# W-UU1



Photograph Number: 1 Feature Name: W-UU1 Cowardin Class: PFO

Direction: NNE Date: 9/23/2015

Project/Site: MVP		City/C	ounty: Harrison		Sampling Date: 09/23/2015			
Applicant/Owner: MVP State: WV Sampling Point: W-U								
Investigator(s): Townsend, F	rilepin, Therki							
Landform (hillslope, terrace, etc	:.): Valley	Local reli	ef (concave, convex, nor	<sub>ne):</sub> Concave d	itch Slope (%): 0%			
Subregion (LRR or MLRA): LR					Datum: NAD83			
Soil Map Unit Name: Urban la		_						
Are climatic / hydrologic condition	ons on the site typ	oical for this time of year? Y	es No	(If no, explain in R	emarks.)			
Are Vegetation, Soil	, or Hydrolog	y significantly distur	bed? Are "Normal	Circumstances" p	present? Yes No			
Are Vegetation, Soil				explain any answe				
_					, important features, etc.			
Hydrophytic Vegetation Prese	nt? Ves	✓ No_						
Hydric Soil Present?		✓ No	Is the Sampled Area	V V	M -			
Wetland Hydrology Present?	_		within a Wetland?	Yes	No			
Remarks: Cowardin Code: PFO HGM: Riverine WT: RPWWD								
HYDROLOGY								
Wetland Hydrology Indicato	rs:			Secondary Indica	ators (minimum of two required)			
Primary Indicators (minimum o	of one is required;	; check all that apply)		Surface Soil	Cracks (B6)			
Surface Water (A1)		True Aquatic Plants (	B14)	<ul><li>Sparsely Vegetated Concave Surface (B8)</li><li>Drainage Patterns (B10)</li></ul>				
✓ High Water Table (A2)		Hydrogen Sulfide Odd	or (C1)					
Saturation (A3)		Oxidized Rhizosphere	es on Living Roots (C3)	3) Moss Trim Lines (B16)				
Water Marks (B1)		Presence of Reduced	I Iron (C4)	Dry-Season Water Table (C2)				
Sediment Deposits (B2)		Recent Iron Reductio	n in Tilled Soils (C6)	Crayfish Bur				
Drift Deposits (B3)		Thin Muck Surface (C			sible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)		Other (Explain in Ren	narks)	· <del></del>	tressed Plants (D1)			
Iron Deposits (B5)					Position (D2)			
Inundation Visible on Aeri				Shallow Aqu				
Water-Stained Leaves (BS	э)				aphic Relief (D4)			
Aquatic Fauna (B13)				FAC-Neutral	Test (D5)			
Field Observations:		<b>4</b> 5 4 6 4 5						
Surface Water Present?		Depth (inches):	6"					
Water Table Present?		Doptii (inones)						
Saturation Present? (includes capillary fringe)	Yes No _	Depth (inches):	Wetland H	lydrology Preser	nt? Yes V No			
Describe Recorded Data (stre	am gauge, monito	oring well, aerial photos, pre	vious inspections), if ava	ilable:				
Remarks:	1 20 0							
Most of wetland is forest	ed with salix, a	acer negundo.						

