

**WV WIP3****Appendix 1. Significant Municipal Facilities**

WV/NPDES Permit Number	Facility Name	Outlet Number(s)	Model Land/River Segment	<u>Wasteload Allocation</u>	
				Total Nitrogen (#/yr Edge-of-Stream)	Total Phosphorus (#/yr Edge-of-Stream)
WV0020699	ROMNEY	001	WV-N54027PU4_4310_4210(CBWS)	7610	761
WV0021792	PETERSBURG	001	WV-L54023PU4_5050_4310(CBWS)	20557	2056
WV0022349	CHARLES TOWN	001, 203	WV-N54037PS5_4380_4370(CBWS)	42855	5367
WV0023167	MARTINSBURG	001	WV-N54003PU2_3900_3750(CBWS)	45662	4566
WV0024392	KEYSER	001	WV-N54057PU4_3970_3890(CBWS)	36547	3655
WV0024775	SHEPHERDSTOWN	001	WV-N54037PU6_4080_4180(CBWS)	6091	609
WV0027707	WARM SPRINGS PSD	001	WV-N54065PU6_3530_3440(CBWS)	26484	2648
WV0082759	BERKELEY COUNTY PSSD - Opequon Hedgesville	001 or 005	WV-N54003PU2_3900_3750(CBWS)	19787	1979
WV0082759	BERKELEY COUNTY PSSD - Inwood	002 or 006	WV-N54003PU2_4220_3900(CBWS)	22831	2283
WV0082759	BERKELEY COUNTY PSSD - Baker heights	003 or 007	WV-N54003PU2_4220_3900(CBWS)	22831	2283
WV0082759	BERKELEY COUNTY PSSD - North End	004 or 008	WV-N54003PU2_3900_3750(CBWS)	24353	2435
WV0106038	MOOREFIELD REGIONAL WWTP	001	WV-L54031PU4_4310_4210(CBWS)	51431	5221
WV0105988	FRANKFORT PSD	001	WV-N54057PU2_4160_3930(CBWS)	24656	3593

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Appendix 2. Significant Industrial Facilities

WV/NPDES Permit Number	Facility Name	Outlet Number(s)	Model Land/River Segment	Wasteload Allocation	
				Total Nitrogen (#/yr Edge-of-Stream)	Total Phosphorus (#/yr Edge-of-Stream)
WV0005649	LEETOWN SCIENCE CENTER	001-003	WV-N54037PU2_4220_3900(CBWS)	18273	1827
WV0111821	WVDNR-REEDS CREEK HATCHERY	001	WV-N54071PU1_5820_5380(CBWS)	26298	2630
WV0112500	WVDNR-SPRING RUN HATCHERY	008, 011	WV-L54023PU4_5050_4310(CBWS)	65480	6548
WV0116149	THE CONSERVATION FUND FRESHWATER INST	002, 004	WV-N54037PU6_3750_3752(CBWS)	15372	1538

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Appendix 3. Nonsignificant Municipal Facilities

WV/NPDES Permit Number	Facility Name	Outlet No.	Model Land/River Segment	Agency	Wasteload Allocation Component	
					Total Nitrogen (#/yr) EOS	Total Phosphorus (#/yr) EOS
WV0105872	BC PARTNERS	001	WV-N54037PS5_4370_4150(CBWS)	Non-Federal	2650	265
WV0105953	BERKELEY SPRINGS DEVELOPMENT, LLC	001	WV-N54065PU6_3610_3530(CBWS)	Non-Federal	3046	305
WV0024970	FRANKLIN	001	WV-L54071PU0_5620_5380(CBWS)	Non-Federal	10965	1828
WV0027405	PAW PAW	001	WV-N54065PU6_4020_3870(CBWS)	Non-Federal	10965	1828
WV0027707	WARM SPRINGS PSD - GC	002	WV-N54065PU3_3860_3610(CBWS)	Non-Federal	3290	548
WV0039136	HARPERS FERRY-BOLIVAR PSD	001	WV-N54037PS5_4370_4150(CBWS)	Non-Federal	16448	2741
WV0045501	WARDENSVILLE TOWN OF	001	WV-N54031PU3_4280_3860(CBWS)	Non-Federal	6579	1097
WV0081850	CENTRAL HAMPSHIRE PSD	001	WV-N54027PU6_4020_3870(CBWS)	Non-Federal	10965	1828
WV0101524	MOUNTAIN TOP PSD-Bayard (001)	001	WV-H54023PU2_4720_4750(CBWS)	Non-Federal	2741	457
WV0101524	MOUNTAIN TOP PSD-Gormanian (002)	002	WV-H54023PU2_4720_4750(CBWS)	Non-Federal	548	91
WV0101524	MOUNTAIN TOP PSD-Elk Garden (003)	003	WV-N54057PU3_4451_4450(CBWS)	Non-Federal	2741	457
WV0103161	BERKELEY COUNTY PSSD - Woods II	001	WV-N54003PU2_3900_3750(CBWS)	Non-Federal	4580	817
WV0105708	BERKELEY COUNTY PSSD - Brookefield	001	WV-N54003PU2_3900_3750(CBWS)	Non-Federal	2741	457
WV0105724	Old Standard, LLC	001	WV-N54037PS5_4370_4150(CBWS)	Non-Federal	1904	190
WV0105791	BERKELEY COUNTY PSSD - Marlowe	001	WV-N54003PU6_3602_3730(CBWS)	Non-Federal	2741	457
WV0105830	BERKELEY COUNTY PSSD -Forest Heights I	001	WV-N54003PU2_4220_3900(CBWS)	Non-Federal	1371	228
WVG410499	Gloria Ryals	001	WV-N54037PU6_4180_4150(CBWS)	Non-Federal	28	5
WVG410613	William W. Hartman	001	WV-N54071PU0_6080_5620(CBWS)	Non-Federal	33	5
WVG412046	C&R Development	001	WV-N54037PS5_4370_4150(CBWS)	Non-Federal	33	6
WVG412299	Leonard & Peg Mc Masters	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	27	5
WVG412450	Ruby M. Kisamore	001	WV-N54071PU1_5520_5210(CBWS)	Non-Federal	33	5
WVG412886	John e Russel	001	WV-N54027PU2_4340_3860(CBWS)	Non-Federal	27	5
WVG413117	Thomas Stollings	001	WV-N54003PU2_3770_3600(CBWS)	Non-Federal	27	5
WVG413235	Tilhance Farm Subdivision	001	WV-N54003PU2_3770_3600(CBWS)	Non-Federal	27	5
WVG413357	Julie Sheets & Issac Crouse	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	27	5
WVG413769	Kim-Sue Corporation	001	WV-N54027PU2_4340_3860(CBWS)	Non-Federal	27	5
WVG413868	MICHAEL HOCKMAN	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	28	5
WVG414126	JOHN G. DOBBIE	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	27	5
WVG414260	JEFFREY AND AMY SMITH	001	WV-N54057PU4_3970_3890(CBWS)	Non-Federal	28	5
WVG550023	BURLINGTON UM FAM. SERV.	001	WV-N54057PU2_4360_4160(CBWS)	Non-Federal	274	46
WVG550120	E A Hawse Nursing & Rehab Center	001	WV-N54031PU3_4280_3860(CBWS)	Non-Federal	1124	187
WVG550132	FALLING WATERS ESTATES	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	987	164

