	1.45%				
11	1200	1.45%				
8	7200	8.80%				
Total	82,300	100.00%				

TABLE 2-5b

Distribution Pipe by Size						
8"	0	0%				
6"	20200	25%				
4"	39700	48%				
3"	9600	12%				
2"	12200	15%				
1"	600					
	82300	100%				

The GAVWD has added and replaced water main in the system over the years, new piping was installed in Mountain Drive and Oakland Drive in 2014 replacing the existing cast iron pipe with HDPE pipe. In 2011 the 3-inch main located in High Point Avenue was replaced, in 1995 the 4-inch main in Hickory Stick Lane was replaced, and in 1980 the 2-inch and 4-inch lines in Mineral Springs Village was replaced.

Additionally, the system was expanded to serve Gunstock Inn located on Cherry Valley Road, Mineral Springs Condo Association, and Ellacoya Barn and Grill located on Route 11A. These extensions were completed around 2000.

The noted additions and replacements above reflect the extent to which the pipeline installed in 1967 have been replaced or extended, Table 2.5c provides a summary of the pipe age.

TABLES 2-5c

Distribution Pipe by Condition						
Good	5200	6%				
Fair/Avg	48700	59%				
Poor	10800	13%				
Very Poor	9200	11%				

The system should continue replacement of old watermain in order to continue reducing the lost water, replacing undersized mains for improved pressure and flow, shutoff valves, and flush hydrants as needed.



Valves: Approximately 100 gate valves are believed to exist within the distribution system, many being associated pipe line intersections. Valves should be exercised on a regular basis as part of routine operation and maintenance. The GAVWD has a policy to add valves in locations where breaks occur, so additional valves are added frequently.

Meters: Meters are installed in all Pump Stations but individual service meters are not used in the GAVWD system.

2.5 Mapping and Interfacing

The asset management plan and database were developed in coordination with the existing system mapping. Efforts were made to clarify and develop Autocad maps based on available drawings and coordination with the system operator.

2.6 Asset Valuation

The 2022 estimated replacement cost for the GAVWD system is \$25M. The table below represents the approximate value of the assets owned by the utility. The value is based on 2022 replacement costs. For a detailed breakdown of assets please see Appendix C.

System Component	Description	Re	placement Cost
Source	9 wells, pumps and controls	\$	800,000
Storage Tanks	5 tanks, 85,000-gallons Atmospheric and 10,000 hydropneumatic	\$	600,000
Pump Stations	4 buildings, pumps, controls	\$	1,500,000
Distribution	82,300 LF Watermain, Valves	\$	23,000,000
Hydrants		\$	-
Meters		\$	-
Other	Office		200,000
TOTAL SYSTEM VALUA	\$	26,100,000	

TABLE 2-6 ASSET VALUATION TABLE

The previous table includes estimated replacement costs for system components, it should be noted that these unit costs are estimates and can vary greatly by the project size and other site-specific factors such as ledge, wetlands, work within state highways or railroads rights of ways. These costs are intended for general budgeting guidance and as specific projects are developed an opinion of probable construction costs should be completed for the specific project scope and bidding environment.

Estimating the remaining useful life of an asset is difficult at best. There are many variables that affect remaining life including original material, soil conditions, water quality, maintenance, and original construction practices, including burial depth and pipe bedding.



The following table provides the average useful life for system components based on AWWA and EPA standards; however, some adjustments may be made in the asset inventory based on current condition, repair history, and operator information. As more information becomes available, the remaining useful life in the inventory data tables may need to be updated.

Asset Type	Asset Component		Estimated Useful Life
	Wall		(years) 25
Sourco	Rump		40
Source	Pullip Duran Matan and Car		40
	Pump Motor and Controls		20
	Site / Civil		100
Dump Stations and	Process Piping and E	quipment	30
othor Eacilition	Controls		15
	Building Mechanical	and Electrical	30
	Building Structural	50	
	Glass Fused to Steel	40	
Storago	Concrete Storage Tar	60	
Storage	Telemetry	20	
	Altitude Valves	20	
		Ductile Iron – lined	110
		Cast Iron	115
	Mator Main	Asbestos-Cement	5
		Galvanized	40
Distribution		PVC	100
		HDPE	50
	Hydrants		40
	Valves		50
	Pressure Valves	30	

TABLE 2-7 USEFUL LIFE

3. Level of Service Agreement

This level of service (LOS) plan establishes performance goals and achievements for the Gunstock Acres Village Water District, with consideration to providing services that meet or exceed customer expectations and requirements of State and Federal regulations. The LOS agreement is the standard by which Gunstock Acres Village Water District officials operate and maintain the water system. It helps to manage the assets and systems to achieve agreed-upon performance for both the asset and the customer while understanding the risks and consequences of decisions.

The benefits to establishing this LOS agreement include the following:

- Identify strategies to meet the level of service targets.
- > Communicate with the customer on the performance of the system.
- Identify costs associated with operation and maintenance to meet the agreed-upon level of service.

The objectives set the criteria for identifying system improvements and the schedule for maintenance.



The costs associated with the desired level of service need to be evaluated. The levels of service determine the amount of funding that is required to maintain, renew and upgrade the water infrastructure to provide the customers with the levels of service specified. Increased services result in increased costs and ensuing discussions can describe the trade-offs and risks associated with those actions. Decisions can be made based on costs and budgets along with associated rate impacts to meet the agreed-upon service level allowing the system to track performance and set strategies to minimize costs while achieving the goals.

This will help the Gunstock Acres Village Water District management and operators to set goals that can be measured, tracked, and updated as needed.

Goals

This Level of Service goals is developed based on SMART principles; goals are Specific, Measurable, Attainable, Realistic/Relevant, and Time-bound. Using the SMART approach, Gunstock Acres Village Water District can achieve the goals that they set.

Specific means goals are well defined and clear to anyone who has a basic knowledge of the Gunstock Acres Village Water District. Measurable tells you if the goal is obtainable and how far away completion is and also when it has been achieved. Attainable means the goal is capable of being reached. Realistic answers to the question is the goal within availability of resources, knowledge, and time. Time-based allows enough time to achieve the goal but not too much time.

This SMART method provides a guideline for meeting the goals and expectations outlined in the LOS agreement while maintaining the fiscal responsibility of the Gunstock Acres Village Water District. The level of service goals may change with time to meet regulatory requirements or customer expectations, to respond to the deterioration of assets, to account for system growth, or to respond to fluctuations in operational costs.



3.1 Goals

TABLE 3-1 LEVEL OF SERVICE GOAL

GoalTargetAchievedPUBLIC HEALTH AND SAFETYMeet or Exceed Federal Safe Drinking Water Act Primary Drinking Water Standards100% of the time no more than one qualitative violation within a given 2-year period No reporting violations, reports are submitted accurately and on timeMeetsMeet or exceed state and local health- based drinking water regulations100% of the time no more than one qualitative violation within a given 2-year periodMeetsMeet or exceed state and local health- based drinking water regulations100% of the time no more than one qualitative violation within a given 2-year period No reporting violations, reports are submitted accurately and on timeMeets	ASSET MANAGEMENT PLAN LEV	EL OF SERVICE	
PUBLIC HEALTH AND SAFETY Meet or Exceed Federal Safe Drinking Water Act Primary Drinking Water Standards 100% of the time no more than one qualitative violation within a given 2-year period No reporting violations, reports are submitted accurately and on time Meets Meet or exceed state and local health- based drinking water regulations 100% of the time no more than one qualitative violation within a given 2-year period Meets No reporting violations, reports are submitted accurately and on time Meets	Goal	Target	Achieved
Meet or Exceed Federal Safe Drinking 100% of the time Meets Water Act Primary Drinking Water no more than one qualitative violation within a given 2-year Standards period No reporting violations, reports are submitted accurately and on time Meets Meet or exceed state and local health- 100% of the time Meets based drinking water regulations 100% of the time Meets No reporting violations, reports are submitted Accurately and on time No reporting violations, no more than one qualitative Violation within a given 2-year period No reporting violations, Meets no more than one qualitative Violation within a given 2-year period No reporting violations, reports are submitted accurately and on time	PUBLIC HEALTH AND SAFETY		
Water Act Primary Drinking Water no more than one qualitative ividation within a given 2-year Standards violation within a given 2-year period No reporting violations, reports are submitted accurately and on time Meet or exceed state and local health- 100% of the time Meets based drinking water regulations no more than one qualitative violation within a given 2-year period No reporting violations, reports are submitted or exceed state and local health- 100% of the time Meets No reporting violations, reports are submitted No reporting violations, reports are submitted accurately and on time Meets no more than one qualitative violation within a given 2-year period No reporting violations, reports are submitted accurately and on time	Master Freedord Foderal Cofe Drinking	100% of the time	D. A. a. a. b. a.
Standards violation within a given 2-year period No reporting violations, reports are submitted accurately and on time Meets Meet or exceed state and local health-based drinking water regulations 100% of the time no more than one qualitative violation within a given 2-year period No reporting violations, reports are submitted accurately and on time Meets	Water Act Primary Drinking Water	no more than one qualitative	Meets
period No reporting violations, No reports are submitted accurately and on time Meet or exceed state and local health- 100% of the time Meets based drinking water regulations no more than one qualitative violation within a given 2-year period No reporting violations, reports are submitted accurately and on time Accurately and on time	Standards	violation within a given 2-year	
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based drinking water regulations no more than one qualitative violation within a given 2-year period No reporting violations, reports are submitted accurately and on time	Meet or exceed state and local health-	100% of the time	Meets
period No reporting violations, reports are submitted	based drinking water regulations	no more than one qualitative	
No reporting violations, reports are submitted		period	
reports are submitted		No reporting violations,	
accurately and on time		reports are submitted	
Adequate customer delivery pressure 20 psi minimum during all flow $N/A - As we have no Fire$	Adequate customer delivery pressure	20 psi minimum during all flow	N/A - As we have no Fire
under all flow conditions conditions Hydrants	under all flow conditions	conditions	Hydrants
			i i yaranco
FINANCIAL MANAGEMENT	FINANCIAL MANAGEMENT		
Maintain operating fund financial Review rates annually to verify Meets	Maintain operating fund financial	Review rates annually to verify	Meets
costs of annual operations and	nearth	costs of annual operations and	
future improvements		future improvements	
Maintain a capital reserve fund		Maintain a capital reserve fund	
(or operating account) balance		(or operating account) balance	
Reduce system losses by 98 % per year Replace approximately 100 Meets	Reduce system losses by 98 % per year	Replace approximately 100	Meets
until they are at 15% or less feet linear feet of water main	until they are at 15% or less	feet linear feet of water main	
Unaccounted for water less than 5% every other year Monitor Water Less Daily	Unaccounted for water less than 5%	every other year	
Between 2 and 4 Am. Owner		Between 2 and 4 Am. Owner	
to replace the line from the		to replace the line from the	
curb stop to the house if found		curb stop to the house if found	





ASSET MANAGEMENT PLAN LEV	EL OF SERVICE	
Goal	<u>Target</u>	Achieved
FINANCIAL MANAGEMENT (cont	inued)	
Bring well sites into compliance with current regulations	Complete an analysis of all wells at Pump Stations 7 and 1 to determine if they can be abandoned or improved	Meets
Ensure long-term viability of water sources	Protect existing wellhead area to maintain capacity Bring WELL on line as a permanent source Complete exploration for additional sources	In Process Have Local Source Water Protection Gant to Fence in 7C & D only two wells that are not fenced in
Review asset management plan annually to allocate funds to highest risk assets with a high probability of failure	100% of the Time	Meets. But it is tough to do without Software
CUSTOMER SERVICES		
Fewer than 5 complaints received regarding color, taste and/or odor per month.	100% of the time	Meets
Provide all customers with a minimum of 35 psi during average daily demand	99% of the time	Meets
Report testing results to customers annually in the consumer confidence report (CCR).	Annually	Meets
Customer Education	Improve community and outreach with regular posting of meeting minutes Semi-annual newsletters with billings	Meets – with meeting minutes, Consumer Confidence Report, Annual Report & Yearly Public Relations Meeting



ASSET MANAGEMENT PLAN LEVEL OF SERVICE				
<u>Goal</u>	<u>Target</u>	Achieved		
EMERGENCY MANAGEMENT				
Respond within 24 hrs. to Water Quality or Water Pressure complaint All customer complaints will be investigated within # business days of reporting the complaint	100 % of time	Meets per contract with LRW with 1 Hour Response time		
Notify customers within 4 hours if major water main break occurs	100 % of time	Meets Alert System		
Notify customers within 8 hrs. of equipment failure that impedes water quality or production	100 % of time	Meets Alert System		
Repair water main breaks within 8 hrs. of identification Provide continuous service to customers	100 % of time	LRW Water Services Contract		
Create / Review / Update Emergency Action Plan	Every 5 years	Meets		

4. Asset Management Strategy

4.1. General

The water system assets that are included in this plan are as follows:

- Water distribution and transmission mains
- Bleeders and Blow-offs
- Valves
- Water supply wells and buildings
- Booster Pump Station
- Valve Vaults
- Water storage structures

Using the best available information from existing mapping, field observation and discussion with water system officials, an inventory of the water system assets was developed, and the overall condition of system components quantified.

An excel spreadsheet was developed to summarize and calculate existing inventory, condition, consequence of failure, installation date, useful life, risk and other data points based on the EPA Checkup Program for Small Water Systems principles (CUPSS).

The mapping of existing assets currently available is titled "C&C Water Services Inc., Gunstock Acres, Gilford, NH", Scale 1"=200', Dated 1988. It appears to be a general layout of the distribution system with approximate locations of pump stations, water lines, tanks, and valves.





Using readily available public GIS base plan data we have put together a drawing in Autocad reproducing the Gunstock Acres water distribution system. The data for the pipeline locations are only as good as the 1988 plan provided by GAVWD.

The conclusions made in the AMP are directly related to the quality and accuracy of input data. While there are additional methods such as leak detection, c-value testing, flow tests, visual inspection during repairs and video inspection to obtain more accurate data on the condition of the distribution system, the cost may be prohibitive. This type of system condition assessment is typically not necessary for the entire distribution system; however, it could be helpful in determining the condition in isolated areas. This asset management plan relied on existing data and did not utilize additional assessments. Good documentation of system maintenance is paramount, such as photo documentation of line breaks, service repairs, and other work where the distribution system is exposed for maintenance. This information is critical to the asset management program.

4.2. Condition Assessment

As part of the inventory, the conditions of the assets were determined using a numerical ranking system. The condition of the assets not visible and below ground were based on the type of material, installation date and maintenance history.

The condition assessment is primarily based on the age of the component, physical inspection (if possible) and operator knowledge and is given ratings as follows:

Condition Assessment					
Dating	% Estimated Remaining Useful Life		Description		
Rating	If asset is maintained	If asset is NOT maintained	Description		
Excellent	120	110	Asset is newly installed		
Good	110	105	Asset has minor defects		
Fair (Average)	100	100	Asset requires some maintenance		
Poor	95	90	Asset requires significant maintenance		
Very Poor	90	80	Asset is in such disrepair it is unserviceable and requires replacement		



4.3. Risk Assessment

The risk assessment is determined by assigning values to two key factors:

- 1. Probability of Failure the likelihood that an asset will fail
- 2. Consequence of failure if the asset were to fail how would it impact the system and the customer
 - a. Consideration is also given to redundancy. If an asset can provide the same or similar service of another asset, the consequence of failure is not as significant and the life of an asset may also be extended.

