

THOMPSON & LITTON  
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In Association with



**LANE  
ENGINEERING, INC.**

**Phase I Development  
of the  
LENOWISCO  
Water Supply Plan**

*T&L Project No.: 8774-03*

*October 2007*

PHASE I DEVELOPMENT  
OF THE  
LENOWISCO WATER SUPPLY PLAN

PREPARED FOR  
LENOWISCO PLANNING DISTRICT COMMISSION

WITH FINANCIAL ASSISTANCE FROM  
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY



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## INTRODUCTION

“The Commonwealth of Virginia is rich in water resources, both in terms of number and diversity. However, as the impacts of the recent drought have demonstrated this resource cannot be taken for granted. The Commonwealth and its localities must work together to manage and protect our water resources to meet long term human and environmental needs. Improved coordination of drought response and water resources management activities at the local, regional and state levels are essential to guaranteeing the adequacy of Virginia’s water supplies to meet the current and future needs of Virginia’s citizens in an environmentally sound manner.

The Code of Virginia, as amended by Senate Bill 1221 in 2003 (Section 62.1-44.38:1), requires the development of a comprehensive statewide water supply planning process to (1) ensure that adequate and safe drinking water is available to all citizens of the Commonwealth, (2) encourage, promote, and protect all other beneficial uses of the Commonwealth's water resources, and (3) encourage, promote, and develop incentives for alternative water sources, including, but not limited to, desalinization. In addition, the amended Code Section provides that local or regional water supply plans shall be prepared and submitted to the Department of Environmental Quality in accordance with criteria and guidelines developed by the Board. Such criteria and guidelines shall take into account existing local and regional water supply planning efforts and requirements imposed under other state or federal laws. The Local and Regional Water Supply Planning Regulation (9 VAC 25-780) was developed to implement the mandates of this section of the Code.”<sup>A</sup>

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<sup>A</sup> Virginia Department of Environmental Quality, Water Supply Planning Program, <http://www.deq.state.va.us/watersupplyplanning/>, April 2007

In order to begin addressing long-term water supply planning in the LENOWISCO planning area and in order to begin compliance with the aforementioned regulation, the LENOWISCO Planning District Commission commissioned Thompson & Litton, in association with Lane Engineering to prepare the Phase I Development of the LENOWISCO Water Supply Plan. Phase I Development of the plan includes identification of existing water sources available to the planning area and the existing water use within the planning area. The planning area includes the Counties of Lee, Wise and Scott, the City of Norton and the Towns of Jonesville, Pennington Gap, St. Charles, Appalachia, Big Stone Gap, Coeburn, Pound, St. Paul, Wise, Clinchport, Duffield, Dungannon, Gate City, Nickelsville and Weber City. The planning area lies within the Tennessee River Basin.

## PURPOSE AND SCOPE

The purpose of the Phase I Development of the LENOWISCO Water Supply Plan is to identify the existing water sources available to the planning area and the existing water use within the planning area pursuant to the requirements of the Department of Environmental Quality (DEQ) Local and Regional Water Supply Planning Regulations 9 VAC 25-780-70 and 9 VAC 25-780-80. Existing water sources and existing water use in Scott County, including the Towns of Clinchport, Duffield, Dungannon, Gate City, Nickelsville and Weber City, and the City of Norton are addressed by Thompson & Litton and existing water sources and existing water use in Wise County, including the Towns of Appalachia, Big Stone Gap, Coeburn, Pound, St. Paul, and Wise, and Lee County, including the Towns of Jonesville, Pennington Gap and St. Charles, are addressed by Lane Engineering.

## EXISTING WATER SOURCES

Existing water sources available to the planning area are identified in this section by the criteria established in the water supply planning regulations. Each source identified is listed below in the respective source category. Detailed information regarding each source is provided in Appendix A along with an exhibit depicting the location of the community water sources.

### *Community Water Sources, Groundwater (By County/City) (9 VAC 25-780-70 B)*

#### Scott County (Water System – Source)

Town of Nickelsville – Wells #1, #3, #4, #5 and #6

Town of Dungannon – Wells #1 and #2

Town of Clinchport – Wells #1 and #3

East Carters Valley (ECV) (Scott County PSA) – Lynn Mar Well

#### Lee County (Water System – Source)

Harvest Baptist Childcare Ministries – Well

Town of Jonesville – Wynn Spring

Lee County (Lee County PSA) – Blue Spring and KVS Quarry

#### Wise County (Water System – Source)

Dunbar (Wise County PSA) – Well

Town of Coeburn – Jenny Mine

Town of Wise – White Oak Mine Well

*Community Water Sources, Surface Water Reservoir (By County/City) (9 VAC 25-780-70 C)*

City of Norton (Water System – Source)

City of Norton – Upper and Lower Reservoirs

Wise County (Water System – Source)

Town of Appalachia – Ben’s Branch Reservoir

Town of Big Stone Gap – Big Cherry Reservoir

Town of Wise – Wise Reservoir

Town of Pound – Pound Reservoir

*Community Water Sources, Surface Water Intakes (By County/City) (9 VAC 25-780-70 D)*

Scott County (Water System – Source)

Duffield (Scott County PSA) – North Fork Clinch River and Spurlock Branch

Moccasin Gap (Scott County PSA) – Big Moccasin Creek

Town of Gate City – Big Moccasin Creek

City of Norton (Water System – Source)

City of Norton – Benges Branch and Robinette Branch

Wise County (Water System – Source)

Town of St. Paul – Clinch River

Wise County Regional (Wise County PSA) – Clinch River

Town of Pennington Gap – Powell River

*Surface Water Sources, Non-Agricultural Self-Supplied Users, More Than 300,000 Gallon/Month (By County/City) (9 VAC 25-780-70 E)*

No Known

*Groundwater Sources, Non-Agricultural Self-Supplied Users, More Than 300,000 Gallon/Month (By County/City) (9 VAC 25-780-70 F)*

No Known

*Water for Purchase from Outside the Planning Area<sup>A</sup> (By County/City) (9 VAC 25-780-70 G/H)*

Scott County (Water System – Source)

- East Carters Valley (ECV) (Scott County PSA) – Bloomingdale Utility District
- East Carters Valley (BUD) – Bloomingdale Utility District
- Spring Valley Subdivision (BUD) – Bloomingdale Utility District
- Boozy Creek (Scott County PSA) – Bloomingdale Utility District
- Cove Creek (Scott County PSA) – Washington County Service Authority

Lee County (Water System – Source)

- Lee County (Lee County PSA) – Arthur Shawanee Utility District

*Agricultural Self-Supplied Users, More Than 300,000 Gallon/Month (By County/City) (9 VAC 25-780-70 I)*

No Known

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<sup>A</sup> Considers only the water available for purchase from sources external to the planning area and in which the purchase agreements represent contractually committed water quantities. Therefore, water available for purchase from within the planning area and the “as available” type purchase agreements have been excluded from consideration.

