Garrett County Water and Sewerage Master Plan 2014 Revision

Adopted December 9, 2014

Amendment 5 March 2025





Revision Table

Amendment	County Adoption	Resolution	MDE Approval	Revision Notes	Pages
	December 9, 2014	2014-15		Original Plan	
	June 6, 2016	2016-7		See Exhibit 1, Text & map 4-4	Exhibit 1
1	November 22, 2016	2016-2	March 27, 2017	Map updates: Deep Creek Sewer Service Area, Thayerville Water Service Area, Deer Park Water Service, Mt Lake Park/LochLynn Water Service Area	Amendment 1
2	February 21 2017	2017-1	May 26 2017	Exhibit 1: EMR Revisions February 2016: Planned & recommended Improvements Text. Table 3-4 Table 3-6	Amendment 2
3	August 22, 2017	2017-5		Map update Deep Creek Lake Water Service Area	
3	April 2, 2021	2021-2		Rosedale Sewer Service Area Map	
3	April 20, 2021	2021-3		Paradise Heights Water Expansion Glendale Road Sewer Service Expansion Pysell Road Sewer Service Expansion Map Mountainside Sewer Service Expansion Map Maple Street Friendsville Sewer Service Map Madison Street Water Service Map	
3	March 21, 2023	2023-2	May 25, 2023	Grantsville Water Service text and map	Amendment 3
4	December 19, 2023	2023-8	March 13, 2024	Add Wisp Mountain Tank Project.	Amendment 4
5		2025-		Update Water & Sewer Planning Areas along Hemlock Dr, Grantsville from FSP to W1 and S1 respectively. Gorman Well replacement, Chestnut Ridge Pump Station upgrades replacement, Jennings Sewer upgrades	Amendment 5

Garrett County Water & Sewer Plan Amendment 5

Grantsville Water Extension

Text Amendment 3.2.2.1 Town of Grantsville – Service Areas, Problem Areas, and Future Needs

Homes along Hemlock Drive in Grantsville rely on private wells, some of which have tested positive for E. coli contamination. To protect public health, this amendment prioritizes extending public water service to this area. The extension will provide clean, safe drinking water and allow these homes to connect to a reliable municipal system.

A map amendment (Figure 3-4) will reflect the updated service area...

Gorman Water Improvements

Text Amendment 3.2.6 North Branch Potomac River Watershed – Problem Areas and Future Needs, Planned and Recommended Improvements

The Gorman community lost one of its primary water sources in 2023 when Mountain Road Well #2 collapsed. This left the system without a backup, placing significant strain on the remaining well. If another failure occurs, the entire community could face water shortages or service disruptions.

To ensure long-term water security, this amendment calls for the development and construction of a new groundwater source. This will restore system redundancy, enhance reliability, and ensure residents continue to have safe and sufficient water access.

A map amendment (Figure 3-12) will show the location of the new well and raw water line.

Grantsville Sewer System Amendment

Text Amendment 4.1.2 Casselman River Watershed – Problem Areas and Future Needs, Planned and Recommended Improvements Grantsville has been planning a future sewer service expansion along Hemlock Drive. However, due to increased demand and the need to eliminate outdated septic systems, this amendment reclassifies the project as an immediate priority.

A map amendment (Figure 4-2) will reflect this change.

Chestnut Ridge System Improvements

Text Amendment: 4.1.2 Casselman River Watershed – Problem Areas and Future Needs, Planned and Recommended Improvements
The Chestnut Ridge Sewer System, constructed in the 1990s, is aging and in need of urgent repairs. The Chestnut
Ridge Pump Station, which moves wastewater to the Grantsville Wastewater Treatment Plant (WWTP), is
deteriorating due to corrosion. If it fails, the system could overflow, causing backups and environmental hazards.
To address this, this amendment includes:

- A full replacement of the Chestnut Ridge Pump Station to improve reliability and prevent failures.
- An Infiltration & Inflow (I&I) study to identify and fix leaks, which will reduce excess water entering the sewer system and lower operational costs.

