

9 VAC 25-720-50. Potomac – Shenandoah River Basin

A. Total maximum daily load (TMDLs).

TMDL #	Stream Name	TMDL Title	City/ County	WBID	Pollutant	WLA	Units
1.	Muddy Creek	Nitrate TMDL Development for Muddy Creek/Dry River, Virginia	Rockingham	B21R	Nitrate	49,389.00	LB/YR
2.	Blacks Run	TMDL Development for Blacks Run and Cooks Creek	Rockingham	B25R	Sediment	32,844.00	LB/YR
3.	Cooks Creek	TMDL Development for Blacks Run and Cooks Creek	Rockingham	B25R	Sediment	69,301.00	LB/YR
4.	Cooks Creek	TMDL Development for Blacks Run and Cooks Creek	Rockingham	B25R	Phosphorus	0	LB/YR
5.	Muddy Creek	TMDL Development for Muddy Creek and Holmans Creek, Virginia	Rockingham	B22R	Sediment	286,939.00	LB/YR
6.	Muddy Creek	TMDL Development for Muddy Creek and Holmans Creek, Virginia	Rockingham	B22R	Phosphorus	38.00	LB/YR
7.	Holmans Creek	TMDL Development for Muddy Creek and Holmans Creek, Virginia	Rockingham/ Shenandoah	B45R	Sediment	78,141.00	LB/YR
8.	Mill Creek	TMDL Development for Mill Creek and Pleasant Run	Rockingham	B29R	Sediment	276.00	LB/YR
9.	Mill Creek	TMDL Development for Mill Creek and Pleasant Run	Rockingham	B29R	Phosphorus	138.00	LB/YR

10.	Pleasant Run	TMDL Development for Mill Creek and Pleasant Run	Rockingham	B27R	Sediment	0.00	LB/YR
11.	Pleasant Run	TMDL Development for Mill Creek and Pleasant Run	Rockingham	B27R	Phosphorus	0.00	LB/YR
12.	Linville Creek	Total Maximum Load Development for Linville Creek: Bacteria and Benthic Impairments	Rockingham	B46R	Sediment	5.50	TONS/YR
13.	Quail Run	Benthic TMDL for Quail Run	Rockingham	B35R	Ammonia	7,185.00	KG/YR
14.	Quail Run	Benthic TMDL for Quail Run	Rockingham	B35R	Chlorine	27.63	KG/YR
15.	Shenandoah River	Development of Shenandoah River PCB TMDL (South Fork and Main Stem)	Warren & Clarke	B41R, B55R, B57R, B58R	PCBs	179.38	G/YR
16.	Shenandoah River	Development of Shenandoah River PCB TMDL (North Fork)	Warren & Clarke	B51R	PCBs	0.00	G/YR
17.	Shenandoah River	Development of Shenandoah River PCB TMDL (Main Stem)	Warren & Clarke	WV	PCBs	179.38	G/YR
18.	Cockran Spring	Benthic TMDL Reports for Six Impaired Stream Segments in the Potomac-Shenandoah and James River Basins	Augusta	B10R	Organic Solids	1,556.00	LB/YR
19.	Lacey Spring	Benthic TMDL Reports for Six Impaired Stream Segments in the	Rockingham	B47R	Organic Solids	680.00	LB/YR

		Potomac-Shenandoah and James River Basins					
20.	Orndorff Spring	Benthic TMDL Reports for Six Impaired Stream Segments in the Potomac-Shenandoah and James River Basins	Shenandoah	B52R	Organic Solids	103.00	LB/YR
21.	Toms Brook	Benthic TMDL for Toms Brook in Shenandoah County, Virginia	Shenandoah	B50R	Sediment	8.1	T/YR
22.	Goose Creek	Benthic TMDLs for the Goose Creek Watershed	Loudoun, Fauquier	A08R	Sediment	1,587	T/YR
23.	Little River	Benthic TMDLs for the Goose Creek Watershed	Loudoun	A08R	Sediment	105	T/YR
24.	Christians Creek	Fecal Bacteria and General Standard Total Maximum Daily Load Development for Impaired Streams in the Middle River and Upper South River Watersheds, Augusta County, VA	Augusta	B14R	Sediment	145	T/YR
25.	Moffett Creek	Fecal Bacteria and General Standard Total Maximum Daily Load Development for Impaired Streams in the Middle River and Upper South River Watersheds, Augusta County, VA	Augusta	B13R	Sediment	0	<u>T/YR</u>

