



Planning and Zoning Commission Report to The Board of Commissioners

Spring 2015 Amendment to the 2014 Carroll County Water and Sewer Master Plan

Re: Hampstead Sewer Service Area

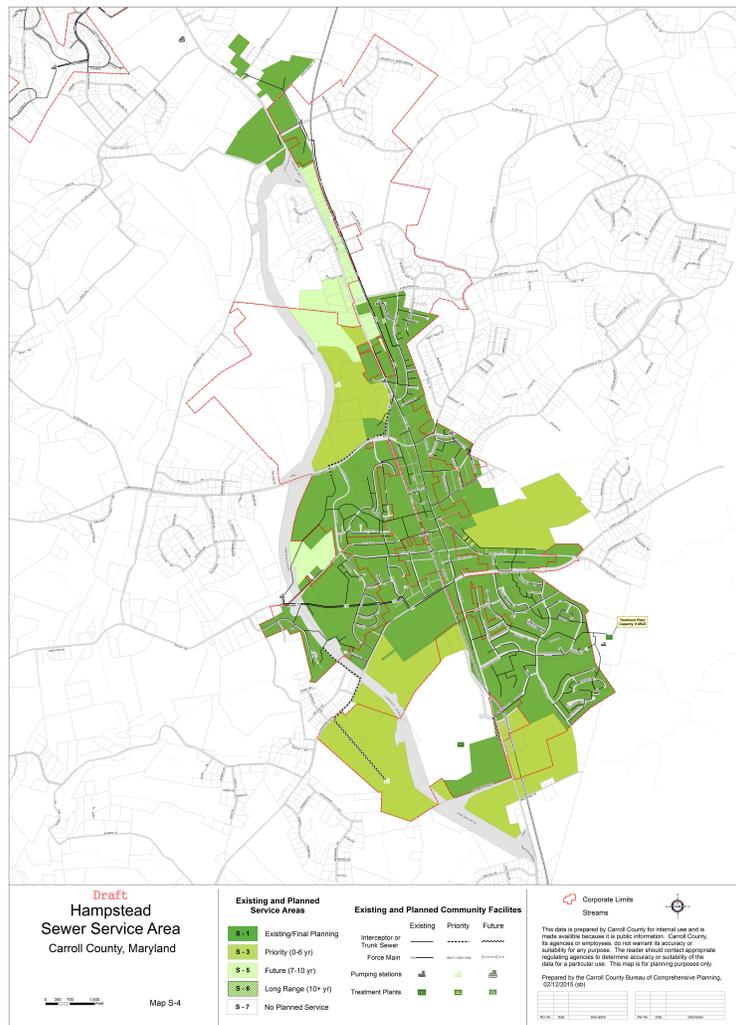
This request would amend the 2014 *Carroll County Water and Sewer Master Plan*. The request detailed below pertains to changes to the Hampstead Sewer Service Area and associated maps and tables.

Amendment Overview:

1. Relocate the Hampstead Wastewater Treatment Plant Outfall to a new location.
2. Amend Table 27 to reflect category changes that are needed in order to make this new outfall possible.
3. Amend the Hampstead Sewer Service Area map showing the new outfall and reflecting the necessary category changes.
4. Amend Hampstead Sewer Service Area chapter to include language regarding the new outfall.

Location

- The new outfall would be combined with the Black and Decker remediation water discharge and eliminating the outdated Wastewater Treatment Plant (WWTP). This is located on the BTR property south of the Town of Hampstead.



- The property category revisions needed to support outfall relocation are distributed throughout town.

Background Information

Carroll County owns and operates the public sewer system that serves the Town of Hampstead and the adjoining areas of the county.

Since the mid-1990s the county has been the subject of litigation focused on alleged negative effects that the temperature of the plant's effluent may have on the receiving stream, Piney Run. Maryland Department of the Environment (MDE) has placed a temperature limitation on the plant's effluent of 68° F (20° C) and added thermal monitoring requirements. When the temperature rises during the summer months, past monitoring suggests that the temperature of the plant's effluent may exceed the temperature limitation.

