

Table 7: Water Supply Capacity Currently Available for Existing and Future Growth Demand for Each Municipal System (in Gallons per Day)

Community	Current			Remaining Capacity	Unserved Demand			Net Avg Day Capacity Available
	Permitted Avg. Daily Use (gpd)	Avg Day Capacity Limitation	Avg Day Drought Demand ¹		Infill	Priority	Future	
Freedom	4,638,000	6,438,000	2,391,005	4,046,995	624,520	757,540	0	2,664,935
Hampstead	630,000	630,000	505,634	124,366	85,300	182,000	107,300	-250,234
Manchester	581,000	369,360	343,081	26,279	133,500	44,860	13,750	-165,831
Mount Airy ²	833,000	833,000	841,500	-8,500		309,250 ³		-317,750
New Windsor	196,100	78,462	142,545	-64,083	37,850	56,090	169,788	-327,811
Taneytown ²	583,000	563,846	560,057	3,789	45,550	723,950	477,110	-1,242,821
Union Bridge	208,300	49,846	167,385	-117,539	49,200	479,400	235,600	-881,739
Westminster	3,597,000	2,078,462	3,179,000	-1,100,538	469,950 468,700	168,380	450,000	-2,188,868 -2,187,618
Totals	11,266,400	11,040,976	8,130,207	2,910,769	1,444,620 1,445,870⁴	2,412,220⁴	1,453,548⁴	-2,710,119 -2,708,869⁵

¹ Average Day Demand here includes an additional 10% for drought demand

² Demand information was updated, but capacity information represents the period from 2003-2007.

³ Mount Airy's Unserved Demand numbers were aggregated

⁴ Totals for Unserved Demand excludes Mount Airy

⁵ Net Avg Day Capacity includes aggregated Unserved Demand for Mount Airy

"Current" Columns - Source: Carroll County Bureau of Utilities or relevant municipality
Planned Future Demand- Source: Carroll County Bureau of Planning December 2010

Future Additional Water Demand Based on Existing Planned Growth

Table 8 provides estimated future water demand, broken out by planned water service area, for each of the major community (public) water supply systems that operate in the county. Water demand is measured as the average number of gallons of water consumed per day.

"Current Demand" represents actual water usage by currently served residences, businesses, and industries. The "Planned Future Demand" category estimates Infill Demand, Priority Demand, and Future Demand. Infill demand is potential demand for water by properties within the Existing/Final Planning service area that can be developed or redeveloped. Priority and Future Demand numbers represent potential demand for water that could be generated by properties within the Priority or Future service areas. All three categories include the potential water demand of not just new development, but also properties that are developed but do not currently have service. Demand calculations for the "Infill Demand" category are based on the development potential associated with current zoning. Demand calculations for the Priority and Future Demand categories are based on land use designations, which are translated into corresponding zoning categories to derive development potential.

Table 9 presents the same water demand estimates as Table 8, except that demand is indicated by type of land use – residential, commercial, and industrial.

Table 8: Future Water Demand by Service Category for Each Municipal System (Gallons per Day)

Community	Current Demand ¹	Planned Future Demand			Total Demand
		Infill Demand	Priority Demand	Future Demand	
Freedom/Sykesville	2,182,422	624,520	757,540	0	3,564,482
Hampstead	459,677	85,300	182,000	107,300	834,277
Manchester	311,892	133,500	44,860	13,750	504,002
Mount Airy ²	765,000		309,250 ⁴		1,074,250
New Windsor	129,586	37,850	56,090	169,788	393,314
Taneytown ³	509,143	45,550	723,950	477,110	1,755,753
Union Bridge	152,168	49,200	479,400	235,600	916,368
Westminster	2,890,000	<u>469,950</u> <u>468,700</u>	168,380	450,000	<u>3,978,330</u> <u>3,977,080</u>
Countywide Totals	7,399,888	<u>1,445,870</u> <u>1,444,620</u> ⁵	2,412,220 ⁵	1,453,548 ⁵	<u>13,020,776</u> <u>13,019,526</u> ⁶

¹ These data are the greatest annual average daily demand for the 5-year period from 2006 through 2010, except where noted otherwise.