26.	Upper Middle River	Fecal Bacteria and General Standard Total Maximum Daily Load Development for Impaired Streams in the Middle River and Upper South River Watersheds, Augusta County, VA	Augusta	B10R	Sediment	1.355	T/YR
27.	Mossy Creek	Total Maximum Daily Load Development for Mossy Creek and Long Glade Run: Bacteria and General Standard (Benthic) Impairments	Rockingham	B19R	Sediment	0.04	T/YR
28.	Smith Creek	Total Maximum Daily Load (TMDL) Development for Smith Creek	Rockingham, Shenandoah	B47R	Sediment	353,867	LB/YR

B. ~~Stream segment classifications, effluent limitations including water quality based effluent limitations, and waste load allocations.~~

~~TABLE B1 – POTOMAC RIVER SUB-BASIN RECOMMENDED SEGMENT CLASSIFICATIONS~~

SEGMENT NUMBER	DESCRIPTION OF SEGMENT	MILE TO MILE	CLASSIFICATION
1-23	Potomac River tributaries from the Virginia-West Virginia state line downstream to the boundary of the Dulles Area Watershed Policy	176.2 – 149.0	WQ
1-24	Potomac River tributaries located within the boundaries of the Dulles Area Watershed Policy	149.0 – 118.4	WQ

1-25	Potomac River tributaries from the downstream limit of the Dulles Area Watershed Policy to Jones Point	118.4—107.6	WQ
1-26	Potomac River tributaries from Jones Point downstream to Route 301 bridge	107.6—50.2	WQ
1-27	All Streams included in the Occoquan Watershed Policy	=====	WQ
1-28	Potomac tributaries from Route 301 bridge downstream to the mouth of the Potomac River	50.2-0.0	EL

TABLE B2—POTOMAC RIVER SUB-BASIN—RECOMMENDED PLAN FOR WASTEWATER FACILITIES

FACILITY NUMBER	NAME	RECEIVING STREAM	RECOMMENDED ACTION	SIZE	TREATMENT LEVEL (4)	BOD ₅	QUD	TKN	P	INSTITUTIONAL ARRANGEMENT
1	Hillsboro	North Fork Catoctin Creek WQ (1—23)	Construct new facility	.043 ⁽²⁾	AWT	7 ⁽⁷⁾	-	-	-	Loudoun County Sanitation Authority (LCSA)
2	Middleburg	Wancopin Creek WQ (1-23)	Construct new facility; abandon old facility	.135	AST	14 ⁽⁶⁾	-	-	-	LCSA
3	Middleburg East and West	Unnamed tributary to Goose Creek WQ (1—23)	Abandon—pump to new facility							
4	Round Hill	North Fork Goose Creek	No further action recommended	.2	AWT	10 ⁽⁶⁾	-	-	-	Town of Round Hill
5	St. Louis	Beaver Dam Creek WQ (1-23)	Construct new facility	.086	AST	20 ⁽⁶⁾	-	-	-	LSCA
6	Waterford	South Fork Catoctin Creek WQ (1-23)	No further action recommended	.058	AST	24 ⁽⁶⁾	-	-	-	LSCA
7	Hamilton	Unnamed tributary to South Fork of Catoctin Creek WQ (1-23)	Upgrade and or expand	.605 ⁽²⁾	AWT	7 ⁽⁷⁾	-	-	-	Town of Hamilton
8	Leesburg	Tuscarora Creek (1-24)	Upgrade and or expand	2.5	AWT	1 ⁽⁹⁾	-	1	0.1	Town of Leesburg