The plant is scheduled to be upgraded to meet Enhanced Nutrient Removal (ENR) requirement by January 2017. County representatives have discussed the ability to move the County's current outfall from its current location, which discharges into a tributary of the Loch Raven Reservoir, and place the effluent into a tributary of the Liberty Reservoir. In order to change the current outfall, staff would need to incorporate the new line within the construction plans for the ENR upgrade.

This has been explored in the past but was not possible until the State established a Total Maximum Daily Load (TMDL) for the Liberty Reservoir. The TMDL set a benchmark for the amount of pollutants allowed in the Reservoir. Now that this number has been set, analysis was conducted to see if this additional effluent would exceed the TMDL. Staff at MDE has assured Carroll County that adding this effluent will not exceed the TMDL since the County will be taking an older treatment plant (BTR) process and processing it through ENR technology.

The new outfall would be combined with the Black and Decker WWTP (now BTR) which is located on the BTR property in the south of town. The county would take the old Black and Decker WWTP off line and connect this old plant into the public system. The domestic waste would be pumped to our treatment plant and then would come back to the BTR property to be discharged. The new line for this project would be located along county property or county easements.

The BTR property is currently in the No Planned Service Area (S-7) for Sewer in the Hampstead Sewer Service Area. In order for this new outfall to occur the property will be added into the County's service area. The BTR property is 147.54 acres total with approximately 107 acres able to be developed after removing the current building footprints and environmental features from the calculations. When calculating projected demand for an industrially zoned property the county uses the multiplier of 800 gallons per acre. This calculation was completed and then added to the current demand of +/-8,000 gpd of domestic waste that is currently being processed by the old Black and Decker WWTP. The total demand for this property is 93,672 gpd. The

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BTR property would need to be moved within the Existing/Final Planning Sewer Service Area (S-1) in order for this process to move forward.

The numbers located in “Table 32- Projected Sewer Supply Demands and Projected Capacity” shows that there is enough capacity within the plant to accommodate 93,672 gpd. The problem exists in the Priority Sewer Service Area (0-6 years S-3). In order for the calculations to balance properties need to be moved from the Priority Sewer Service Area (0-6 years) to Future Sewer Service Area (7-10 year S-5). Staff took the 93,672 gpd and divided it by 800 gal/acre in order to come to the conclusion that approximately 117 acres would need to be moved from the Priority Sewer Service Area (0-6 years) to Future Sewer Service Area (7-10 year S-5). Staff met with various stakeholders and properties owners to modify property categories in order to make this new outfall location possible.

In Table 32, the capacity of the plant in the Future Planning category is 1.200 mgd. This number was derived after multiple conversations with MDE staff who confirmed that once the Hampstead WWTP was upgraded to ENR it would be able to achieve 1.200 mgd. The ENR upgrade itself will not increase the capacity of the plant. In order for the plant to process over 0.900 mgd to meet the proposed 1.2 mgd, the plant will require MDE Approval the addition of an anaerobic train, construction of a fourth clarifier, enlargement of the current sand filtration system and additional UV cassettes for disinfectant. Minor upgrades to chemical feeds would be conducted in order to complete filtration processes in order to meet all TMDL limits required during the ENR upgrade.

Agency Comments

Carroll County Health Department did not have any comments regarding the proposed amendment.

Carroll County Department of Public Works Bureau of Utilities provided updates to the Hampstead Sewer chapter text and the following comments:

“The Department of Public Works Bureau of Utilities is in full support of the proposed water and sewer amendments to the Hampstead Water and Sewer service area. The Bureau has provided comments throughout the process to support these amendments that come with a strict timeline for completion in order to meet Maryland Department of the Environments permitting and nutrient removal timeline of January 2017.”