WV/NPDES Permit Number	Facility Name	Outlet No.	Model Land/River Segment	Agency	Wasteload Allocation Component	
					Total Nitrogen (#/yr) EOS	Total Phosphorus (#/yr) EOS
WVG550137	Oakhill MHC	001	WV-N54037PS5_4380_4370(CBWS)	Non-Federal	822	137
WVG550140	C&J Utilities, LLC	001	WV-L54023PU4_5050_4310(CBWS)	Non-Federal	614	102
WVG550189	CAMP TIMBERRIDGE	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	1151	192
WVG550214	TROUT POND RECREATION AREA	001	WV-N54031PU3_4280_3860(CBWS)	Federal	724	121
WVG550292	SENECA ROCKS MINI MALL	001	WV-N54071PU3_5210_5050(CBWS)	Non-Federal	99	16
WVG550345	PRIESTFIELD PASTORAL CTR	001	WV-N54003PU2_4220_3900(CBWS)	Non-Federal	932	155
WVG550357	CHERRY RUN MHP	001	WV-N54003PU6_3640_3600(CBWS)	Non-Federal	713	119
WVG550373	Berkeley Springs Rehab & Nursing	001	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	1919	320
WVG550375	WALNUT LANE ESTATES	001	WV-N54027PU4_4310_4210(CBWS)	Non-Federal	411	69
WVG550387	TRI-LAKE PARK	001	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	2741	457
WVG550411	HARPERS FERRY KOA	001	WV-N54037PS5_4370_4150(CBWS)	Non-Federal	1919	320
WVG550433	USDA- Forest Service	001	WV-L54023PU4_5050_4310(CBWS)	Federal	82	14
WVG550455	MOUNT STORM VILLAGE	001	WV-N54023PU1_4760_4451(CBWS)	Non-Federal	367	61
WVG550499	Crystal Valley Ranch	001	WV-N54027PU4_4310_4210(CBWS)	Non-Federal	164	27
WVG550524	Fountainhead Sewerage System	001	WV-N54057PU2_4360_4160(CBWS)	Non-Federal	713	119
WVG550529	SMOKE HOLE CAVERNS	001	WV-N54023PU3_5210_5050(CBWS)	Non-Federal	274	46
WVG550533	Shenandoah Junction WWTP	001	WV-N54037PU6_4180_4150(CBWS)	Non-Federal	987	164
WVG550629	WOODSEdge MHP	001	WV-N54071PU2_5700_5210(CBWS)	Non-Federal	439	73
WVG550636	Cave Quarter WWTP	001	WV-N54037PS5_4380_4370(CBWS)	Non-Federal	877	146
WVG550656	Powell's Patch	001	WV-N54003PU2_3900_3750(CBWS)	Non-Federal	1371	228
WVG550673	Waugh's Community Home Park	001	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	806	134
WVG550690	UNION EDUCATIONAL	001	WV-H54023PU1_4760_4451(CBWS)	Non-Federal	439	73
WVG550694	522 INDUSTRIAL PARK	001	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	1371	228
WVG550699	UPPER TRACT PENDELTON CNTY IND. PK	001	WV-L54071PU1_5820_5380(CBWS)	Non-Federal	822	137
WVG550733	EVERGREEN CENTER	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	548	91
WVG550766	ALLEN'S MOBILE VILLAGE	001	WV-L54023PU1_5380_5050(CBWS)	Non-Federal	548	91
WVG550778	BROAD LANE MHP	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	1480	247
WVG550786	CAPON SPRINGS AND FARM	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	2193	366
WVG550792	S.O.M.E. INC.	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	329	55
WVG550793	GRANT COUNTY DEVELOPMENT AUTHORITY	001	WV-H54023PU1_4840_4760(CBWS)	Non-Federal	274	46
WVG550812	Pendleton Business Ctr	001	WV-N54071PU0_6080_5620(CBWS)	Non-Federal	1097	183
WVG550815	JUDY LYNN MOBILE HOME PARK	001	WV-N54003PU2_3900_3750(CBWS)	Non-Federal	274	46
WVG550823	Burgundy Center for Wildlife Studies	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	192	32
WVG550827	BUFFALO RUN TRAILER COURT	001	WV-N54027PU4_4310_4210(CBWS)	Non-Federal	329	55
WVG550828	Cliffside Inn, LLC	001	WV-N54037PS5_4370_4150(CBWS)	Non-Federal	932	155

WV/NPDES Permit Number	Facility Name	Outlet No.	Model Land/River Segment	Agency	Wasteload Allocation Component	
					Total Nitrogen (#/yr) EOS	Total Phosphorus (#/yr) EOS
WVG550854	PEPPER TREE MHP	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	66	11
WVG550856	MIDWAY MOBILE HOME PARK	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	1261	210
WVG550858	Berkeley Co PSSD Ghant MHP	001	WV-N54003PU2_3900_3750(CBWS)	Non-Federal	411	69
WVG550862	VALLEY DALE MAINT. ASSOC.	001	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	548	91
WVG550884	COOLFONT MOUNTAINSIDE ASSOCIATION	001	WV-N54065PU6_3610_3530(CBWS)	Non-Federal	1069	178
WVG550911	POTOMAC PARK CAMP INC	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	1371	228
WVG550914	MARLOWE GARDEN APTS-PHASE I	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	822	137
WVG550937	LOST RIVER STATE PARK	001	WV-N54031PU3_4280_3860(CBWS)	Non-Federal	493	82
WVG550938	AVALON VILLAGE CONDO.	001	WV-N54027PU3_3860_3610(CBWS)	Non-Federal	345	58
WVG550964	HIGHPOINTE SUBDIVISION	001	WV-N54003PU2_4220_3900(CBWS)	Non-Federal	614	102
WVG550966	The Corners at Arden WWTP	001	WV-N54003PU2_4220_3900(CBWS)	Non-Federal	722	120
WVG551048	Springer Run Park	001	WV-N54003PU2_3770_3600(CBWS)	Non-Federal	1645	274
WVG551055	Union Gap Subdivision	001	WV-N54003PU2_4220_3900(CBWS)	Non-Federal	507	84
WVG551078	Berkeley County PSSD (Tomahawk Elementary)	001	WV-N54003PU2_3770_3600(CBWS)	Non-Federal	329	55
WVG551105	Concord Retreat LLC	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	334	56
WVG551122	Cacapon East, Inc	001	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	548	91
WVG551158	Blue Ridge Elementary	001	WV-N54037PS5_4380_4370(CBWS)	Non-Federal	658	110
WVG551159	Page Jackson Elementary School	001	WV-N54037PS5_4380_4370(CBWS)	Non-Federal	658	110
WVG551160	Whitebush Landing Subdivision	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	614	102
WVG551163	Ridge View Subdivision	001	WV-N54065PU6_3530_3440(CBWS)	Non-Federal	1480	247
WVG551181	WVDNR - Cacapon State Park	001	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	2741	457
WVG551199	Berkeley County PSSD (Northbrook WWTP)	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	1151	192
WVG551203	Sugar Grove LLC	001	WV-N54071PU2_6050_5190(CBWS)	Non-Federal	2741	457
WVG551208	Potomac Plaza	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	55	9
WVG551222	Cacapon South Utility	001	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	2083	347
WVG551230	Colonial Motel	001	WV-N54027PU4_4310_4210(CBWS)	Non-Federal	123	21
WVG551257	Antietam, LLC	001	WV-N54003PU2_3900_3750(CBWS)	Non-Federal	493	82
WVG551263	Morgan Village MHP	001	WV-N54003PU6_3640_3600(CBWS)	Non-Federal	1919	320
WVG551283	Capon Bridge Technology Park	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	1371	228
WVG551285	Peterkin Camp & Conference Ctr	001	WV-N54027PU4_4310_4210(CBWS)	Non-Federal	1097	183
WVG551294	BERKELEY COUNTY PSSD - Honeywood	001	WV-N54003PU6_3600_3602(CBWS)	Non-Federal	2741	457
WVG551311	Hickory Run Subdivision	001	WV-N54003PU2_3770_3600(CBWS)	Non-Federal	614	102
WVG551338	CACAPON INVESTMENTS, LLC	001	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	110	18
WVG551343	T&S Market	001	WV-N54027PU4_4310_4210(CBWS)	Non-Federal	274	46
WVG551349	Hardy County High School	001	WV-N54031PU3_4280_3860(CBWS)	Non-Federal	274	46