9	Levettesville	Dutchman Creek WQ (1-23)	Upgrade and/or expand	.269 ⁽²⁾	AWT	7 ⁽⁷⁾	-	-	-	Town of Levettesville
10	Purcellville	Unnamed tributary to North Fork Goose Creek WQ (1-23)	No further action recommended	.5	AST	15 ⁽⁵⁾	-	-	-	Town of Purcellville
11	Paeonian Springs	Unnamed tributary to South Fork of Catoctin Creek WQ (1-23)	Construct new facility	.264 ⁽²⁾	AWT	7 ⁽⁷⁾	-	-	-	LCSA
12	Cedar Run Regional	Walnut Branch or Kettle Run WQ (1-27)	Construct new facility	1.16 ⁽²⁾	AWT	1 ⁽⁶⁾	-	1	0.1	Fauquier County Sanitation Authority
13	Vint Hill Farms	South Run (1-27)	Upgrade and/or expand	.246	AST	14 ⁽⁵⁾	-	-	2.5	U.S. Army
14	Arlington	Four Mile Run WQ (1-25)	Upgrade and/or expand	36 ⁽³⁾	AWT	3 ⁽⁵⁾	-	1	0.2	Arlington County
15	Alexandria	Hunting Creek WQ (1-26)	Upgrade and/or expand	54	AWT	3 ⁽⁵⁾	-	1	.02	Alexandria Sanitation Authority
16	Westgate	Potomac River WQ (1-26)	Abandon pump to Alexandria							
17	Lower Potomac	Pohick Creek WQ (1-26)	Upgrade and/or expand	36(3)	AWT	3/8	-	1	0.2	Fairfax County
18	Little Hunting Creek	Little Hunting Creek WQ (1-26)	Abandon pump to Lower Potomac							
19	Doque Creek	Doque Creek WQ (1-26)	Abandon pump to Lower Potomac							
20	Fort Belvoir 1 and 2	Doque Creek WQ (1-26)	Abandon pump to Lower Potomac							

21	Lorton	Mills Branch WQ (1-26)	Upgrade and/or expand	4.0	AWT	3 ⁽¹⁷⁾	-	4	0.1	District of Columbia
22	UOSA	Tributary to Bull Run WQ (1-27)	Expanded capacity by 5 mgd increments	10.9 ⁽¹⁷⁾	AWT	4 ⁽¹⁶⁾	-	4	0.1	USOA
23	Gainesville Haymarket	Tributary Rock Branch WQ (1- 27)	Abandon Pump to UOSA							
24	Potomac (Mooney)	Neabsco Creek WQ (1-26)	Construct new facility	12 ⁽¹⁶⁾	AWT	3 ⁽¹⁶⁾	-	4	0.2	Ocequan- Woodbridge Dumfries-Triangle Sanitary District
25	Belmont	Marumsco Creek WQ (1- 26)	Abandon pump to Potomac							
26	Featherston e	Farm Creek WQ (1-26)	Abandon pump to Potomac							
27	Neabsco	Neabsco Creek WQ (1-26)	Abandon pump to Potomac							
28	Dumfries	Quantico Creek WQ (1-26)	Abandon pump to Potomac							
29	Dale City #1	Neabsco Creek WQ (1-26)	Upgrade and/or expand	4.0	AWT	3 ⁽¹⁶⁾	-	4	0.2	Dale Service Corporation (DSC)
30	Dale City #8	Neabsco Creek WQ (1-26)	Upgrade and/or expand	2.0	AWT	3 ⁽¹⁶⁾	4	4	0.2	DSC
31	Quantico Mainside	Potomac River WQ (1-26)	Upgrade and/or expand	2.0	AWT	3 ⁽¹⁶⁾	-	4	0.2	U.S. Marine Corps
32	Aquia Creek	Austin Run WQ (1-26)	Construct new facility	3.0	AWT	3 ⁽¹⁶⁾	-	4	0.2	Aquia Sanitary District
33	Aquia	Aquia Creek WQ (1-26)	Abandon pump to new facility							
34	Fairview Beach	Potomac River (estuary)	Construct new facility	.05	Secondary	Secondary	-	-	-	Fairview Beach Sanitary District