Maryland Department of Planning had the following comments regarding the proposed amendment:

“The Comprehensive Plan provides a discussion on the impact of the temperature the plant’s effluent on Piney Run, the receiving stream. The plan states that Carroll County is implementing several projects designed to assess other impacts to the stream and any correction that may be warranted. In each case the intent is to make measurable improvements to the stream’s ecology over time that will be long lasting.

The strategy contained in this amendment is not among those under consideration in the County Comprehensive Plan; however, it meets the intent of the Comprehensive Plan to reach a long

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lasting solution regarding this issue.”

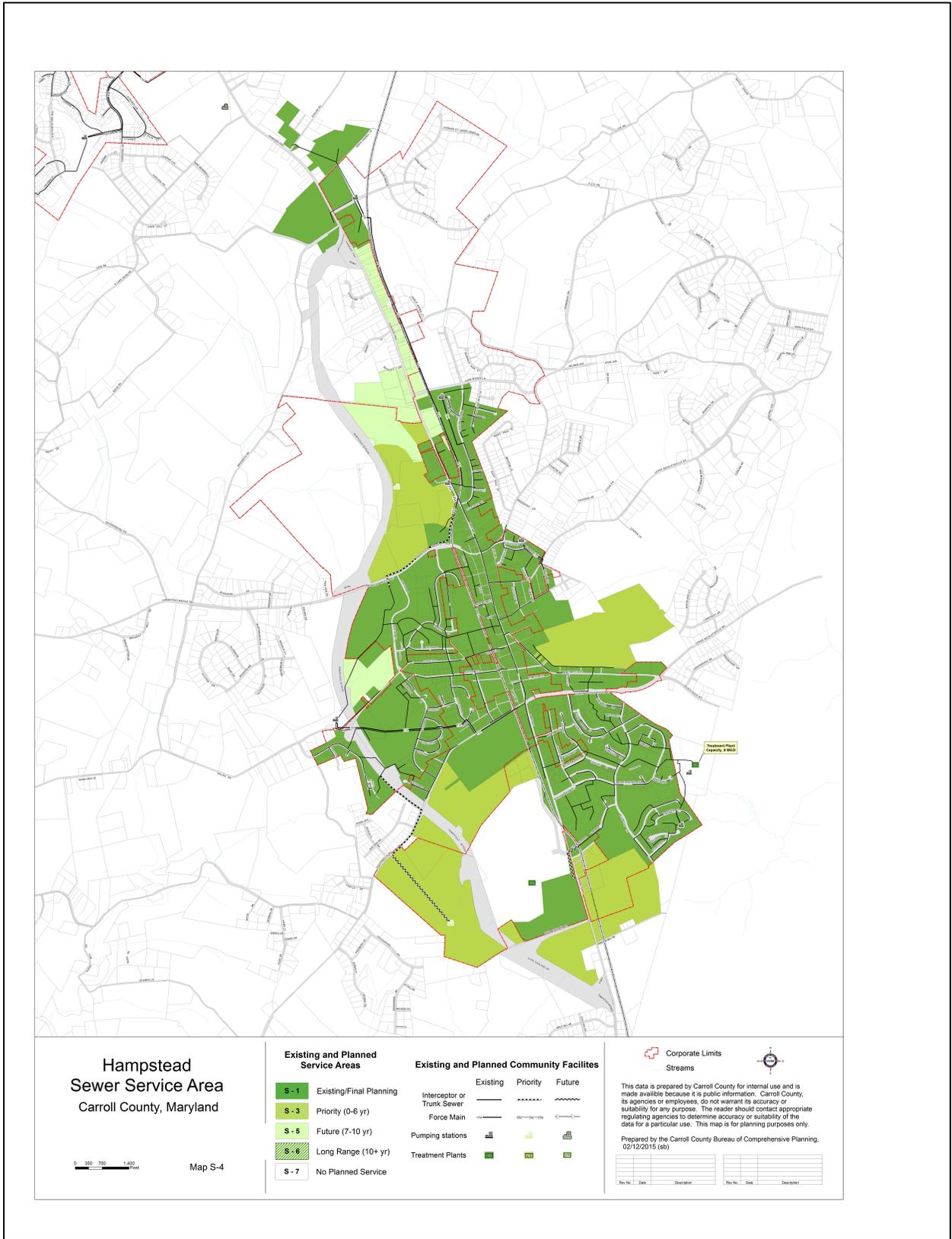
Staff Analysis

Achieving 1.200 mgd at the Hampstead WWTP is important because it will allow Carroll County to realize the planned sewer service area. The additional properties within the service area have previously been included within the service area. The majority of effected properties are industrially zoned or existing developments currently on septic that are potentially failing. It is not the County’s intention to increase growth in this area.

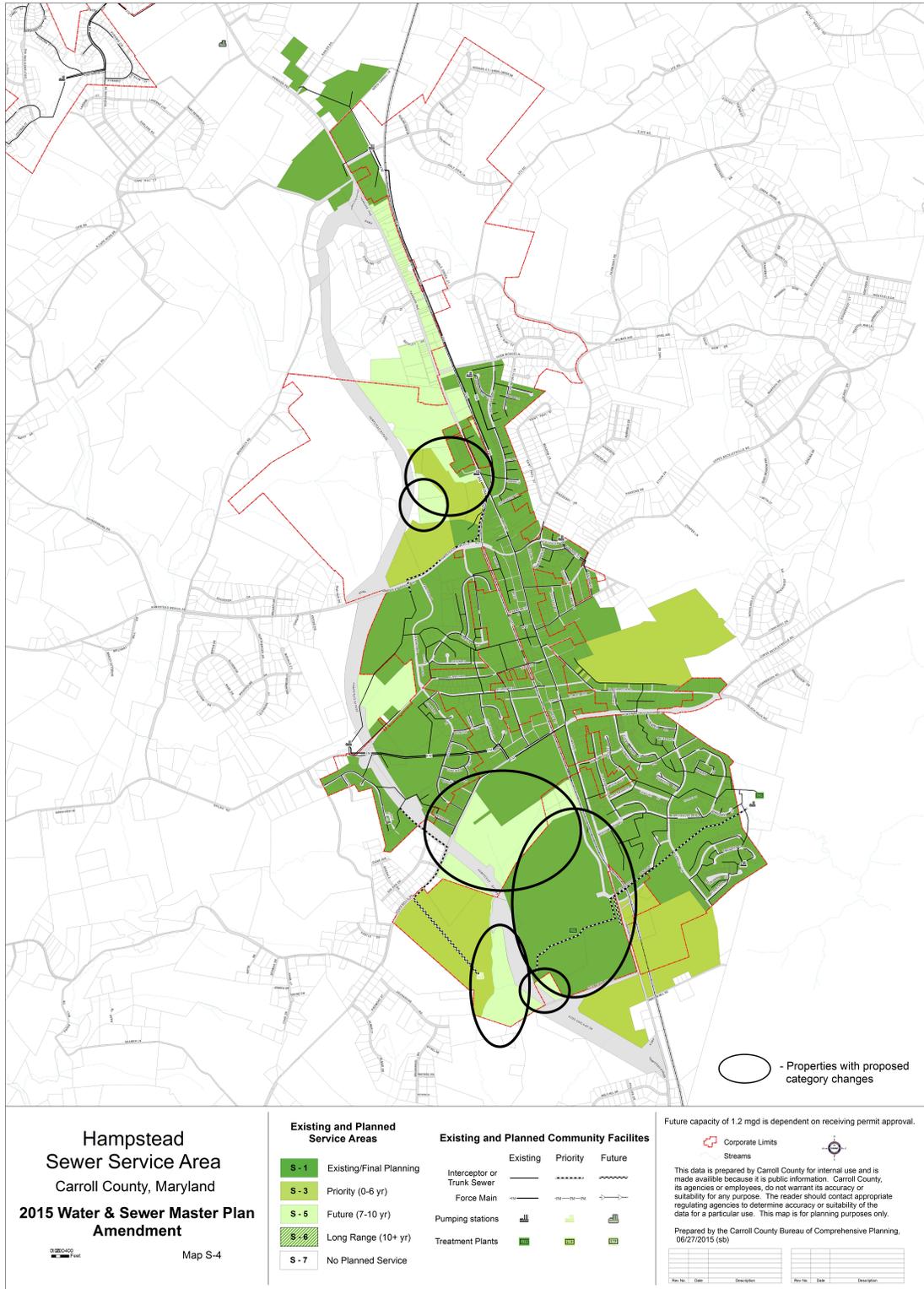
Carroll County Planning and Zoning Commission Certification