WV/NPDES Permit Number	Facility Name	Outlet No.	Model Land/River Segment	Agency	Wasteload Allocation Component	
					Total Nitrogen (#/yr) EOS	Total Phosphorus (#/yr) EOS
WVG551350	CAPON BRIDGE	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	2741	457
WVG551367	N & S Family Resturant	001	WV-N54031PU3_4280_3860(CBWS)	Non-Federal	110	18
WVG551369	Gerrardstown (Mtn Ridge) Intermediate School	001	WV-N54003PU2_4220_3900(CBWS)	Non-Federal	439	73
WVG551371	Seneca Shadows Campground	001	WV-N54071PU2_5700_5210(CBWS)	Federal	724	121
WVG551390	Central Hampshire PSD No. 2	001	WV-N54027PU6_4020_3870(CBWS)	Non-Federal	2193	366
WVG551394	South Fork Crossing Subdivision	001	WV-N54071PU2_6050_5190(CBWS)	Non-Federal	184	31
WVG551400	Skyline Village Treatment Plant	001	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	603	101
WVG551421	FOUNTAINHEAD SUBDIVISION	001	WV-N54003PU2_3900_3750(CBWS)	Non-Federal	1371	228
WVG551422	HARDY COUNTY PSD	001	WV-N54031PU3_4280_3860(CBWS)	Non-Federal	2193	366
WVG551424	SLEEPY KNOLLS SUBDIVISION	001	WV-N54027PU6_4020_3870(CBWS)	Non-Federal	1151	192
WVG551448	US CUSTOMS AND BORDER PROTECTION	001	WV-N54037PS5_4370_4150(CBWS)	Federal	2193	366
WV0105830	BERKELEY COUNTY PSSD -Forest Heights II	002	WV-N54003PU2_4220_3900(CBWS)	Non-Federal	2851	475
WVG414907	ROBERTSON, CHARLES N	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	33	5
WVG414926	ESTATE OF WAYNE E EATON	001	WV-H54057PU3_4451_4450(CBWS)	Non-Federal	27	5
WVG414957	HALE, JASON R	001	WV-N54057PU4_3970_3890(CBWS)	Non-Federal	27	5
WVG415112	KUHLMANN, WILLIAM	001	WV-N54057PU4_3970_3890(CBWS)	Non-Federal	27	5
WVG415146	MINERAL COUNTY HISTORICAL FOUNDATION	001	WV-N54057PU2_4360_4160(CBWS)	Non-Federal	27	5
WVG415392	DCM PROPERTIES, LLC	001	WV-N54057PU2_4360_4160(CBWS)	Non-Federal	27	5
WVG415507	SALAS, FRANK	001	WV-N54027PU3_4280_3860(CBWS)	Non-Federal	27	5
WVG415512	BREWSTER, PETER W	001	WV-N54003PU2_3770_3600(CBWS)	Non-Federal	27	5
WVG415568	TEPHABOCK, WILLIAM MAYNARD FORREST	001	WV-H54057PU3_4451_4450(CBWS)	Non-Federal	33	5
WVG415805	DROPPELMAN, JOHN & CHRISTINE	001	WV-N54057PU4_3970_3890(CBWS)	Non-Federal	27	5
WV1018027	Mettiki Coal	402	WV-H54023PU2_4720_4750(CBWS)	Non-Federal	17	0
WV0105384	RIVERBEND MEMBERSHIP CORP	001	WV-N24043PU6_3600_3602(CBWS)	Non-Federal	5483	914
WVG551450	POTOMAC ROCK ESTATES, LLC	001	WV-N24043PU6_3750_3752(CBWS)	Non-Federal	493	82

**WV WIP3****Appendix 4. Nonsignificant Industrial Facilities**

WV/NPDES Permit Number	Facility Name	Outlet No.	Model Land/River Segment	Agency	Wasteload Allocation Component	
					Total Nitrogen (#/yr) EOS	Total Phosphorus (#/yr) EOS
WV0005517	OX PAPERBOARD, LLC	001	WV-N54037PS5_4370_4150(CBWS)	Non-Federal	2437	609
WV0005525	VIRGINIA ELECTRIC & POWER	001	WV-H54023PU1_4840_4760(CBWS)	Non-Federal	121837	6092
WV0020371	NAVAL SEA SYSTEMS COMMAND	204	WV-N54057PU4_3970_3890(CBWS)	Federal	3378	338
WV0020371	ALLIANT TECHSYSTEMS, INC.	107	WV-N54057PU4_3970_3890(CBWS)	Non-Federal	122	12
WV0105112	US FISH & WILDLIFE SERVICE	001	WV-N54037PU6_3750_3752(CBWS)	Federal	4496	749
WV0105856	PNGI CHARLES TOWN GAMING LLC	001	WV-N54037PU2_4220_3900(CBWS)	Non-Federal	5300	530
WV0115321	VEPCO-NORTH BRANCH POWER STATION	001	WV-H54023PU2_4750_4451(CBWS)	Non-Federal	82	14
WVG980070	WV DEPARTMENT OF TRANSPORTATION	001	WV-N54031PU3_4280_3860(CBWS)	Non-Federal	NA	25
WVG980093	WV DEPARTMENT OF TRANSPORTATION	001	WV-N54071PU2_6050_5190(CBWS)	Non-Federal	NA	25
WVG980098	WV DEPARTMENT OF TRANSPORTATION	001	WV-L54023PU4_5050_4310(CBWS)	Non-Federal	NA	25
WVG980099	WV DEPARTMENT OF TRANSPORTATION	001	WV-N54023PU1_4760_4451(CBWS)	Non-Federal	NA	25
WVG980141	WV DEPARTMENT OF TRANSPORTATION	001	WV-N54003PU6_3730_3750(CBWS)	Non-Federal	1097	183
WVG980150	WV DEPARTMENT OF TRANSPORTATION	001	WV-N54057PU2_4360_4160(CBWS)	Non-Federal	170	50
WVG990023	BURLINGTON VOLUNTEER FIRE DEPT	001	WV-N54057PU2_4360_4160(CBWS)	Non-Federal	NA	56
WVG990038	CLASSIC CAR WASH	001	WV-N54057PU2_4160_3930(CBWS)	Non-Federal	NA	77
WVG990075	ROTH, JEFFREY R	001	WV-L54023PU4_5050_4310(CBWS)	Non-Federal	NA	77
WVG990109	PERDUE FARMS INC	001	WV-N54031PU3_4280_3860(CBWS)	Non-Federal	NA	50
WVG990120	NATIONAL PARK SERVICE	001	WV-N54037PS5_4370_4150(CBWS)	Federal	NA	195
WVG990129	POLINO CONTRACTING, INC.	001	WV-H54023PU1_4840_4760(CBWS)	Non-Federal	NA	90
WV0116980	WVDNR - Petersburg Hatchery	001	WV-L54023PU4_5050_4310(CBWS)	Non-Federal	7456	913
WV0117293	WVDNR - Ridge Hatchery	001-007	WV-N54065PU2_3630_3590(CBWS)	Non-Federal	4067	470