*Groundwater Sources, Self-Supplied Users, Less Than 300,000 Gallon/Month<sup>A</sup> (By County/City)  
(9 VAC 25-780-70 J)*

Scott County – 4,130 Residential, 20 Non-residential

Wise County - 4,400 Residential

Lee County - 2,300 Residential

*Source Water Assessment Plans/Wellhead Protection Programs Findings and  
Recommendations Summary (9 VAC 25-780-70 K)*

No Known

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<sup>A</sup> The estimated number of self-supplied users has been determined by subtracting the number of connections reportedly served by community water systems from the total number of reported housing units and business establishments in each county/city.

## EXISTING WATER USE

Existing water use within the planning area is identified in this section by the criteria established in the water supply planning regulations. Water use by county/city for each respective category is listed below. Detailed information regarding existing water use is provided in Appendix C.

*Existing Water Use, Community Water Systems (Excluding Sales to Systems Within Planning Area) (By County/City) (9 VAC 25-780-80 B)*

### Scott County

Total Estimated Number of Connections – 5,828

Total Estimated Population Served – 12,537

Total Estimated Annual Water Use – 446.4 Million Gallons

Estimated Annual Residential Water Use – 236.1 Million Gallons

Estimated Annual Non-residential Water Use – 67.0 Million Gallons

Estimated Annual Water Production Use – 44.7 Million Gallons

Estimated Annual Unaccounted Water Loss – 98.6 Million Gallons

City of Norton

Total Estimated Number of Connections – 2,260

Total Estimated Population Served – 4,680

Total Estimated Annual Water Use – 372.1 Million Gallons

Estimated Annual Residential Water Use – 78.2 Million Gallons

Estimated Annual Non-residential Water Use – 78.6 Million Gallons

Estimated Annual Water Production Use – 27.9 Million Gallons

Estimated Annual Unaccounted Water Loss – 187.4 Million Gallons

Wise County

Total Estimated Number of Connections – 13,271

Total Estimated Population Served – 36,120

Total Estimated Annual Water Use – 1,858.2 Million Gallons

Estimated Annual Residential Water Use – 642.8 Million Gallons

Estimated Annual Non-residential Water Use – 309.6 Million Gallons

Estimated Annual Water Production Use – 73.2 Million Gallons

Estimated Annual Unaccounted Water Loss – 832.6 Million Gallons

Lee County

Total Estimated Number of Connections – 7,043

Total Estimated Population Served – 19,621

Total Estimated Annual Water Use – 657.0 Million Gallons

Estimated Annual Residential Water Use – 262.4 Million Gallons

Estimated Annual Non-residential Water Use – 104.4 Million Gallons

Estimated Annual Water Production Use – 44.4 Million Gallons

Estimated Annual Unaccounted Water Loss – 245.8 Million Gallons

*Non-Agricultural Self-Supplied Users, More Than 300,000 Gallon/Month, Within the Service Area of Community Systems (By County/City) (9 VAC 25-780-80 B 6)*

No Known

*Agricultural Self-Supplied Users, More Than 300,000 Gallon/Month, Within the Service Area of Community Systems (By County/City) (9 VAC 25-780-80 B 7)*

No Known

*Self-Supplied Users, Less Than 300,000 Gallon/Month, Within the Service Area of Community Systems (By County/City) (9 VAC 25-780-80 B 8)*

Scott County

Estimated Annual Water Use – 47.0 Million Gallons

Wise County

Estimated Annual Water Use – 21.5 Million Gallons

Lee County

Estimated Annual Water Use – 38.6 Million Gallons

*Non-Agricultural Self-Supplied Users, More Than 300,000 Gallon/Month, Outside the Service Area of Community Systems (By County/City) (9 VAC 25-780-80 C)*

No Known

*Agricultural Self-Supplied Users, More Than 300,000 Gallon/Month, Outside the Service Area of Community Systems (By County/City) (9 VAC 25-780-80 D)*

No Known

*Self-Supplied Users, Less Than 300,000 Gallon/Month, Outside the Service Area of Community Systems (By County/City) (9 VAC 25-780-80 E)*

Scott County

Estimated Annual Water Use – 149.0 Million Gallons

Wise County

Estimated Annual Water Use – 163.3 Million Gallons

Lee County

Estimated Annual Water Use – 58.0 Million Gallons

**APPENDIX A**

**GENERAL INFORMATION WORKSHEET**

Virginia Department of Environmental Quality  
Division of Water Resources

Office of Water Supply Planning

## LENOWISCO WATER SUPPLY PLAN

Calendar Year 2008

Completed By:

Signature:

Lead Agency:

Date:

Local Plan

Regional Plan

### SECTION 1: GENERAL INFORMATION

1	Political Locality(s):	LENOWISCO Planning District (Lee County, City of Norton, Wise County, Scott County)
2	River Basin(s)	Tennessee
3	River Sub-Basin(s):	Powell, Clinch, Holston
4	Population (Plan Total):	92,322 (U.S. Census Bureau 2005 estimate)
5	Contact Name:	Lou Ann Johnson, LENOWISCO Planning District Commission
6	Title:	Regional Planner II
7	Mailing Address:	P.O. Box 366, 6913 Duff-Pat Road
8	City:	Duffield
9	State:	Virginia
10	Phone:	(276) 431-2206
11	Fax:	(276) 431-2206
12	E-mail:	ljohnson@lenowisco.org
13	Locality FIPS Code(s):	LENOWISCO - 017, Lee County - 105, City of Norton - 720, Wise County - 195, Scott County - 169