Absolute   Dominant Indicators   Saluta   Dominant Indicators   Saluta	VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Pol	int: W-UU1	
1. Acer negundo 10	201	Absolute	Dominant	Indicator	Dominance Test worksheet:		
2 Salk nigra 3. Platanus occidentalis 5. FACW 4. Lindera benzoin 10. V FACW 5. Lindera benzoin 10. Lindera	(Field Statum)		Species?	Status	Number of Dominant Species		
A Lindera benzoin	··			FACW_		4	(A)
A   Lindera benzoin		10		FACW_	Total Number of Dominant		
Percent of Dominant Species   Providence   100% (A/8)	0	5		FACW_		4	(B)
5	4. Lindera benzoin	10		<u>FACW</u>	Demonstration of Demoisers (Organism		
Prevalence Index worksheet:   Total & Cover	5					100%	(A/R)
Total Cover   Some of total cover   17.5   20% of total cover   7.5   20% of total cover   1.5   2.5							(,,,,,
Sapining/Shrub Stratum (Plot size: 15"   15"   20% of total cover.   7   7   7   7   7   7   7   7   7					Prevalence Index worksheet:		
Solition (Shrub Stratum (Plot size: 15' )		35	= Total Cove	<u></u>	Total % Cover of:	Multiply by:	
FACW species   x 2 =   FACW species   x 3 =   FACW species   x 4 =   FACW species   x 5 =   FACW species   x 2 =   FACW species   x 5 =	50% of total cover: 17.5				OBL species x	1 =	_
FAC species	4.51				FACW species x	2 =	_
2	- 1				FAC species x	3 =	_
3.					FACU species x	4 =	_
Column Totals:					UPL species x	5 =	_
Prevalence Index = B/A =							
6.							
7.					Prevalence Index = B/A =		_
8.					Hydrophytic Vegetation Indica	tors:	
9.					1 - Rapid Test for Hydrophyt	ic Vegetation	
Solid Cover					✓ 2 - Dominance Test is >50%	)	
Solidation   Sol	9				3 - Prevalence Index is ≤3.0	1	
Herb Stratum       (Plot size: 5' )       10	500/ // /			_	4 - Morphological Adaptation	ns¹ (Provide sur	porting
1. Polygonum sp	E!	20% of	total cover:		data in Remarks or on a	separate sheet)	
Phalaris arundinacea  Toxicodendron radicans  Bidens sp.  5  Bidens sp.  Bidens sp.  5  Bidens sp.  5  Bidens sp.  Bidens sp.  5  Bidens sp.  Bidens sp.  Bidens sp.  Bidens sp.  Bidens sp.  Bidens sp.  5  Bidens sp.  Bi	Tierb Ottatam (1 lot 3ize)	10			Problematic Hydrophytic Ve	getation¹ (Expla	ıin)
3 Toxicodendron radicans 4 Bidens sp. 5 5 6. 6. 7. 8. 9. 10. 11. 11. 11. 12. 13. 14. 15. 15. 16. 15. 16. 16. 16. 17. 18. 18. 18. 19. 19. 19. 19. 19. 19. 19. 19. 19. 19		-					,
Bidens sp. 5  Bidens sp. 5  Be present, unless disturbed or problematic.  Definitions of Four Vegetation Strata:  Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/Shrub – Woody plants, excluding vines, 1 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  To a Total Cover 14  Woody Vine Stratum (Plot size: 15' )  1. Woody Vine Stratum (Plot size: 15' )  2. Woody Vine Stratum (Plot size: 15' )  3. Woody Vine Stratum (Plot size: 15' )  4. Specification Present? Yes V No Present? Yes No				F <u>ACW</u>	<sup>1</sup> Indicators of hydric soil and wetl	and hydrology	must
Definitions of Four Vegetation Strata:  Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/Shrub – Woody plants, excluding vines, 1 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody Vine Stratum (Plot size: 15' )  1							
6					Definitions of Four Vegetation	Strata:	
more in diameter at breast height (DBH), regardless of height.  Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody Vine Stratum (Plot size: 15' )  1	5				Tree Mondy plants avaluating	vince 2 in (7.6	om) or
7.	6				71 /	, ,	,
9	7					, ,,	
9	8				Sanling/Shrub - Woody plants	excluding vines	2 1000
Herb – All herbaceous (non-woody) plants, regardless of size, and woody vines greater than 3.28 ft tall.  Woody Vine Stratum (Plot size: 15' )  1.	9				than 3 in. DBH and greater than		
Total Cover   35   20% of total cover:   14     Woody Vine Stratum   (Plot size:   15'   )	10				m) tall.		
Woody Vine Stratum (Plot size: 15' )	11				Herb – All herbaceous (non-woo	dv) plants, rega	ardless
Woody Vine Stratum (Plot size: 15' )  1.							
No   No   No   No   No   No   No   No		20% of	total cover:	14	Woody vine – All woody vines a	reater than 3.2!	R ft in
2	Woody Vine Stratum (Plot size: 15' )					reater than 5.20	J 10 111
3	1						
4	2						
5	3						
5	4				Hydrophytic		
Remarks: (Include photo numbers here or on a separate sheet.)  Present?  Yes V No  No	5						
Remarks: (Include photo numbers here or on a separate sheet.)		0	= Total Cove	er		No	
	50% of total cover:0	20% of	total cover:	0			
>30% forested PFO	Remarks: (Include photo numbers here or on a separate s	heet.)					
	>30% forested PFO						