A map amendment (Figure 4-4) will reflect the planned upgrades.

Jennings Sewer System Rehabilitation

Text Amendment 4.1.2 Casselman River Watershed – Problem Areas and Future Needs, Planned and Recommended Improvements
The Jennings Sewer System, built in the late 1990s, has ongoing maintenance issues due to its outdated variable grade gravity sewer system. The sewer mains frequently clog, leading to sewer overflows and backups, which place the community at risk of unsanitary conditions.

To solve this issue, this amendment includes:

- Replacing the aging Maple Grove Pump Station to ensure better sewage flow.
- Eliminating old septic tanks and installing 74 grinder pumps to improve wastewater collection.
- Replacing the failing gravity sewer system with a new 4-inch force main, which will be more efficient and prevent frequent blockages.

A map amendment (Figure 4-6) will outline the upgraded Jennings Sewer System.

3.2.2 Casselman River Watershed

3.2.2.1 Town of Grantsville

Existing System

Service Areas

Figure 3-4 shows the existing service area and planned future service area of the Town of Grantsville water service area. In 2012 an addition to the service area was made for the Goodwill Retirement Community¹ which is a continuing care retirement community including an independent living retirement village, assisted living apartments and a nursing home. The property was annexed into the Town in 2006 and the facility is connected to the Green water system.

Within the immediate future (W-1), Grantsville is extending water service north along Hemlock Drive. The area for extension and annexation includes homes that are presently on wells, some of which have had E.coli present in the past. The area is adjacent to the 669 housing development that is being constructed by the Garrett County Development Corporation.

Within 10 years (W-3). Grantsville is considering the following future service area expansions:

- An area along Route 669 north of Grantsville to Pea Vine Road and Dorsey Hotel Road, which includes the Grantsville Volunteer Fire Department, single-family residences and assisted living residences. Private water supplies in this area are susceptible to salt contamination.
- Approximately 100- acre area, west of the current Town boundary, north of I-68.
- Extension of water service along Route 40 east of Grantsville to the Chestnut Ridge area. This would also address salt contamination issues for residences and businesses (see Section 3.3 below).

No additional future service area expansions are currently planned.

Extensions of the Green System are discussed below under the Youghiogheny River Watershed.

Problem Areas and Future Needs Grantsville System

As shown in Table 3-3, the Grantsville system currently has approximately 5,000 gpd of available capacity (75,000 gpd treatment plant production capacity minus 70,000 gpd average daily flow). Projected change in water demand through 2023 is approximately 92,400 gpd and through 2033 is approximately 100,000 gpd. Total demand through 2023 would be approximately 162,400 gpd (current use of 70,000 gpd plus 92,400 gpd), exceeding the permitted withdrawal limit (111,000 gpd), and the production capacity of the Town's treatment plant (75,000 gpd). The added demand through 2033 would be close to 100,000 gpd for a total demand close to 170,000 gpd², well above the current withdrawal limit. An additional concern is use of water from state lands. Savage River State Forest is owned and managed by the Maryland Department of Natural Resources. Use of water resources is subject to Departmental management policies especially regarding use of water from State lands to support growth.

Amendment 5

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¹ Sometimes referred to as Goodwill Mennonite Home.

² 70,000 gpd current average daily flow plus 99,966 gpd (Table 3-3)

Serving these future demands on Grantsville's water system would necessitate an expanded treatment plant and/or withdrawal permit, or another solution.

The Grantsville's water distribution system is cross-connected with the Green System by way of bypass valves located at the Grantsville Water Treatment Plant, Miller Street, Springs Road, and Grants Street at Pennsylvania Avenue. These valves were once cross-connected but the pressure difference between the two systems caused a water main to fail on Main Street in front of Heys Pizza due to the pressure difference. The Grantsville Distribution System consists of transite lines and PVC lines, and the valves are in poor condition. Sections of the system were originally installed without bedding, causing the lines to settle and experience cracking failures. The valves on the Grantsville system are in poor condition and pose a safety issue. The Grantsville Water Storage Tank does not have sufficient capacity for fire protection for the system's current customers.