**APPENDIX B**

**EXISTING WATER SOURCE WORKSHEETS**

**SECTION 2A: EXISTING WATER SOURCE INFORMATION - COMMUNITY WATER SOURCES USING GROUNDWATER (9 VAC 25-780-70 B)**

1			2	3	4	5		6	7		8	9	
Well or Spring Name	Associated Water System	County/ City	Well Identification Number	Well Depth (feet)	Casing Depth (feet)	Screen Depth (feet) or Water Zones		Well Diameter (inches)	Design Capacity for Withdrawal (MGD)		VDH Permitted System Capacity (MGD)	Groundwater Withdrawal Permit Amount (GWWP) (MGD)	
						a. Top	b. Bottom		a. Average Daily	b. Maximum Daily		a. Annual	b. Monthly
Well #1 Well #3 Well #4 Well #5 Well #6	Town of Nickelsville Town of Nickelsville Town of Nickelsville Town of Nickelsville Town of Nickelsville	Scott County	WL001 WL003 WL004 WL005 WL006	326 517 804 525 400	To Rock 50 159 227 -	- - - 195 105	- - - - -	6 6 6 6 6	- - - - -	0.017 0.010 0.020 0.022 0.017	0.086	- - - - -	- - - - -
Well #1 Well #2	Town of Dungannon Town of Dungannon	Scott County	WL001 WL002	263 400	50 303	- -	- -	6 6	- -	0.039 0.064	0.077	- -	- -
Well #1 Well #3	Town of Clinchport Town of Clinchport	Scott County	WL001 WL003	300 400	104 67	78 50	- -	8 10	- -	0.010 0.058	0.030	- -	- -
Lynn Mar Well	ECV/SCPSA <sup>A</sup>	Scott County	WL001	330	125	108	-	6	-	0.012	0.112	-	-
Harvet Baptist Ministries	Harvet Baptist Ministries	Lee County	WL001	760	103	-	-	6	-	0.027	0.015	-	-
Wynn Spring	Town of Jonesville	Lee County	SP001	-	-	-	-	-	-	0.300	0.300	-	-
Blue Spring	Lee County Water Central Lee	Lee County	SP001	-	-	-	-	-	-	0.250	0.250	-	-
Drilled Well	Dunbar (WCPSA <sup>B</sup> )	Wise County	WL001	250	40	-	-	6	-	0.019	0.019	-	-
Jenny Mine	Town of Coeburn	Wise County	WL002	204	50	179	-	10	-	1.037	0.583	-	-
KVS Quarry	Lee County Water Central Lee	Lee County	SP001	-	-	-	-	-	0.75	0.750	0.750	-	-
White Oak Mine	Town of Wise	Wise County	WL001	567	51	-	-	12	-	0.864	0.150	-	-

Notes:

- A. East Cater Valley/Scott County Public Service Authority
- B. Wise County Public Service Authority

**SECTION 2B: EXISTING WATER SOURCE INFORMATION - COMMUNITY WATER SOURCES USING SURFACE WATER RESERVOIRS (9 VAC 25-780-70 C)**

1			2	3	4	5		6	7	8	9
Reservoir Name	Associated Water System	County/ City	Sub-Basin(s)	Drainage Area (miles <sup>2</sup> )	On-Stream Storage Available for Water Supply (MG)	Design Capacity for Withdrawal (MGD)		Safe Yield (MGD)	Water Treatment Plant Capacity (MGD)	VDH Permitted System Capacity (MGD)	Limitation on Withdrawal Established by Permit
						a. Average Daily	b. Maximum Daily				
Upper Norton Reservoir	City of Norton	City of Norton	Powell River	0.8	71.0	-	0.800 (See Note A.)	0.800 (See Note A.)	1.440	1.440	-
Lower Norton Reservoir	City of Norton		Powell River		53.0						-
Ben's Branch	Town of Appalachia	Wise County	Powell River	0.6	129.0	-	1.000	0.560	1.000	0.750	-
Big Cherry	Town of Big Stone Gap	Wise County	Powell River	8.1	600.0	-	4.000	3.540	4.000	0.560	-
Wise	Town of Wise	Wise County	Powell River	1.4	188.0	-	1.500	0.950	1.500	3.540	-
Tom's Creek	Town of Coeburn	Wise County	Powell River	3.2	30.0	-	1.150	0.750	1.152	0.950	-
Pound	Town of Pound	Wise County	Russell Fork	-	0.5 (See Note B.)	-	0.500	0.500	0.500	0.500	-

Notes:

- A. The determined safe yield is that of the combined raw water system which includes the Upper and Lower Norton Reservoirs and the stream intakes on Berges Branch and Robinette Branch.
- B. Permitted Withdrawal