SOIL Sampling Point: W-UU1

Profile Desc	ription: (Describe	to the dept	th needed to docur	nent the i	ndicator	or confirn	n the absence	e of indicators.)
Depth	Matrix			x Features		. 2	_	
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type'	Loc <sup>2</sup>	Texture MkSiL	Remarks
0-4"	5YR 3/1	80%	5YR 5/8	20%	<u>C</u>	<u>M</u>	-	
4-6"	10YR 2/1	100%					MkSiL	
7-14"	10YR 2/2	100%					Si	
	-				-			
	-	· ——			-			
		· ———						
	-	·						
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil I			D 10 (	(07)				ators for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1) pipedon (A2)		Dark Surface Polyvalue Be		co (SS) <b>(N</b>	II DA 1 <i>1</i> 7		2 cm Muck (A10) <b>(MLRA 147)</b> Coast Prairie Redox (A16)
Black His			Thin Dark Su		. , .		140) (	(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleye			, -,	F	Piedmont Floodplain Soils (F19)
	I Layers (A5)		Depleted Ma					(MLRA 136, 147)
	ck (A10) (LRR N)	- (0.4.4)	Redox Dark	•	,			/ery Shallow Dark Surface (TF12)
	l Below Dark Surface ark Surface (A12)	e (A11)	Depleted Date Redox Depre				_ (	Other (Explain in Remarks)
	lucky Mineral (S1) <b>(L</b>	.RR N,	Iron-Mangan			LRR N,		
	147, 148)	,	MLRA 13		, ,	,		
	leyed Matrix (S4)		Umbric Surfa					dicators of hydrophytic vegetation and
	edox (S5)		Piedmont Flo					etland hydrology must be present,
	Matrix (S6)  ayer (if observed):		Red Parent N	viateriai (F.	21) (WLR	A 127, 14	7) ur	nless disturbed or problematic.
Type:	Layer (ii Observeu).							
Depth (inc	shoe).		<u></u>				Hydric Soi	I Present? Yes <u>✓</u> No
Remarks:							Tiyane oo	111c3ciit: 1c3 NO
drainage	ie adjacem te gi	avorroad			, along ,			pressional wetland and wetland

ion Bank WEATHER CONDITIONS: Mitigation			vatershed, HUC 12 watershed Salem jacent to gravel road and equipmen		
WEATHER CONDITIONS:	forested wetla	and ad	jacent to gravel road and equipmen	t stagir	ng area
WEATHER CONDITIONS:					
Mitigation			PRECIPITATION PAST 48 HRS:		
Mitigation					
Wetland Classification					
Emergent					
		Į			ion
			Advanced Mitigation	1	у
		•			
			ILF Costs		
			6270.00		
0		L	\$270.00		
	Replacement Unit(s) 0.0045	Replacement Unit(s) 0.0045	Replacement Unit(s) 0.0045	Sustainable Determination Made or Advanced Mitigation (Y or N)  Estimated Replacement Unit(s) 0.0045	(Y or N)  Estimated Replacement Unit(s)  0.0045

# \*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit). Years Sub-Total O MITIGATION BANKING and ILF.) Long-term F % Add. Mitigation and Monitoring Period % Add. Mitigation and Monitoring Period