**WV WIP3**

**Appendix 5. Combined Sewer Overflows**

WV/NPDES Permit Number	Facility Name	Model Land/River Segment	<u>Model Baseline (No Action) Loads</u>		<u>Wasteload Allocation (85% Reduction)</u>	
			Total Nitrogen (#/yr Edge-of-Stream)	Total Phosphorus (#/yr Edge-of-Stream)	Total Nitrogen (#/yr Edge-of-Stream)	Total Phosphorus (#/yr Edge-of-Stream)
WV0106038	MOOREFIELD REGIONAL WWTP	WV-L54031PU4_4310_4210 (CBWS)	692	86	104	13
WV0106038	MOOREFIELD REGIONAL WWTP	WV-L54031PU2_5190_4310 (CBWS)	1805	226	271	34
WV0023167	MARTINSBURG	WV-N54003PU2_3900_3750(CBWS)	40606	5076	6091	761
WV0023167	MARTINSBURG	WV-N54003PU2_4220_3900(CBWS)	392	49	59	7
WV0024392	KEYSER	WV-N54057PU4_3970_3890(CBWS)	7949	994	1192	149
WV0105279	PIEDMONT	MD-N24001PU4_3970_3890 (CBWS)*	144	18	22	3
WV0105279	PIEDMONT	WV-N54057PU4_3970_3890 (CBWS)	3296	412	494	62
WV0105279	PIEDMONT	MD-N24001PU4_4440_3970 (CBWS)*	4642	580	696	87

\* Modeled loads from West Virginia sources in this North Branch Potomac mainstem model segment attributed inappropriately to Maryland



## Section G - Nutrient Requirements

1. The Chesapeake Bay Total Maximum Daily Load (TMDL) provides individual total nitrogen and total phosphorus wasteload allocations of 45,662 pounds per year and 4,566 pounds per year, respectively.
2. Permit limitations for total nitrogen and total phosphorous are being implemented on an Annual Total Load basis. The Annual Total Load Limitations shall be attained in accordance with the following:
  - a. The Division recognizes there is not an EPA approved method to directly test for Total Nitrogen. The Total Nitrogen value to be reported on the permittee's Discharge Monitoring Reports (DMRs) shall be the sum of the following parameters; Total Kjeldahl Nitrogen, Nitrate, and Nitrite.
    - 1) If all three (3) constituents of total nitrogen are not detected at its method detection limit (MDL), the permittee shall sum the actual MDLs for each constituent and report the result as less than the calculation.
    - 2) When calculating the sum of the constituents for total nitrogen, the permittee shall use actual analytical results when these results are greater than or equal to the MDL for a particular constituent and should use zero (-0-) for a constituent if one (1) or two (2) of constituents are less than the MDL.
  - b. Effluent monitoring for the following pollutants shall be conducted using the most sensitive methods and detection levels commercially available and economically feasible. The following methods and detection levels are recommended to be used unless the permittee desires to use an EPA Approved Method with a lower detection level:

Parameter	EPA Method No.	Method Detection Limit (mg/l)
-----	-----	-----
Total Kjeldahl Nitrogen	351.2	0.05
Nitrate Nitrogen	300.0	0.002
Nitrite Nitrogen	300.0	0.004
Total Phosphorous	365.4	0.01

Any "not detected (ND)" results by the permittee must be "ND" at the method detection limit (MDL) for the test method used for that parameter and must be reported as less than the MDL used (See Section E.02.a for nitrogen). The permittee may not report the result as zero, "ND", or report the result as less than a minimum level (ML), reporting limit (RL), or practical quantitation limit (PQL).

- c. The permittee shall collect 24-hour composite samples for total phosphorous and for each constituent of total nitrogen. All sampling shall be collected concurrently and shall be representative of normal operations.
- d. The actual total (not the average) monthly flow of Outlet No. 001 shall be used in conjunction with the average monthly total nitrogen and total phosphorous concentration results in order to determine the total monthly mass results for DMR reporting purposes.

[Total Flow Discharged in Month (Million Gallons per Month)] \* [Average Monthly Nutrient Concentration (mg/l)] \* [8.34] = Monthly Load (lbs/month)

- e. The sum of total monthly mass results for total nitrogen and total phosphorous shall not exceed the following annual mass limitations for any year.

### FINAL LIMITS AS PRESCRIBED IN SECTION A.001

Parameter	Annual Total Load Limit
-----	-----
Total Nitrogen	45,662 lbs/yr
Total Phosphorous	4,566 lbs/yr

- f. As a guideline, the permittee for Outlet No. 001 shall measure its monthly performance to determine if operations will achieve the annual total load limits. If the total monthly load exceeds 3,805 lbs/month for nitrogen or 381 lbs/month for phosphorous, the permittee shall submit written documentation which explains the elevated monthly totals and the rationale for ensuring that the annual loads will still be achieved in future months.
3. Expansion of the wastewater treatment plant beyond the average design flow of 3.0 million gallons per day shall require the permittee to obtain offsets. Said offsets shall be submitted to the Director for approval, and the permit subsequently modified prior to any expansion.

## **Section G - Nutrient Requirements**

4. At present, no trading or offset program has been established by the state. Proposals will continue to be evaluated on a case-by-case basis until a trading and/or offset program has been established.
5. The annual monitoring period for total nitrogen and total phosphorous is prescribed as March 1st through February 28th. As such, the permittee shall report the total annual mass load for total nitrogen and total phosphorous based on monthly totals from March through February on the February DMR.
6. The permittee shall submit an annual report on, or before, April 1st each year which summarizes the following information.
  - a. The permittee shall summarize the previous year's nutrient data. This may be accomplished in letter form and shall include all calculations of the year's mass loadings reported. In general, this report shall include a table depicting the monthly loadings discharged for the previous year as well as an assessment of compliance with the nitrogen and phosphorus annual limitations in Section A.001.
  - b. For the purpose of this condition, a year is defined as March 1st through February 28th.