**SECTION 2C: EXISTING WATER SOURCE INFORMATION - COMMUNITY WATER SOURCES USING STREAM INTAKES (9 VAC 25-780-70 D)**

1			2	3	4		5	6	7		8	9
Stream or River Name	Associated Water System	County/ City	Drainage Area (miles <sup>2</sup> )	Sub-Basin in Which Intake is Located	Design Capacity for Withdrawal (MG)		Safe Yield (MGD)	Lowest Daily Flow of Record (MG)	Design Capacity of Pump Station (MGD)	Design Capacity of Water Treatment Plant (MGD)	VDH Permitted System Capacity (MGD)	Limitation on Withdrawal Established by Permit
					a. Average Daily	b. Maximum Daily						
North Fork Clinch River	Duffield (SCPSA <sup>A</sup> )	Scott County	20.7	Clinch River	-	0.500	0.400	0.400	0.504	0.500	0.500	-
Spurlock Branch	Duffield (SCPSA <sup>A</sup> )		-	Clinch River	-	0.500	0.400	0.400				
Big Mocassin Creek	Mocassin Gap (SCPSA <sup>A</sup> )	Scott County	83.0	Holston River	-	0.756	2.070	2.690	0.756	0.760	0.756	-
Big Mocassin Creek	Town of Gate City	Scott County	83.0	Holston River	-	0.500	2.070	2.690	0.518	0.500	0.500	-
Benges Branch	City of Norton	City of Norton	0.3	Powell River	-	0.800 (See Note B.)	0.800 (See Note B.)	-	0.072	1.440	1.440	-
Robinette Branch	City of Norton		0.4	Powell River	-		-					
Clinch River	Town of St. Paul	Wise County	603.0	Clinch River	-	0.500	28.300	27.300	0.508	0.508	0.500	-
Clinch River	Wise County Regional (WCPSA <sup>C</sup> )	Wise County	-	Clinch River	-	2.000	30.370	-	2.000	2.000	2.000	-
Powell River	Town of Pennington Gap	Lee County	200.0	Powell River	-	2.000	7.300	7.300	2.000	2.000	2.000	-

Notes:

- A. Scott County Public Service Authority
- B. The determined safe yield is that of the combined raw water system which includes the Upper and Lower Norton Reservoirs and the stream intakes on Berges Branch and Robinette Branch.
- C. Wise County Public Service Authority

**SECTION 2D: EXISTING WATER SOURCE INFORMATION - SELF-SUPPLIED USERS OF MORE THAN  
300,000 GALLONS/MONTH OF SURFACE WATERS FOR NON-AGRICULTURAL USES (9 VAC 25-780-70 E)**

1  User Name	2  Water Body Name	4  Design Capacity for Withdrawal (MG)		9  Limitation on Withdrawal Established by Permit
		a. Average Daily	b. Maximum Daily	
No Known				



**SECTION 2F: EXISTING WATER SOURCE INFORMATION - GROUND OR SURFACE PURCHASED FROM WATER SUPPLY SYSTEMS OUTSIDE THE GEOGRAPHIC BOUNDARIES OF THE PLANNING AREA (9 VAC 25-780-70 G)**

1		2		3	4		5				
Community Water System	County/ City	Ground Water Source		Surface Water Source (Water Body Utilized)	Amount to be Purchased (MGD)		Contractual Limitation on Ground or Surface Purchased				
		a. Well Name	b. Well Identification Number		a. Maximum Daily	b. Average Annual	a. Contract or Agreement Term	b. Recipient or Area Served	c. Name of Supplier	d. Limitations on Purchase	e. Other
East Carters Valley (BUD <sup>B</sup> )	Scott County	-	-	Reedy Creek	No Contract	No Contract	No Contract	East Carters Valley	Bloomingdale Utility District	-	Customers Belong to Water Supplier
Spring Valley Subdivision (BUD <sup>B</sup> )	Scott	-	-	Reedy Creek	No Contract	No Contract	No Contract	East Carters Valley	Bloomingdale Utility District	-	Customers Belong to Water Supplier
Boozy Creek (SCPSA <sup>A</sup> )	Scott County	-	-	Reedy Creek	0.100	-	40 years Expires 6/43	Boozy Creek	Bloomingdale Utility District	.100 MGD	-
Cove Creek (SCPSA <sup>A</sup> )	Scott County	-	-	Middle Fork Holston River	0.030	-	5 years Expires 5/10	Cove Creek	Washington County Service Authority	< 250 gpm instant. flow & 0.030 MGD	Options for five, five year renewals
Lee County (LCPSA <sup>C</sup> )	Lee County	-	-	Powell River	0.200		30 years Expires 3/19	Lee County PSA/ Western Lee	Arthur Shawanee Utility District	-	-

Notes:

- A. Scott County Public Service Authority
- B. Bloomingdale Utility District
- C. Lee County Public Service Authority

**SECTION 2G: EXISTING WATER SOURCE INFORMATION - GROUND OR SURFACE PURCHASED FROM WATER SUPPLY SYSTEMS OUTSIDE THE GEOGRAPHIC BOUNDARIES OF THE PLANNING AREA (WITH THE CAPACITY TO WITHDRAW MORE THAN 300,000 GALLONS/MONTH FROM ANY SOURCE) (9 VAC 25-780-70 H)**

1		2		3	4		5			
Community Water System	County/ City	Ground Water Source		Surface Water Source (Water Body Utilized)	Withdrawal Amount (MGD)		Contractual Limitation on Ground or Surface Purchased			
		a. Well Name	b. Well Identification Number		a. Maximum Daily	b. Average Annual	a. Contract or Agreement Term	b. Recipient or Area Served	c. Name of Supplier	d. Other
East Carters Valley (BUD <sup>B</sup> )	Scott County	-	-	Reedy Creek	No Contract	No Contract	No Contract	East Carters Valley	Bloomingdale Utility District	Customers Belong to Water Supplier
Boozy Creek (SCPSA <sup>A</sup> )	Scott County	-	-	Reedy Creek	0.100	-	40 years Expires 6/43	Boozy Creek	Bloomingdale Utility District	-
Cove Creek (SCPSA <sup>A</sup> )	Scott County	-	-	Middle Fork Holston River	0.030	-	5 years Expires 5/10	Cove Creek	Washington County Service Authority	Options for five, five year renewals
Lee County Water (LCPSA <sup>C</sup> )	Lee County	-	-	Powell River	0.200	-	30 years Expires 3/19	Lee County PSA/ Western Lee	Arthur Shawanee Utility District	-

Notes:

- A. Scott County Public Service Authority
- B. Bloomingdale Utility District
- C. Lee County Public Service Authority

**SECTION 2H: EXISTING WATER SOURCE INFORMATION - SOURCE AND USE INFORMATION FOR ALL AGRICULTURAL USERS WHO UTILIZE MORE THAN 300,000 GALLONS/MONTH OF GROUND OR SURFACE WATER (9 VAC 25-780-70 I)**

1	2 Agricultural Use by Source						
Water System	Ground Water			Surface Water		Purpose	
	a. Well Name	b. Well Identification Number	c. Total Estimated Use (MGD)	d. Water Body Utilized	e. Total Estimated Use (MGD)	f. Irrigation	g. Non-Irrigation
No Known							