² All Mount Airy numbers reflect the figures adopted in the Water Resources Element and use 2003-2007 data.

³ For Taneytown, Planned Future numbers were revised based on development capacity estimates that were updated to reflect Use & Occupancy certificates issued. However, they do not reflect any changes that may have occurred to zoning. The Current Demand reflects 2003-2007 data.

⁴ Mount Airy's Planned Future Demand numbers were aggregated

⁵ Totals for Planned Future Demand excludes Mount Airy

⁶ Total Demand includes aggregated Planned Future Demand for Mount Airy

Current Demand - Source: Carroll County Bureau of Utilities or relevant municipality
Planned Future Demand- Source: Carroll County Bureau of Planning December 2010

Table 9: Future Water Demand by Land Use for Each Municipal System (Gallons per Day)

Community	Current Demand ¹	Additional Demand by Land Use			Total Demand
		Residential	Commercial	Industrial	
Freedom/Sykesville	2,182,422	740,000	27,580	614,480	3,564,482
Hampstead	459,677	182,000	23,800	168,800	834,277
Manchester	311,892	176,500	15,610	0	504,002
Mount Airy ²	765,000		309,250 ⁴		1,074,250
New Windsor	129,586	133,750	6,538	123,440	393,314
Taneytown ³	509,143	718,250	99,400	428,960	1,755,753
Union Bridge	152,168	348,500	30,100	385,600	916,368
Westminster	2,890,000	<u>637,750</u> <u>636,500</u>	68,180	382,400	<u>3,978,330</u> <u>3,977,080</u>
Countywide Totals	7,399,888	<u>2,936,750</u> <u>2,935,500</u> ⁵	271,208 ⁵	2,103,680 ⁵	<u>13,020,776</u> <u>13,019,526</u> ⁶

¹ These data are the greatest annual average daily demand for the 5-year period from 2006 through 2010, except where noted otherwise.

² Mount Airy numbers use figures adopted in the Water Resources Element and 2003-2007 data.

³ For Taneytown, Planned Future numbers were revised based on development capacity estimates that were updated to reflect Use & Occupancy certificates issued. However, they do not reflect any changes that may have occurred to zoning. The Current Demand reflects 2003-2007 data.

⁴ Mount Airy's Additional Demand numbers were aggregated

⁵ Totals for Additional Demand by Land Use excludes Mount Airy

⁶ Total Demand includes aggregated Additional Demand for Mount Airy

Current Demand – Source: Carroll County Bureau of Utilities or relevant municipality

Planned Future Demand - Source: Carroll County Bureau of Planning, end of year December 2010

Westminster Water Service Area

The City of Westminster owns and operates the community water supply system serving the City and areas beyond the corporate limits. The existing and planned service area is located in central Carroll County and covers approximately 7,704,7689 acres.

The water system, which dates back to 1898, was purchased by the City of Westminster in 1964 from the Maryland Water Works Company.

Tables in this section address water supply capacity currently available (Table 19A), water appropriations (Table 19B), water supply system components (Table 19C), water problem areas (Table 19D), future water supply demand (Table 11E), and planned public water projects (Table 19F) as they relate to the Westminster Water Service Area.

Current Conditions

**Table 19A: Water Supply Capacity Currently Available (Gallons per Day)
Westminster**

Current			Remaining Capacity	Unserviced Demand			Net Avg Day Capacity Available
Permitted Avg. Daily Use (gpd)	Avg Day Capacity Limitation	Avg Day Drought Demand ¹		Infill	Priority	Future	
3,597,000	2,078,462	3,179,000	-1,100,538	<u>469,950</u> <u>468,700</u>	168,380	450,000	<u>-2,188,868</u> <u>-2,187,618</u>