Water is supplied to the Grantsville water system by four springs and four drilled wells located on the east slope of Negro Mountain north of alternative Route 40. During dry spells, the production from the springs is nearly immeasurable. The springs and Wells 1 and 2 are potentially susceptible to water quality degradation over time from surface influences such as de-icing salts or coliforms (due to shallow casing setting depths). Reliance on a water supply from intermittent sources, such as the springs, reduces the overall system reliability.

The Grantsville water treatment plant utilizes a pressure filter featuring iron and manganese removal by chlorine oxidation with lime addition for pH adjustment. The WTP building roof is experiencing leaks, corrosion of the overhang fascia is evident, and the exterior siding is experiencing paint chalking. Considering the age of the WTP (i.e., ~ 31 years), most of the equipment is in good working condition. However, the Town should anticipate increased maintenance costs to operate the WTP as equipment further ages

Residents along Hemlock Drive presently on wells, some of which have had E.coli present in the past, the Town looks to annex this area and provide public utilities.

Planned and Recommended Improvements

The County is planning to serve the Keysers Ridge area from new water supply (Puzzley Run – west side of Negro Mountain).- This would reduce demand from the Green supply by approximately 12,000 gpd. See the discussion of Keysers Ridge below under the Youghiogheny River Watershed for more detail.

The Town is proposing a project to consolidate the Green and Grantsville water systems and treatment plants into a single updated system located at the Green WTP site, conduct a hydraulic study of the two systems and replace aging lines within the systems, and install a SCADA system to monitor the tank levels. Specifically, the project will consist of the following:

- Water Treatment Plant Consolidation
 - o Demo Grantsville WTP
 - o Install line from Grantsville WTP tank to the Green WTP and pump water through line from Shade Hollow Well 5 to Green WTP
 - o Build 2nd tank (420,000-gallon) at the Green System 2 WTP site

- Expand treatment capacity at the Green System 2 WTP (combine Green System 2 WTP 111,000 gpd and Grantsville Town WTP 112,000 gpd for toal of 223,000 gpd) and upgrade treatment to treat iron and manganese
- o Utilize other well at Green System 2 WTP without casing failure (Alternative 2B)
- o Abandon 8" line on Grantsville System 1 with bedding issues

The alternative assumes that current raw water sources for the Grantsville System WTP would be pumped from the Grantsville System WTP site to the Green WTP. Since the Green System WTP does not currently have the capability of removing Fe and Mn, a new packaged water treatment plant capable of removing Fe and Mn would be required. The WTP upgrades include the following:

- Prefabricated Insulated Steel Building
- Packaged Filter System
- o Similar to a Filtronics or US Filter Systems quoted for the alternative.
- Chemical Feed Room
- Operator Shower/Restroom
- Security Fencing
- Demolition of Grantsville System 1 WTP
- Distribution System Improvements
 - Hydraulic Study to analyze the feasibility of connecting the systems to allow the impact of each system on each other to be studied, potentially reducing the amount of water lines that need to be replaced
 - o Replace all old 2", 4", 6" and 8" pipe
 - o Install 3 PRVs throughout system
 - o Replace all meters in existing system
 - Purchase meter reading device
- SCADA System to monitor and control the levels at the tanks in the system

The Town Plans on annexing the area of Hemlock Ridge and provide water services residents that have experienced E-coli contaminated wells.

The Town's sewer lines and WWTP date from the 1980s and are dated.

The Chestnut Ridge pump station has deteriorated and is in need of replacement. The stations capacity is undersized for future expansion, a larger capacity station is required to protect the Casselman River from overflows.

The Jennings variable grade "gray water" sewer collection system has been plagued with backups. The system requires regular flushing causing increased I&I being conveyed to the Grantsville WWTP.