The Carroll County Planning and Zoning Commission certified that this amendment was consistent with the 2014 Carroll County Master Plan at their May 19, 2015 meeting.

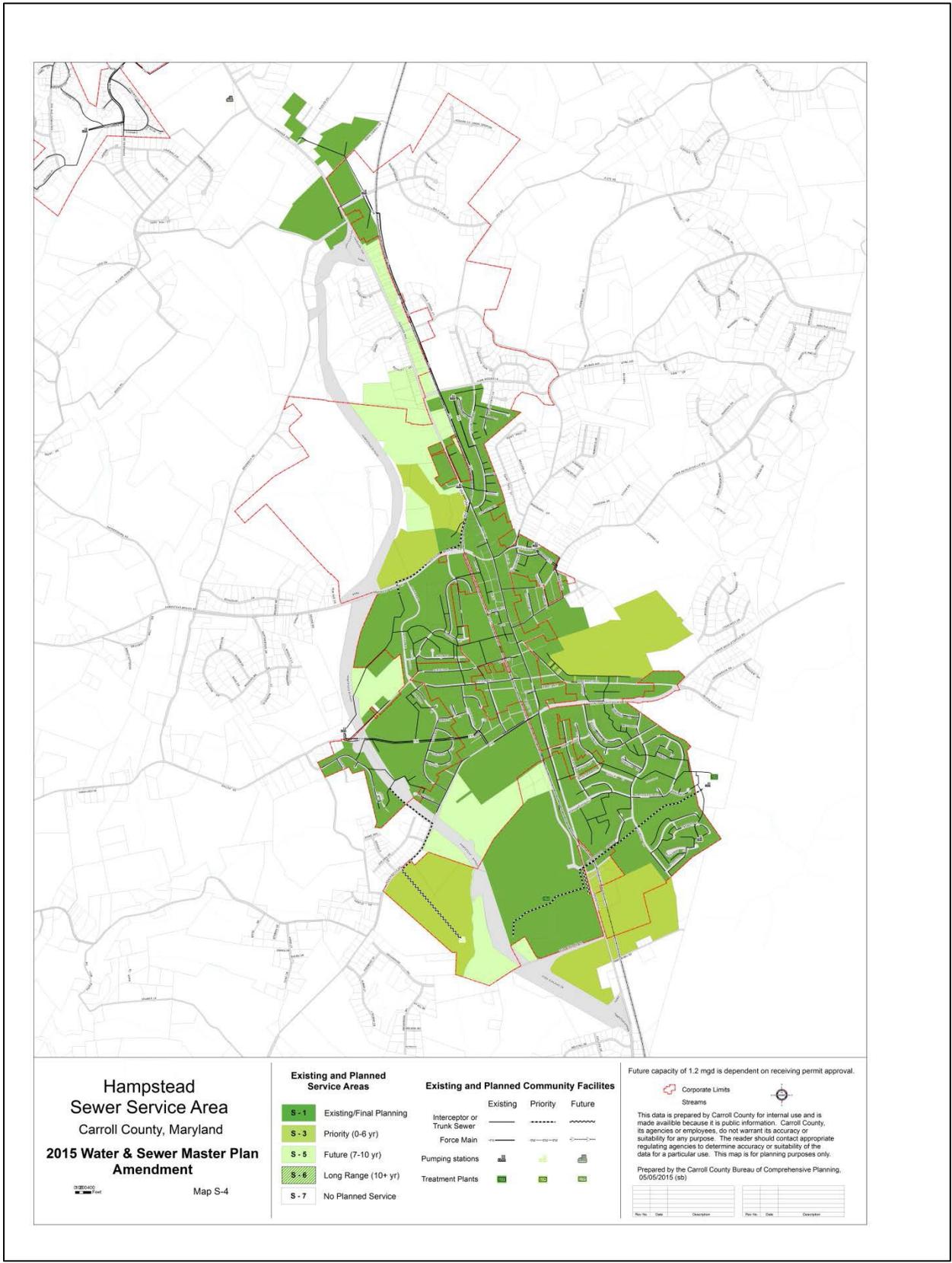
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Projected Sewer Supply Demands and Projected Capacity