35	Dahlgren	Upper Machodoc Creek WQ (1-28)	Upgrade and/or expand	.2	Secondary	Secondary	-	-	-	Dahlgren Sanitary District
36	Colonial Beach	Monroe Creek EL (1-28)	No further action recommended	.85	Secondary	28 ^{(5),(13)}				Town of Colonial Beach
37	Machodoc Kinsale		Construct new facility	.89	Secondary & Spray Irrigation	48 ^{(10),(13)}	-	-	-	Machodoc Kinsale Sanitary District
38	Gallae		Construct new facility	.25	Secondary & Spray Irrigation	48 ^{(10),(13)}	-	-	-	Gallae Sanitary District
39	Heathsville		Construct new facility	.10	Secondary & Spray Irrigation	48 ^{(10),(13)}	-	-	-	Heathsville Sanitary District
40	King George Courthouse	Pine Creek	Construct new facility	.039	Secondary	30 ⁽¹³⁾	-	-	-	King George County

TABLE B2 - NOTES: POTOMAC RIVER SUB-BASIN - RECOMMENDED PLAN FOR WASTEWATER TREATMENT FACILITIES

⁽¹⁾ Year 2000 design flow 201 Facility Plan, P.L. 92-500, unless otherwise noted.

⁽²⁾ Year 2000 average flow from Potomac/Shenandoah 303(e) Plans, Vol V-A Appendix, 1975 pp. B-33-B-44.

⁽³⁾ Future expansion at unspecified date.

⁽⁴⁾ Secondary treatment: 24-30 mg/l BOD₅, advanced secondary treatment (AST): 11-23 mg/l, advanced wastewater treatment (AWT): <10mg/l BOD₅. A range is given to recognize that various waste treatment processes have different treatment efficiencies.

⁽⁵⁾ Effluent limits calculated using mathematical modeling.

⁽⁶⁾ Effluent limits based on Occoquan Watershed Policy, presented under reevaluation.

⁽⁷⁾ Effluent limits based on treatment levels established by the Potomac/Shenandoah 303(e) Plan, Vol. V-A 1975, p. 237, to protect low flow streams and downstream water supply.

⁽⁸⁾ Effluent limits based on Potomac River Embayment Standards, presently under reevaluation. Nitrogen removal limits deferred until reevaluation is complete.

⁽⁹⁾ Effluent limits based on Dulles Watershed Policy, recommended for reevaluation. Interim effluent limits of 12 mg/l BOD₅ and 20 mg/l Suspended Solids will be met until the Dulles Area Watershed Standards are reevaluated.

⁽¹⁰⁾ Effluent limits based on Virginia Sewerage Regulation, Section 33.02.01.

⁽¹¹⁾ Interim effluent limits of 30 mg/l BOD₅, 30mg/l Suspended Solids, and 4 mg/l Phosphorus, will be effective until average daily flows exceeds 0.75 MGD. At greater flows than 0.75 MGD, the effluent limitations will be defined by the Potomac Embayment Standards.

⁽¹²⁾ Secondary treatment is permitted for this facility due to the the extended outfall into the main stem of the Potomac River.

⁽¹³⁾ This facility was also included in the Rappahannock Area Development Commission (RADCO) 208 Areawide Waste Treatment Management Plan and Potomac Shenandoah River Basin 303 (c) Water Quality Management Plan.