¹ Average Day Demand here includes an additional 10% for drought demand

"Current" Columns - Source: Town of Westminster 2006-2010

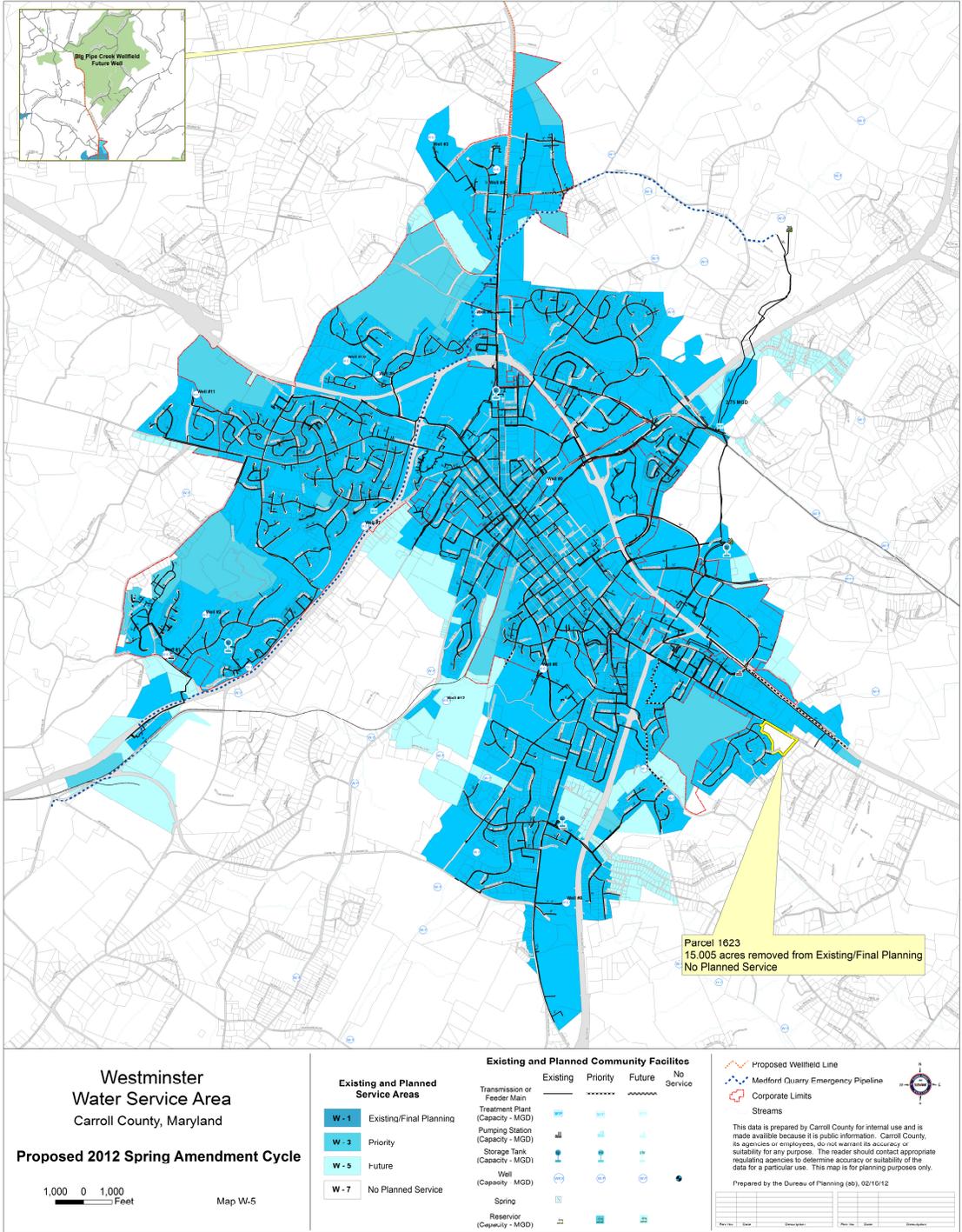
Planned Future Demand- Source: Carroll County Bureau of Planning December 2010

The City relies on both ground and surface water for its potable supply. A major source of surface water is Cranberry Branch, a tributary of the West Branch of the Patapsco River. Cranberry Reservoir is located north of Lucabaugh Mill Road. From that point, a 30-inch transmission line runs for approximately 7,500 feet along the Cranberry Branch to the water treatment plant at Cranberry. In the same vicinity, the City also extracts surface water from the West Branch of the Patapsco River, also known as Hull Creek. A small impoundment and an infiltration gallery are located in Bennett Cerf Park and a 14-16 inch transmission line allows for gravity flow to the

water treatment plant at Cranberry. The City has an appropriations permit to withdraw 1.838 mgd from these two sources combined.