Planned and Recommended Improvements

The County is planning to serve the Keysers Ridge area from new water supply (Puzzley Run – west side of Negro Mountain).- This would reduce demand from the Green supply by approximately 12,000 gpd. See the discussion of Keysers Ridge below under the Youghiogheny River Watershed for more detail.

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 - Hydraulic Study to analyze the feasibility of connecting the systems to allow the impact of each system on each other to be studied, potentially reducing the amount of water lines that need to be replaced

Amendment 5 5

- o Replace all old 2", 4", 6" and 8" pipe
- o Install 3 PRVs throughout system
- o Replace all meters in existing system
- o Purchase meter reading device
- SCADA System to monitor and control the levels at the tanks in the system

4.1.2 Casselman River Watershed

3.2.6 North Branch Potomac River Watershed

3.2.6.2 Gorman Service Areas ,Problem Areas and Future Needs & Planned and Recommended

Existing System

Gorman is a small, unincorporated community along the North Branch Potomac River, at the intersection of MD 560 and US 50. The community developed as a component of three mining communities that were settled along the Western Maryland Railroad (the other two communities were in West Virginia). The 2008 Comprehensive Plan designates Gorman as a rural village.

The Gorman water system was originally built in 1982 to serve approximately 55 homes and businesses. The water source for the system was in West Virginia, but in 1996-97 the Sanitary District developed its own well water supply for the system. The service area included the community of Gorman and properties along US 50 westward from the river to the Wilson-Corona Road intersection.

In 2003 a water line was extended along Wilson Corona Road (to approximately 35 customers) due to problems with private water supplies.

In 2007 a water line was extended along Table Rock Road and a portion of Fairview Church Road to serve approximately 26 residences in the area that experienced a reduction and/or loss of water supply due to deep mining activity. The extension consisted of approximately 25,000 linear feet of 6-inch water line with fire protection. Sizing of the extension also allows for future connections along Table Rock Road and Fairview Church Road and further expansion of the system to serve the remaining portion of Fairview Church and Wilson Corona Roads to the current termination of the water system on Wilson Corona Road. Financing of the project was provided by Mettiki Coal, LLC and a MDE grant.

The system currently serves approximately 146 ERUs. The system's water appropriation permit allows withdrawal of up to 40,500 gpd. Average daily demand in 2012 was approximately 35,000 gpd (Table 3-3).

The Gorman water system consists of:

- Water from two wells in the Greenbrier and Mauch Chunk formations at depths of 205 and 224 feet located on Mountain Road. In 2023, Mountain Rd Well #2 has collapsed leaving the County without a redundant water source. The loss of Well #2 places additional strain on Well #1 due to higher pumping rates.
- Approximately 55,700 linear feet of 4- and 6-inch transmission and distribution lines.
- A treatment plant (chlorination) with design and production capacity of 58,000 gpd located at 4683 George Washington Highway.
- 100,000 gallon concrete ground water storage tank located beside the water treatment plant

Service Areas

Figure 3-12 shows the existing Gorman water service area. The service area is large relative to the local population as it was established to serve homes north and west of the village of Gorman to address water sources impacted by deep mining activity.

No service extensions are planned before 2023. Future planned service areas, beyond 10 years, include "infill" areas within and south of the service area boundaries.

Additionally, a new groundwater well will be developed to enhance system reliability and reduce dependency on a single well. This new well will be located within the existing service area and will provide redundancy in case of mechanical failure or source depletion. The project includes drilling a new well, quality analysis, installing conveyance lines, and production well installation in compliance with MDE permitting requirements. Once operational, the new well will support continued service reliability and accommodate anticipated demand growth.