## 1.0 Location and Description of the Federal land or Facility

### 1.1 Facility Name

The following Department of Defense (DoD) installations are located within the jurisdictional boundaries of West Virginia.

- U.S. Army 99th Regional Support Command (WV)
  - Martinsburg Army Reserve Center, 900 Maryland Avenue, Martinsburg WV, 25401
  - Romney Reserve Center, 11 Industrial Park, Romney WV, 26757
- Allegany Ballistics Laboratory

### 1.2 Property Boundaries

Property boundary information for each of the installations can be found in the Chesapeake Assessment and Scenario Tool (CAST) located at the following link:

<https://cast.chesapeakebay.net/Documentation/MapToolSpatialData>.

### 1.3 Land Cover

The land cover on DoD installations within the Chesapeake Bay watershed is comprised of developed and natural acres. Table 1 summarizes the acres of various land source groups extracted from CAST for DoD lands. The total acreage values also include two US Army Corps of Engineers (USACE) reservoirs. Although CAST does not include the acres of active construction sites on DoD installations, these activities are part of the land cover condition. As of December 2018, there were nine active construction permits on DoD installations. There are no Point Sources (i.e. wastewater treatment plants) owned or operated by DoD installations within West Virginia.

Table 1: DoD Land Cover Acreages per Load Source Group:		
CAST Compare Scenarios between 2010 No Action and 2017 Progress V9		
Jurisdiction: West Virginia	2010 Partnership No Action Scenario	2017 Partnership Progress Scenario V9
Developed	960.2	988.7
<u>Developed Impervious</u>	<u>411.5</u>	<u>425.3</u>
CSS Buildings and Other	3.3	3.5
CSS Roads	0.1	0.1
CSS Tree Canopy over Impervious	0.0	0.0
MS4 Buildings and Other	0.0	0.0
MS4 Roads	0.0	0.0
MS4 Tree Canopy over Impervious	0.0	0.0
Non-Regulated Buildings and Other	294.5	305.0
Non-Regulated Roads	50.6	52.1
Non-Regulated Tree Canopy over Impervious	63.1	64.6
<u>Developed Pervious</u>	<u>548.7</u>	<u>563.5</u>
CSS Tree Canopy over Turf Grass	0.2	0.3
CSS Turf Grass	3.1	3.4

MS4 Tree Canopy over Turf Grass	0.0	0.0
MS4 Turf Grass	0.0	0.0
Non-Regulated Tree Canopy over Turf Grass	267.3	273.5
Non-Regulated Turf Grass	278.1	286.4
<u>Developed Construction</u>	<u>0.0</u>	<u>0.0</u>
CSS Construction	0.0	0.0
Regulated Construction	0.0	0.0
Natural	9,045.4	9,016.9
CSS Forest	0.0	0.0
CSS Mixed Open	2.1	1.6
Harvested Forest	0.0	0.0
Headwater or Isolated Wetland	0.0	0.0
Mixed Open	926.5	924.6
Non-tidal Floodplain Wetland	1.1	1.1
True Forest	7,529.8	7,504.3
Water	585.9	585.2
Total	10,005.7	10,005.7

## 1.4 Area

In total, DoD installations (excluding USACE sites) cover 1,607.4 acres within West Virginia. See Table 2 for a breakdown by Installation.

**Table 2 : Acreage of DoD Installations within West Virginia**

Installation	Total Area	Impervious Area	Pervious Area
99th RSC (WV)	7.4	4.3	3.1
Allegany Ballistics Laboratory	1,600.0	50.0	1,550.0
Total	1,607.4	54.3	1,553.1

## 1.5 Land Use Types

DoD installations are composed of military and/or industrial functions with some residential and open space land uses.

## 1.6 Nature of Activities

DoD installations in West Virginia are engaged in a variety of activities including military training, weapon testing, ceremonial activities, environmental compliance and natural resources protection, enhancement, and restoration.

## 2.0 Description and Estimation of Current Releases of Nitrogen, Phosphorus and Sediment from those federal Lands or Facilities (Point and Non-Point Sources) and an Estimate of Anticipated Growth Through 2025

Each year, the DoD collects stormwater Best Management Practice (BMP) records from installations. Those records are then consolidated and reported to all of the Chesapeake Bay Jurisdictions, including West Virginia. From there, the records are entered into a state record and assigned a tracking ID. Jurisdictions then report their entire progress from all partners, which is then compiled in the National Environmental Information Exchange Network (NEIEN). After passing through NEIEN, the stormwater BMP data is uploaded into CAST with a state unique ID. The state unique ID number allows DoD to track crediting through the various stages of reporting. Stormwater BMP crediting is an important step in understanding current releases of total nitrogen (TN), total phosphorus (TP), and total suspended sediment (TSS) because it allows DoD to track our implementation and determine if the Partnership's annual progress scenario properly characterizes our implementation and nutrient and sediment load reductions.

While it is difficult for DoD installations to predict future mission requirements, estimates of anticipated growth through year 2025 were reported by installations during the FY18 CBP datacall and are represented in Table 3 below. No potential growth has been reported no additional runoff or pollutant loading to the Chesapeake Bay is anticipated.

**Table 3: DoD Estimates of Anticipated Growth in WV Through 2025 (acres)**

Installation	2018 New Development	2018 Redevelopment	New Development Through 2025	Redevelopment Through 2025
99th RSC (WV)	0.0	0.0	0.0	0.0
Allegany Ballistics Laboratory	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0

### 3.0 Verified Records of the Existing BMPs that have been Implemented and Maintained through 2017

Installations are responsible for ensuring stormwater best management practices are inspected and maintained according to design specifications and permit requirements. Each year, the DoD collects BMP records from installations. Those records are then consolidated and reported to the jurisdiction by the DoD Chesapeake Bay Program (DoD CBP).

As part of DoD's overall reporting framework, which strives to improve the data quality reported by installations, DoD integrated verification into their FY2018 Annual BMP datacall. DoD flagged specific BMPs within the historical record on (1) their inspection and maintenance status and (2) if a BMP was not installed or had not been inspected in the past five years. Installations were expected to update BMP information with inspection dates, inspection status, and maintenance performed, if necessary.

### 4.0 Description of Existing Programs, Policies, and Strategies (with examples) Used to Drive BMP Implementation

There are several existing policies and programs that since their promulgation that have provided the necessary drivers for DoD to fund projects that ultimately drive stormwater BMP implementation. The following provides those existing policies internal and external to DoD.

#### 4.1 Compliance with the Clean Water Act (CWA)

**4.2 2014 Chesapeake Bay Watershed Agreement:** DoD was one of the first federal agencies to become formally involved in the Chesapeake Bay restoration effort in 1984, and in 1990, we further strengthened our participation and role by linking DoD environmental initiatives to the EPA's Chesapeake Bay Program. The

latest Chesapeake Bay Watershed Agreement, signed in 2014, identifies a range of desired results for the restoration of the Bay through goals and outcomes. As an engaged partner towards Clean Water, DoD committed to the 2017/2025 WIP Outcome as a participating agency. In addition, the DoD monitors, assesses, and reports on installation efforts that enhance abundant life, conserve lands, and engage communities.