An important addition to the City's water system was the construction of an emergency water supply pipeline, utilizing water from the nearby Medford Quarry to supplement the Cranberry system, which consists of the entire system with exception to Wakefield Valley, during drought conditions. The pipeline became operational in 2009 and Medford Quarry is permitted during the month of maximum use at 655,000 gpd for emergency supply only. The approximately seven mile pipeline varies in size from 12-16 inches and directly connects Medford Quarry with the City's Cranberry Reservoir.

Map 19



Medford Quarry Pipeline was constructed with a larger diameter pipe in the vicinity of Magna Way, so it can handle increased flows from the Big Pipe Creek pipeline when that pipeline interconnects with it at some time in the future.

Since the streams that supply the City's surface water system eventually supply Liberty Reservoir, low stream flow below 0.85 cubic feet per second (cfs), or 0.56 mgd at the gauging station, which is located on Old Manchester Road, requires augmentation. This is accomplished by pumping water from the Koontz Creamery well into a third tributary until the gauge exceeds 1.62 cfs (1.05 mgd). The City purchased the Koontz Creamery well in 1974 in order to meet increasing demands on the City's water supply sources. However, the Koontz Creamery well is not connected directly into the City's potable water system due to the presence of hydrocarbons. Since the City was approaching maximum withdrawals possible from Cranberry Branch and Hull Creek, and in order to maintain a stipulated minimum stream flow, the State agreed to the supplementation procedures noted above. This pumping has been permitted under a State-approved discharge permit. The mixing, dilution and aeration of the Koontz Creamery well water enables dissipation of the pollutants.

The City has continually worked to develop groundwater supplies. To date, there are 11 wells that have been developed and are operational. The City also has two wells (Wells #1 and #2) located within Wakefield Valley, an area within the corporate limits of Westminster along MD Route 31. The entire Wakefield Valley area, plus the portion extending beyond the City limits, is underlain with Wakefield Marble, which is the most prolific aquifer in the County. While the Wakefield Valley water system was once a satellite system to the City's main Cranberry water system, they are now tied together. With the systems connected, the Wakefield Valley water system can be served by the Cranberry water system in the event of any problems with Wells 1 and 2 or the Wakefield Valley Water Storage Tank.

In 2009, the City completed construction and brought into service a new Cranberry Water Treatment Plant, located adjacent to the City's original water treatment plant on Old Manchester Road. The new treatment plant utilizes submerged membrane technology that enhances the City's ability to provide quality drinking water and to comply with regulations known as the Long Term 2 Enhanced Surface Treatment Rule (LT2 Rule). The major objective of the rule is to increase protection against microbial pathogens in drinking water, including Cryptosporidium.

The new Cranberry Water Treatment Plant has a design capacity of 2.75 mgd, with the possibility for efficient expansion of up to 3.5 mgd. The plant's capacity could be further increased to 5.0 mgd by adding membrane racks into existing tanks. The new treatment plant treats water from the same two surface sources as the old plant.

Fluoridation is provided at all of the City's wells. Some of the wells also include filtration facilities and other treatment processes at the wellhead, as required.