Probability of Failure is based on the age of the asset, estimated useful life, condition and operator knowledge. Probability of Failure is given a number of 1 to 10 with 10 indicating certain failure. It is calculated as follows:

((Estimated Useful Life – Remaining Useful Life) / Est Useful Life) x (1-Redundancy) x 10

Consequence of Failure estimates the degree of impact on the utility service should the asset fail. It answers the question "How bad would it be if this asset failed unexpectedly?" If the system has one water supply and it fails that is catastrophic versus a system that has two sources, a loss of one may only be moderate. It is rated as follows:

Consequence of Failure			
Rating	Consequence		
2	Insignificant Disruption		
4	Minor Disruption		
6	Moderate Disruption		
8	Major Disruption		
10	Catastrophic Disruption		

To determine risk, we have assigned Risk Factors of 1 to 4, which is determined by multiplying the probability of failure by the consequence of failure. The table below graphically depicts the value and their required actions.

Category	Value	Action
4 High Risk	If CoF > 5 and PoF > 5	Immediate Attention
3 Medium-High Risk	If CoF < 5 and PoF > 5	Aggressive Monitoring
2 Low-Medium Risk	If CoF > 5 and PoF < 5	Monitoring
1 Low Risk	If CoF < 5 and PoF < 5	Routine Maintenance

4.4. Summary of Critical Assets

Some assets are more important than others in making sure that customers receive safe drinking water. They may be important due to the social, economic or environmental consequences should the asset fail.



We utilized the principles of the CUPPS (Check UP Program for Small Systems) software developed by the U.S. Environmental Protection Agency to identify and prioritize critical assets. This process includes reviewing all assets and recording their conditions (likelihood of failure), criticality to the utility (consequence of failure) and redundancy (the number of back-up assets to help support each asset). This will ensure that the utility delivers the level of service that is expected by its customers.

Tables 4-1 lists assets critical to maintain the performance of the utility.

TABLE 4-1 GAVWD CRITICAL ASSET INVENTORY DISTRIBUTION MAINS:

Asset Description (Name)	Asset Type	Condition	СоҒ	Installati on Date (MM/DD /YYYY)	Risk Level
		Fair			
Alpine Drive	Distribution/Collection Mains	(Average)	Major (8)	1/1/1967	4
		Fair	Moderate		
Auburn Circle	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
Barefoot Place	Distribution/Collection Mains	Very Poor	Maior (8)	1/1/1967	Д
Dareibot ridee		Very 1001		1/1/1507	4
Briarcliff Road	Distribution/Collection Mains	Poor	Major (8)	1/1/1967	4
		Fair	Moderate		
Brookside Circle	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
		Fair	Moderate		
Cheshire Circle	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
		Fair			
Cumberland Road - 2"	Distribution/Collection Mains	(Average)	Major (8)	1/1/1967	4
		Fair	Moderate		
Guild Circle	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
		Fair	Moderate		
Hermit Lane - 2"	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
		Fair	Moderate		
Hideaway Circle	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
		Fair	Moderate		
Jeremy Court	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
		Fair	Moderate		
Lauren Circle	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
		Fair	Moderate		
Ridgeline Loop	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
		Fair	Moderate		
Ryswick Street	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
T '1' D ' O''		Fair	Moderate	4/4/1005	
Trailview Drive - 2"	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
Tustikaises Duis All		Fair	Moderate	4/4/4007	
Trailview Drive - 4"	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4
		Fair	Moderate	4/4/4005	
whitebirch Road	Distribution/Collection Mains	(Average)	(6)	1/1/1967	4



Asset Description (Name)	Asset Type	Condition	СоF	Installati on Date (MM/DD /YYYY)	Risk Level
		Fair	Moderate		
Balsam Drive	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
Buckboard Drive	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967	3
		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Moderate		0
Chestnut Drive - 4"	Distribution/Collection Mains	Very Poor	(6)	1/1/1967	3
			Moderate		
Chestnut Drive - 6"	Distribution/Collection Mains	Poor	(6)	1/1/1967	3
		Fair	Moderate		
Cottonwood Trail	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
Crostview Drive	Distribution (Collection Mains	Fair (Average)	Moderate	1/1/1067	2
		(Average)	(0) Modorato	1/1/1907	5
Cross Lane	Distribution/Collection Mains	rdii (Average)	(6)	1/1/1967	з
Crosscountry Main		(Average)	(0)	1/1/150/	5
(Foxglove to Sagamore -			Moderate		
McPhail St.)	Distribution/Collection Mains	Good	(6)	1/1/1967	3
		Fair	Moderate		
Cumberland Road - 4"	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
		Fair	Moderate		
Deer Run Lane	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
		Fair	Moderate	4/4/4067	
Falls Avenue	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
Forost Avonuo	Distribution (Collection Mains	Fair	Moderate	1/1/1067	2
Forest Avenue		(Average)	(0) Modorato	1/1/1907	5
Foxglove Road	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
		(//////////////////////////////////////	Moderate	1/1/150/	5
Greenleaf Trail	Distribution/Collection Mains	Very Poor	(6)	1/1/1967	3
		Fair	Moderate		
Hermit Lane - 4"	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
		Fair	Moderate		
Leisure Drive	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
		Fair	Moderate		
Mountain Drive -2"	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
		Fair	Moderate		
Kiver Drive	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
Sagamore Road 4"	Distribution/Collection Mains	Poor	ivioderate	1/1/1067	2
Sagamure Rudu - 4		2001	Moderato	1/1/190/	5
Sagamore Road - 6"	Distribution/Collection Mains	Poor	(6)	1/1/1967	3
		Fair	Moderate	1, 1, 1, 1, 1, 1, 0, 1	
Silver Street	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3



Asset Description (Name)	Asset Type	Condition CoF		Installati on Date (MM/DD /YYYY)	Risk Level
		Fair	Moderate		
Tate Road - 2"	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
		Fair	Moderate		
Tate Road - 3"	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
		Fair	Moderate		
Upland Drive	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
		Fair	Moderate		
Yasmin Drive - 2"	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3
		Fair	Moderate		
Yasmin Drive - 3"	Distribution/Collection Mains	(Average)	(6)	1/1/1967	3

Pump Station Assets:

Asset Location	Asset Description	Asset Category	Asset Condition	Installation Date (MM/DD/YYYY)	Risk Level *
Pump Station 6	Booster Pump #3 w/ VFD	Storage	Fair	01/01/1967	4
	Process Piping &	Pumping			
Pump Station 6	Appurtenances	Facility	Good	01/01/2001	4
Pump Station 6	Heating Unit	Pumping Facility	Good	01/01/1967	Δ
		Pumning	0000	01/01/150/	-
Pump Station 6	Pump Station Building	Facility	Fair	01/01/1967	4
		Pumping			
Pump Station 7	Atmos Tank	Facility	Good	1/1/2003	4
Pump Station 7	Chem Feed Pump #1	Storage	Fair	1/1/1993	4
	Chem Feed Piping &				
Pump Station 7	Appurtenances	Treatment	Good	1/1/2003	4
Pump Station 7	Composite Tank #1	Treatment	Good	1/1/2003	4
	Process Piping &				
Pump Station 7	Appurtenances	Treatment	Good	1/1/2003	4
		Pumping			
Pump Station 7	Well 7 Pump & VFD	Facility	Good	1/1/1993	4
Pump Station 7	Heating Unit	Other	Good	1/1/2005	4
		Pumping			
Pump Station 7	Shower / Eye Wash	Facility	Good	1/1/1993	4
Pump Station 7	Air Compressor	Storage	Fair	1/1/1993	4
Pump Station 7	PLC	Pumping Facility	Good	1/1/1993	4

> Risk Level 4 is the High-Risk Designation, Risk Level 3 Medium-High Risk

> Pump Station 1 is not included as it is funded and slated for construction.

This risk assessment is used to identify the highest priority assets and set funding strategies accordingly. The table above identifies the assets for replacement during the 10-year planning period due to their estimated useful life, condition and risk rating.



The following graph depicts the risk for each asset. The four quadrants of the graph which looks at probability of failure on one axis and consequence of failure on the other reflects the 1-4 scoring given earlier. Those assets in the second quadrant are the high-risk assets.

TABLE 4-2 GAVWD CRITICAL ASSETS GRAPH Distribution Assets:





Pump Stations and Other Assets:



The condition of the asset will change over time therefore it is important to review and adjust the Risk Assessment on a regular basis or as assets are replaced.

4.5. Operation and Maintenance Strategy

O&M consists of preventive and emergency/reactive maintenance. In this section, the strategy for O&M varies by the asset, criticality, condition and operating history. The risk matrix in combination with the prioritized listing of Assets Inventory Summary provides the utility's assets and identifies the risk value for each asset. This risk matrix was used as the basis for establishing the maintenance program as a way to make sure that the utility addresses the highest risk assets. In addition, the maintenance program addresses the level of service performance objectives to ensure that the utility is running at a level acceptable to the customer.



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Unexpected incidents could require changing the maintenance schedule for some assets. This is because corrective action must be taken in response to unexpected incidents, including those found during routine inspections and O&M activities. Utility staff will record condition assessments when maintenance is performed, at established intervals, or during scheduled inspections. Maintenance strategies should be developed for each asset rated at the top of the priority ranking. As an asset is repaired or replaced, its condition will improve and therefore can reduce the overall risk of the asset failing. The maintenance strategy should be revisited annually.

4.5.1 Preventive Maintenance

Preventive maintenance is the day-to-day work necessary to keep assets operating properly, which includes the following:

- Regular and ongoing annual tasks necessary to keep the assets at their required service level
- Day-to-day and general upkeep designed to keep the assets operating at the required levels of service
- Tasks that provide for the normal care and attention of the asset including repairs and minor replacements

Preventive maintenance is carried out because of a planned maintenance program (such as regularly scheduled asset repairs) and historically problematic operations (such as watermain leaks). Equipment must be maintained according to the manufacturer's recommendations to achieve maximum return on investment. By simply following the manufacturer's suggested preventive maintenance the useful life of equipment can be increased 2 to 3 times when compared to the "run till failure" strategy. Communities that have eliminated preventive maintenance practices from their operating budget can achieve positive returns from a relatively small additional investment.

4.5.2 Emergency/Reactive Maintenance

Reactive maintenance is often carried out because of customer requests or sudden asset failures. The required service and maintenance to fix the customer's issue(s) is identified by staff inspection. The reactive maintenance is directly related to the age of the distribution system.

4.5.3 Deferred Maintenance

Deferred maintenance is any maintenance, repair, restoration, or replacement work that should have been accomplished before now, and that has not been performed.

The utility's plan to reduce overall deferred maintenance over the next 10 years is to replace the old cast-iron distribution main as quickly as funding is available utilizing capital reserve and outside funding resources. The upgrades in design for Pump Station 1 and planning around the upgrades to Pump Station 7 will also address critical areas of deferred maintenance.



5. Water Quality and Efficiency

This section addresses how the GAVWD addresses water quality and water efficiency issues under the Safe Drinking Water Act (SDWA), the Clean Water Act (CWA), both federal compliance statutes and the New Hampshire State Drinking Water Regulations.

GAVWD has had a few reporting violations in the last year as well as water quality violations that were corrected within a few reporting periods. In the past, a violation relating to excessive fluoride from wellfield 7 was addressed by blending the 5 wells to reduce levels. A 20-year-old, outdated fluoride filter system is not being used at Pump Station 7, it needs to be replaced with a modern system that is efficient and easy to operate. This project is included in the CIP along with the upgrades to the rest of the station.

5.1 Source Water Assessments and Protection

The cost of water treatment, as well as the risks to public health, can be reduced by protecting the source water from contamination. The GAVWD potable water utility has a source water protection plan in place and is reviewed each year. The system is committed to ensuring that its potable water customers are provided with safe drinking water. The System complies with all state sampling requirements, which meet or exceed federal water quality standards. Currently, GAVWD has funding available to fence wells 7C and 7D.

5.2 Water and Energy Efficiency

The water and energy sectors are highly interdependent. Water Utilities use enormous amounts of energy to withdraw, treat, and distribute water. Identifying approaches to integrate energy efficient practices into the daily management and long-term planning for our utility also contribute to the long-term sustainability of water infrastructure by reducing operation costs and adding to a utility's bottom line. The GAVWD can initiate the following steps to encourage water and energy efficiency to aid in forestalling future large capital expenditures in infrastructure and have identified several water and energy efficiency capital improvement projects to reduce one of the largest budget line items: energy costs.

- Participating in off-peak pumping
- Securing adequate storage
- Purchasing efficient pumps and motors
- Properly sizing equipment to its intended duty/load requirement
- Using variable speed devices
- Water audits and water loss control programs
- Considering how the utility handles heating, ventilation, and lighting
- Conducting a baseline energy evaluation to assess the utility's energy consumption status.
- Sustainable pricing
- Employing consumer outreach programs (free home water audits, rebate programs, and such)



5.3 Best Management Practices (BMPs)

Adopting BMPs is an emerging trend in the water utility industry. Widespread adoption of better management practices offers great promise to reduce costs and direct system investments using a risk-based approach. BMPs are effective and practical operational, managerial, or planning means to deliver safe and sanitary water while also maximizing resources (financial or staff). One such example is for a utility with significant lost water to take a proactive approach to replace old leaking pipes which are a BMP that saves both money and time and reduces lost water. Other BMPs to consider could include an annual leak detection program or working with the electrical utility to improve the energy efficiency of system components.

6. Capital Improvement Program

The GAVWD capital improvement program (CIP) plan is the description of future capital projects. Capital improvement projects generally create a new asset that previously did not exist, or they upgrade and improve the capacity of an existing asset. The projects can result from growth or environmental needs, such as the following:

- 1. Expenditure that purchases or creates a new asset or in any way improves an asset beyond its original design capacity
- 2. Upgrades that increase the capacity of the asset
- 3. Construction designed to produce an improvement in the standard operation of the asset beyond its present capacity

In addition to capital improvement projects, the asset management team has reviewed and is establishing a renewal (or rehabilitation) strategy. Renewal expenditure is anything that does not increase the asset's design capacity but restores an existing asset to its original capacity. Any improvement projects that require more than simply restoring an asset to its original capacity are deemed to be a renewal project, such as the following:

- 1. Activities that do not increase the capacity of the asset (i.e., upgrade and enhance the assets restoring them to their original size, condition, and capacity)
- 2. Rehabilitation involving improvements and realignment or restoring the assets to a new or fresh condition

In making renewal decisions, the utility should consider several categories other than the normally recognized physical, failure or breakage. Such renewal decisions include the following:

- 1. Structural
- 2. Capacity
- 3. Level of service failures
- 4. Outdated functionality
- 5. Cost or economic impact

6.1 Capital Improvement Project Need and Justification

As discussed in Section 2, although the Utility has made progress addressing the deficiencies of the system, there is still more to do.