**SECTION 2I: EXISTING WATER SOURCE INFORMATION - ESTIMATE OF THE NUMBER OF RESIDENCES OR BUSINESSES THAT ARE SELF-SUPPLIED BY INDIVIDUAL WELLS WITHDRAWING LESS THAN 300,000 GALLONS/MONTH (9 VAC 25-780-70 J)**

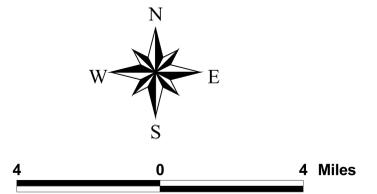
County/City	Number of Self-Supplied Residences Withdrawing Less Than 300,000 Gallons/Month	Number of Self-Supplied Businesses Withdrawing Less Than 300,000 Gallons/Month	Estimated Population Served by Individual Wells
Scott County	4,130	Estimated < 20	10,400
City of Norton	0	0	0
Wise County	4,400	0	6,700
Lee County	2,300	0	5,800
LENOWISCO Planning Area	10,830	20	22,900

**SECTION 2J: EXISTING WATER SOURCE INFORMATION - SUMMARY OF FINDINGS AND RECOMMENDATIONS FROM APPLICABLE SOURCE WATER ASSESSMENT PLANS OR WELLHEAD PROTECTION PROGRAMS (9 VAC 25-780-70 J)**

No Known

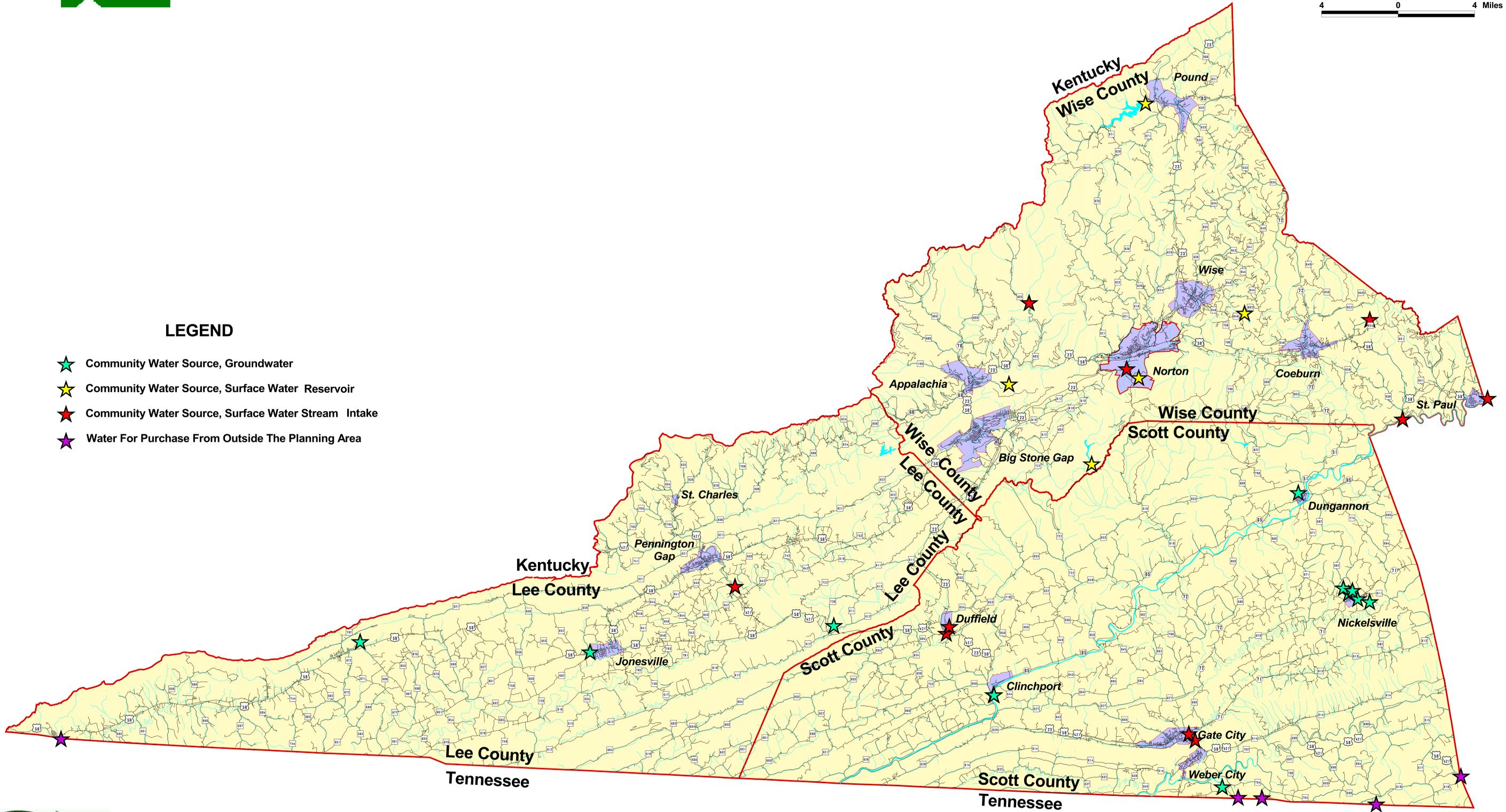


# EXISTING WATER SOURCES



## LEGEND

- ★ Community Water Source, Groundwater
- ★ Community Water Source, Surface Water Reservoir
- ★ Community Water Source, Surface Water Stream Intake
- ★ Water For Purchase From Outside The Planning Area