**Table 19B: Community Water System Sources – Appropriations
Westminster**

6-Digit Watershed	Water Source	Permit Number	Permitted Daily Average Use (gpd)	Average Day Demand Month of Maximum Use (gpd)
Middle Potomac	Cranberry Water Treatment Plant	CL1957S002 (07)	1,838,000	3,000,000
Middle Potomac	Koontz Well John Street (for stream augmentation only)	CL1977G036 (06)	500,000	750,000
Patapsco	Air Business Center (Well # 4)	CL1977G136 (04)	85,000	111,000
Middle Potomac	County Maintenance Facility (Well # 3)	CL1977G236 (04)	85,000	111,000
Middle Potomac	South Center Street (Well #6)	CL1977G336 (03)	85,000	111,000
Patapsco	Krider's Church Road (Well # 5)	CL1977G436 (03)	215,000	280,000
Middle Potomac	Wakefield Valley (Wells 1 & 2)	CL1977G536 (03)	207,000	269,000
Middle Potomac	Carfaro (Well 7)	CL1977G636 (04)	233,000	303,000
Patapsco	Vo-Tech (Well 8)	CL1977G736 (03)	119,000	155,000
Middle Potomac	Koontz Property (Wells 9 & 10)	CL1977G836 (02)	95,000	124,000
Middle Potomac	Roop's Mill (Well 11)	CL2000G025 (02)	135,000	176,000
Middle Potomac	Gesell (Well 12) (not in use)	Permit Pending	Permit Pending	Permit Pending
Total Available			3,597,000	5,390,000
Note: Medford Quarry (Emergency Source)		CL2002G042 (03)	162,000	655,000

The Cranberry Reservoir, with a capacity of 115.0 mg, is located along Cranberry Branch north of Lucabaugh Mill Road. Water in the impoundment is pumped from either a raw water intake on Cranberry Branch or from Medford Quarry thru an emergency pipeline. The intent of the City is to maintain the Reservoir in a full and ready state, regardless of drought or reduced stream flow. The 30-inch transmission line from the water intake to the Cranberry Water Treatment Plant also connects the Raw Reservoir to the treatment plant. The water in the Reservoir is used either when conditions prevent direct withdraw from the stream or to supplement low stream flow.

Treated water is pumped to, and stored in, five locations:

1. Clear Water reservoir off of Gorsuch Road, with a capacity of 1.0 mgd
2. 1.5-mg water tank off Hook Road
3. 0.5-mg elevated water tank on the McDaniel College campus
4. 2.0-mg high zone water tank located off Gorsuch Road
5. 2.0-mg storage tank off of Sawgrass Court in Wakefield Valley

The Bramble Hills community water system, which serves approximately 12 lots and consists of 5.4 acres containing a well, well house, and wellhead protection

area, is being incorporated into the Westminster Water Service Area with this update of the Water & Sewer Master Plan. Once the Gesell well is in service, the community and its well will be connected to the system. This area previously had been in the Future Water Service Area for Westminster.

**Table 19C: Inventory of Water Sources, Treatment Plants, and Distribution Systems
Westminster**

Water Source	Storage Capacity	Max. Safe Yield (Mgd)	Avg. Daily Use (Mgd)	Max. Peak Flow (Mgd)	WTP Capacity
Cranberry Water Treatment Plant	-	3.0	1.8	2.67	2.75
Wells 1 and 2 - Wakefield	-	(1 & 2) .250	(1 & 2) .183	(1 & 2) .348	.197
Well 3 - County Maintenance	-	.120	.085	.098	.100
Well 4 - Air Business Center	-	.180	.072	.185	.170
Well 5 - Krider's Church Road	-	.300	.158	.447	.230
Well 6 - South Center Street	-	.115	.105	.102	.100
Koontz Creamery Well (John Street)	(used for stream flow augmentation only)	.750	.255	.439	.500
Well 7 - Carfaro	-	.350	.130	.189	.300
Well 8 - Vo-Tech	-	.288	.082		.119
Wells 9 and 10 - Koontz Property	-	.150	.080	.150	.125
Well 11 - Roop's Mill	-	0.135	Not In Use	0.187	n/a
Raw Reservoir at Cranberry (Lucabaugh Mill Road)	125.0 mg	-	-	-	-
Wakefield Valley Water Storage Tank	2.0 mg	-	-	-	-
Clear Reservoir	1.0 mg	-	-	-	-
McDaniel College Water Tank	0.5 mg	-	-	-	-
Hook Road Water Tank	1.5 mg	-	-	-	-
Gorsuch Road High Zone Water Tank	2.0 mg	-	-	-	-
Hook Road Booster Station	-	-	-	-	-
High Zone Booster Station	-	-	-	-	-

**Table 19D: Inventory of Water Problem Areas
Westminster**

Location	Population	Nature of Problem	Status
Old Manchester Road, Cranberry	54	Number of wells are located in the basement, and others too close to the house	Connection to Westminster community water system (W-5 category)
Well #8 (VoTech well)	n/a	High nitrates and radon	Nitrates have been removed and there are efforts in place to remove the radon

Allocation Procedure

Adequate public facilities certification is required for water system capacity at the preliminary and final development plan approval stages.