Improvement projects can fall into the following categories:



- Improve system reliability and security
- Reduce leakage
- Ensure adequate pump capacity
- Protect well head areas

System O&M

- > Detect and reduce sources of unaccounted for water
- Repair or replace nonfunctional valves
- Rehabilitate or replace obsolete pump houses
- Review rates annually charge for cost of doing business

A breakdown of improvements by system component follows:

Source

Install security fencing around wells 7C and 7D. Funding is available from a Local Source Water Protection Grant. Update source protection plan annually and monitor source protection measures on a regular schedule.

Treatment Strategies

- > Water quality is relatively good, Corrosion control added as needed.
- Fluoride treatment for Pump Station 7 should be considered in the planned upgrades.
 Structures
 - Plan for future upgrade of Pump Stations 3,6, and 7. Pump Station 1 and 7 are slated for upgrades under the current DWSRF funding as noted previously. Booster Station 3 pressure tank requires maintenance for the system to operate as intended.
- Storage, Pressure and Booster Pumping
 - Inspect all storage tanks every 5 years, upgrade booster pumps. Booster Station 3 pressure tank requires maintenance for the system to operate as intended.
- Watermains
 - > Continue to replace poor condition, aging, and leaking watermain
 - > See Table 6-1 for the list of recommended water mains for replacement
- 0&M
 - Reduce unaccounted for water
 - Additional operator for backup
 - > Consider additional metering in order to get a handle on lost water

6.2 Capital Improvement Project List

The GAVWD's Capital Improvement Program (CIP) is the description of anticipated and prioritized future capital projects. The projects include construction of some new assets, such as installation of more gate valves, but the majority of the projects are the replacement or upgrading of existing assets. This is a working document dependent on available funding and any unanticipated events.

Table 6-1 summarizes the plan for the period for 2022 through 2032. A primary objective was to replace approximately 20% of the system's distribution network in the next ten years. The long-term goal is to replace 20% per decade for the next 50 years, and this plan is the initial effort toward that goal. The plan includes the placement of 19,900 linear feet of piping compared to



the 20% goal of 16,460 linear feet. This plan for the first decade includes many of the more critical locations in terms of break history, Consequence of Failure, age of the pipe, and estimated condition.

The plan also includes the replacement of Pump Station 1 and upgrades to Pump Station 7, including additional storage and controls.

Booster Stations 3 and 6 are also to be upgraded later in the cycle after the most critical pipelines are addressed.



May-2022

TABLE 6-1 GAVWD WATER - CAPITAL IMPROVEMENT PLAN - 2022 TO 2032

		Est. Cost (202	Est. Cost (2022\$) & Funding Sources					LF of new
Year(s)	Capital Improvement Projects	SRF 1	SRF 2	SRF 3	Grants	CRF	- Notes	water main
2022	Complete Design of Pump Station #1 and Tank	\$75,000					Contingent upon NHDES approval and contractor availability	
2023	Complete Construction of PS#1 and Tank	\$680,000				\$200,000	Testing, NHDES submittals, access road design, bidding for well installation	
2023	Fully Decommission PS#5	\$200,000				\$50,000	Remove pumps and piping, demolish building, reconfigure yard piping as required.	
2023	Install Ethernet PLC to make SCADA system consistent throughout Pump Stations					\$50,000	PLC's have been purchased but not installed for PS# 3and 6. PS# 7 the new equipment has been funded through GAVWD but not purchased or installed.	
2023	Design the upgrades for Pump Station #7	\$45,000					New booster pumps, reconfigure storage tank, VFD's and controls	
2023	Complete Fencing of Well 7C and 7D				\$10,000		Local Source Water Protection Grant	
2022	Tank Inspection and Lining					\$90,000		
2023	Year Total	\$1,000,000	\$0		\$10,000	\$390,000	\$1,400,000	



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	Capital Improvement Projects	Est. Cost (2022\$) & Funding Sources						LF of new
Year(s)		SRF 1	SRF 2	SRF 3	Grants	CRF	Notes	water main
2024	Upgrade Pump Station 7 and build Storage Tank		\$588,000			\$400,000	New booster pumps, reconfigure storage tank, VFD's and controls, and new 70,000- gallon tank	
2024	Replace Piping on Greenleaf Trail		\$700,000				Replace 3" Cast Iron with 4"PVC C900	2,800
	Generators for PS# 3 and #6					\$25,000	Install Generators funded by Town of Gilford	
2024	Year Total	\$0	\$1,288,000		\$0	\$425,000	\$1,713,000	
			•	•				
2025	Replace Piping on Barefoot Place		\$300,000				Replace 3" Cast Iron with 4"PVC C900	1,200
2025	Replace Piping Sagamore Drive 4-inch		\$964,000			\$400,000	Replace 4" Cast Iron with 4- inch PVC C900	4,400
	Year Total	\$0	\$964,000	\$0	\$0	\$400,000	\$1,364,000	
			•	•				
2026	Replace Piping Trail View Drive 4-Inch			\$248,000			Replace existing pipe with new 4-inch PVC.	800
2026	Replace Piping Trail View Drive 2-Inch			\$300,000			Replace existing pipe with new 2-inch PVC.	1,200
2026	Replace Piping Alpine Drive 4-Inch			\$72,000		\$300,000	Replace existing pipe with new 4-inch PVC.	1,200
	Year Total	\$0	\$0	\$620,000	\$0	\$300,000	\$920,000	


Year(s)		Est. Cost (2)	022\$) & Funding	g Sources				LF of new
	Capital Improvement Projects	SRF 1	SRF 2	SRF 3	Grants	CRF	NOTES	water main
2027	Replace Piping Cumberland Road 4-Inch			\$1,288,000		\$200,000	Replace existing pipe with new 4-inch PVC.	4,800
2027	Design Upgrades to PS 3 and 6			\$75,000			Upgrades to buildings, process piping, pumps and tankage.	
	Year Total	\$0	\$0	\$1,363,000	\$0	\$200,000	\$1,563,000	
		I						
2028	Replace Piping Cumberland Road 2-Inch			\$279,000			Replace existing pipe with new 4-inch PVC.	900
2028	Upgrades to PS 3 and 6			\$413,000		\$87,000	Upgrades to buildings, process piping, pumps and tankage.	
2028	Year Total	\$0	\$0	\$692,000	\$0	\$87,000	\$779,000	
		I		I	-	I		
2029	Replace Piping Ryswick Street					\$372,000	Replace existing pipe with new 4-inch PVC.	
	Replace piping Briarcliff Road					\$620,000	Replace existing pipe with new 4-inch PVC.	
	Year Total	\$0	\$0	\$0	\$0	\$992,000	\$992,000	
		I						
2030	Replace Piping Chestnut Drive 4" (1/4 Street)					\$403,000	Replace existing pipe with new 4-inch PVC.	1,300
	Year Total	\$0	\$0	\$0	\$ <mark>0</mark>	\$403,000	\$403,000	





Year(s)	Capital Improvement Projects	Est. Cost (202	2\$) & Funding Se	ources	Notes	LF of new		
		SRF 1	SRF 2	SRF 3	Grants	CRF	Notes	water main
2031								
2032	Replace Piping Chestnut Drive 4" (1/4 Street)					\$403,000	Replace existing pipe with new 4-inch PVC.	1,300
	Year Total	\$0	\$0	\$0	\$0	\$403,000	\$403,000	
						····		
	FUNDING SOURCE TOTALS	\$1,000,000	\$2,252,000	\$2,675,000	\$10,000	\$3,600,00	\$9,537,000	19,900
						0		
				\$9,537,000				

Because the expected needs of the utility will change each year, the CIP plan should be updated to reflect those changes. Pipelines that have a significant break history have been moved to the top of the list for replacement, in some cases where the consequence of failure did not push the asset into the High-Risk category.

The complete All Assets CIP is included in Appendix B of this report.

7. Financial Management Strategy

This section describes the GAVWD financial condition and its strategy for future financing. Expenses greater than \$50,000 are considered capital costs. Capital costs are one-time expenses used to replace or upgrade, because of capacity, a part of the utility. Capital costs do not include any O&M costs. Currently the District is funded by a flat rate user fee and a Precinct Tax, the total revenue from these two fees is \$500,000 to \$550,000 per year. GAVWD is in the process of doubling the flat rate user fee to \$880 per year which will increase water bill income to \$600,000 per year, this revenue number is used in Table 7-1

Costs for water are funded through user fees and precinct taxes. It is important to establish a rate structure with which the utility recovers the total cost of doing business. Short-term, external financing for capital expenses exceeding \$50,000 will be financed through capital reserves or outside funding resources such as loans or grants. However, as we plan for future improvements, the GAVWD should continue funding a capital reserve fund to cover the costs of capital improvements necessary in 15 to 20 Years.

If large expenses are required for expansion or upgrades, the GAVWD plans to pay for the improvements through capital reserves and loans. The GAVWD utility estimates that it will spend an average of \$600,000 - \$800,000 a year on capital water infrastructure projects over the next 10 years to accommodate system improvements and operations, compliance with state and federal regulations, and new drinking water requirements.

7.1 Financial Forecast

The Financial Forecast shows predicted values of both revenue and expenses for the asset management teams using the values provided by GAVWD, see Appendix A. The projections are used to help the utility plan for and predict future expenses and revenue and how to better finance capital improvement projects by acquiring loans or grants or by planned rate changes.

The following Table 7-1 demonstrates the difference between revenue and the cost of doing business (expense) and whether the utility has a surplus or a deficit. Excess annual revenues are directed to the capital reserve fund for use in supplementing DWSRF loans in order to meet the funding levels necessary to address deferred maintenance and improve service.



7.2 Total Expenditure

The following table illustrates the forecasted financial needs for the next 10 years. It includes revenue, operational costs, and proposed capital expenditures to develop the full cost of operating the system.

The forecasts are based on loan funds to make the necessary capital improvements. There is also a 3% annual inflation rate for O&M costs. Depending on economic conditions in the longer term, this may need to be adjusted higher to account for the higher inflation currently present.

The plan calls for an investment of \$6 million in DWSRF loans and another 3 million of CRF funding over ten years in 2022 dollars. The costs for each project were based on current estimates of 2022 construction costs. However, inflation is anticipated and when considering the financial feasibility of the plan an inflation factor needs to be incorporated. Prior to moving forward with construction projects, total project costs including engineering, easements, legal, and administration as well as more detailed construction costs should be developed.

Table 7-1 GAVWD Total Water System Expenditures – Actual and Forecast Cash Flow



	2021	2022 Budget	2023 Estimate	2024 Estimate	2025 Estimate	2026 Estimate	2027 Estimate	2028 Estimate	2029 Estimate	2030 Estimate	2031-32 Estimate	Totals
Connection Growth Rate per year (%) 0.4												
Number of Connections	750	750	753	756	759	762	765	768	771	774	777	
Inflation-revenue and CRF funding (%) 3.0												
TOTAL TAX & USAGE & OTHER REVENUE												
Usage Income	\$300,000	\$450,000	\$600,000	\$618,000	\$636,540	\$655,636	\$675,305	\$695,564	\$716,431	\$737,924	\$763,102	\$6,848,504
Precinct Tax Income	\$200,000	\$250,000	\$257,500	\$265,225	\$273,182	\$281,377	\$289,819	\$298,513	\$307,468	\$316,693	\$326,193	\$3,065,970
Total Usage and Tax Revenue	\$500,000	\$700,000	\$857,500	\$883,225	\$909,722	\$937,013	\$965,124	\$994,078	\$1,023,900	\$1,054,617	\$1,089,296	\$9,914,474
Revenue from new service connections	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transfers from Fund Balance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transfers from CRFs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Interest Income	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$22,000
Total Usage, Tax and Other Revenue	\$502,000	\$702,000	\$859,500	\$885,225	\$911,722	\$939,013	\$967,124	\$996,078	\$1,025,900	\$1,056,617	\$1,091,296	\$9,936,474
CAPITAL PROJECT REVENUE												
Revenue drawn from CRF Accounts (Inflated \$\$)		\$90,000	\$318,270	\$450,883	\$424,360	\$318,270	\$212,180	\$92,298	\$1,052,413	\$427,543	\$427,543	\$3,813,759
Revenue drawn from Loans		\$500,000	\$500,000	\$1,288,000	\$964,000	\$620,000	\$1,363,000	\$692,000	\$0	\$0	\$0	\$5,927,000
Revenue obtained from Grants		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Capital Project Revenue		\$590,000	\$818,270	\$1,738,883	\$1,388,360	\$938,270	\$1,575,180	\$784,298	\$1,052,413	\$427,543	\$427,543	\$9,740,759



		2021	2022 Budget	2023 Estimate	2024 Estimate	2025 Estimate	2026 Estimate	2027 Estimate	2028 Estimate	2029 Estimate	2030 Estimate	2031-32 Estimate	Totals
OPERATING, DEBT & CRF EXPENSES													
Inflation increase - Expenses (%)	3.0												
Total Operations & Admin Expense		\$300,000	\$300,000	\$309,000	\$318,270	\$327,818	\$337,653	\$347,782	\$358,216	\$368,962	\$380,031	\$391,432	
CRF Expenses			\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Current Debt Payments		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SRF 1 Debt Payment (\$1.0M @ 1.3%)			\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	
SRF2 Debt Payment (2.40M @1.3%)					\$136,300	\$136,300	\$136,300	\$136,300	\$136,300	\$136,300	\$136,300	\$136,300	
SRF3 Debt Payment (2.6 @ 1.3%)									\$147,696	\$147,696	\$147,696	\$147,696	
Total Operations and	Debt	\$300,000	\$356,800	\$365,800	\$511,370	\$520,918	\$530,753	\$540,882	\$699,012	\$709,758	\$720,827	\$732,228	
Total Contribution to CRF accounts			\$345,200	\$493,700	\$373,855	\$390,804	\$408,261	\$426,242	\$297,066	\$316,142	\$335,790	\$359,068	\$3,746,126
Total Operating, Debt & CRF Exp	enses	\$300,000	\$702,000	\$859,500	\$885,225	\$911,722	\$939,013	\$967,124	\$996,078	\$1,025,900	\$1,056,617	\$1,091,296	\$9,734,474
RUNNING BALANCE IN TOTAL CRF FU	JNDS												
CRF Expenditures from Table 6-1 (202 \$\$)	22		\$0	\$300,000	\$425,000	\$400,000	\$300,000	\$200,000	\$87,000	\$992,000	\$403,000	\$403,000	\$3,510,000
CRF Expenditures from Table 6-1 (Infl \$\$)	ated		\$90,000	\$318,270	\$450,883	\$424,360	\$318,270	\$212,180	\$92,298	\$1,052,413	\$427,543	\$427,543	\$3,813,759
Total Contribution to CRF accounts			\$345,200	\$493,700	\$373,855	\$390,804	\$408,261	\$426,242	\$297,066	\$316,142	\$335,790	\$359,068	\$3,746,126
Total CRF balance at yea	ir end	\$737,886	\$993,086	\$1,168,516	\$1,091,489	\$1,057,932	\$1,147,923	\$1,361,984	\$1,566,752	\$830,481	\$738,728	\$670,253	
CAPITAL IMPROVEMENT EXPENSES													
Loan \$\$ used for Capital Expenses			\$500,000	\$500,000	\$1,288,000	\$964,000	\$620,000	\$1,363,000	\$692,000	\$0	\$0	\$0	\$5,927,000
Grant \$\$ used for Capital Expenses			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CRF Expenditures from Table 6-1 (Infl \$\$)	ated		\$90,000	\$318,270	\$450,883	\$424,360	\$318,270	\$212,180	\$92,298	\$1,052,413	\$427,543	\$427,543	\$3,813,759
Total Capital Expe	enses		\$590,000	\$818,270	\$1,738,883	\$1,388,360	\$938,270	\$1,575,180	\$784,298	\$1,052,413	\$427,543	\$427,543	\$9,740,759



Gunstock Acres Village Water District Asset Management Plan

> Assumptions: 3% inflation rate on expense and revenue (may need to be revised up) FY 2021 Actual Expense and Revenue from GAVWD Annual Contribution to Capital Reserve Interest Rate 1.3% for a 20-year loan





7.3 Funding Alternatives

7.3.1 User Rates

Rates are typically charged to the users based on a flat rate or a metered rate or a combination of the two. The income is typically used for repayment of bonds, repairs and management of the system, routine maintenance, and allocation to reserve funds.