Problem Areas and Future Needs

With an average daily flow of 35,000 gpd, the Gorman system has a current unused capacity of 5,500 gpd (Table 3-3). The projected demand through 2023 is approximately 1,300 gpd therefore no increase in capacity will be needed. However the projected additional demand through 2033 is approximately 17,000 gpd for a total demand of approximately 51,700 gpd. While sufficient production and treatment capacity exist (see Table 3-3 columns F and G) the added demand would put the system above its permitted withdrawals so that an increase in water appropriation, alternate water supply or large reduction in water use after 2023 will be needed to accommodate this system growth.

The original water transmission line constructed in 1982 along US 50 is deteriorating and needs to be replaced.

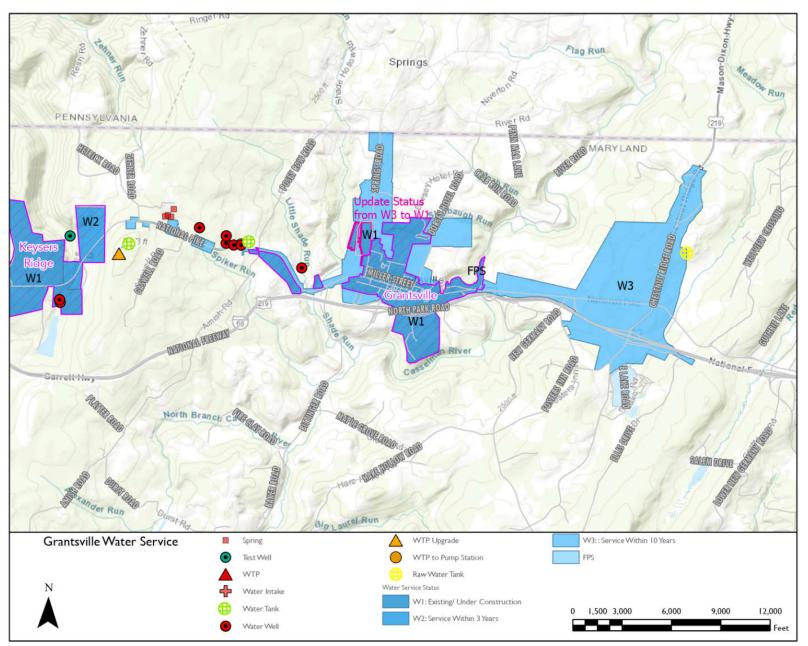
In 2023, Mountain Rd Well #2 collapsed leaving the County without a redundant water source. The loss of Well #2 places additional strain on Well #1 due to higher pumping rates. Additional well capacity is critical to ensure uninterrupted service and address peak demand fluctuations.

Planned and Recommended Improvements

- Replace the deteriorating water transmission line from Gorman west along US 50. A funding request to MDE for this project is anticipated in 2027 2014.
- Replace existing pressure-reducing stations to reduce operating pressures of 150 psi or less. This will improve maintenance access, improve confined space access, and mitigate water hammer surges.
- Develop and install a new production well(s), install a new groundwater treatment plant, pump station, and distribution system to pump potable water to the existing Gorman potable water tank on Backbone Mountain. This will improve system resilience and redundancy.
- Secure a water appropriation permit modification to support increased withdrawals, if necessary.