In order to comply with the current MDE consent order, the City regulates water for new projects through a water allocation policy. Each new project must

obtain a water allocation to move forward. It is anticipated that the water allocation policy will continue in the City after the consent order is lifted. At present, there is a long list of projects waiting for water. It is anticipated that future development projects will be required to implement sustainable techniques such as water conservation efforts and minimal usage standards be followed to ensure the most effective and efficient use of the City's precious water supplies. Upon approval of the consent order, MDE authorized the City to allocate 60,000 gpd of the 139,000 gpd of available water in accordance with an interim Allocation Policy. MDE has since authorized the release of the remaining 79,000 gpd. The final release occurred in late 2010.

The City compared water availability limitations for the Westminster's service area to current demands and development projections. Due to current limits on water supply, limited growth has been projected. In order to satisfy the MDE consent order, development in the City regulated the allocation policy, creating a prioritized "waiting list" for available water supplies. This process gives the City control over new connections on a project-by-project basis. Due to the use of the allocation policy, the City is considering only very limited changes to the land use plan, Growth Area Boundary, and water/sewer service areas. The City is continuing to evaluate options for more efficient use of existing resources, as well as development of new water resources to accommodate projected growth.

Westminster's water service area presently extends outside its corporate limits. In August 2002, the Mayor and Common Council adopted Good Cause Waiver legislation for the extension of public water and sewer outside the corporate limits. That legislation requires new or redevelopment projects to be in compliance with the Town-County Agreement, which stipulates that for property contiguous to the corporate limits, the owner must initiate annexation of the property into the City in order for the property to be served. If the property does not meet the test for annexation, the owner must file a Good Cause Waiver application with the City. In order for the Mayor and Common Council to approve a Good Cause Waiver, the property must be identified as W-1 or W-3 in the Carroll County Master Plan for Water and Sewerage. If approved, the applicant must also execute an "Intent to Annex" agreement. Thereafter, the applicant must also obtain a water allocation from the City. These procedures provide control over the extension of City utilities outside the City limits.

Needs Analysis

**Table 19E: Water Supply Demand (Gallons per Day)
Westminster**

Current Demand ¹	Planned Future Demand ²			Total Demand
	Infill Demand	Priority Demand	Future Demand	
2,890,000	469,950 468,700	168,380	450,000	3,978,330 3,977,080
Current Demand ¹	Additional Demand by Land Use			Total Demand
	Residential	Commercial	Industrial	

2,890,000	637,750 636,500	68,180	382,400	3,978,330 3,977,080
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¹ These data are the greatest annual average daily demand for the five-year period from 2006 through 2010.

² These data relate to areas located within the designated planned water service area. Infill demand is calculated for areas classified in the "Existing/Final Planning" service category.

Current Demand - Source: City of Westminster 2006-2010

Planned Future Demand- Source: Carroll County Bureau of Planning December 2010

The WRE identified the following potential water sources for Westminster:

- Union Mills Reservoir
- Surface water intake on Little Pipe Creek
- Finished water purchase from City of Baltimore
- Groundwater

(See discussion on these sources in the Regional Facilities Section of this plan.)

Based on the service areas depicted in this plan, it is projected that demand could exceed current capacity by ~~2,188,868~~ 2,187,618 gallons per day. In recognition of this, the City will continue to explore for new water sources.

As part of the Water Conservation Plan, the City is trying to decrease their amount of unaccounted water. The City received Federal Stimulus money to upgrade its water meters to a fully automated system. They are participating in programs for leak detection and analysis. However, they are still working to get their water loss between 10-15%.