User rates should be adjusted in a manner that does not create extreme increases in a given year and should be reviewed on an annual basis.

7.3.2 Outside Sources

Costs for water are typically funded through general rates and fees. If large expenses are required for expansion or upgrades, the System plans to pay for the improvements through user fees, grants and loans.

The GAVWD currently has outstanding debt for current projects of \$1M associated with a DWSRF loan. Remaining time on this DWSRF loan is 20 years, and the project was for pump station replacement, rehabilitation, and decommissioning.

User rates can be adjusted in the future to fund improvements and some of the future projects can be accomplished with a combination of capital reserve funds and outside funding resources such as those listed below. GAVWD may not be eligible for a number of the grants due to community demographics.

Planning Funds:

USDA Rural Development SEARCH (Special Evaluation Assistance for Rural Communities and Households

- ▶ Low income rural community (<80% of MHI of state) and population <2500
- > \$25,000 maximum with no match required
- Predevelopment feasibility studies, preliminary design and engineering analysis, development of implementation applications
- Water, sewer, solid waste, storm water, and other public improvements

USDA Predevelopment Planning Grant (PPG)

- Low income rural community with population <10,000</p>
- Preliminary Engineering Report / system study and application package for implementation funds to USDA
- \$30,000 maximum with 25% match (no in-kind)

NHDES SRF Drinking Water Asset Management Grant

- Water systems serving more than 200 customers
- Maximum grant and match varies
- Asset Inventory, Financial Review and long-term funding strategy, implementation plan and community outreach plan
- > Typical annual applications are due December



Construction Funds

USDA Rural Development Water and Environmental Programs (WEP)

- For Necessary and Inevitable Work related to drinking water, sanitary sewer, solid waste and storm drainage
- Population < 10,000</p>
- > Acquisition, construction or improvement of
 - Drinking water source, treatment, storage, distribution
 - Sewer Collection, transmission, treatment and disposal
 - Solid waste collection, disposal, closure
 - Stormwater collection, transmission and disposal
 - Including engineering, legal, interest cost during construction
- > Loan with up to 40-year payback with fixed interest rates based on MHI
- *Grant Loan combination amount based on user rates and community demographics*
- > Applications due in December for state funds and April for national pool
- > Town meeting bond vote required
- > Preliminary Engineering Report is required

NHDES Drinking Water SRF

- > Public water systems
- > Uses include
 - Infrastructure improvement source development, distribution main rehab or replacement, treatment and storage facilities
- Pre-applications are competitively ranked
 - Based on violations, deficiencies, affordability, asset management in place etc
- > Loan forgiveness for disadvantaged communities
- > Competitive loan rates
- > Typical projects are greater than \$200,000
- > Town bond vote required

NHDES Drinking Water and Groundwater Trust Fund (DWGTF)

- > Public water systems
- > Uses include
 - Planning, design, construction of aging water infrastructure
 - Treatment or replacement of water source
 - Extension of public water system
 - Permanent protection of water supply land
- Pre-application competitively ranked
- Long term loans with some principal forgiveness
- > Planning grants available
- > Town bond vote required

Community Development Block Grant

- > All municipalities are eligible to apply
- > Public Facilities and Economic Development Grants Available
- > Up to \$500,000 per year competitively scored
- Public Facilities typically January and July applications NHDES violation and low income benefit



- Economic Development accepted year-round, must have business committed to creating jobs, 1:1 match required
- Feasibility Study up to \$12,000 for preliminary design and income surveys, typically October and April Applications

Northern Border Regional Commission

- Purpose is to revitalize and modernize essential infrastructure in communities in support of economic development
- > Eligible counties in NH include
 - Coos and Sullivan Counties up to 80% grant eligible
 - Grafton and Carroll Counties up to 50% grant eligible
- > Uses include engineering and construction of infrastructure
- > Typically, \$250,000 award (\$1,000,000 may be available in certain circumstances)
- > Applications due in May or June of each year

US Department of Commerce Economic Development Administration Public Works Program

- Construction funds for infrastructure in support of economic development including road, water, sewer, electrical.
- > Must have the likelihood of business growth
- > 1:1 match typically required
- Year-round applications
- > Average awards are \$1 million depending on benefits of project

ARPA American Rescue Plan Act

- Additional grant funding for Construction and Planning
- Similar process and funding priorities as SRF and DWGTF
- Limited time availability
- Grant funds based on need and current rate structure

Municipal bond bank and traditional local banks are also a resource for capital improvement loans.



8. Action Plan

The GAVWD Asset Management Plan refers to many objectives, targets, maintenance and improvements for the utility. The following table brings all these items together to clearly identify the actions required to successfully implement the Asset Management Plan.

Urgency	Issue	Corrective Action Plan	Target Date for Completion
High	Pumping Infrastructure	Pump Station 1 Design and Construction	2022-23
High	Pumping Infrastructure	Pump Station 7 Upgrade	2022-23
High	Excessive O&M Expenses	Replace Aging Water Main	2024 and ongoing
High	Source Water Compliance – Protective Radius	Complete Fencing for Wells 7C and 7D	2022
High	Abandoned Infrastructure	Decommission Pump Station 5	2022-23
High	Community Updates	Inform Rate payers of ongoing improvements	Ongoing
Medium	Consumer Confidence	Publish Consumer Confidence Brochure Annually	Ongoing
Medium	Financial Stability	Review rates annually and maintain level to fully fund system operations	Ongoing

TABLE 8-1 ACTION PLAN TABLE

The System should review this plan annually as part of the effort to prepare the annual budget and to adjust the goals and objectives as projects are completed. This document is not just a plan but a program.

9. Communication Plan

The purpose of this communication plan is for the GAVWD to provide information on the operation of the water system to its customers in order to establish customer expectations and to allow the System to recover the full cost of doing business.

The Communication plan will provide the following information as part of the plan:

- Current and proposed rate structure
- Condition of the system components
- Explanation of the true cost of doing business including capital improvements to highlight the message that "water is not free"
- Status of meeting the goals established as part of the Asset Management Program



This information will be provided utilizing the following outlets

- Public Informational Meeting
- Annual Meeting
- Board meetings are always open to the public
- Social media including Website and Facebook
- Mailing FAQ flyers with the bi-annual billing

The system information will be provided at least annually at the Annual Meeting as well as at least annually with the billings and the website will be updated at least monthly.

It is important to the customer and the commissioners that everyone understand the importance of maintaining and efficiently operating the \$25 million asset known as GAVWD Water System.

10. Conclusions and Recommendations

The GAVWD has been working to make improvements to its infrastructure that is past its useful life. Recent improvements include:

However, there is more work to be done. The System should plan for future improvements as follows:

Immediate Goals

- 1. Complete the design and construction of Pump Station 1 and the new 50,000-gallon tank
- 2. Complete the design and construction of the improvements to Pump Station 7, to include a new fluoride treatment system
- 3. Demolition and decommissioning of Pump Station 5 and the associated well
- 4. Replace water mains on upper Greenleaf Drive and Barefoot Place. These lines have had to be repaired multiple times in the last year as a result of breaks. Evidence the pipe has exceeded the useful life.
- 5. Continue Current Plan for Customer Relations. Plan detailed below, to include a brochure to provide to the public on the current status of the water system on a semi-annual basis.
 - a) The Annual Report for the Town of Gilford, GAVWD provides a write up every year.
 - b) Monthly meetings are advertised on the Town of Gilford web site, Gilford Town Library and at the Town Hall bulletin board. People can also join the Commissioners by Zoom.



- c) Annual Meetings are Advertised on the Town of Gilford Web Site, Gilford Town Library and at the Town Hall Bulletin Board. People can also join the meeting by Zoom.
- d) Publish a yearly Consumer Confidence Report. It is provided as a link on the Water Bills. Those not having access to the internet can request a copy from the Water Operator.
- e) Public meeting scheduled to discuss issues facing our customers at least once a year. People can access this meeting by Zoom, plus the meeting is advertised at the Gilford Town Hall, Gilford Town Library, the Laconia Daily Sun and by alerts, text, phone or e-mail per customer preference.

Intermediate Goals:

- 1. Construct a new 70,000-gallon storage tank for Pump Station 7 to replace inadequate storage. Pump Station 7 provides water to 85% of Gunstock Acres.
- 2. Invest in Asset Management Software to aid in managing the utility and facilitating efficient O&M tasks.
- 3. Include funding to allow for the survey of all the pipelines within the district, this will require detecting and marking the actual location within the roadways of the pipelines, valves, and system components. Use location Data to enhance the GIS database/ mapping of the system.

Rate Increases are being initiated to double the flat rate of \$440 to \$880 in order to get ahead of the deferred maintenance, the cost to operate the system should drop as the most critical items are repaired or replaced. Also, a 3-5% inflation increase should be considered along with the expenditure of approximately \$300,000 - \$400,000 per year for capital projects from reserve funds, to be supplemented with DWSRF funds.

This program should be used as a guide to keep moving the work forward and keep the rates at an appropriate level to complete necessary improvements and maintenance rather than allow components to outlive their useful life and fall into deferred maintenance. It is important to manage the system as a business that strives to satisfy its customers and implement rates that cover the true cost of operating the \$25 million asset.



11. Appendices

Appendix A Financial Data Appendix B Capital Improvement Plan All Assets Appendix C Asset Data Tables Appendix D System Maps Appendix E Hydraulic Profile Appendix F Communication Brochure



Appendix A Financial Data



LONG TERM FUNDING PLAN

To preference this: Previous Commissioners have neglected maintenance of Gunstock Acres Village Water District. I have been on the Board for 15 years and was always out voted on common issues such as implantation of the Asset Management Plan first produced by Adam Torrey. Now we have a progressive Board and all see the need for common maintenance and I do not see that changing anytime in the near future.

Revenues

Funding Sources area as follows:

Our Income on the Water Bills is roughly	\$300,000
Precinct Tax to be set in the future	\$200,000 - \$250,00
Total Income	\$500,000 - \$550,00

We are committed to placing \$150,000 per year in the Capital Reserve Fund whose current balance is \$684,614.98 in the GAWD Maintenance Fund and \$53,272.57 in the GAVWD Tank Fund as March 31, 2022,

We have no meters in our system as we have a State Exemption as long as we have a supply to the State advanced leak detection reports between specific hours. Thus, we have a fixed rate per year for all the water you can use. We also have a precinct tax income based on a percentage of the property tax.

We have been diligently working toward finding duplexes, short term rentals within Gunstock Acres and charging them double. These changes are set to take affect with the mailing of the May 2022 Water Bills.

Annual Expenses

Our Annual Expenses are roughly \$300,000. This year it will be slightly higher because of Tank Inspection and Potential Relining. We have allowed an additional \$90,000 for that.

Water Rate

This is based on \$440 per household and \$880 per duplex and short term rental.

Each year we write a separate warrant article to place money aside in the Capital Reserve Fund. In past years this has ranged from a low of \$170,000 to a high of \$240,000. We depend on the Capital Reserve Fund to make improvements to the system. This is the Precinct Tax.

Debit Summary

We have a 1 Million Dollar SRF Loan over 20 Years at slightly over 1 % interest.

Funding Strategy

As you can see the Fundy Strategy is a combination of potentially four items.

- a) Precinct Tax
- b) Capital Improvement Fund
- c) One Time Betterment Fee or
- d) Increase base water rate

GUNSTOCK ACRES VILLAGE WATER DISTRICT 2022 MANAGERIAL

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Clerk

Contact: 14 Trailview Drive Gilford, NH 03249 <u>RAH@comcast.net</u> 1-781-870-0019 Appendix B Capital Improvement Plan All Assets



GAVWD Capital Improvement Plan - All Assets

Asset	Asset Type	Year Installed	Condition	CoF	Capacity	Risk	Replacement Date
Greenleaf Trail	Distribution/Collection Mains	1/1/1967	Very Poor	Moderate (6)	Fullsized	3	2024
PS 7 - Pump Station Building	Pumping Facility	1/1/1993	Good	Catastrophic (10)	Fullsized	3	2024
PS 7 - Chem Feed Pump #1	Treatment	1/1/2003	Good	Major (8)	Fullsized	4	2024
Ps 7 - Chem Feed Piping &	Treatment	1/1/2003	Good	Major (8)	Fullsized	4	2024
PS7 - Composite Tank #1	Treatment	1/1/2003	Good	Maior (8)	Fullsized	4	2024
PS 7 - Process Piping & Appurtenances	Pumping Facility	1/1/1993	Good	Catastrophic	Fullsized	4	2024
PS 7 - Electrical Controls	Pumping Facility	1/1/1993	Good	Major (8)	Fullsized	2	2024
PS 7 - Computer	Pumping Facility	1/1/1993	Fair	Major (8)	Fullsized	2	2024
PS 7 - Heating Unit	Pumping Facility	1/1/1993	Good	Minor (4)	Fullsized	4	2024
PS 7 - Hvdro Tank	Storage	1/1/1993	Fair	Maior (8)	Fullsized	4	2024
PS 7 - Shower / Eye Wash	Pumping Facility	1/1/1993	Good	Moderate (6)	Fullsized	4	2024
PS 7 - Air Compressor	Pumping Facility	1/1/1993	Good	Moderate (6)	Fullsized	2	2024
PS 7 - PLC	Pumping Facility	1/1/1992	Fair	Moderate (6)	Fullsized	2	2024
Barefoot Place	Distribution/Collection Mains	1/1/1967	Very Poor	Major (8)	Fullsized	4	2025
Sagamore Road - 4"	Distribution/Collection Mains	1/1/1967	Poor	Moderate (6)	Fullsized	3	2025
Alpine Drive	Distribution/Collection Mains	1/1/1967	Fair (Average)	Major (8)	Fullsized	4	2026
Trailview Drive - 2"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2026
Trailview Drive - 4"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2026
Cumberland Road - 4"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2027
PS 3 - Pump Station Building	Pumping Facility	1/1/2000	Good	Catastrophic (10)	Fullsized	3	2027
PS 3 - Steel Storage Tank	Storage	1/1/2000	Fair	Major (8)	Fullsized	3	2027
PS 3 - Steel Storage Tank	Storage	1/1/2000	Fair	Insignificant (2)	Fullsized	2	2027
PS 3 - Process Piping & Appurtenances	Pumping Facility	1/1/2000	Good	Catastrophic (10)	Fullsized	3	2027
PS 3 - Heater	Pumping Facility	1/1/2000	Good	Minor (4)	Fullsized	2	2027
PS 3 - Electrical & Controls	Pumping Facility	1/1/2000	Fair	Major (8)	Fullsized	3	2027
PS 6 - Steel Storage Tank	Storage	1/1/1967	Fair	Major (8)	Fullsized	4	2027
PS 6 - Process Piping & Appurtenances	Pumping Facility	1/1/1967	Good	Major (8)	Fullsized	4	2027
PS 6 - Pump Station Building	Pumping Facility	1/1/1967	Fair	Catastrophic (10)	Fullsized	4	2027
Cumberland Road - 2"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Major (8)	Fullsized	4	2028
Briarcliff Road	Distribution/Collection Mains	1/1/1967	Poor	Major (8)	Fullsized	4	2029
Ryswick Street	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2029