Temporal Loss-Maturity									
*Note: Period between completion of compensatory mitigation measures and the time required for maturity, as it relates to function (i.e. maturity of tree stratum to provide organic matter and detritus within riparian stream or wetland buffer corridor).									
% Add. Mitigation	Temporal Loss-Maturity (Years)								
0%									
Sub-Total	0								

Long-tern	n Protection
% Add. Mitigation and Monitoring Period	Long-Term Protection (Years)
0 + 5/10 Year Monitoring	Perpetual
Sub-Total	0

Extended Upland Buffer Zone							
*Note1: Reference Instruction	*Note <sup>1</sup> : Reference Instructional handout for the definitions of the Buffer Zone Mitigation						
Average Buffer Width		Mitigation Type					
0	0-50	None					
0	51-150	None					

PART V - Final Unit Score											
Wetland Classification	Replacement Index	Form of Mitigation	Adjusted Final Unit Score to Offset (Debit)	Applicant Input Mitigation (Credit)	Balance						
Emergent	0.0045		0.0045		-0.0045						
Scrub-Shrub	0	Restoration	0		0						
Forested	0	Restoration	0		0						
Open Water	0		Õ		0						
Net-Total	0.0045		0.0045	#DIV/0!	#DIV/0!						

# W-UU3



Photograph Number: 1 Feature Name: W-UU3 Cowardin Class: PFO

**Direction:** NE **Date:** 9/24/2015

Project/Site: MVP		City/C	county: Harrison		Sampling Date: 09/24/2015			
Applicant/Owner: MVP			Sampling Point: W-UU3					
Investigator(s): Townsend, The	erkildson, Sexto							
Landform (hillslope, terrace, etc.):	Valley	Local reli	ef (concave, convex, nor	ne): Concave/ o	ditch Slope (%): 0%			
Subregion (LRR or MLRA): LRR	N Lat	<sub>::</sub> 39.289928	Long: -80	.518333	Datum: NAD83			
Soil Map Unit Name: Urban Ian	d							
Are climatic / hydrologic conditions	s on the site typical f	or this time of year? Y						
Are Vegetation, Soil	_, or Hydrology	significantly distur	bed? Are "Normal	Circumstances" p	oresent? Yes No			
Are Vegetation, Soil				explain any answe				
SUMMARY OF FINDINGS								
Lhydrophytic Vogototion Droppet	? Yes ✓	No		·	<u> </u>			
Hydrophytic Vegetation Present?  Hydric Soil Present?	Yes Yes		Is the Sampled Area	/				
Wetland Hydrology Present?	Yes V	No	within a Wetland?	Yes	No			
Remarks:		<u> </u>						
Cowardin Code: PFO								
HGM: Riverine								
WT: rpwwn								
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary Indica	tors (minimum of two required)			
Primary Indicators (minimum of o		ck all that apply)		Surface Soil				
Surface Water (A1)	•	True Aquatic Plants (	B14)	<ul><li>Sparsely Vegetated Concave Surface (B8)</li><li>Drainage Patterns (B10)</li></ul>				
High Water Table (A2)		Hydrogen Sulfide Od						
Saturation (A3)		· -	es on Living Roots (C3)					
Water Marks (B1)		Presence of Reduced	= : : :					
Sediment Deposits (B2)	_	Recent Iron Reductio	n in Tilled Soils (C6)	Crayfish Buri	rows (C8)			
Drift Deposits (B3)		Thin Muck Surface (C	27)	Saturation Vi	sible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	<u> </u>	Other (Explain in Rer	narks)	Stunted or S	tressed Plants (D1)			
Iron Deposits (B5)				Geomorphic	` '			
Inundation Visible on Aerial	Imagery (B7)			Shallow Aqui				
Water-Stained Leaves (B9)					aphic Relief (D4)			
Aquatic Fauna (B13)				FAC-Neutral	Test (D5)			
Field Observations:		<b>D</b> (1 (1 )						
		_ Depth (inches):	<del></del>					
	/es No/		2" Wetland H					
Saturation Present? \(\) (includes capillary fringe)	∕es <u> </u>	_ Depth (inches):	Wetland H	lydrology Presen	t? Yes V No			
Describe Recorded Data (stream	gauge, monitoring	well, aerial photos, pre	vious inspections), if ava	ilable:				
Demode								
Remarks:								

EGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling F	Point: W-UU3	
Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?		Dominance Test worksheet:		
Acer negundo	30	<u>opedies:</u> ✓	FAC	Number of Dominant Species That Are OBL, FACW, or FAC	. 4	(A)
2.			1710	That Ale OBL, FACW, of FAC	·	(A)
3.				Total Number of Dominant	4	(D)
3	· -			Species Across All Strata:		(B)
†·	· -			Percent of Dominant Species	100	
J	· -			That Are OBL, FACW, or FAC	: 100	(A/B)
5				Prevalence Index worksheet	:	
·	30	= Total Cov		Total % Cover of:	Multiply by:	
50% of total cover:15		total cover		OBL species	x 1 =	_
Sapling/Shrub Stratum (Plot size: 15' )	2070 0.	10101 00101		FACW species	x 2 =	_
Acer negundo	5	<b>✓</b>	FAC	FAC species	x 3 =	_
<u> </u>				FACU species	x 4 =	_
3.				UPL species	x 5 =	_
4				Column Totals:	(A)	(B)
<u> </u>						
5 5	-			Prevalence Index = B/A	•	_
7.				Hydrophytic Vegetation Indi		
3	-			1 - Rapid Test for Hydrop		
9.				2 - Dominance Test is >50		
<u>.                                    </u>	5	= Total Cov		3 - Prevalence Index is ≤3		
50% of total cover: 2.5				4 - Morphological Adaptat		-
Herb Stratum (Plot size: 5' )				data in Remarks or on		
1. Glechome hederacea	15		FACU	Problematic Hydrophytic \	√egetation¹ (Expla	ain)
Impatiens capensis	15		FACW			
Myosotis scorpoides	60		OBL	<sup>1</sup> Indicators of hydric soil and w		must
4. Lysimachia nummularia	20		FACW	be present, unless disturbed of	•	
5.				Definitions of Four Vegetation	on Strata:	
6.				Tree – Woody plants, excluding		
7.				more in diameter at breast hei height.	ght (DBH), regard	lless of
 8.				noight.		
9	-			Sapling/Shrub – Woody plant		
10.				than 3 in. DBH and greater tham) tall.	an or equal to 3.20	011(1
11.				,		
111-	110	= Total Cov		<b>Herb</b> – All herbaceous (non-w of size, and woody plants less		ardless
50% of total cover: 55		total cover		or orze, and weday plante loop	1.10.1.0.20 11 10.11	
Woody Vine Stratum (Plot size: 15' )				<b>Woody vine</b> – All woody vines height.	s greater than 3.2	8 ft in
1.				neight.		
 2.						
4						
4 5				Hydrophytic		
4 5	0	= Total Cov		Hydrophytic Vegetation Present? Yes	No	

Remarks: (Include photo numbers here or on a separate sheet.)

This wetland has approx 60% tree cover on average, though point was taken in a more open portion where there was only 20% cover. Trees growing within wetland boundaries include acer negundo, salix nigra. Shrubs include spicebush and blackberry.