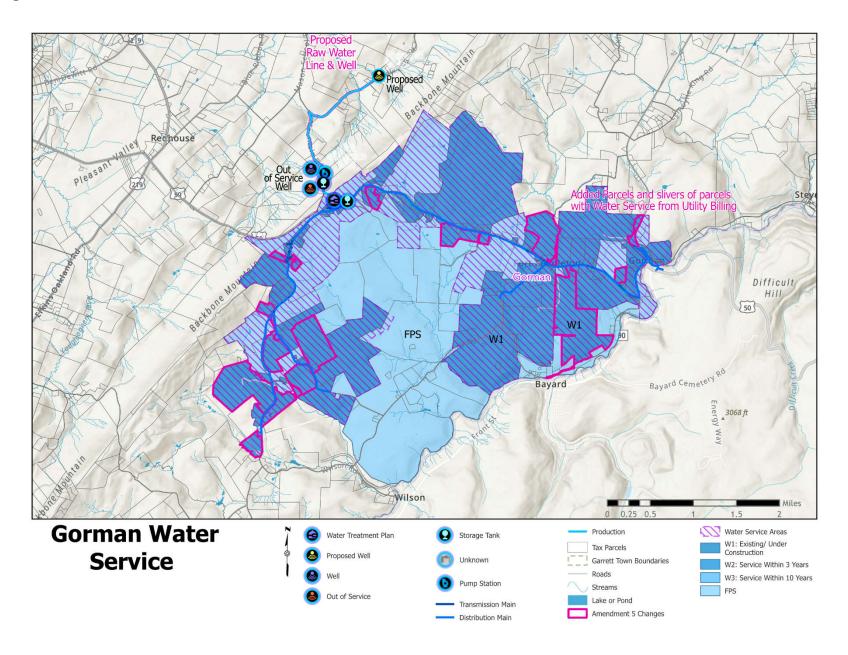
Amendment 5 8

Figure 3-4 Grantsville



Amendment 5 9

Figure 3-13 Gorman



Sewerage System

4.1.2 Casselman River Watershed

4.1.2.1 Town of Grantsville

The Town of Grantsville, with a 2010 population of 766, is located north of the I-68 / MD 495 interchange. The Town has approximately 400 housing units, a business district, the Northern Garrett Industrial Park, and the Goodwill Mennonite Home comprising a skilled nursing home, assisted living apartments and a retirement village.

Existing system

The Town of Grantsville owns and operates the Grantsville WWTP located north of Route 40 alt, on the east side of town near the Casselman River bridge. Four collection systems convey sewage to the plant: the Town of Grantsville's system; the Goodwill Mennonite Home system; the Chestnut Ridge system east of the town; and the Jennings system south of the Town.

Town of Grantsville

The Town owns and operates its collection system which serves most properties within the Town. The Northern Garrett Industrial Park is in the Town but is south of I-68. An 8-inch gravity and pressure sewer line was completed in 1993 and conveys wastewater from the industrial park to the collection system and the WWTP (approximately 3,000 linear feet).

The WWTP was first built in 1989. An addition was made in 1995 to accommodate flow from the Chestnut Ridge and the Jennings collection systems. The plant uses the rotating biological contactor (RBC) variant of the biological nutrient removal (BNR) process including primary clarifiers, submerged rotating biological contactors, final clarifiers, UV disinfection and cascade post aeration. Sludge from the WWTP is treated in two aerobic digesters and the stabilized liquid sludge is land-applicated or transported to the Deep Creek Lake WWTP for processing.

Discharge from the WWTP is to the Casselman River, a designated Use IV water which is protected for holding or supporting adult trout for put-and-take fishing. The WWTP has current discharge permit effluent limitations based on an average daily flow of up to 600,000 gpd. Average daily flow in 2012 was approximately 78,200 gpd.

Goodwill Mennonite Home system

The Goodwill Mennonite Home was annexed into the Town in 2006, though the Town began treating wastewater from the home in the 1990s. Garrett County owns and maintains the collection system (approximately 5,000 linear feet) and an associated pump station. The system currently serves approximately 90 ERUs (Table 4-1).

Chestnut Ridge Collection System

Garrett County owns and operates the Chestnut Ridge Collection System which conveys wastewater to the Grantsville WWTP. The system has approximately 15,000 to 20,000 linear feet of sewer line and currently serves approximately 144 ERUs (Table 4-1).

The Chestnut Ridge area, north and south of the I-68 US 219 interchange, is a designated growth area and a PFA. The collection system was completed in 1996 replacing on-site septic systems and individual treatment plants for several businesses including an approximately 100-room Comfort Inn hotel (formerly Holiday Inn) and the Penn Alps Restaurant and Artisan Village³. The Chestnut Ridge system consists of the following components:

Gravity sewer lines extending: i) from the Casselman River to Hill Top (near the intersection of US 40 and US 219; ii) north of US 40 along US 219; iii) south of US 40 to I-68 and along I-68 to US 219 (Chestnut Ridge Road); and iv) south of I-68 to and along Ellis Drive.