Chestnut Drive - 4"	Distribution/Collection Mains	1/1/1967	Very Poor	Moderate (6)	Fullsized	3	2030
Chestnut Drive - 6"	Distribution/Collection Mains	1/1/1967	Poor	Moderate (6)	Fullsized	3	2030
Ridgeline Loop	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2031
Whitebirch Road	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2031
Hermit Lane - 2"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2032
Yasmin Drive - 3"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2033
Yasmin Drive -4"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2033
Tate Road - 2"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2034
Tate Road - 3"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2034
Sagamore Road - 6"	Distribution/Collection Mains	1/1/1967	Poor	Moderate (6)	Fullsized	3	2035
Upland Drive	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2035
Yasmin Drive - 2"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2035
Foxglove Road	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2036
Balsam Drive	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2037
Silver Street	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2037
Buckboard Drive	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2038
Cottonwood Trail	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2038
Crestview Drive	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2039
Cross Lane	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2039
Deer Run Lane	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2040
Falls Avenue	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2040
Hermit Lane - 4"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2041
Leisure Drive	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2041

Mountain Drive -2"	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2042
River Drive	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2042
Crosscountry Main (foxglove to sagamore - McPhail St.)	Distribution/Collection Mains	1/1/1967	Good	Moderate (6)	Fullsized	3	2043
Forest Avenue	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	3	2043
Lauren Circle	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2044
Auburn Circle	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2044
Brookside Circle	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2044
Cheshire Circle	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2044
Guild Circle	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2044
Hideaway Circle	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2044
Jeremy Court	Distribution/Collection Mains	1/1/1967	Fair (Average)	Moderate (6)	Fullsized	4	2044
PS 7 - Atmos Tank	Storage	1/1/1993	Fair	Moderate (6)	Undersized	4	
High Point Avenue	Distribution/Collection Mains	1/1/2011	Excellent	Moderate (6)	Fullsized	2	
Mineral Springs Village - 2"	Distribution/Collection Mains	1/1/1980	Good	Moderate (6)	Fullsized	2	
Mineral Springs Village - 4"	Distribution/Collection Mains	1/1/1980	Good	Moderate (6)	Fullsized	2	
Oakland Avenue	Distribution/Collection Mains	1/1/2014	Excellent	Major (8)	Fullsized	2	
Hickory Stick Lane	Distribution/Collection Mains	1/1/1995	Good	Moderate (6)	Fullsized	1	
Mountain Drive - 4"	Distribution/Collection Mains	1/1/2014	Excellent	Moderate (6)	Fullsized	1	
Mountain Drive - 6"	Distribution/Collection Mains	1/1/2014	Excellent	Moderate (6)	Fullsized	1	
Wade's Way	Distribution/Collection Mains	1/1/1993	Good	Major (8)	Fullsized	1	
PS 3 -Booster Pump #1 w/ VFD	Pumping Facility	1/1/2018	Good	Moderate (6)	Fullsized	1	
Booster Pump #2 w/ VFD	Pumping Facility	1/1/2019	Good	Major (8)	Fullsized	3	
Booster Pump #3 w/ VFD	Pumping Facility	1/1/2019	Good	Moderate (6)	Fullsized	1	
PS 6 - Booster Pump #1 w/ VFD	Pumping Facility	1/1/2007	Good	Moderate (6)	Fullsized	2	
Booster Pump #2 w/ VFD	Pumping Facility	1/1/2007	Good	Moderate (6)	Fullsized	2	
Booster Pump #3 w/ VFD	Pumping Facility	1/1/2001	Good	Major (8)	Fullsized	4	
Heating Unit	Pumping Facility	1/1/2007	Good	Minor (4)	Fullsized	2	
Pressure Tank	Storage	1/1/2007	Good	Moderate (6)	Fullsized	2	
electrical valve	Pumping Facility	1/1/2007	Good	Moderate (6)	Fullsized	2	

Pressure Tank	Storage	1/1/2007	Good	Moderate (6)	Fullsized	2	
Booster Pump #1 w/ VFD	Pumping Facility	1/1/2003	Good	Moderate (6)	Fullsized	2	
Booster Pump #2 w/ VFD	Pumping Facility	1/1/2003	Good	Moderate (6)	Fullsized	2	
Booster Pump #3 w/ VFD	Pumping Facility	1/1/2003	Good	Major (8)	Fullsized	4	
Well 7 Pump & VFD	Other	1/1/2003	Good	Moderate (6)	Fullsized	2	
Well 7A Pump & VFD	Other	1/1/2003	Good	Moderate (6)	Fullsized	2	
Well 7B Pump & VFD	Other	1/1/2003	Good	Moderate (6)	Fullsized	2	
Well 7C Pump & VFD	Other	1/1/2005	Good	Moderate (6)	Fullsized	2	
Well 7D Pump & VFD	Other	1/1/2005	Good	Moderate (6)	Fullsized	4	
Well 7	Other	1/1/1992	Fair	Moderate (6)	Fullsized	2	
Well 7A	Other	1/1/1992	Fair	Moderate (6)	Fullsized	2	
Well 7B	Other	1/1/2005	Good	Moderate (6)	Fullsized	2	
Well 7C	Other	1/1/2005	Good	Moderate (6)	Fullsized	2	
Well 7D	Other	1/1/1989	Fair	Moderate (6)	Fullsized	2	
Well 1A	Other	1/1/1989	Fair	Moderate (6)	Fullsized	2	
Well 1B	Other	1/1/1989	Fair	Moderate (6)	Fullsized	2	
Well 1C	Other	1/1/1989	Fair	Moderate (6)	Fullsized	2	
Well 1	Other	1/1/1989	Fair	Moderate (6)	Fullsized	1	

Table 6	-1 GAVWD Water - Capital Improv	ement Pla	an - 2022	2 to 2032	2			
	Conital Improvement Designts	Est	. Cost (202	2\$) & Fun	ding Sour	ces	Netes	LF of new
rear(s)	Capital Improvement Projects	SRF 1	SRF 2	SRF 3	Grants	CRF	Notes	water main
2022	Complete Design of Pump Station #1 and Tank	\$75,000					Contingent upon NHDES approval and contractor availability	
2023	Complete Construction of PS#1 and Tank	\$680,000				\$200,000	Testing, NHDES submittals, access road design, bidding for well installation	
2023	Fully Decommission PS#5	\$200,000				\$50,000	Remove pumps and piping, demolish building, reconfigure yard piping as required.	
2023	Install Ethernet PLC to make SCADA system consistant throughout Pump Sataions					\$50,000	PLC's have been purchased but not installed for PS# 3and 6. PS# 7 the new equipment has been funded through GAVWD but not purchased or installed.	
2023	Design the upgrades for Pump Station #7	\$45,000					New booster pumps, reconfigure storage tank, VFD's and controls	
2023	Complete Fencing of Well 7C and 7D				\$10,000		Local Source Water Protection Grant	
2022	Tank Inspection and Lining					\$90,000		
2023	Year Total	\$1,000,000	\$0		\$10,000	\$390,000	\$1,400,000	
			•					
2024	Upgrade Pump Station 7 and build Storage Tank		\$588,000			\$400,000	New booster pumps, reconfigure storage tank, VFD's and controls, and new 70,000- gallon tank	
2024	Replace Piping on Greenleaf Trail		\$700,000				Replace 3" Cast Iron with 4"PVC C900	2,800
	Generators for PS# 3 and #6					\$25,000	Install Generators funded by Town of Gilford	
2024	Year Total	\$0	\$1,288,000		\$0	\$425,000	\$1,713,000	
2025	Replace Piping on Barefoot Place		\$300,000				Replace 3" Cast Iron with 4"PVC C900	1,200
2025	Replace Piping Sagamore Drive 4-inch		\$964,000			\$400,000	Replace 4" Cast Iron with 4-inch PVC C900	4,400
	Year Total	\$0	\$964,000	\$0	\$0	\$400,000	\$1,364,000	
2026	Replace Piping Trail View Drive 4-Inch			\$248,000			Replace existing pipe with new 4-inch PVC.	800
2026	Replace Piping Trail View Drive 2-Inch			\$300,000			Replace existing pipe with new 2-inch PVC.	1,200
2026	Replace Piping Alpine Drive 4-Inch			\$72,000		\$300,000	Replace existing pipe with new 4-inch PVC.	1,200
	Year Total	\$0	\$0	\$620,000	\$0	\$300,000	\$920,000	
				1				

2027	Replace Piping Cumberland Road 4-Inch			\$1,288,000		\$200,000	Replace existing pipe with new 4-inch PVC.	4,800
2027	Design Upgrades to PS 3 and 6			\$75,000			Upgrades to buildings, process piping, pumps and tankage.	
	Year Total	\$0	\$0	\$1,363,000	\$0	\$200,000	\$1,563,000	
2028	Replace Piping Cumberland Road 2-Inch			\$279,000			Replace existing pipe with new 4-inch PVC.	900
2028	Upgrades to PS 3 and 6			\$413,000		\$87,000	Upgrades to buildings, process piping, pumps and tankage.	
2028	Year Total	\$0	\$0	\$692,000	\$0	\$87,000	\$779,000	
2029	Replace Piping Ryswick Street					\$372,000	Replace existing pipe with new 4-inch PVC.	
	Replace piping Briarcliff Road					\$620,000	Replace existing pipe with new 4-inch PVC.	
	Year Total	\$0	\$0	\$0	\$0	\$992,000	\$992,000	
2030	Replace Piping Chestnut Drive 4" (1/4 Street)					\$403,000	Replace existing pipe with new 4-inch PVC.	1,300
	Year Total	\$0	\$0	\$0	\$0	\$403,000	\$403,000	
2031								
2032	Replace Piping Chestnut Drive 4" (1/4 Street)					\$403,000	Replace existing pipe with new 4-inch PVC.	1,300
	Year Total	\$0	\$0	\$0	\$0	\$403,000	\$403,000	
	FUNDING SOURCE TOTALS	\$1,000,000	\$2,252,000	\$2,675,000	\$10,000	\$3,600,000	\$9,537,000	19,900
				\$9,537,000				

Table7-1. GAVWD Total Water System Expenditures - Actual and Forecast Cash Flow

		2021	2022 Budget	2023 Estimate	2024 Estimate	2025 Estimate	2026 Estimate	2027 Estimate	2028 Estimate	2029 Estimate	2030 Estimate	2031-32 Estimate	Totals
Connection Growth Rate per year (%)	0.4												
Number of Connections		750	750	753	756	759	762	765	768	771	774	777	
Inflation - revenue and CRF funding (%)	3.0												
TOTAL TAX & USAGE & OTHER REVE	NUE												
Usage Income		\$300,000	\$450,000	\$600,000	\$618,000	\$636,540	\$655,636	\$675,305	\$695,564	\$716,431	\$737,924	\$763,102	\$6,848,504
Precinct Tax Income		\$200,000	\$250,000	\$257,500	\$265,225	\$273,182	\$281,377	\$289,819	\$298,513	\$307,468	\$316,693	\$326,193	\$3,065,970
Total Usage and Tax Re	evenue	\$500,000	\$700,000	\$857,500	\$883,225	\$909,722	\$937,013	\$965,124	\$994,078	\$1,023,900	\$1,054,617	\$1,089,296	\$9,914,474
Revenue from new service connections		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transfers from Fund Balance		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transfers from CRFs		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Interest Income		\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$22,000
Total Usage, Tax and Other Re	evenue	\$502,000	\$702,000	\$859,500	\$885,225	\$911,722	\$939,013	\$967,124	\$996,078	\$1,025,900	\$1,056,617	\$1,091,296	\$9,936,474
	atod.		¢00.000	¢218.270	¢450.883	¢424.360	¢218.270	¢212.180	¢02.208	¢1 052 /13	¢427.543	¢427.543	¢2 913 750
	iteu		\$90,000	\$310,210	Φ4 50,665	⊅ 4∠4,300	\$310,∠ru	φ212,100	\$92,290	\$1,052,415	¢4∠1,040	\$4∠ <i>1</i> ,040	\$3,013,733
Revenue drawn from Loans			\$500,000	\$500,000	\$1,288,000	\$964,000	\$620,000	\$1,363,000	\$692,000	\$0	\$0	\$0	\$5,927,000
Revenue obtained from Grants			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Capital Project Re	evenue		\$590,000	\$818,270	\$1,738,883	\$1,388,360	\$938,270	\$1,575,180	\$784,298	\$1,052,413	\$427,543	\$427,543	\$9,740,759
OPERATING, DEBT & CRF EXPENSES)												
Inflation increase - Expenses (%)	3.0												
Total Operations & Admin Expense		\$300,000	\$300,000	\$309,000	\$318,270	\$327,818	\$337,653	\$347,782	\$358,216	\$368,962	\$380,031	\$391,432	
CRF Expenses			\$0	\$0		\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Current Debt Payments		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
SRF 1 Debt Payment (\$1.0M @ 1.3%)			\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	\$56,800	
SRF2 Debt Payment (2.40M @1.3%)					\$136,300	\$136,300	\$136,300	\$136,300	\$136,300	\$136,300	\$136,300	\$136,300	
SRF3 Debt Payment (2.6 @ 1.3%)									\$147,696	\$147,696	\$147,696	\$147,696	
Total Operations an	nd Debt	\$300,000	\$356,800	\$365,800	\$511,370	\$520,918	\$530,753	\$540,882	\$699,012	\$709,758	\$720,827	\$732,228	
Total Contribution to CRF accounts			\$345,200	\$493,700	\$373,855	\$390,804	\$408,261	\$426,242	\$297,066	\$316,142	\$335,790	\$359,068	\$3,746,126
Total Operating, Debt & CRF Exp	penses	\$300,000	\$702,000	\$859,500	\$885,225	\$911,722	\$939,013	\$967,124	\$996,078	\$1,025,900	\$1,056,617	\$1,091,296	\$9,734,474
RUNNING BALANCE IN TOTAL CRF FL	JNDS												
CRF Expenditures from Table 6-1 (2022 \$	\$\$)		\$0	\$300,000	\$425,000	\$400,000	\$300,000	\$200,000	\$87,000	\$992,000	\$403,000	\$403,000	\$3,510,000
CRF Expenditures from Table 6-1 (Inflated	d \$\$)		\$90,000	\$318,270	\$450,883	\$424,360	\$318,270	\$212,180	\$92,298	\$1,052,413	\$427,543	\$427,543	\$3,813,759
Total Contribution to CRF accounts			\$345,200	\$493,700	\$373,855	\$390,804	\$408,261	\$426,242	\$297,066	\$316,142	\$335,790	\$359,068	\$3,746,126
Total CRF balance at ye	ear end	\$737,886	\$993,086	\$1,168,516	\$1,091,489	\$1,057,932	\$1,147,923	\$1,361,984	\$1,566,752	\$830,481	\$738,728	\$670,253	
CAPITAL IMPROVEMENT EXPENSES													
Loan \$\$ used for Capital Expenses			\$500,000	\$500,000	\$1,288,000	\$964,000	\$620,000	\$1,363,000	\$692,000	\$0	\$0	\$0	\$5,927,000
Grant \$\$ used for Capital Expenses			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CRF Expenditures from Table 6-1 (Inflated	d \$\$)		\$90,000	\$318,270	\$450,883	\$424,360	\$318,270	\$212,180	\$92,298	\$1,052,413	\$427,543	\$427,543	\$3,813,759
Total Capital Exp	penses		\$590,000	\$818,270	\$1,738,883	\$1,388,360	\$938,270	\$1,575,180	\$784,298	\$1,052,413	\$427,543	\$427,543	\$9,740,759