- 4.3 2009 Executive Order (EO) 13508 / 2010 EO 13508 Strategy:** In accordance EO 13508, the federal government should lead the effort to restore and protect the Chesapeake Bay. DoD continues to demonstrate our commitment to this effort in accordance with the EO and accompanying strategy. Since their release, the DoD has conducted installation-wide BMP inventories or conducted surveys or BMP Opportunity Assessments to determine potential locations for additional stormwater retrofits on developed land that have little to no stormwater management. These assessments identify ways to strengthen and manage stormwater including structural and non-structural BMPs, erosion control, and infrastructure maintenance and repair opportunities.
- 4.4 Unified Facilities Criteria (UFC) 3-210-10:** The UFC provides technical criteria, technical requirements, and references for the planning and design of applicable DoD projects to comply with stormwater requirements under Section 438 of the Energy Independence and Security Act (EISA) enacted in December 2007 and the Deputy Under Secretary of Defense DoD policy on implementation of stormwater requirements under EISA Section 438.
- 4.5 Section 438 of the Energy Independence and Security Act (EISA) of 2007:** EISA Section 438 addresses stormwater runoff requirements for federal development projects. EISA Section 438 requires that the sponsor of any development or redevelopment project involving a federal facility with a footprint that exceeds 5,000 sq. ft. shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. . The Deputy Under Secretary of Defense (Installations and Environment) Memorandum of 19 January 2010 directs DoD components to implement EISA 438 using Low Impact Development (LID) techniques. Individual Services may have more stringent implementation and applicability requirements relating to LID.
- 4.6 Implementation of the Navy's Low Impact Development Policy:** Navy installations continue to implement the LID Policy for Stormwater Management. Low Impact Development (LID) minimizes the impact of development by mimicking pre-development runoff hydrology. It uses site planning and Integrated Management Practices (IMPs) to store, infiltrate, evaporate, and detain runoff to restore pre-development infiltration rates. Practicing LID helps DoD installations by recharging groundwater supply, reducing runoff volume and the potential for flooding, improving water quality by reducing pollutant loading, and reducing the impacts from pollution on aquatic habitat and wildlife. The DoD Unified Facilities Criteria (UFC 3-210-10) provides for planning, design, construction, sustainment, restoration, and modernization criteria consistent with LID.
- 4.7 EO 13834 Efficient Federal Operations:** Under Executive Order 13834, federal agencies are directed to prioritize actions that reduce waste, cut costs, enhance the resilience of federal infrastructure and operations, and enable more effective accomplishment of its mission. In implementing policy, federal agencies must meet several goals, which are based on statutory requirements, in a cost-effective manner including reduce potable and non-potable water consumption and comply with stormwater management requirements. Where still in use, environmental management systems provide an opportunity to blend Chesapeake Bay priorities and BMP implementation and maintenance into the day-to-day operations of federal lands and facilities. As federal agencies work toward meeting the full range of sustainability goals, the Chesapeake Bay watershed will benefit.
- 4.8 Army Policy for Sustainable Design and Development (SSD):** The Army Sustainable Design and Development Policy builds on the Army's long-standing energy efficiency and sustainability practices with the goal of

increasing the resiliency of its facilities and installations, enhance mission effectiveness, reduce the Army's environmental footprint, and achieve levels of energy independence that enhance continuity of mission-essential operations. The policy applies to all infrastructure planning, design, sustainment, restoration, modernization, and construction on Army installations. Accordingly, the Army will plan, design, build, maintain and operate facilities to achieve the highest-performing sustainable design that is life-cycle cost-effective. Construction activities will be planned programmed, budgeted, designed, built, maintained, and operated to comply with EAct 2005, EISA 2007, and EO 13693 and conform to the Guiding Principles for Federal Sustainable Buildings as detailed in the Policy. The following Policy requirements address water quality issues in the WIP:

- ♦ **Siting and Site Development:** Compact development, in-fill, minimal building footprints and spacing, and greater residential densities will be applied to achieve optimal densities. These practices will also help minimize or reduce impervious surface area and the potential for resulting polluting runoff.
- ♦ **Stormwater Management:** Site development for all projects of 5,000 ft<sup>2</sup> or greater shall retain the pre-development site hydrology in accordance with EISA 2007 Section 438, UFC 3-210-10. These projects must be planned, designed, and constructed to manage any increase in storm water runoff (i.e., the difference between pre- and post-project runoff) within the limit of disturbance. Projects will maximize the use of existing site topography including soils, flora, slope, and hydrology to minimize site disturbance including clearing and soil grubbing activities. Documentation of the project's compliance with EISA 438 will be maintained in the project file and will be reported via the chain of command for annual SSPP reporting.
- ♦ **Water Use:** The overall goal is to identify and implement water reuse strategies to use water efficiently including the use of alternative water sources (e.g. rainwater, reclaimed water, greywater, etc.). All projects will use water-efficient landscape strategies that achieve a minimum of 50% water reduction. To further reduce outdoor water use, native plant species and dry-scape architectural alternatives will also be considered. Irrigation will not be used except where specifically required by Army policy or during the initial plant establishment phase. Projects that require irrigation will use alternative water in place of potable water.
- ♦ **Planning, Design and Construction:** All new construction vertical projects and comprehensive building renovations meeting the thresholds in UFC 1-200-02 Table 1-1 will be certified at the Leadership in Energy and Environmental Design (LEED) for Building Design and construction Silver level at a minimum.

**4.9 Leadership in Energy and Environmental Design (LEED):** LEED is an internationally recognized green building certification system developed by the U.S. Green Building Council. It promotes a whole building sustainability approach through energy savings, water efficiency, materials management, and air emissions. With regard to stormwater management, LEED addresses stormwater quality and quantity and increased water efficiency.

**4.10 Sikes Act:** DoD installations with significant natural resources are required by the Sikes Act to develop and implement Integrated Natural Resource Management Plans (INRMPs). They integrate military mission requirements, environmental and master planning documents, cultural resources, and outdoor recreation to ensure both military operations and natural resources conservation are included and consistent with stewardship and legal requirements. INRMPs require installations to look holistically at natural resources on a landscape or ecosystem basis. They are living documents that provide direction for daily natural resources management activities and they provide a foundation for sustaining military readiness. They describe how to manage natural resources, allow for multipurpose uses of those resources, and define public access—all while ensuring no net loss in the capability of an installation to support its military testing and training mission. Although variations exist among the different Military Services, a basic INRMP includes:

- ♦ A description of the installation, its history, and its current mission;
- ♦ Management goals and associated timeframes;
- ♦ Projects to be implemented and estimated costs;

**Appendix 7. Department of Defense Input West Virginia Phase III Watershed Implementation Plan**

- ♦ A discussion of how the military mission and training requirements are supported while protecting the environment;
- ♦ Natural resources' biological needs and legal requirements;
- ♦ The role of the installation's natural resources in the context of the surrounding ecosystem; and
- ♦ Input from the U.S. Fish & Wildlife Service (USFWS), state fish and wildlife agency, and the public.

To address installation requirements and regional issues, INRMPs involve appropriate stakeholders, thereby providing for more efficient and effective management of natural resources on a landscape-scale basis, all while ensuring that military readiness is sustained.