The following table summarizes projected sewer demand over the next ten years. It incorporates planned capacity improvements that respond to the demand projections.

Table 32¹																		
Projected Sewerage Demands and Planned Capacity*																		
Service Area	<u>Present Year</u>						<u>Priority Planning</u> (0-6 Year)						<u>Future Planning</u> (7-10 Year)					
	Res. Pop. Ser.¹	G P C D	Capacity Million Gal. Daily (MGD)				Res. Pop. Ser.²	G P C D	Capacity Million Gal. Daily (MGD)				Res. Pop. Ser.³	G P C D	Capacity Million Gal. Daily (MGD)			
			Res. Dem	Oth. Dem	Tot. Dem	Ex. Cap			Res. Dem	Oth. Dem	Tot. Dem	Pl. Cap			Res. Dem	Oth. Dem	Tot. Dem	Pl. Cap
Freedom/Sykesville	17,648	93	1.647	.143	1.790	2.600 ²	26,762	91	2.455	.302	2.757	3.100 ⁶	26,844	91	2.462	.315	2.777	3.100 ⁶
Hampstead	6,342	66	.431	.230	.661	.900	6,971	69	.487	.376	.863	.900	6,971	83	.580	.513	1.093	1.200 ³
Manchester	4,105	68	.274	.079	.353	.500	5,518	73	.400	.095	.495	.545 ⁴	6,187	72	.441	.093	.534	.795 ⁵
Mount Airy ⁶	9,482	73	.595	.165	.760	1.200	9,914	67	.631	.397	1.028	1.200	9,914	68	.631	.397	1.028	1.200
New Windsor ⁷	1,399	39	.054	.009	.063	.115	2,032	48	.095	.014	.109	.115	2,617	52	.136	.103	.239	.230
Taneytown ⁸	6,701	104	.700	.153	.853	1.100	8,018	97	.803	.173	.976	1.100	8,018	95	.803	.173	.976	1.100
Union Bridge	1,042	166	.173	.001	.174	.200	1,507	145	.219	.001	.220	.246	2,200	131	.288	.001	.289	.315
Westminster	23,636	175	4.148	.675	4.823	5.000	24,271	174	4.216	.989	5.205	8.335	25,925	169	4.394	1.07	5.464	8.335

¹ See Appendix 3 Method for Projecting Water Supply and Sewer Demands. Note: Table 32 corresponds with MDE's required Table 32 and is therefore out of sequence with preceding and succeeding table numbers.

² This number represents the Carroll County portion of the capacity

³ The future capacity of 1.2 mgd is dependent on receiving permit approval.

⁴ The WWTP capacity will only increase in Manchester if/when grant funding becomes available

⁵ The WWTP capacity will only increase in Manchester if/when grant funding becomes available

⁶ The Priority calculations are based on the Mount Airy's "pipeline" allocations and were provided to the County by the Town.

⁷ New Windsor's Priority and Future calculations are based on 165 gal per unit for residential demand.

⁸ Mount Airy and Taneytown do not have any properties in the Future Planning Category.