Appendix C Asset Data Tables



ility Name	Guns	stock Acres	Village District		Date		A	sset Changes and	Updates to Database		A	sset Changes and	Updates to Database
pe of Facility	Waste	ewater	х	Drinking Water	5/12/2022	Date:	Asset	Location	Change/Update Performed	Date:	Asset	Location	Change/Update Performed
	PWSID	881020		Project Number									
Estimated Number of Con	nections	576		NPDES Number									
Average Custo	mer Bill \$600 /	Annual		Avg Flow (mgd)									
Number of Cu	stomers	1440		CWNSID									
Street	Address RTE 1	1A											
City, S	tate, Zip Gilford	1		New Hampshire	3249								
	Country												
Ph	one, Fax												
	Email												
Plan	Creator Horizo	ons Enginee	ring										
	Asset Cha	anges and U	Jpdates to Databa	ase									
ate: Asset	Locati	on	Change/Update	Performed									
							1						
							1						
							1						
							1						
							1						
							1		1	1	1	1	1

	Watercad Reference Numbers	Asset Description (Name)	Town/Road	Asset Category	y Asset Type	Main Material	Linear Feet	Dead BI	ow-Off Flushing Time	AVG.	Condition	Redundancy	Asset Status	Capacity	CoF	Can It Be Can It Be	Installation Dat	e Expected R	Replacement	Replacement Cost	Model Number	Supplier I	Manufacturer
		Alpine Drive	Gilford	Other	Distribution/Collection Mains	Size 4" Cast Iron	1200	End -		Depth 4.25	Fair (Average)	0%0	Active	Fullsized	Major (8)	Repaired? Rehabilitated? Yes Yes	(MM/DD/YYYY 1/1/196	7) Useful Life C 67 55	Sost per Foot \$310.00	(Length x Cost/FT) \$372.000.00			
		Auburn Circle	Gilford	Other	Distribution/Collection Mains	2.5 Cast Iron	600	Yes Yes	S	7	Fair (Average)	0%0	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$250.00	\$150,000.00			
		Baisam Drive Barefoot Place	Gilford	Other	Distribution/Collection Mains	2.5" Cast Iron/Ductil	ile 1200	NO Yes Yes	s	7	Verv Poor	100% 90	Active	Fullsized	Moderate (6) Major (8)	Yes Yes	1/1/196	67 75 67 50	\$310.00	\$434,000.00 \$300.000.00			
		Briarcliff Road	Gilford	Other	Distribution/Collection Mains	4" Cast Iron	2000	No		11	Poor	0%0	Active	Fullsized	Major (8)	Yes Yes	1/1/196	67 75	\$310.00	\$620,000.00			
		Brookside Circle Buckboard Drive	Gilford	Other	Distribution/Collection Mains	6"	600	Yes Yes No	5		Fair (Average) Fair (Average)	100% 90	Active	Fullsized	Moderate (6) Moderate (6)	Yes Yes	1/1/196	67 75	\$200.00	\$120,000.00			
		Cheshire Circle	Gilford	Other	Distribution/Collection Mains	2	400	Yes Yes	s	0.405	Fair (Average)	0%0	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$250.00	\$100,000.00			
		Chestnut Drive - 4" Chestnut Drive - 6"	Gilford	Other	Distribution/Collection Mains Distribution/Collection Mains	6" Cast Iron	1600	NO		8.125	Poor	100% 90	Active	Fullsized	Moderate (6) Moderate (6)	Yes Yes	1/1/196	67 65 67 65	\$310.00	\$1,612,000.00 \$528,000.00			
		Cottonwood Trail	Gilford	Other	Distribution/Collection Mains	6" Cast Iron	1800	No		5	Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$330.00	\$594,000.00			
		Crestview Drive Cross Lane	Gilford	Other	Distribution/Collection Mains	4" Cast Iron 4"	2300	No			Fair (Average)	100% 90	Active	Fullsized	Moderate (6) Moderate (6)	Yes Yes Yes Yes	1/1/196	67 75 67 75	\$310.00 \$310.00	\$713,000.00 \$310.000.00			
		Crosscountry Main (foxglove to	Gilford	Other	Distribution/Collection Mains	4"	400	No			Good	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$310.00	\$124,000.00			
		Cumberland Road - 2" Cumberland Road - 4"	Gilford	Other	Distribution/Collection Mains Distribution/Collection Mains	2" Cast Iron 4" Cast Iron	900	Yes Yes No	5	4	Fair (Average) Fair (Average)	0%0	Active	Fullsized	Major (8) Moderate (6)	Yes Yes	1/1/196	67 65 67 65	\$250.00 \$310.00	\$225,000.00 \$1.488.000.00			
		Deer Run Lane	Gilford	Other	Distribution/Collection Mains	4*	1600	No			Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$310.00	\$496,000.00			
		Falls Avenue	Gilford	Other	Distribution/Collection Mains	6" Cast Iron 4"	1800	No			Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75 67 75	\$100.00	\$180,000.00			
		Foxglove Road	Gilford	Other	Distribution/Collection Mains	4" Cast Iron	2200	No		9	Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$310.00	\$682,000.00			
-		Greenleaf Trail	Gilford	Other	Distribution/Collection Mains	3" Cast Iron	2800	No Ves Ve	6	7	Very Poor Fair (Average)	50%50	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 65 67 75	\$250.00	\$700,000.00			
ō.		Hermit Lane - 2"	Gilford	Other	Distribution/Collection Mains	2*	300	Yes Yes	5 5		Fair (Average)	0%0	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$250.00	\$75,000.00			
at		Hermit Lane - 4" Hickory Stick Lane	Gilford	Other	Distribution/Collection Mains	4" 4"	400	No			Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75 95 75	\$310.00	\$124,000.00			
E		Hideaway Circle	Gilford	Other	Distribution/Collection Mains	2*	300	Yes Yes	5		Fair (Average)	0%0	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$250.00	\$75,000.00			-
ę		High Point Avenue	Gilford	Other	Distribution/Collection Mains	3"	1200	Yes Yes	5	+	Excellent Eair (Average)	0%0	Active	Fullsized	Moderate (6)	Yes Yes	1/1/201	11 75 67 75	\$250.00	\$300,000.00			
<u>_</u>		Lauren Circle	Gilford	Other	Distribution/Collection Mains	2"	200	Yes Yes	s		Fair (Average)	0%0	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$250.00	\$50,000.00			
<u>S</u> .		Leisure Drive Mineral Springs Village - 2"	Gilford	Other	Distribution/Collection Mains	4" Cast Iron	1800	No Vos Vo	6	+	Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75 80 75	\$310.00	\$558,000.00			0
ğä		Mineral Springs Village - 4"	Gilford	Other	Distribution/Collection Mains	4" PVC	600	Yes Yes	S		Good	0%0	Active	Fullsized	Moderate (6)	Yes Yes	1/1/198	80 75	\$310.00	\$186,000.00			0
1		Mountain Drive - 4" Mountain Drive - 6"	Gilford	Other	Distribution/Collection Mains	4" Cast Iron 6" Cast Iron	1200	No		4.5	Excellent	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/201	14 50	\$310.00	\$372,000.00			0
1		Mountain Drive -2"	Gilford	Other	Distribution/Collection Mains	2" Cast Iron	800	No		+.0	Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 50	\$250.00	\$200,000.00			0
1		Oakland Avenue	Gilford	Other	Distribution/Collection Mains	2*	1000	Yes Yes	S	+	Excellent	0%0	Active	Fullsized	Major (8)	Yes Yes	1/1/201	14 75	\$250.00	\$250,000.00			0
		River Drive	Gilford	Other	Distribution/Collection Mains	6"	1800	No res	5		Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$330.00	\$594,000.00			0
		Ryswick Street	Gilford	Other	Distribution/Collection Mains	4" Cast Iron	1200	Yes Yes	s	7.5	Fair (Average)	0%0	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$310.00	\$372,000.00			0
		Sagamore Road - 4	Gilford	Other	Distribution/Collection Mains	6" Cast Iron	2800	No		0.0	Poor	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 65	\$330.00	\$924,000.00			0
		Silver Street	Gilford	Other	Distribution/Collection Mains	6" Cast Iron	3000	No		5.5	Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$330.00	\$990,000.00			0
		Tate Road - 2 Tate Road - 3"	Gilford	Other	Distribution/Collection Mains	3" Cast Iron	2600	No		3	Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$250.00	\$200,000.00			0
		Trailview Drive - 2"	Gilford	Other	Distribution/Collection Mains	2*	1200	Yes Yes	S		Fair (Average)	0%0	Active	Fullsized	Moderate (6)	Yes Yes	1/1/196	67 75	\$250.00	\$300,000.00			0
		Upland Drive	Gilford	Other	Distribution/Collection Mains Distribution/Collection Mains	4" 6"	1800	No Yes	5	4	Fair (Average) Fair (Average)	100%0	Active	Fullsized	Moderate (6) Moderate (6)	Yes Yes	1/1/196	67 75 67 75	\$310.00	\$248,000.00			0
		Wade's Way	Gilford	Other	Distribution/Collection Mains	4*	200	No			Good	100% 90	Active	Fullsized	Major (8)	Yes Yes	1/1/199	93 75	\$310.00	\$62,000.00	ier		0
		Whitebirch Road Yasmin Drive - 2"	Gilford	Other	Distribution/Collection Mains Distribution/Collection Mains	4" 2" Cast Iron	4000	Yes Yes No	5		Fair (Average)	0%0 100% 90	Active	Fullsized	Moderate (6) Moderate (6)	Yes Yes Yes Yes	0 <u>1/1/196</u> 1/1/196	67 75 67 65	\$310.00 \$250.00	\$1,240,000.00 \$100,000.00			0
		Yasmin Drive - 3"	Gilford	Other	Distribution/Collection Mains	3" Cast Iron	3000	No		6.75	Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	G 1/1/196	67 65	\$250.00	\$750,000.00	dn		0
		Yasmin Drive -4"	Gilford	Other	Distribution/Collection Mains	4" Cast Iron	500 82300	No			Fair (Average)	100% 90	Active	Fullsized	Moderate (6)	Yes Yes	6 1/1/196	67 65	\$310.00	\$155,000.00 \$23,715,000.00	ഗ 		0
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Asset Description (Name)	Consequence of Failure	Probability of Failure	Risk Level	Risk	Level Key									
Alpine Drive	8.7	8.0	4.00	Low Ris	sk									
Auburn Circle	6.8	6.7	4.00		1									
Balsam Drive	0.8	6.7	3.00	Low-Me	edium Risk									
Barefoot Place	7.8	10.0	4.00		2									
Briarcliff Road	8.7	7.7	4.00	Medium	n-High Risk									
Brookside Circle	6.0	6.7	4.00		3									
Buckboard Drive	0.8	6.7	3.00	High Ri	isk									
Cheshire Circle	6.8	6.7	4.00		4									
Chestnut Drive - 4"	0.8	9.3	3.00			1								
Chestnut Drive - 6"	0.8	8.3	3.00					Acco	t Die	k Matrix				
Cottonwood Trail	0.8	6.7	3.00					ASSC		sk iviatrik				
Crestview Drive	0.8	6.7	3.00											
Cross Lane	0.8	6.7	3.00		10.0									
sscountry Main (foxglove to sagamore - McPhail	0.8	5.7	3.00											
Cumberland Road - 2"	7.8	7.3	4.00		-									
Cumberland Road - 4"	0.8	7.3	3.00											
Deer Run Lane	0.8	6.7	3.00		e 8.0	•		•		• •		•		
Falls Avenue	0.5	6.7	3.00		ailu									
Forest Avenue	0.8	6.7	3.00		ů,	•		•		•				
Foxglove Road	0.8	6.7	3.00		To and a									
Greenleaf Trail	3.4	9.3	3.00											
Guild Circle	6.8	6.7	4.00		Ien									
Hermit Lane - 2"	6.8	6.7	4.00		ed								Service Rating	
Hermit Lane - 4"	0.8	6.7	3.00		SUG 4.0									
Hickory Stick Lane	0.8	3.8	1.00		ŭ							•		
Hideaway Circle	6.8	6.7	4.00		-									
High Point Avenue	6.8	1.8	2.00											
Jeremy Court	6.8	6.7	4.00		2.0									
Lauren Circle	6.8	6.7	4.00											
Leisure Drive	0.8	6.7	3.00			•			•		•	•		
Mineral Springs Village - 2"	6.8	4.8	2.00		0.0					•				
Mineral Springs Village - 4"	7.7	4.8	2.00		0.0	2.0	4	.0	6.0	0	8.0	10.	0	
Mountain Drive - 4"	0.8	1.8	1.00				F	Probability	of Fa	ilure				
Mountain Drive - 6"	0.8	1.8	1.00					robubling	yorra	indro				
Mountain Drive -2"	0.7	8.0	3.00											
Oakland Avenue	7.8	1.6	2.00											
Ridgeline Loop	6.8	6.7	4.00											
River Drive	0.8	6.7	3.00											
Ryswick Street	7.7	6.7	4.00											
Sagamore Road - 4"	0.8	8.3	3.00											
Sagamore Road - 6"	0.8	8.3	3.00											
Silver Street	0.8	6.7	3.00											
Tate Road - 2"	0.7	6.7	3.00											
Tate Road - 3"	0.7	6.7	3.00											
Trailview Drive - 2"	6.8	6.7	4.00											
Trailview Drive - 4"	7.7	6.7	4.00											
Upland Drive	0.5	6.7	3.00											
Wade's Way	0.9	4.0	1.00											
Whitebirch Road	7.7	6.7	4.00											
Yasmin Drive - 2"	0.7	7.3	3.00											
Yasmin Drive - 3"	0.7	7.3	3.00											
rasmin Drive -4"	0.8	/.3	3.00											
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	and is	Asset Description	Notes	Asset Category	Capacity (Volume)		Asset Condition	Redundancy	Asset Status	Capacity Rating	CoF		Installation Date (MM/DD/YYYY)	Expected Useful Life	Pump Run Time (hr)	Equipment Age (yr)	Service	Replacement Cost
	Pump Station 3	Booster Pump #1 w/ VFD	7.5 HP	Pumping Facility	142		Good	100% 90	Active	Fullsized	Moderate (6)		1/1/2018	15		4		\$10,000.00
	Pump Station 3	Booster Pump #2 w/ VFD	3 HP	Pumping Facility	22		Good	0%0	Active	Fullsized	Major (8)		1/1/2019	15		3		\$7,500.00
	Pump Station 3	Booster Pump #3 w/ VFD	7.5 HP	Pumping Facility	142		Good	100% 90	Active	Fullsized	Moderate (6)		1/1/2019	15		3		\$10,000.00
	Pump Station 3	Pump Station Building	14' X 14'	Pumping Facility			Good	0%0	Active	Fullsized	Catastrophic (10)		1/1/2000	75		22		\$150,000.00
	Pump Station 3	Steel Storage Tank	Atmospheric	Storage	5000		Fair	0%0	Active	Fullsized	Major (8)		1/1/2000	50		22		\$20,000.00
	Pump Station 3	Steel Storage Tank	Hydro Tank	Storage	500		Fair	0%0	Abandoned	Fullsized	Insignificant (2)		01/01/2000	25		22		\$3,000.00
	Pump Station 3	Process Piping & Appurtenances		Pumping Facility			Good	0%0	Active	Fullsized	Catastrophic (10)		01/01/2000	50		22		\$20,000.00
	Pump Station 3	Heater		Pumping Facility			Good	0%0	Active	Fullsized	Minor (4)		01/01/2000	20		22		\$2,000.00
	Pump Station 3	Electrical & Controls		Pumping Facility			Fair	0%0	Active	Fullsized	Major (8)		01/01/2000	50		22		\$15,000.00
	Pump Station 6	Booster Pump #1 w/ VFD	15 HP	Pumping Facility			Good	100% 90	Active	Fullsized	Moderate (6)		01/01/2007	15		15		\$12,000.00
	Pump Station 6	Booster Pump #2 w/ VFD	15 HP	Pumping Facility			Good	100% 90	Active	Fullsized	Moderate (6)		01/01/2007	15		15		\$12,000.00
	Pump Station 6	Steel Storage Tank		Storage	11280		Fair	0%0	Active	Fullsized	Major (8)		01/01/1967	50		55		\$25,000.00
	Pump Station 6	Booster Pump #3 w/ VFD	5 HP	Pumping Facility			Good	0%0	Active	Fullsized	Major (8)		01/01/2001	15		21		\$7,500.00
	Pump Station 6	Process Piping & Appurtenances		Pumping Facility			Good	0%0	Active	Fullsized	Major (8)		01/01/1967	50		55		\$20,000.00
	Pump Station 6	Heating Unit		Pumping Facility			Good	0%0	Active	Fullsized	Minor (4)		01/01/2007	20		15		\$2,000.00
	Pump Station 6	Pressure Tank	Therm-x-torl	Storage			Good	50%50	Active	Fullsized	Moderate (6)		01/01/2007	25		15		\$2,000.00
	Pump Station 6	electrical valve	valworx	Pumping Facility			Good	50%50	Active	Fullsized	Moderate (6)		01/01/2007	25		15		\$2,000.00
	Pump Station 6	Pressure Tank	well-x-trol	Storage			Good	50%50	Active	Fullsized	Moderate (6)		01/01/2007	25		15		\$2,000.00
	Pump Station 6	Pump Station Building	12' X 16'	Pumping Facility			Fair	0%0	Active	Fullsized	Catastrophic (10)		01/01/1967	75		55		\$150,000.00
	Pump Station 7	Pump Station Building	22' X 24'	Pumping Facility			Good	0%0	Active	Fullsized	Catastrophic (10)		01/01/1993	75		29		\$250,000.00
	Pump Station 7	Booster Pump #1 w/ VFD	10 HP	Pumping Facility			Good	100% 90	Active	Fullsized	Moderate (6)		01/01/2003	15		19		\$10,000.00
	Pump Station 7	Booster Pump #2 w/ VFD	10 HP	Pumping Facility			Good	100% 90	Active	Fullsized	Moderate (6)		01/01/2003	15		19		\$10,000.00
	Pump Station 7	Booster Pump #3 w/ VFD		Pumping Facility			Good	0%0	Active	Fullsized	Major (8)		1/1/2003	15		19		\$7,500.00
	Pump Station 7	Atmos Tank	Steel Tank	Storage	25000		Fair	0%0	Active	Undersized	Moderate (6)		1/1/1993	50		29		\$30,000.00
	Pump Station 7	Chem Feed Pump #1	ProMinent	Treatment			Good	0%0	Active	Fullsized	Major (8)		1/1/2003	15		19		\$3,000.00
	Pump Station 7	Chem Feed Piping &		-														
	Dural di sti su 7	Appurtenances		Treatment			Good	0%0	Active	Fullsized	Major (8)		1/1/2003	15		19		\$3,000.00
	Pump Station 7	Composite Tank #1		Ireatment	10-gallons		Good	0%0	Active	Fullsized	Major (8)		1/1/2003	25		19		\$2,000.00
	Pump Station 7	Process Piping & Appurtenances									a							
	Dump Station 7	Electrical Oceanization		Pumping Facility			Good	0%0	Active	Fullsized	Catastrophic (10)		1/1/1993	50		29	L	\$20,000.00
	Pump Station 7	Electrical Controls		Pumping Facility			Good	0%0	Active	Fullsized	Major (8)		1/1/1993	50		29		\$30,000.00
	Pump Station 7	Well 7 Pump & VFD		Other			Good	100% 90	Active	Fullsized	Moderate (6)		1/1/2003	20		19		\$7,500.00
	Pump Station 7	Well 7R Pump & VED		Other			Good	100% 90	Active	Fullsized	Moderate (6)		1/1/2003	20		19		\$7,500.00
	Pump Station 7	Wall 7C Rump & VED		Other			Good	100% 00	Active	Fullsized	Moderate (6)		1/1/2003	20		13		\$7,500.00
	Pump Station 7	Well 7D Pump & VED		Other			Good	100% - 90	Active	Fullsized	Moderate (6)		1/1/2005	20		17		\$7,500.00
	Pump Station 7	Computer		Pumping Facility			Fair	0% - 0	Active	Fullsized	Major (8)		1/1/1993	20		29		\$5,000,00
	Pump Station 7	Heating Unit		Pumping Facility			Good	0% - 0	Active	Fullsized	Minor (4)		1/1/1993	25		29		\$2,000.00
	Pump Station 7	Hydro Tank	Steel Tank	Storage	5.400		Fair	0%0	Active	Fullsized	Major (8)		1/1/1993	65		29		\$20,000.00
	Pump Station 7	Shower / Eve Wash	Bradley	Pumping Facility	0,100		Good	0% - 0	Active	Fullsized	Moderate (6)		1/1/1993	50		29		\$1,000,00
	Pump Station 7	Air Compressor	Thomas	Pumping Facility			Good	0%0	Active	Fullsized	Moderate (6)		1/1/1993	50		29		\$2,000.00
	Pump Station 7	PLC		Pumping Facility			Fair	200%98	Active	Fullsized	Moderate (6)		1/1/1992	30		30	1	\$40,000.00
	Well Field 7	Well 7		Other	42.00		Fair	200%98	Active	Fullsized	Moderate (6)		1/1/1992	30		30	1	\$40,000.00
	Well Field 7	Well 7A		Other	53.00		Fair	200%98	Active	Fullsized	Moderate (6)		1/1/1992	30		30		\$40,000.00
	Well Field 7	Well 7B		Other	52.00	~	Good	200%98	Active	Fullsized	Moderate (6)	Ð	1/1/2005	_30		17		\$40,000.00
_	Lower Well Field 7	Well 7C		Other	54.00	5	Good	200%98	Active	Fullsized	Moderate (6)	2	1/1/2005	30		17		\$40,000.00
5	Lower Well Field 7	Well 7D		Other	60.00	÷	Fair	200%98	Active	Fullsized	Moderate (6)	a l	1/1/1989	30		33		\$40,000.00
Ę	Well Field 1	Well 1A		Other	43.00	ק	Fair	200%98	Active	Fullsized	Moderate (6)	č	1/1/1989	30		33		\$40,000.00
a	Well Field 1	Well 1B		Other	29.00	5	Fair	200%98	Active	Fullsized	Moderate (6)	Ð	1/1/1989	30		33		\$40,000.00
Ε	Well Field 1	Well 1C	500ft	Other	20.00	8	Fair	200%98	Active	Fullsized	Moderate (6)	Ē	1/1/1989	30		33		\$40,000.00
JC	Well Field 1	Well 1	1010 ft	Other	21.00	O	Fair	200%98	Active	Fullsized	Moderate (6)	a:						#######################################
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Asset Location	Asset Description
Pump Station 3	Booster Pump #1 w/ VFD
Pump Station 3	Booster Pump #2 w/ VFD
Pump Station 3	Booster Pump #3 w/ VFD
Pump Station 3	Pump Station Building
Pump Station 3	Steel Storage Tank
Pump Station 3	Steel Storage Tank
Pump Station 3	Process Piping & Appurtenances
Pump Station 3	Heater
Pump Station 3	Electrical & Controls
Pump Station 6	Booster Pump #1 w/ VFD
Pump Station 6	Steel Storage Tank
Pump Station 6	Booster Pump #3 w/ VFD
Pump Station 6	Process Piping & Appurtenances
Pump Station 6	Heating Unit
Pump Station 6	Pressure Tank
Pump Station 6	electrical valve
Pump Station 6	Pressure Tank
Pump Station 6	Pump Station Building
Pump Station 6	Pump Station Building
Pump Station 7	Booster Pump #1 w/ VFD
Pump Station 7	Booster Pump #2 w/ VFD
Pump Station 7	Booster Pump #3 w/ VFD
Pump Station 7	Atmos Tank
Pump Station 7	Chem Feed Pump #1
Pump Station 7	Chem Feed Piping & Appurtenances
Pump Station 7	Composite Tank #1
Pump Station 7	Process Piping & Appurtenances
Pump Station 7	Well 7 Pump & VFD
Pump Station 7	Well 7A Pump & VFD
Pump Station 7	Well 7B Pump & VFD
Pump Station 7	Well 7C Pump & VFD
Pump Station 7	Well 7D Pump & VFD
Pump Station 7	Computer
Pump Station 7	Heating Unit
Pump Station 7	Hydro Tank
Pump Station 7	Shower / Eye Wash
Pump Station 7	Air Compressor
Pump Station 7	PLC
Pump Station 7	VVell /
Pump Station 7	Well 7A
Well Field 7	Well /B
weirrield 7	Well /C
vven Field /	Well 10
Lower Well Field	Well 1A
Mall Field 1	Well IR
Well Field 1	Wall 1C
Wall Field 1	Wall 1
weirrield 1	AA GIL 1