**APPENDIX C**

**EXISTING WATER USE WORKSHEETS**

**SECTION 3A: EXISTING WATER USE INFORMATION - COMMUNITY WATER SYSTEMS (9 VAC 25-780-80 B1-4)**

1		2	3	4		5	
Community Water System	County/ City	Population Served	Number of Connections	Withdrawal Amount (MGD)		Water Usage (MG)	
				a. Average Daily	b. Maximum Daily	a. Annual Average	b. Monthly Average
Town of Nickelsville Well #1 Well #3 Well #4 Well #5 Well #6	Scott County	900	316			27.1	2.3
				0.01	-		
				0.01	-		
				0.03	-		
				0.01	-		
				0.01	-		
Town of Dungannon Well #1 Well #2	Scott County	598	255			23.5	2.0
				0.02	-		
				0.04	-		
Town of Clinchport Well #1 Well #3	Scott County	80	42			3.5	0.3
				0.00	-		
				0.01	-		
Town of Gate City Big Mocassin Creek	Scott County	2,330	1255	0.39	0.57	142.2	11.8
East Carters Valley (BUD <sup>A</sup> )	Scott County	394	100	Purchased	Purchased	8.3	0.7
Spring Valley Subdivision (BUD <sup>A</sup> )	Scott County	198	63	Purchased	Purchased	3.5	0.3
Duffield (SCPSA <sup>B</sup> ) North Fork Clinch River Spurlock Branch	Scott County	2,321	1009			79.9	6.7
				0.22	0.42		
				0.00	0.00		
East Carters Valley (SCPSA <sup>B</sup> ) Lynn Mar Well	Scott County	162	373	0.01	0.04	9.3	0.8
Boozy Creek (SCPSA <sup>B</sup> )	Scott County	92	40	Purchased	Purchased	3.4	0.3
Cove Creek (SCPSA <sup>B</sup> )	Scott County	16	7	Purchased	Purchased	0.4	0.0

Notes:

- A. Bloomingdale Utility District
- B. Scott County Public Service Authority

**SECTION 3A: EXISTING WATER USE INFORMATION - COMMUNITY WATER SYSTEMS (9 VAC 25-780-80 B1-4)  
(CONTINUED)**

1		2	3	4		5	
Community Water System	County/ City	Population Served	Number of Connections	Withdrawal Amount (MGD)		Water Usage (MG)	
				a. Average Daily	b. Maximum Daily	a. Annual Average	b. Monthly Average
Daniel Boone (SCPSA <sup>A</sup> )	Scott County	669	291	Purchased	Purchased	10.6	0.9
Moccasin Gap (SCPSA <sup>A</sup> ) Big Moccasin Creek	Scott County	4,777	2077	0.40	0.50	144.2	12.0
City of Norton (Includes Both Subsystems) Lower Norton Reservoir Robinette Branch	City of Norton	4,680	2260	0.88 0.17	1.24 0.66	412.3	34.4
Town of Appalachia	Wise County	3,220	1430	0.37	0.66	117.8	9.8
Town of Big Stone Gap	Wise County	9,372	3905	2.17	2.65	273.7	22.8
Town of Coeburn	Wise County	4,630	1467	0.71	0.97	165.2	13.8
Town of Pound	Wise County	2,181	834	0.45	0.52	161.4	13.5
Town of St. Paul	Wise County	1,607	674	0.16	0.47	55.6	4.6
Town of Wise	Wise County	6,375	2550	0.66	0.93	235.2	19.6
Dunbar (WCPSA <sup>B</sup> )	Wise County	94	37	-	-	8.1	0.7
Sandy Ridge (WCPSA <sup>B</sup> )	Wise County	2,216	472	Purchased	Purchased	42.1	3.5
Wise #2 (WCPSA <sup>B</sup> )	Wise County	476	117	Purchased	Purchased	-	-
Appalachia #1 (WCPSA <sup>B</sup> )	Wise County	350	17	Purchased	Purchased	-	-

Notes:

- A. Scott County Public Service Authority
- B. Wise County Public Service Authority

**SECTION 3A: EXISTING WATER USE INFORMATION - COMMUNITY WATER SYSTEMS (9 VAC 25-780-80 B1-4)  
(CONTINUED)**

1		2	3	4		5	
Community Water System	County/ City	Population Served	Number of Connections	Withdrawal Amount (MGD)		Water Usage (MG)	
				a. Average Daily	b. Maximum Daily	a. Annual Average	b. Monthly Average
Flatwoods (WCPSA <sup>A</sup> )	Wise County	80	20	Purchased	Purchased	-	-
Norton #1 (WCPSA <sup>A</sup> )	Wise County	828	211	Purchased	Purchased	28.0	2.3
Blackwood (WCPSA <sup>A</sup> )	Wise County	300	12	Purchased	Purchased	-	-
Wise County Regional (WCPSA <sup>A</sup> )	Wise County	3,965	1416	0.96	1.46	158.0	13.2
Mill Branch (WCPSA <sup>A</sup> )	Wise County	104	26	Purchased	Purchased	-	-
South Mountain (WCPSA <sup>A</sup> )	Wise County	322	83	Purchased	Purchased	-	-
Town of Pennington Gap	Lee County	3,277	1250	1.54	2.13	485.6	40.5
Town of Jonesville	Lee County	1,336	720	0.32	0.44	128.9	10.7
Dryden Water Authority	Lee County	1,852	530	Purchased	Purchased	76.1	6.3
Woodway Water Authority	Lee County	3,800	1231	Purchased	Purchased	133.0	11.0
St. Charles Water Authority	Lee County	2,300	495	Purchased	Purchased	65.9	5.5
Harvest Baptist Childcare Ministries	Lee County	40	1	-	-	0.9	0.1
Lee County (LCPSA <sup>B</sup> )	Lee County	3,400	1359	0.52	0.78	99.5	9.0
Big Hill (LCPSA <sup>B</sup> )	Lee County	226	89	Purchased	Purchased	-	-
Old Woodway Road (LCPSA <sup>B</sup> )	Lee County	110	43	Purchased	Purchased	-	-

Notes:

- A. Wise County Public Service Authority
- B. Lee County Public Service Authority