TABLE B3 – SHENANDOAH RIVER SUB-BASIN RECOMMENDED SEGMENT CLASSIFICATIONS

SEGMENT NUMBER	DESCRIPTION OF SEGMENT	MILE TO MILE	CLASSIFICATION
1-1	North River main stream and tributaries excluding segments 1-1a, 1-1b	56.4-0.0	EL
1-1a	Muddy Creek main stream and War Branch, RM-0.1-0.0	3.7-1.7	WQ
1-1b	North River main stream	46.1-4.6	WQ
1-2	Middle River main stream and tributaries excluding segments 1-2a, 1-2b	69.9-0.0	EL
1-2a	Middle River main stream	29.5-17.9	WQ
1-2b	Lewis Creek main stream	9.6-0.0	WQ
1-3	South River main stream and tributaries excluding segment 1-3a	52.2-0.0	EL
1-4	South Fork Shenandoah main stream and tributaries excluding segments 1-4a, 1-4b, 1-4c	402.9-0.0	EL
1-4a	South Fork Shenandoah main stream	88.1-78.2	WQ
1-4b	Hawksbill Creek main stream	6.20-0.0	WQ
1-4c	Quail Run main stream	5.2-3.2	WQ
1-5	North Fork Shenandoah main stream and tributaries excluding segment 1-5a, 1-5b	408.9-0.0	EL
1-5a	Stony Creek main stream	49.9-14.9	WQ
1-5b	North Fork Shenandoah main stream	89.0-81.4	WQ
1-6	Shenandoah River main stream and tributaries excluding segments 1-6a, 1-6b	57.4-19.8	EL
1-6a	Stephens Run main stream	8.3-0.0	WQ
1-6b	Dog Run main stream	5.2-0.0	WQ
1-7	Opequon Creek main stream and tributaries excluding segments 1-7a, 1-7b	54.9-23.6	EL
1-7a	Opequon Creek main stream	32.3-23.6	WQ

1-7b	Abrams-Creek-main stream	8.7-0.0	WQ
1-8	All Virginia streams upstream of Opequon-Potomac confluence that have headwaters in Frederick County	--	EL
1-9	All Virginia streams upstream of Opequon-Potomac confluence that have headwaters in Highland County	--	EL

* R.M. = River Mile, measured from the river mouth

TABLE B4 – SHENANDOAH RIVER SUB-BASIN – RECOMMENDED PLAN FOR SELECTED INDUSTRIAL WASTEWATER TREATMENT FACILITIES

FACILITY NUMBER	NAME ⁽¹⁾	INDUSTRIAL CATEGORY	RECEIVING STREAM CLASSIFICATION	RECOMMENDED WASTELOAD ALLOCATION ⁽²⁾			COMPLIANCE SCHEDULE
				BOD ₅	TKN	NH ₃ -N	
1	Wampler	Food Processing	War Branch WQ (1-1a)	84 ⁽⁴⁾	-	-	None
6	Wayn-Tex	Plastic and Synthetic Materials Mfg.*	South River WQ (1-3a)	44 ⁽⁶⁾	-	-	None
7	DuPont	Plastic and Synthetic Materials Mfg.*	South River WQ (1-3a)	600	-	50	None
8	Crompton-Shenandoah	Textile Mills*	South River WQ (1-3a)	60	173 ⁽⁴⁾	88	None
10	General Electric	Electroplating*	South River WQ (1-3a)	BPT Effluent Limits			None
12	Merck	Miscellaneous Chemicals (Pharmaceutical)*	S. F. Shenandoah River WQ (1-4a)	3454	2846	1423	Consent Order
17	VOTAN	Leather, Tanning and Finishing*	Hawksbill Creek WQ (1-4b)	240	75	-	None
21	National Fruit	Food Processing	N. F. Shenandoah River WQ (1-5b)	⁽⁶⁾	⁽⁶⁾	⁽⁶⁾	None
22	Reckingham Poultry	Food Processing	N. F. Shenandoah River WQ (1-5b)	⁽⁶⁾	⁽⁶⁾	⁽⁶⁾	None
23	Shen Valley Meat Packers	Food Processing	N. F. Shenandoah River WQ (1-5b)	⁽⁶⁾	⁽⁶⁾	⁽⁶⁾	None
35	O'Sullivan	Rubber Processing* Machinery and Mechanical Products Manufacturing	Abrams-Creek WQ (1-7b)	BPT Effluent Limits			None

TABLE B4 – NOTES: SHENANDOAH RIVER SUB-BASIN – RECOMMENDED PLAN SELECTED INDUSTRIAL WASTEWATER TREATMENT FACILITIES

⁽¹⁾ An * identifies those industrial categories that are included in EPA's primary industry classification for which potential priority toxic pollutants have been identified.