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Condition Rating	Service Rating	RISK Level	RISK Level Key
3.0	0.6	1.00	LOW RISK
2.5	8.0	3.00	1 Leve Madium Diale
2.5	0.6	1.00	LOW-Medium Risk
3.1	10.0	3.00	Z Madium High Diali
5.0	8.0	3.00	Medium-High Risk
8.4	2.0	2.00	3
4.2	10.0	3.00	High Risk
8.5	4.0	2.00	4
5.0	8.0	3.00	
8.5	0.6	2.00	
8.5	0.6	2.00	
9.2	8.0	4.00	
8.5	8.0	4.00	
8.5	8.0	4.00	
6.7	4.0	2.00	
5.5	3.0	2.00	
5.5	3.0	2.00	
5.5	3.0	2.00	
1.2	10.0	4.00	
3.8	10.0	3.00	
8.5	0.6	2.00	
8.5	0.6	2.00	
8.5	8.0	4.00	
6.1	6.0	4.00	
8.5	8.0	4.00	
8.5	8.0	4.00	
6.7	8.0	4.00	
0.0	10.0	4.00	
0.2	0.6	2.00	
0.2	0.6	2.00	
0.2	0.6	2.00	
7.4	0.0	2.00	
1.4	0.0	2.00	
9.2	8.0	4.00	
6.0 E.0	4.0	2.00	
5.0	8.0	4.00	
5.5	6.0	4.00	
0.3	0.0	2.00	
0.2	0.1	2.00	
0.2	0.1	2.00	
5.2	0.1	2.00	
5.2	0.1	2.00	
0.2	0.1	2.00	
9.2	0.1	2.00	
9.2	0.1	2.00	
9.2	0.1	2.00	
9.2	0.1	2.00	
9.2	0.1	2.00	l



	Watercad Reference Numbers	Asset Description (Name)	Asset Type	Condition	CoF	Installation Date (MM/DD/YYYY)
		Alpine Drive	Distribution/Collection Mains	Fair (Average)	Major (8)	1/1/1967
		Auburn Circle	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Balsam Drive	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Barefoot Place	Distribution/Collection Mains	Very Poor	Major (8)	1/1/1967
		Briarcliff Road	Distribution/Collection Mains	Poor	Major (8)	1/1/1967
		Brookside Circle	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Buckboard Drive	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Cheshire Circle	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Chestnut Drive - 4"	Distribution/Collection Mains	Very Poor	Moderate (6)	1/1/1967
		Chestnut Drive - 6"	Distribution/Collection Mains	Poor	Moderate (6)	1/1/1967
		Cottonwood Trail	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Crestview Drive	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Cross Lane	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Crosscountry Main (foxglove to	Distribution/Collection Mains	Good	Moderate (6)	1/1/1967
		Cumberland Road - 2"	Distribution/Collection Mains	Fair (Average)	Major (8)	1/1/1967
		Cumberland Road - 4"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Deer Run Lane	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Falls Avenue	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Forest Avenue	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Foxglove Road	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Greenleaf Trail	Distribution/Collection Mains	Very Poor	Moderate (6)	1/1/1967
		Guild Circle	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
ō		Hermit Lane - 2"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
lti		Hermit Lane - 4"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
ဗ		Hickory Stick Lane	Distribution/Collection Mains	Good	Moderate (6)	1/1/1995
Ľ		Hideaway Circle	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
ō		High Point Avenue	Distribution/Collection Mains	Excellent	Moderate (6)	1/1/2011
Jf		Jeremy Court	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
-		Lauren Circle	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
<u>.</u>		Leisure Drive	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
S		Mineral Springs Village - 2"	Distribution/Collection Mains	Good	Moderate (6)	1/1/1980
8 9		Mineral Springs Village - 4"	Distribution/Collection Mains	Good	Moderate (6)	1/1/1980
ш		Mountain Drive - 4"	Distribution/Collection Mains	Excellent	Moderate (6)	1/1/2014
		Mountain Drive - 6"	Distribution/Collection Mains	Excellent	Moderate (6)	1/1/2014
		Mountain Drive -2"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Oakland Avenue	Distribution/Collection Mains	Excellent	Major (8)	1/1/2014
		Ridgeline Loop	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		River Drive	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Ryswick Street	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Sagamore Road - 4"	Distribution/Collection Mains	Poor	Moderate (6)	1/1/1967
		Sagamore Road - 6"	Distribution/Collection Mains	Poor	Moderate (6)	1/1/1967
		Silver Street	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Tate Road - 2"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Tate Road - 3"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Trailview Drive - 2"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Trailview Drive - 4"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Upland Drive	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Wade's Way	Distribution/Collection Mains	Good	Major (8)	1/1/1993
		Whitebirch Road	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Yasmin Drive - 2"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Yasmin Drive - 3"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967
		Yasmin Drive -4"	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967