As of December 2010, the drought of record deficit is 122,000 gpd. In order for the City's drought of record deficit to be completely eliminated, the Gesell Well will need to become fully operational or other alternatives implemented to eliminate the deficit.

The average day permitted use of all sources currently in use is 3,597,000 mgd. Recent history indicated that the City was not able to sustain these yields under drought conditions. The City's plan to construct the Medford Quarry emergency pipeline to overcome the lack of a sustainable supply of water caused the City to prepare the 2006 Water Supply Capacity Management Plan, as required by the Maryland Department of the Environment (MDE), which ultimately led to the approval of a consent order between the City of Westminster and MDE in 2007. The consent order required the City to:

- Complete the Medford Quarry pipeline and the Roop's Mill well projects
- Implement a water loss reduction plan and a water conservation plan, and plan for water hauling (if necessary)
- Eliminate the 0.797 mgd "drought of record" deficit

The Medford Quarry pipeline and the Roop's Mill well projects were both completed in 2009. When the Medford Quarry pipeline and the Roop's Mill well became operational, the 0.797 mgd drought of record deficit was reduced by 0.675 mgd. A water loss reduction plan and a water conservation plan were put in place with the Consent Order.

The water allocation to residential, industrial, and commercial users is controlled by the City's Planning Department through the Interim Water Allocation Plan. The City has had discussion with property owners regarding the Interim Water Allocation Plan and the associated priorities. Additional growth beyond the allocated water will be dependent upon new water sources. The City has received requests under its water allocation program exceeding 282,000 gpd as of April 1, 2011. Additionally, it is estimated that could increase by approximately 50,000 gpd each year until buildout. Additional sources are needed to allow the City to support projects related to economic development and related areas.

The City has not lost sight of its future beyond the water supply solutions outlined in the May 2008 Water Supply Capacity Management Plan and those solutions referenced above. Even considering the Big Pipe Creek well field development project as Phase 1, there still needs to be cooperation amongst Carroll County and regional planning agencies for Phases 2 and 3 of the Big Pipe Creek project. Phase 2 is an intake on Big Pipe Creek with an inline reservoir, while Phase 3 is the construction of an impoundment, also known as the Union Mills Reservoir.

Consistency with Comprehensive Plan

The City of Westminster prepared and adopted its own Water Resources Element as part of the City's 2009 Comprehensive Plan. The plan contains recommendations to provide for additional water supply over the next 20 years. It includes the following major projects:

1. Roop's Mill well – this project is complete and operational, providing 20,000 gpd of “new” water and reducing the drought of record deficit by a like amount
2. Roop's Mill well recharge – The City has approved two agreements that are pending with Carroll County for the Woodward and Hull properties that could allow for the Roop's Mill well permit to be increased by approximately 82,000 gpd
3. Gesell well – the City began design work with an anticipated permit amount of approximately 330,000 gpd, to be completed in conjunction with the companion Little Pipe Creek intake project
4. Big Pipe Creek well field development – the City is working with Carroll County to develop and permit 500,000 gpd in new groundwater resources and construct the connection pipeline to Westminster by 2015

Planned Projects and Recommendations

**Table 19F: Planned Public Water Projects
Westminster**

Project Name	Planning Category	Description	Location
New Water Storage Tank	Priority (W-3)	Construct additional water storage tank to boost supply and pressures	Downtown Westminster area
Additional Well	Priority (W-3)	Develop a new water supply well	Westminster area