**SECTION 3A: EXISTING WATER USE INFORMATION - COMMUNITY WATER SYSTEMS (9 VAC 25-780-80 B1-4)  
(CONTINUED)**

1		2	3	4		5	
Community Water System	County/ City	Population Served	Number of Connections	Withdrawal Amount (MGD)		Water Usage (MG)	
				a. Average Daily	b. Maximum Daily	a. Annual Average	b. Monthly Average
Fleenortown (LCPSA <sup>A</sup> )	Lee County	190	67	Purchased	Purchased	-	-
Puckett & Ely Creek (LCPSA <sup>A</sup> )	Lee County	172	72	Purchased	Purchased	-	-
Keokee (LCPSA <sup>A</sup> )	Lee County	375	185	Purchased	Purchased	-	-
Jasper (LCPSA <sup>A</sup> )	Lee County	650	256	Purchased	Purchased	-	-
Eastern Lee (LCPSA <sup>A</sup> )	Lee County	800	315	Purchased	Purchased	-	-
Miller/Smyth Chapel (LCPSA <sup>A</sup> )	Lee County	785	310	Purchased	Purchased	-	-
Robbins Chapel (LCPSA <sup>A</sup> )	Lee County	308	120	Purchased	Purchased	-	-

Notes:

A. Lee County Public Service Authority

**SECTION 3B: EXISTING WATER USE INFORMATION - COMMUNITY WATER SYSTEMS, PEAK DAY USE BY MONTH**

Community Water System	County/ City	Month	Peak Day Use (MG)	Month	Peak Day Use (MG)	Month	Peak Day Use (MG)
Town of Pennington Gap	Lee County	January	1.7	May	1.5	September	1.3
		February	1.5	June	1.8	October	1.4
		March	1.4	July	1.5	November	1.3
		April	1.5	August	1.4	December	1.5

Note:

- A. Remaining systems do not monitor peak daily use.

**SECTION 3C: EXISTING WATER USE INFORMATION - ESTIMATED AVERAGE ANNUAL SURFACE AND GROUND WATER USE BY SELF-SUPPLIED, NON-AGRICULTURAL USERS OF MORE THAN 300,000 GALLONS/MONTH (WITHIN COMMUNITY WATER SYSTEM SERVICE AREAS) (9 VAC 25-780-80 B6)**

1 Community Water System	2 Estimated Average Annual Surface Water Usage (MG)	3 Estimated Average Annual Ground Water Usage (MG)
No Known	-	-

**SECTION 3D: EXISTING WATER USE INFORMATION - ESTIMATED AVERAGE ANNUAL SURFACE AND GROUND WATER USE BY SELF-SUPPLIED, AGRICULTURAL USERS OF MORE THAN 300,000 GALLONS/MONTH (WITHIN COMMUNITY WATER SYSTEM SERVICE AREAS) (9 VAC 25-780-80 B7)**

1 Community Water System	2 Estimated Average Annual Surface Water Usage (MG)	3 Estimated Average Annual Ground Water Usage (MG)
No Known		

**SECTION 3E: EXISTING WATER USE INFORMATION - COMMUNITY WATER SYSTEMS, ESTIMATED AVERAGE ANNUAL GROUND WATER USE BY SELF-SUPPLIED USERS OF LESS THAN 300,000 GALLONS/MONTH (WITHIN COMMUNITY WATER SYSTEM SERVICE AREAS) (9 VAC 25-780-80 B8)**

1 Community Water System	2 Number of Self-Supplied Users	3 Estimated Average Annual Ground Water Usage (MG)
Scott County Public Service Authority (Includes all Subsystems)	990	47.0
City of Norton (Includes all Subsystems)	0	-
Wise County Public Service Authority (Includes all Subsystems)	512	21.5
Lee County (Includes all Systems)	920	38.6

**SECTION 3F: EXISTING WATER USE INFORMATION - COMMUNITY WATER SYSTEMS,  
DISAGGREGATED WATER USE AMOUNTS (ANNUAL AVERAGE) (9 VAC 25-780-80 B9)**

1		2	3	4	5	6	7	8		9	10	11
Community Water System	County/ City	Residential Use (MG)	Commercial, Institutional Light Industrial (MG)	Heavy Industrial (MG)	Military (MG)	Water Production Use (MG)	Unaccounted Water Loss (MG)	Sales to Community Systems (MG)		Other Use (MG)	Other Use (MG)	Subtotal: (MG)
								Name	Amount			
Town of Nickelsville	Scott County	12.0	0.6	-	-	7.9	6.5	-	-	-	-	27.1
Town of Dungannon	Scott County	8.9	-	-	-	1.8	12.8	-	-	-	-	23.5
Town of Clinchport	Scott County	2.1	-	-	-	-	1.4	-	-	-	-	3.5
Town of Gate City	Scott County	81.3	21.6	-	0.1	12.5	26.7	Daniel Boone (SCPSA)	10.6	-	-	152.8
East Carters Valley (BUD <sup>A</sup> )	Scott County	5.6	-	-	-	-	2.7	-	-	-	-	8.3
Spring Valley Subdivision (BUD <sup>A</sup> )	Scott County	3.2	-	-	-	-	0.3	-	-	-	-	3.5
Duffield (SCPSA <sup>B</sup> )	Scott County	20.9	31.9	-	-	6.2	21.0	-	-	-	-	79.9
East Carters Valley (SCPSA <sup>B</sup> )	Scott County	7.3	-	-	-	-	1.9	-	-	-	-	9.3
Boozy Creek (SCPSA <sup>B</sup> )	Scott County	1.6	-	-	-	-	1.8	-	-	-	-	3.4
Cove Creek (SCPSA <sup>B</sup> )	Scott County	0.3	-	-	-	-	0.1	-	-	-	-	0.4
Daniel Boone (SCPSA <sup>B</sup> )	Scott County	8.2	-	-	-	-	2.4	-	-	-	-	10.6
Moccasin Gap (SCPSA <sup>B</sup> )	Scott County	84.8	12.7	-	-	16.3	20.9	Gate City	9.4	-	-	144.2
City of Norton (Includes Both Subsystems)	City of Norton	78.2	65.3	13.4	-	27.9	187.4	Norton #1 (WCPSA) Blackwood (WCPSA) Big Stone Gap	20.2 19.7 0.3	-	-	412.3
Town of Appalachia	Wise County	62.4	15.6	-	-	6.0	22.8	LCPSA & WCPSA	12.0	-	-	117.6