⁽²⁾ Allocation (lb/d) based upon 7Q10 stream flow. Tiered permits may allow greater wasteloads during times of higher flow. BPT = Best Practicable Technology.

⁽³⁾ A summer 1979 stream survey has demonstrated instream D.O. violations. Therefore, the identified wasteload allocation is to be considered as interim and shall be subject to further analysis.

⁽⁴⁾ The NPDES permit does not specify TKN but does specify organic-N of 85 lb/d. TKN is the sum of NH-N and organic-N.

⁽⁵⁾ This allocation is based upon a flow of 0.847 MGD.

⁽⁶⁾ The total assimilative capacity for segment WQ (1-5b) will be developed from an intensive stream survey program and development of an appropriate calibrated and verified model. Wasteload allocations for National Fruit, Rockingham Poultry and Shen-Valley will be determined after the development of the calibrated and verified model and the determination of the segment's assimilative capacity.

TABLE B5 - SHENANDOAH RIVER SUB-BASIN - RECOMMENDED PLAN FOR SELECTED MUNICIPAL WASTEWATER TREATMENT FACILITIES

FACILITY NUMBER	NAME	RECOMMENDED RECEIVING STREAM	FACILITY			WASTELOAD ALLOCATION ⁽³⁾ lb/d BOD ₅	INSTITUTIONAL ARRANGEMENT	COMPLIANCE ⁽⁴⁾ SCHEDULE
			RECOMMENDED ACTION	SIZE ⁽⁵⁾	TREATMENT ⁽²⁾ LEVEL			
2	Harrisonburg Rockingham Reg. Sewer Auth.	North River WQ (1-1)	Correct I/I	12.0 ⁽⁶⁾	AST	2,000 ⁽⁶⁾	Harrisonburg- Rockingham Regional Sewer Authority	None
3	Verona	Middle River WQ (1-2a)	Construct new facility, abandon old plant, correct I/I	0.8	Secondary	Secondary Limits	Augusta County Service Authority	July 1, 1983
4	Staunton	Middle River WQ (1-2a)	Upgrade, provide outfall to Middle River, correct I/I	4.5	Secondary	Secondary Limits	City of Staunton	July 1, 1983

5	Fishersville	Christians-Creek EL (1-2)	No further action recommended	2.0	Secondary	Secondary Limits	Augusta-County Service Authority	None
9	Waynesboro	South River WQ (1-3a)	Upgrade, correct I/I	4.0	AWT with nitrification	250 ⁽⁶⁾	City of Waynesboro	July 1, 1983
11	Grottoes	South River EL (1-3)	Construct new facility	0.225	Secondary	Secondary Limits	Town of Grottoes	No existing facility
13	Elkton	S.F. Shenandoah River WQ (1-4a)	Construct new facility, abandon old plant	0.4	Secondary	Secondary Limits	Town of Elkton	July 1, 1983
14	Massanutten Public Service Corporation	Quail Run WQ (1- 4e)	No further action recommended	1.0	AWT	84.0 ⁽⁶⁾	Private	None
15	Shenandoah	S.F. Shenandoah River EL (1-4)	Upgrade, expand, correct I/I	0.35	Secondary	Secondary limits	Town of Shenandoah	No existing facility
16	Stanley	S.F. Shenandoah River EL (1-4)	Construct new facility	0.3	Secondary	Secondary limits	Town of Stanley	No existing facility
18	Luray	Hawksbill-Creek WQ (1-4b)	Construct new facility, abandon old plant, correct I/I	0.8	Secondary	Secondary Limits	Town of Luray	July 1, 1983
19	Front Royal	Shenandoah River EL (1-6)	Construct new facility, abandon old plant, correct I/I	2.0	Secondary	Secondary Limits	Town of Front Royal	July 1, 1983
20	Broadway	N.F. Shenandoah River WQ (1-5b)	Upgrade, expand, investigate I/I	⁽⁶⁾	⁽⁶⁾	⁽⁶⁾	Town of Broadway	July 1, 1983
24	Timberville	N.F. Shenandoah River WQ (1-5b)	Upgrade, expand, investigate I/I	⁽⁶⁾	⁽⁶⁾	⁽⁶⁾	Town of Timberville	July 1, 1983
25	New Market	N.F. Shenandoah River EL (1-5)	Upgrade, investigate I/I	0.2	Secondary	Secondary Limits	Town of New Market	July 1, 1983
26	Mount Jackson	N.F. Shenandoah River EL (1-5)	Upgrade, expand, correct I/I	-0.2	Secondary	Secondary Limits	Town of Mount Jackson	July 1, 1983