Sewage pump station on the south side of US 40, south of the Penn Alps development.

A master meter records sewerage flow from Chestnut Ridge and the Garrett County Sanitary District pays the Town of Grantsville for treatment based on flow.

Jennings Collection System

Jennings is a small, mostly residential community located along MD 495 about four miles south of Grantsville. The area had failing septic systems, and a 1997 study recommended a small diameter, variable grade gravity collection system to convey effluent to the Grantsville WWTP for treatment⁴. The Jennings service area was created in 1998 and the County completed project construction in 2000. The system comprises:

Septic tanks at each connection.

Approximately 40,660 linear feet of 6-inch, and 22,400 linear feet of 4-inch variable grade sewer line.

A mainline pump station was installed in 2013 north of the MD 495/Jennings Road intersection to enhance flows to the Grantsville WWTP.

Garrett County owns and operates the Jennings Collection System. The system currently serves approximately 82 ERUs including Clayburn, Inc., a refractory plant, as well as some homes between Jennings and Grantsville along Maple Grove Road (Table 4-1).

Service Areas

Figure 4-3 shows the existing Grantsville sewerage service area along with the Chestnut Ridge, and Jennings collection systems. See also Figures 4-4, 4-5, and 4-6. Within the immediate future (S-1), Grantsville is extending sewer service north along Hemlock Drive. The area for extension and annexation includes homes that are presently on septic systems, formerly FPS, the area is adjacent to the 669 housing development that is being constructed by the Garrett County Development Corporation. No service area expansions are planned for the upcoming one to three year period (S-2). Several areas

Amendment 5

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³ Based on an area wide facility plan, completed in 1987.

⁴ Jennings Community Sewage Disposal Study, April 4, 1997.

are shown as being served within 10 years (S-3) including: south of Meadowview Drive to I-68; west of Springs Road (MD 669); north along Springs Road to the Pennsylvania line; east of Dorsey Hotel Road; and north along and east of US 219 (Chestnut Ridge Road). These areas are consistent with growth areas indicated in the Garrett County Comprehensive Plan.

No additional future service area expansions (beyond 10 years) are currently planned.

Problem Areas and Future Needs

The Town's sewer lines and WWTP date from the 1980s and are becoming dated.

The ultraviolet disinfection system at the Grantsville WWTP has two racks. One is approximately 15 years old and needs to be replaced, the other one is four years old.

Extend sewer service to Hemlock Drive area, and development of the Grantsville housing project along MD 669.

The Chestnut Ridge pump station has deteriorated and is in need of replacement. The stations capacity is undersized for future expansion, a larger capacity station is required to protect the Casselman River from overflows.

The Jennings variable grade "gray water" sewer collection system has been plagued with backups. The system requires regular flushing causing increased I&I being conveyed to the Grantsville WWTP.

Planned and Recommended Improvements

Replace the ultraviolet disinfection system rack at the Grantsville WWTP.

- Extend sewer service to Hemlock Drive area, and development of the Grantsville housing project along MD 669.
- Replacement of the Chestnut Ridge Pump Station to address age-related corrosion issues, increase size for projected expansion, and improve reliability.
- <u>Infiltration & Inflow (I&I) Study to evaluate system condition, identify leaks, and develop a</u> repair strategy to reduce excess flows to the Grantsville WWTP.
- Upgrades to Jennings Sewer System:
 - o <u>Install grinder pump stations.</u>
 - Decommission all septic tanks
 - o Replace Maple Grove Pump Station.
 - o Upgrade sewer mains to eliminate blockages.