Notes:

- A. Bloomingdale Utility District
- B. Scott County Public Service Authority

**SECTION 3F: EXISTING WATER USE INFORMATION - COMMUNITY WATER SYSTEMS,  
DISAGGREGATED WATER USE AMOUNTS (ANNUAL AVERAGE) (9 VAC 25-780-80 B9)**

1		2	3	4	5	6	7	8		9	10	11
Community Water System	County/ City	Residential Use (MG)	Commercial, Institutional Light Industrial (MG)	Heavy Industrial (MG)	Military (MG)	Water Production Use (MG)	Unaccounted Water Loss (MG)	Sales to Community Systems (MG)		Other Use (MG)	Other Use (MG)	Subtotal: (MG)
								Name	Amount			
Town of Big Stone Gap	Wise County	116.4	108.0	-	-	13.2	507.6	LCPSA	36.0	-	-	661.2
Town of Coeburn	Wise County	91.2	22.8	-	-	9.6	8.4	WCPSA	42.0	-	-	172.8
Town of Pound	Wise County	39.6	26.4	-	-	8.4	78.0	WCPSA	10.8	-	-	162.0
Town of St. Paul	Wise County	39.6	13.2	-	-	2.4	-	-	-	-	-	55.2
Town of Wise	Wise County	114.0	60.0	-	-	12.0	36.0	WCPSA	16.8	-	-	237.6
Wise County Regional (WCPSA <sup>A</sup> )	Wise County	90.0	30.0	-	-	15.6	126.0	Norton	54.0	-	-	315.6
WCPSA <sup>A</sup> Dunbar Sandy Ridge Wise #2 Appalachia #1 Flatwoods Norton #1 Blackwood Mill Branch South Mountain	Wise County	87.6	21.6	-	-	-	46.8	-	-	-	-	156.0
Town of Pennington Gap	Lee County	118.8	51.6	-	-	12.0	96.0	Woodway, Dryden St. Charles Water Authorities & LCPSA	207.6	-	-	486.0
Town of Jonesville	Lee County	32.4	13.2	-	-	6.0	27.6	LCPSA & Woodway Water Authority	46.8	-	-	126.0
Lee County (LCPSA <sup>B</sup> )	Lee County	68.4	18.0	-	-	20.4	102.0	-	-	-	-	210.0

Notes:

- A. Wise County Public Service Authority
- B. Lee County Public Service Authority

**SECTION 3F: EXISTING WATER USE INFORMATION - COMMUNITY WATER SYSTEMS,  
DISAGGREGATED WATER USE AMOUNTS (ANNUAL AVERAGE) (9 VAC 25-780-80 B9)**

1		2	3	4	5	6	7	8		9	10	11
Community Water System	County/ City	Residential Use (MG)	Commercial, Institutional Light Industrial (MG)	Heavy Industrial (MG)	Military (MG)	Water Production Use (MG)	Unaccounted Water Loss (MG)	Sales to Community Systems (MG)		Other Use (MG)	Other Use (MG)	Subtotal: (MG)
								Name	Amount			
LCPSA <sup>A</sup> Big Hill Old Woodway Road Fleenortown Puckett & Ely Creek Keokee Jasper Eastern Lee Miller/Smyth Chapel Robbins Chapel	Lee County	40.8	9.6	-	-	-	13.2	-	-	-	-	63.6

Subtotal: (MG)  
(With Inter-Region Sales To Community Water Systems)      1215.4      522.1      13.4      0.1      178.3      1350.5      -      486.1      -      -      3765.9

Subtotal: (MG)  
(Without Inter-Region Sales To Community Water Systems)      1215.4      522.1      13.4      0.1      178.3      1350.5      -      -      -      -      **3279.8**

Notes:

A. Lee County Public Service Authority

**SECTION 3G: EXISTING WATER USE INFORMATION - COMMUNITY WATER SYSTEMS USING STREAM INTAKES (9 VAC 25-780-80 B10)**

1 Community Water System	2 Name of Stream or River	3 Drainage Area of Intake (miles <sup>2</sup> )	4 Sub- Basin(s)	5 Within The Planning Area, Existing In-Stream Beneficial Uses That May Be Affected By Withdrawal	6 Outside The Planning Area, Existing In-Stream Beneficial Uses That May Be Affected By Withdrawal
No Known					

**SECTION 3H: EXISTING WATER USE INFORMATION - ESTIMATED AVERAGE ANNUAL SURFACE AND GROUND WATER USE BY SELF-SUPPLIED, NON-AGRICULTURAL USERS OF MORE THAN 300,000 GALLONS/MONTH (OUTSIDE COMMUNITY WATER SYSTEM SERVICE AREAS) (9 VAC 25-780-80 C)**

1 Community Water System	2 Estimated Average Annual Surface Water Usage (MG)	3 Estimated Average Annual Ground Water Usage (MG)
No Known	-	-

**SECTION 3I: EXISTING WATER USE INFORMATION - ESTIMATED AVERAGE ANNUAL SURFACE AND GROUND WATER USE BY SELF-SUPPLIED, AGRICULTURAL USERS OF MORE THAN 300,000 GALLONS/MONTH (OUTSIDE COMMUNITY WATER SYSTEM SERVICE AREAS) (9 VAC 25-780-80 D)**

1 Community Water System	2 Estimated Average Annual Surface Water Usage (MG)	3 Estimated Average Annual Ground Water Usage (MG)
No Known		

**SECTION 3J: EXISTING WATER USE INFORMATION - ESTIMATED AVERAGE ANNUAL GROUND WATER USE BY SELF-SUPPLIED USERS OF LESS THAN 300,000 GALLONS/MONTH (OUTSIDE COMMUNITY WATER SYSTEM SERVICE AREAS) (9 VAC 25-780-80 E)**

1 County	2 Number of Self-Supplied Users	3 Estimated Average Annual Ground Water Usage (MG)
Scott County	3140	149.0
Wise County	3888	163.3
Lee County	1380	58.0

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