27	Edinburg	N.F. Shenandoah River-EL (1-5)	Upgrade, expand, investigate I/I	0.15	Secondary AST	Secondary Limits-65	Town of Edinburg Public	July 1, 1983 None
28	Stony Creek Sanitary District	River-EL (1-5) Stony Creek WQ (1-5a)	No further action required	0.6	AST	65	Public	
29	Woodstock	N.F. Shenandoah River-EL (1-5)		0.5	Secondary	Secondary Limits	Town of Woodstock	July 1, 1983
30	Toms Brook-Mauertown	Toms Brook-EL (1-5)	Construct new facility	0.189	Secondary	Secondary Limits	Toms Brook	No existing facility
34	Strasburg	N.F. Shenandoah River-EL (1-5)	Upgrade, expand, correct I/I	0.8	Secondary	Secondary Limits	Town of Strasburg	July 1, 1983
32	Middletown	Meadow Brook EL (1-5)	Upgrade, expand	0.2	Secondary	Secondary	Town of Middletown	July 1, 1983
33	Stephens City Stephens Run	Stephens Run-EL (1-6a)	Upgrade, expand	0.54	AST	72	Frederick-Winchester Service Authority	July 1, 1983
34	Berryville	Shenandoah River-EL (1-6)	Upgrade, provide outfall to Shenandoah River, investigate I/I	0.41	Secondary	Secondary Limits	Town of Berryville	July 1, 1983
36	Frederick-Winchester Regional	Opequon Creek WQ (1-7a)	Construct new facility, abandon county and city plans, correct I/I	6.0	AWT with nitrification	456 ⁽²⁾	Frederick-Winchester Service Authority	July 1, 1983
37	Monterey	West Strait Creek EL (1-9)	Upgrade, correct I/I	0.075	Secondary	Secondary Limits	Town of Monterey	July 1, 1983

TABLE B5 - NOTES: SHENANDOAH RIVER SUB-BASIN - RECOMMENDED PLAN FOR SELECTED MUNICIPAL WASTEWATER TREATMENT FACILITIES

⁽¹⁾ Year 2000 design flow (MGD) unless otherwise noted.

⁽²⁾ Secondary treatment: 24-30 mg/l BOD₅; advanced secondary treatment (AST): 11-23 mg/l BOD₅; advanced wastewater treatment (AWT): <10 mg/l BOD₅. A range is given to recognize that various waste treatment processes have different treatment efficiencies.

⁽³⁾ ~~Recommended wasteload allocation calculated using mathematical modeling based upon 7Q10 stream flows.~~

~~Tiered permits may allow greater wasteloads during periods of higher stream flows. Allocations other than BOD₅ are noted by footnote.~~

⁽⁴⁾ ~~The July 1, 1983, data is a statutory deadline required by P.L. 92-500, as amended by P.L. 92-217. The timing of construction grant funding may result in some localities to miss this deadline.~~

⁽⁵⁾ ~~Year 2008 design.~~

⁽⁶⁾ ~~This BOD loading is based on a 7Q10 flow rate of 26.8 cfs at the HRRSA discharge.~~