INRMPs propose projects to address natural resources, but many of those projects also provide a water quality co-benefit (wetland restoration, tree planting, riparian buffer enhancement, etc.). Projects with water quality co-benefits will be considered for meeting additional TN, TP and TSS reductions and tracked and reported to the jurisdictions for BMP credit in the Bay Model.

## 5.0 Inventory of National Pollution Discharge Elimination (NPDES) Permits

Table 4 provides a summary of the types of NPDES permits located on DoD Installations in West Virginia:

Table 4: Type of NPDES Permit Coverage located on DoD Installations in West Virginia				
Installation	MS4	Industrial	WWTP	Construction (2018)
99th RSC (WV)	N	N	N	N
Allegheny Ballistics Laboratory	N	Y	N	N

## 6.0 Description of Facility's Stormwater Management Program including, but not limited to, Municipal Separate Storm Sewer System (MS4) Permit Requirements, if applicable

As mentioned above, neither of the two installations in WV are covered by MS4 permits. DoD complies with regulations governing stormwater management as required by the CWA.

## 7.0 Procedure for Tracking, Verifying and Annually Reporting BMPS to the Jurisdiction (Copy to EPA) in a Manner that is Consistent with the Jurisdiction's Procedures

DoD continues to lead by example through their continued methods that track, verify and report BMPs implemented on their installations. Our process integrates procedures established by the Jurisdictions, including the development of templates for all federal agencies to use. Each year, the DoD issues a support contract to facilitate the development of templates for reporting BMP implementation. The templates are developed in coordination with each of the jurisdictions and EPA to ensure the latest information for each BMP is collected and compatible with Phase 6 model data needs. Templates are then issued to the installations to provide responses. DoD reviews and then submits a consolidated DoD BMP progress dataset in the format requested by the jurisdiction by 1 October each year. Installations also provide project data that support other aspects of the Chesapeake Bay restoration and protection effort. Over several years, the DoD has evaluated those projects to see if there was a potential to receive additional nutrient and sediment reductions. If projects are identified to have those water quality co-benefits, the DoD consolidates and provides a supplemental dataset to the appropriate jurisdiction by 1 November.



DoD installations follow the inspection and maintenance requirements established by West Virginia. As part of the verification procedures, the DoD integrated process controls in their reporting template to highlight specific BMPs that needed inspection, status, and maintenance information for the installation to populate in order for that BMP to continue to receive nutrient and sediment reduction credit. If the verification information was not populated for that BMP, it was removed from the submittal to the Jurisdiction and did not receive credit.

**8.0 A description for how the Federal Facilities are going to Verify BMPs that is consistent with the CBP Partnership's Basinwide BMP Verification Framework and the Partnership Approved and Published BMP Verification Protocols**

DoD installations follow the inspection and maintenance requirements established by West Virginia.

**9.0 Challenges**

DoD installations report that funding for projects needed to reduce loading is contingent upon authorization and appropriation of funds in accordance with appropriate statutes. This includes the U.S. Congress, Department of Defense, Department of the Army, Navy, and Air Force. The DoD will be competing for funding against all other federal entities and there is no guarantee that funding will be available. The DoD will make every effort to obtain necessary funding, but changes in priorities or budget constraints would mean a project or projects may not be executed as planned. Further, the DoD expects that funding will be exceptionally lean in FY20 and beyond. As some installations are highly developed, space for new on-the-ground BMPs can be extremely limited. The DoD will look to programmatic BMPs to achieve pollutant reductions in these cases.

## **WV WIP3**

### **Appendix 8. West Virginia WIP3 Public Comments Response Summary**

The Draft West Virginia WIP3 was made available for public comment on April 12, 2019 via posting at [www.wvchesapeakebay.us](http://www.wvchesapeakebay.us) and <https://www.epa.gov/chesapeake-bay-tmdl/chesapeake-bay-watershed-implementation-plans-wips>. A [press release](#) issued by West Virginia Department of Environmental Protection (DEP) on April 12, 2019 announced a 60-day public comment period, which ended June 10, 2019.

The following entities provided written comments on the draft WIP3

- West Virginia Rural Water Association
- Blue Ridge Watershed Coalition
- Cacapon Institute
- Eastern Biochar Group and the U.S. Biochar Initiative
- West Virginia Rivers Coalition and Choose Clean Water partners
- Alix Hazel
- Dr. Lance Lin, West Virginia University

Comments have been compiled and responded to in this response summary. Comments and comment summaries are in **boldface**. Agency responses appear in plain text.

#### **Multiple commenters strongly supported specific or general strategies included in the WIP3.**

The positive comments are appreciated. Supported strategies were not substantively altered in the final version.

**Multiple submissions identified innovative research and development ideas about emerging techniques to reduce nutrients, including applications of water treatment residuals (WTR) for soil phosphorus reduction, multiple biochar uses, and iron-coated sand as sorbent for phosphorus removal. One commenter requested that the Final WIP3 include support for the “widespread use of biochar in farms, forests, mine remediation and cities to accelerate progress in reaching the Bay water quality targets.”**

Most of the referenced innovative techniques and practices are not currently creditable for pollutant reductions by the Chesapeake Bay Partnership. At present, the only creditable reductions are those associated with the volatilization of nitrogen accomplished in the biochar process, under which the manure nitrogen available for land application is reduced (see Manure Treatment Technologies Expert Panel Report - [https://www.chesapeakebay.net/documents/MTT\\_Expert\\_Panel\\_Report\\_WQGIT\\_approved\\_Sept2016.pdf](https://www.chesapeakebay.net/documents/MTT_Expert_Panel_Report_WQGIT_approved_Sept2016.pdf))

Pollutant reductions for the application of biochar and the other emerging technologies can be credited only after they are evaluated under the partnership’s [Expert Panel](#) process wherein water quality benefits, BMP requirements and reduction efficiencies are determined. As such,

West Virginia cannot provide a blanket biochar endorsement. However, West Virginia recognizes the potential values and the WIP3 supports additional research and development and demonstration projects. If future research documents water quality benefits, West Virginia will support the Expert Panel evaluation.

**One commenter stated that their organization has been monitoring streams within the Shenandoah watershed since 2013 and described local BMP implementation and educational efforts that they have conducted. The commenter expressed concerns of worsening bacteria trends in the Shenandoah River mainstem and the addition of bacteria impairments in the three Shenandoah River tributaries to West Virginia's Section 303(d) List based upon *their E. coli* monitoring results. The commenter questioned if, due to the small number of watershed groups that perform monitoring, other undetected water quality problems exist throughout the Panhandle, and the rest of the state.**

The team would first like to applaud the commenter's efforts in monitoring local water quality and their actions taken to improve it. The concern relative to undetected water quality impairments is valid, particularly in small streams where, despite best intentions, state and federal water quality monitoring programs can only infrequently assess. "Citizen monitoring" is growing across the watershed and is recognized by the Partnership as an important tool to assist agencies, not only in the identification of impairments, but also in characterizing water quality as improvement goals are pursued. West Virginia was a signatory on the recent Chesapeake Bay Program [Memorandum of Understanding](#) supporting the use of citizen and non-traditional partner monitoring data. West Virginia supports such efforts and provides education and technical assistance through WVDEP's Volunteer Monitoring Coordinator. In this instance, your monitoring efforts have identified water quality impacts that are not *directly* related to Chesapeake Bay TMDL implementation but may nonetheless be improved by our implementation of the WIP3.