Figure 4-3

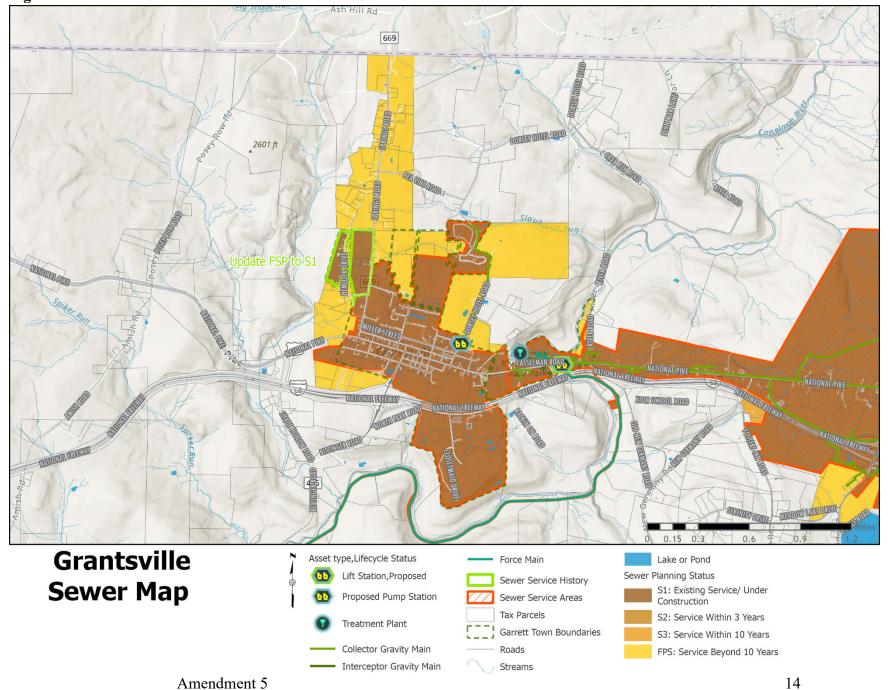


Figure 4-4

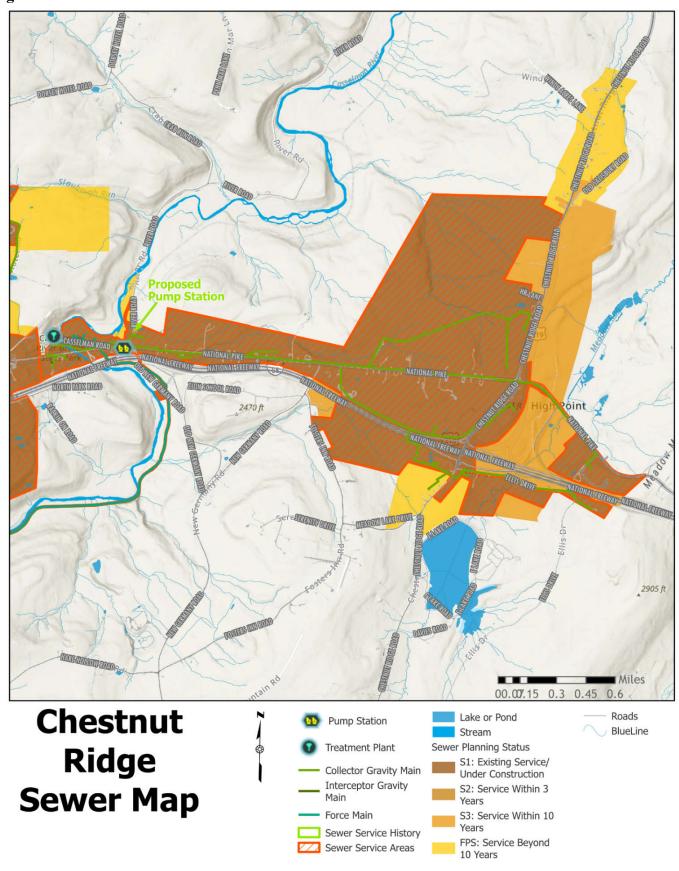


Figure 4-6 Jennings