**Table 19F: Planned Public Water Projects
Westminster**

Project Name	Planning Category	Description	Location
Well 12 (Gesell)	Priority (W-3)	Complete testing and put into service	Route 27 near the Carroll County Agricultural Center
Main Street Water Main	Priority (W-3)	Upgrade existing line to 12" water main	Main St. from Longwell Ave. to Penn Ave.
Water Treatment Plant Supply Main	Priority (W-3)	Renovate 30" water transmission line	Supply line from raw reservoir to Water Treatment Plant at Cranberry
Park Avenue Water Main	Priority (W-3)	Replace two 4" waterlines with 6" water main	Park Avenue from W. Green St. to W. George St.
Winters Street Water Main	Priority (W-3)	Replace existing lines with 6" water main	Winters St. from Railroad Ave. to John St.
Hollow Rock Rd. and City View Rd. Water Main	Priority (W-3)	Replace 2" waterline with 6" water main in both streets and create a loop in the system	Hollow Rock Rd. from Liberty St. to end and City View Ave. from Hollow Rock Rd. to Goodwin Quarry Rd.
Gorsuch Rd. Water Main	Priority (W-3)	Install 4" Water Main	Gorsuch Rd. from Manchester Rd. to MD 140
Interzone Main	Priority (W-3)	Design and construct a water main connecting various water zones in the service area	MD 140 area
Ridge Road Water Main	Priority (W-3)	Design and construct an 8" and 6" water main as a replacement for an old 2" and 4" main	Old New Windsor Rd. to Westmoreland St. to the dead end of the line on Ridge Road
Sophia Ave. Water Main	Priority (W-3)	Design and construct an 8" ductile iron water main, replaces existing asbestos concrete pipe	Fairfield Ave. to Gist and Washington Roads
W. George St. Water Main	Priority (W-3)	Design and construct 4" water main	W. George Street to Chase St.
Ralph and Church St. Water Main	Priority (W-3)	Install a water main in Ralph St. and Church St.	Ralph St. to Charles St. and from Church St. to Charles St.
John St. Water Main Replacement	Priority (W-3)	Design and construct 6" water main replacement	John St. between W. Main St. and Winters Alley
James St. Water Main Replacement	Priority (W-3)	Design and construct 6" water main replacement	James St. from Kemper Ave. to the alley
MD 140 Parallel Water Main	Priority (W-3)	Construction of parallel main to equalize pressure and improve system operations	MD 140 corridor
Increased Reservoir Surface Elevation	Priority (W-3)	Increase capacity of reservoir by increasing the water surface elevation	Cranberry Reservoir
Interzone Main	Priority (W-3)	Connect zones with a new 12 inch main to enhance operations	Poole Road vicinity
Radon and Nitrate Removal	Priority (W-3)	Removal of contaminants to comply with drinking water regulations	Vo-Tech well
MD 27 Water Main	Priority (W-3)	Replace existing main with a new 16 inch DIP main to reduce breaks	MD 27 corridor
West Green Street Water Main	Priority (W-3)	Installation of a new main as part of road reconstruction	Green Street
Bramble Hills Community and Well	Priority (W-3)	Connect the community and well into the Westminster community	Hook Road, Bramble Hill Drive, Brooke Drive off MD 27

**Table 19F: Planned Public Water Projects
Westminster**

Project Name	Planning Category	Description	Location
		water system	
Big Pipe Creek Pipeline/ Well Field	Priority (W-3)	Design and construct a pipeline from Union Mills to the City of Westminster and develop well field to augment existing sources	Union Mills to Westminster along MD Route 97
New Water Supply	Priority (W-3)	Study and develop a new water source	Westminster area
Little Pipe Creek Intake	Priority (W-3)	Design and construct intake near City's WWTP to supplement Gesell Well	MD Route 31 and Old New Windsor Road
Big Pipe Creek Inline Reservoir Project	Priority (W-3)	Design and construct Phase 2 of Big Pipe Creep project to add intake and inline reservoir	Union Mills and MD Route 97 area
Big Pipe Creek Reservoir	Priority (W-3)	Design and construct Phase 3 of Big Pipe Creek project to impoundment	Union Mills and MD Route 97

Long-Term Recommendations

- ◆ Implement a system to track water demand for all known and potential development projects by modifying the allocation plan to give priority allocation status to projects that demonstrate significantly reduced water demand through the use of water conservation measures.
- ◆ Drill and develop additional groundwater wells (based on the average MDE appropriation of existing Westminster wells) to meet projected additional demand within the service area.
- ◆ Maintain long-term options for using regional water supply sources including Baltimore City.