The purpose of the WIP3 is to describe strategies for reducing nitrogen and phosphorus that reach local rivers and the Chesapeake Bay, in compliance with the Chesapeake Bay Total Maximum Daily Load (TMDL). As such, it does not describe the extent or trends in bacteria pollution in West Virginia's streams. It is indeed the case that additional streams in the Shenandoah River watershed of Jefferson County were recently added to the 303(d) list for bacteria impairment. The 303(d) list identifies impaired waters for which TMDL development is needed. Local TMDLs may be developed in the future to evaluate and prescribe controls for sources causing the bacteria impairments. But it is also important to note that many BMPs implemented for nutrient and sediment control under the Chesapeake Bay program provide bacteria reduction co-benefits. Examples include livestock exclusion from streams, vegetative buffers along streams and rivers, Combined Sewer Overflow control and many others. The WIP3 also continues the strategy for pumping, repair and replacement of septic systems, which has been used by the commenter and may provide both nutrient and bacteria reduction benefits. Over time, the management actions implemented under WIP3 to control nutrients

and sediment may also improve water quality with respect to bacteria. Continued monitoring by the commenter will be invaluable in that regard.

**One commenter implied that point sources are adding treatment agents to sink and thereby mask the detection of nutrients discharged into streams and rivers.**

Effluent limitations prescribed in National Pollutant Discharge Elimination System (NPDES) permits for point sources apply to the permitted discharge, and compliance monitoring is conducted in the discharge. Any treatment agents are intended to settle pollutants within the clarifiers of the plant prior to discharge in order to be effective in attaining compliance with permit limits. Compliance monitoring is conducted by WVDEP's Environmental Enforcement.

**One commenter stated that West Virginia's poultry litter transport goal represents 7% of produced litter and should be significantly higher.**

Agricultural stakeholders recognize that the litter transfer goal appears to be low. However, after careful consideration, this goal was set low for several reasons. Notably, there are constraints that limit the ability to track and verify this practice. In reality, a substantial amount of litter is already being transported to areas that have an agronomic need for the application of litter. There just simply is not a mechanism to track movement of all litter. There have also been recent changes in poultry house management that are expected to impact the amount of litter available for transport as well as nutrient content. Another component worth mentioning is the fact that, when calculating litter produced, the end result is "wet tons;" however, when reporting and setting goals, litter transported out of the Bay watershed is converted to "dry tons." A working group has been formed and has begun to explore means by which verifiable manure transport can be increased. Please see additional text added to the Agriculture Section D.3.a. (p. 53).

**One commenter stated that the WIP3 should provide greater focus on BMP verification in the Agriculture and Stormwater sectors.**

Additional text was added to the Agriculture Section (p.40) and the Developed Lands Section C (p. 26) that demonstrates West Virginia's commitment to BMP verification.

**One commenter requested continued funding of BMPs on non-regulated developed lands to remediate non-point sources of nutrients and sediment.**

Contingent upon the availability of Chesapeake Bay Program grant funding, the WIP3 continues to endorse funding of these BMPs. WV recognizes that grant assistance is often critical for success on nonregulated developed lands due to the voluntary nature of practice installation.

**One commenter requested that non-federal funds be secured for stream restoration so as to reduce the burden of matching funds.**

Although "the projection of planned activities and the resultant WIP3 goals were based upon current funding and staff resources" (Streambank Restoration Section, p. 76), the WIP3 Development Team continues to endorse additional funding of this BMP. West Virginia's

Chesapeake Bay Tributary Team recognizes that match assistance could further accelerate implementation of this practice and would support additional sources of non-federal funding. None were acquired in time to be included in the WIP3, however.

**One commenter stated that the WIP3 should place greater emphasis on public-private partnerships to support Source Water Protection Plans.**

Additional text was added in the Developed Lands Section E (pp. 31-32) to support this concept.

**One commenter requested that the WIP3 list organizations and agencies that served on the WIP Development Team and the organizations that provided general technical assistance.**

Beginning in 2018, a sub-group of WV's Chesapeake Bay Tributary Team, the "WIP3 Development Team," began holding separate meetings to plan and write the WIP3. These meetings were announced at Tributary Team bi-monthly conference calls, and interested people were invited to participate. A list of WIP3 Development Team participants has been added to the WIP3 between the cover page and the Table of Contents.

**One commenter expressed concern about access to clean drinking water and threats to well water from potential new industry in the karst area of Jefferson County. The commenter also stated that there appears to be no regulation of construction or post-construction stormwater impacts from industry, urged new regulation/requirements for mitigation of stormwater impacts with strict compliance evaluation and indicated that industry self-reporting is insufficient for compliance assessment.**

With respect to industrial activities, the WV Department of Environmental Protection (WVDEP) applies and enforces existing regulations during and after construction through multiple permitting programs that are focused on management to minimize impacts to both surface and groundwater. In Jefferson County, local ordinances also control stormwater volume/velocity impacts with management requirements for industry that are equal to those imposed upon residential development.

WVDEP's Construction Stormwater General Permit focuses on the control of sediment and associated nutrients during construction and revegetation, and its requirements are consistent with those of all other jurisdictions within the Chesapeake Bay watershed. Post-construction stormwater management is also required through individual or general NPDES permits that include Stormwater Pollution Prevention Plans, Groundwater Protection Plans, and Spill Prevention Control and Countermeasure Plans, all of which aim at protecting surface and groundwater by controlling the off-site migration of pollutants in raw materials and products.

Compliance with the existing regulations and program terms and conditions will reasonably control adverse impacts. WVDEP's Office of Environmental Enforcement is responsible for compliance assessment and enforcement of permits. Compliance assessment is accomplished through a mix of permittee self-monitoring and WVDEP inspection sampling and record reviews, with differing protocols based upon facility and permit types. Environmental

inspectors also investigate incidence reports, complaints and inquiries. Citizens with concerns about potential noncompliance should contact the Romney Field Office at (304) 822-7266.

**One commenter advised that the WIP3 should place more emphasis on the existential threat of climate change, saying it is clear climate change is accelerating faster than anticipated so adjustment to WIP III goals cannot wait five years.**

Additional text has been added to the Climate Change section, on p. 74, to encourage the implementation of any activity aimed at improving the resiliency of aquatic habitats and lessening adverse impacts to citizens, and to endorse implementation of clean/alternative energy technologies demonstrated to incrementally stem the acceleration of temperature and precipitation increases. The draft WIP3 and now the final WIP3 also mention, on the same page, a new assessment to be developed in 2021 which may alter the overall load reductions that were determined necessary in the midpoint assessment.

**One commenter sees promise for even greater BMP adoption and implementation from, among other things, comprehensive efforts to increase diversity, equity, and inclusion to engage communities that have not yet participated.**

The WIP3 Development Team appreciates the commenter bringing this concept to the forefront. In response, a statement about diversity, equity, and inclusion was added to the Local Engagement Section, p. 83.