⁽⁷⁾ ~~NH₃-N = 50 lb/d.~~

⁽⁸⁾ ~~This allocation is based on a TKN loading no greater than 84 lb/day.~~

Potomac – Shenandoah River non-TMDL waste load allocations

<u>Potomac – Shenandoah River non-TMDL waste load allocations</u>								
<u>Water Body</u>	<u>Permit No</u>	<u>Facility Name</u>	<u>Outfall No.</u>	<u>Receiving Stream</u>	<u>River Mile</u>	<u>Parameter Description</u>	<u>WLA</u>	<u>Units WLA</u>
VAV-B02R	VA0023281	Monterey STP	001	West Strait Creek	3.85	CBOD5	11.4	KG/D
VAV-B08R	VA0065552	Opequon Water Reclamation Facility AKA Winchester – Frederick Regional	001	Opequon Creek	32.66	BOD5, JUN-NOV CBOD5, DEC-MAY	207 1514	KG/D KG/D
VAV-B14R	VA0025291	Fishersville Regional STP	001	Christians Creek	12.36	BOD5	182	KG/D
VAV-B23R	VA0060640	North River WWTF AKA Harrisonburg – Rockingham Reg. Sewer Auth.	001	North River	15.01	CBOD5, JAN-MAY CBOD5, JUN-DEC TKN, JUN-DEC TKN, JAN-MAY	1030 606 303 545	KG/D KG/D KG/D KG/D
VAV-	VA0002160	INVISTA - Waynesboro	041	South River	25.3	BOD5	272	KG/D

<u>Potomac – Shenandoah River non-TMDL waste load allocations</u>								
<u>Water Body</u>	<u>Permit No</u>	<u>Facility Name</u>	<u>Outfall No.</u>	<u>Receiving Stream</u>	<u>River Mile</u>	<u>Parameter Description</u>	<u>WLA</u>	<u>Units WLA</u>
<u>B32R</u>		<u>Formerly Dupont - Waynesboro</u>	<u>001</u>					
<u>VAV-B32R</u>	<u>VA0025151</u>	<u>Waynesboro STP</u>	<u>001</u>	<u>South River</u>	<u>23.54</u>	<u>CBOD5</u>	<u>227</u>	<u>KG/D</u>
						<u>CBOD5, JUN-OCT</u>	<u>113.6</u>	<u>KG/D</u>
<u>VAV-B35R</u>	<u>VA0024732</u>	<u>Massanutten Public Service STP</u>	<u>001</u>	<u>Quail Run</u>	<u>5.07</u>	<u>BOD5</u>	<u>137.85</u> <u>75.71</u>	<u>KG/D</u>
<u>VAV-B37R</u>	<u>VA0002178</u>	<u>Merck & Company</u>	<u>001</u>	<u>S.F. Shenandoah River</u>	<u>88.09</u>	<u>BOD5</u>	<u>1570</u>	<u>KG/D</u>
						<u>AMMONIA, AS N</u>	<u>645.9</u>	<u>KG/D</u>
<u>VAV-B49R</u>	<u>VA0028380</u>	<u>Stoney Creek Sanitary District STP</u>	<u>001</u>	<u>Stoney Creek</u>	<u>19.87</u>	<u>BOD5, JUN-NOV</u>	<u>29.5</u>	<u>KG/D</u>
<u>VAV-B53R</u>	<u>VA0020982</u>	<u>Middletown STP</u>	<u>001</u>	<u>Meadow Brook</u>	<u>2.19</u>	<u>CBOD5</u>	<u>20.8</u>	<u>KG/D</u>
<u>VAV-B58R</u>	<u>VA0020532</u>	<u>Berryville STP</u>	<u>001</u>	<u>Shenandoah River</u>	<u>24.23</u>	<u>CBOD5</u>	<u>42.6</u>	<u>KG/D</u>

CERTIFIED TRUE AND ACCURATE: _____
 Robert G. Burnley, Director, DEQ

DATE: _____