Asset Description (Name)	Asset Type	Condition	CoF	Installatio n Date (MM/DD/Y YYY)	Risk Level	
Alpine Drive	Distribution/Collection Mains	Fair (Average)	Major (8)	1/1/1967	4	2026
Auburn Circle	Distribution/Collection Mains	Fair (Average)	Moderate (6)	1/1/1967	4	
Barafaat Blaca	Distribution/Collection	Vory Poor	Major (8)	1/1/1067	1	2024
Dareioor Flace	Distribution/Collection			1/1/1907	4	2024
Briarcliff Road	Mains	Poor	Maior (8)	1/1/1967	4	2025
	Distribution/Collection	1 001		1/ 1/ 100/		2020
Brookside Circle	Mains	Fair (Average)	Moderate (6)	1/1/1967	4	
	Distribution/Collection					
Cheshire Circle	Mains	Fair (Average)	Moderate (6)	1/1/1967	4	
	Distribution/Collection					
Cumberland Road - 2"	Mains	Fair (Average)	Major (8)	1/1/1967	4	2027
	Distribution/Collection					
Guild Circle	Mains	Fair (Average)	Moderate (6)	1/1/1967	4	
	Distribution/Collection					
Hermit Lane - 2"	Mains	Fair (Average)	Moderate (6)	1/1/1967	4	
	Distribution/Collection					
Hideaway Circle	Mains	Fair (Average)	Moderate (6)	1/1/1967	4	
	Distribution/Collection					
Jeremy Court	Mains	Fair (Average)	Moderate (6)	1/1/1967	4	
	Distribution/Collection			4/4/4007		
Lauren Circle	Mains Diateita (O allegation	Fair (Average)	Moderate (6)	1/1/1967	4	
Distanting	Distribution/Collection		Madanata (C)	4/4/4007		
Ridgeline Loop	Distribution/Collection	Fair (Average)	woderate (6)	1/1/1967	4	
Dyowiek Street	Maine		Moderate (6)	1/1/1067	1	
RySwick Street	Distribution/Collection	rali (Average)	Noderale (6)	1/1/1907	4	
Trailview Drive - 2"	Mains	Eair (Average)	Moderate (6)	1/1/1067	1	
	Distribution/Collection			1/1/1307		
Trailview Drive - 4"	Mains	Fair (Average)	Moderate (6)	1/1/1967	4	
	Distribution/Collection	i un (/ troitugo)				
Whitebirch Road	Mains	Fair (Average)	Moderate (6)	1/1/1967	4	
	Distribution/Collection					
Balsam Drive	Mains	Fair (Average)	Moderate (6)	1/1/1967	3	
	Distribution/Collection					
Buckboard Drive	Mains	Fair (Average)	Moderate (6)	1/1/1967	3	
	Distribution/Collection					
Chestnut Drive - 4"	Mains	Very Poor	Moderate (6)	1/1/1967	3	2025
	Distribution/Collection					
Chestnut Drive - 6"	Mains	Poor	Moderate (6)	1/1/1967	3	
	Distribution/Collection					
Cottonwood Trail	Mains	Fair (Average)	Moderate (6)	1/1/1967	3	
	Distribution/Collection				_	
Crestview Drive		⊢air (Average)	Moderate (6)	1/1/1967	3	
0	Distribution/Collection			4/4/4007		
Cross Lane	Iviains	⊢air (Average)	ivioderate (6)	1/1/1967	3	
Crossesunts Main /f		Cood	Moderate (C)	1/1/1007		
Crosscountry Main (fox	iviains	9000	iviouerate (6)	1/1/1967	3	

	Distribution/Collection				
Cumberland Road - 4"	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection				
Deer Run Lane	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection	· (
Falls Avenue	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection	i all (i tronago)		., .,	
Forest Avenue	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection			1/ 1/ 1007	
Foxalove Road	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection			1/1/1507	
Greenleaf Trail	Maine	Very Poor	Moderate (6)	1/1/1067	3
	Distribution/Collection	Very FOOI		1/1/1907	
Hermitlene 4"	Distribution/Collection		Madarata (C)	1/1/1067	2
	Nallis Distribution/Collection	Fair (Average)	Moderale (6)	1/1/1907	3
	Distribution/Collection			4/4/4007	0
Leisure Drive	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection	/. 、			
Mountain Drive -2"	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection				
River Drive	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection				
Sagamore Road - 4"	Mains	Poor	Moderate (6)	1/1/1967	3
	Distribution/Collection				
Sagamore Road - 6"	Mains	Poor	Moderate (6)	1/1/1967	3
	Distribution/Collection				
Silver Street	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection	, , ,	, , , , , , , , , , , , , , , , , , ,		
Tate Road - 2"	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection				
Tate Road - 3"	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection			., .,	
Upland Drive	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection			1/ 1/ 1007	
Vasmin Driva - 2"	Mains	Fair (Average)	Moderate (6)	1/1/1067	3
	Distribution/Collection			1/1/1907	
Veemin Drive 2"	Maina		Madarata (C)	1/1/1067	2
rasmin Drive - 3	Distribution/Collection	Fair (Average)	Moderate (6)	1/1/1907	3
	Distribution/Collection			4/4/4007	0
Yasmin Drive -4"	Mains	Fair (Average)	Moderate (6)	1/1/1967	3
	Distribution/Collection				
High Point Avenue	Mains	Excellent	Moderate (6)	1/1/2011	2
	Distribution/Collection				
Mineral Springs Village	-Mains	Good	Moderate (6)	1/1/1980	2
	Distribution/Collection				
Mineral Springs Village	- Mains	Good	Moderate (6)	1/1/1980	2
	Distribution/Collection				
Oakland Avenue	Mains	Excellent	Major (8)	1/1/2014	2
	Distribution/Collection				
Hickory Stick Lane	Mains	Good	Moderate (6)	1/1/1995	1
	Distribution/Collection				
Mountain Drive - 4"	Mains	Excellent	Moderate (6)	1/1/2014	1
•••••••	Distribution/Collection	1			· · · · ·
Mountain Drive - 6"	Mains	Excellent	Moderate (6)	1/1/2014	1
	Distribution/Collection			., ., _01 T	<u> </u>
Wade's Way	Mains	Good	Major (8)	1/1/1003	1
Thad of Thay	maino	0000		1/1/1000	1

			Asset	Installation Date	
Asset Location	Asset Description	Asset Category	Condition	(MM/DD/YYYY)	Risk Level
Pump Station 6	Booster Pump #3 w/ VFD	Storage	Fair	01/01/1967	4
	Process Piping &				
Pump Station 6	Appurtenances	Pumping Facility	Good	01/01/2001	4
Pump Station 6	Heating Unit	Pumping Facility	Good	01/01/1967	4
Pump Station 6	Pump Station Building	Pumping Facility	Fair	01/01/1967	4
Pump Station 7	Atmos Tank	Pumping Facility	Good	1/1/2003	4
Pump Station 7	Chem Feed Pump #1	Storage	Fair	1/1/1993	4
	Chem Feed Piping &				
Pump Station 7	Appurtenances	Treatment	Good	1/1/2003	4
Pump Station 7	Composite Tank #1	Treatment	Good	1/1/2003	4
	Process Piping &				
Pump Station 7	Appurtenances	Treatment	Good	1/1/2003	4
Pump Station 7	Well 7 Pump & VFD	Pumping Facility	Good	1/1/1993	4
Pump Station 7	Heating Unit	Other	Good	1/1/2005	4
Pump Station 7	Shower / Eye Wash	Pumping Facility	Good	1/1/1993	4
Pump Station 7	Air Compressor	Storage	Fair	1/1/1993	4
Pump Station 7	PLC	Pumping Facility	Good	1/1/1993	4
Pump Station 3	Booster Pump #2 w/ VFD	Pumping Facility	Good	1/1/2019	3
Pump Station 3	Pump Station Building	Pumping Facility	Good	1/1/2000	3
Pump Station 3	Steel Storage Tank	Storage	Fair	1/1/2000	3
Pump Station 3	Process Piping & Appurtena	Pumping Facility	Good	01/01/2000	3
Pump Station 3	Electrical & Controls	Pumping Facility	Fair	01/01/2000	3
Pump Station 7	Booster Pump #1 w/ VFD	Pumping Facility	Good	01/01/1993	3
Pump Station 3	Steel Storage Tank	Storage	Fair	01/01/2000	2
Pump Station 3	Heater	Pumping Facility	Good	01/01/2000	2
Pump Station 6	Booster Pump #1 w/ VFD	Pumping Facility	Good	01/01/2007	2
Pump Station 6	Steel Storage Tank	Pumping Facility	Good	01/01/2007	2
Pump Station 6	Pressure Tank	Pumping Facility	Good	01/01/2007	2
Pump Station 6	electrical valve	Storage	Good	01/01/2007	2
Pump Station 6	Pressure Tank	Pumping Facility	Good	01/01/2007	2
Pump Station 6	Pump Station Building	Storage	Good	01/01/2007	2
Pump Station 7	Booster Pump #2 w/ VFD	Pumping Facility	Good	01/01/2003	2
Pump Station 7	Booster Pump #3 w/ VFD	Pumping Facility	Good	01/01/2003	2
Pump Station 7	Well 7A Pump & VFD	Pumping Facility	Good	1/1/1993	2
Pump Station 7	Well 7B Pump & VFD	Other	Good	1/1/2003	2
Pump Station 7	Well 7C Pump & VFD	Other	Good	1/1/2003	2
Pump Station 7	Well 7D Pump & VFD	Other	Good	1/1/2003	2
Pump Station 7	Computer	Other	Good	1/1/2005	2
Pump Station 7	Hydro Tank	Pumping Facility	Fair	1/1/1993	2
Pump Station 7	Well 7	Pumping Facility	Good	1/1/1993	2
Pump Station 7	Well 7A	Pumping Facility	Fair	1/1/1992	2
Well Field 7	Well 7B	Other	Fair	1/1/1992	2
Well Field 7	Well 7C	Other	Fair	1/1/1992	2
Well Field 7	Well 7D	Other	Good	1/1/2005	2
Lower Well Field 7	Well 1A	Other	Good	1/1/2005	2
Lower Well Field 7	Well 1A	Other	Fair	1/1/1989	2
Well Field 1	Well 1B	Other	Fair	1/1/1989	2
Well Field 1	Well 1C	Other	Fair	1/1/1989	2
Well Field 1	Well 1	Other	Fair	1/1/1989	2
Pump Station 3	Booster Pump #1 w/ VFD	Pumping Facility	Good	1/1/2018	1
Pump Station 3	Booster Pump #3 w/ VFD	Pumping Facility	Good	1/1/2019	1
Well Field 1		Other	Fair	1/1/1989	1
Appendix D System Maps



With the second seco

ZONE 5

LEGEND



SHEET 2

SHEET 4

EXISTING 1" WATERMAIN EXISTING 2" WATERMAIN EXISTING 3" WATERMAIN EXISTING 4" WATERMAIN EXISTING 6" WATERMAIN EXISTING 25' CONTOUR LINE EXISTING PROPERTY LINE EXISTING PUMP STATION EXISTING VALVE (OPEN)

175

350















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LEGEND

EXISTING 1" WATERMAIN
EXISTING 2" WATERMAIN
EXISTING 3" WATERMAIN
EXISTING 4" WATERMAIN
EXISTING 6" WATERMAIN
EXISTING 25' CONTOUR LINE
EXISTING PROPERTY LINE
EXISTING PUMP STATION
EXISTING VALVE (OPEN)
EXISTING VALVE (CLOSED)

ZONE 1

UMBERLAND RD

BRIARCLIFF RD





1"W ·	
2"W ·	
4"W ·	





Appendix E Hydraulic Profile





1192.168.50.34/littn/proi 2021/21160 Gunstock Acres Pump Station/DWGS/Final/21160 hydraulic-grade.dwg. STATION SCHEMATIC. 5/9/2022 8:36:24 AM. AndyHeilm







Appendix F Communication Brochure



Levels of Service

The foundation of an asset management plan that establishes customer expectations & allows recovery of full cost of doing business & establishes SMART Goals.

- No reporting violations, meet or exceed Federal and State Drinking Water Standards
- Maintain adequate system pressure under all flow conditions
- Maintain capital reserve fund balance
- Reduce unaccounted for water
- Maintain well site to meet regulations and to ensure viability of water sources.
- Review asset management plan annually
- Notify customers and repair breaks within 8 hours of identification

Why Asset Management?

Allocate People, Time, and Resources Appropriately

Focus on Making Cost-Effective Decisions

Provide a Sustainable Level of Service for Customers



PREPARED BY:



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Gunstock Acres Village Water District



Gunstock Acres Village Water District Town of Gilford 47 Cherry Valley Road Gilford, NH 03249 Phone: 603-293-0002

Summer 2022

Asset Management Plan

Components of an asset management plan include:

- Assessment of Assets
 - Comprehensive List
 - Condition
 - Useful Life
 - Critical Assets
- Mission Statement
 - Growth Projection
- Level of Service Agreement
- Capital Investment Program
- Financial Strategies
- Communication Plan

Asset Inventory

Asset	Inventory (Number)
Wells	9
Pumping Equipment	18
Storage Tanks	4
Distribution Mains	82,300 LF
Buildings	4
Booster Stations	2
Treatment Equipment	2
Transportation Equipment (Truck)	0

The Current value for the Replacement of the GAVWD is Approximately 26 million.



Current Status

Over the years the GAVWD has actively managed the water utility and accomplished the installation of new or replacement infrastructure as needed in order to keep pace with the building of new homes within the development.

- New bedrock wells have come on line in recent years while older wells with diminished yield or water quality have been abandoned.
- New piping was installed in Mountain Drive and Oakland Drive in 2014 replacing the existing cast iron pipe with HDPE pipe.
- In 2011 the 3-inch main located in High Point Avenue was replaced.
- In 1995 the 4-inch main in Hickory Stick Lane was replaced.
- In 1980 the 2-inch and 4-inch lines in Mineral Springs Village was replaced.

Additionally, the system was expanded to serve Gunstock Inn located on Cherry Valley Road, Mineral Springs Condo Association, and Ellacoya Barn and Grill located on Route 11A. These extensions were completed around 2000.

Capital Improvement Plan

As with any Public Water system, there is always more work to be accomplished. The GAVWD should plan for the future improvements as follows:

- Complete design and construction of a replacement for Pump Station 1, to include a new 50,000-gallon tank.
- Fully decommission PS#5
- Design and construct upgrades to Pump Station 7, including a new 70,000-gallon tank.
- Replace mains on Greenleaf Trail and Barefoot Place.