SOIL Sampling Point: W-UU3

Profile Desc	ription: (Describe t	o the dept	h needed to docur	nent the i	ndicator	or confirm	the absen	ce of indica	tors.)	
Depth	Matrix			x Features	3					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Rema	rks
0-1"							Organic	<u> </u>		
1-5"	10YR 4/2	97	7.5YR 4/6	3			CS			
5-16"	2.5YR 4/3						SL			
			<del></del>							
			<del></del>							
							-			
							-			
	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Li		
Hydric Soil I	Indicators:						Ind	licators for I	Problemation	c Hydric Soils³:
Histosol			Dark Surface	. ,				2 cm Muck	. , .	•
	pipedon (A2)		Polyvalue Be				148)	Coast Prair		.16)
Black Hi			Thin Dark Su			47, 148)			147, 148)	" (510)
	n Sulfide (A4)		Loamy Gleye	,	<del>-</del> 2)				Floodplain S	oiis (F19)
	d Layers (A5) ick (A10) <b>(LRR N)</b>		Depleted Ma Redox Dark		<b>6</b> )				136, 147)	face (TF12)
	d Below Dark Surface	(Δ11)	Depleted Dai	•	•			Other (Exp		
	ark Surface (A12)	, (,,,,,,,	Redox Depre					Other (Exp	idiii iii ittoiiit	arnoj
	lucky Mineral (S1) <b>(L</b>	RR N,	Iron-Mangan			RR N,				
	\ 147, 148)	•	MLRA 13		, , ,	,				
Sandy G	Bleyed Matrix (S4)		Umbric Surfa	ice (F13) (	MLRA 13	6, 122)	<sup>3</sup> I	ndicators of	hydrophytic	vegetation and
Sandy R	ledox (S5)		Piedmont Flo	odplain S	oils (F19)	(MLRA 14	18)	wetland hyd	rology must	be present,
	Matrix (S6)		Red Parent N	Material (F	21) <b>(MLR</b>	A 127, 147	7)	unless distur	bed or prob	lematic.
Restrictive I	_ayer (if observed):									
Туре:										
Depth (inc	ches):						Hydric S	oil Present?	Yes_	No
Remarks:							L			

USACE FILE NO./Project Name:		Mountain Vall	ey Pipeline Project	COORDINATES:	Lat.	39.289750	Lon.	-80.518517
	STREAM/SITE ID AND SITE DESCRIPTION: % stream slope, watershed size {acreage}, unaltered or impairments)					watershed, HUC 12 watershed Salen and crossed by existing access road		
FORM OF MITIGATION:	ition Bank							
DATE:	24-9	Sep-16	WEATHER CONDITIONS:			PRECIPITATION PAST 48 HRS:		
	PART I - Wet	and Indicators						
Impact Wetland ID:	Impact Wetland Classification	Impacts (acreage)	Mitigation Wetland Classification					
W-UU3	Forested	0.0065	Emergent					
						PART III - Advanced		ion
						Sustainable Determination Made of Advanced Mitigation (Y or N)	ו	у
							•	
Total Impact		0.0065		2				
		Unit Scores				Estimated		
Total Emergent	assification		Replacement Unit(s) 0.0065			ILF Costs		
Total Scrub-Shrub			0.0065			\$390.00		
Total Forested			0			<del>+ + + + + + + + + + + + + + + + + + + </del>		
Total Open Water			0					

# \*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit). Years Sub-Total O MITIGATION BANKING and ILF.) Long-term F % Add. Mitigation and Monitoring Period % Add. Mitigation and Monitoring Period

Temporal Loss-Maturity					
*Note: Period between completion of compensatory mitigation measures and the time required for maturity, as it relates to function (i.e. maturity of tree stratum to provide organic matter and detritus within riparian stream or wetland buffer corridor).					
% Add. Mitigation	Temporal Loss-Maturity (Years)				
0%					
Sub-Total	0				

Long-tern	n Protection
% Add. Mitigation and Monitoring Period	Long-Term Protection (Years)
0 + 5/10 Year Monitoring	Perpetual
Sub-Total	0

Extended Upland Buffer Zone				
*Note1: Reference Instructional handout for the definitions of the Buffer Zone Mitigation				
Average Buffer Width	Mitigation Type			
0	0-50	None		
0	51-150	None		

PART V - Final Unit Score						
Wetland Classification	Replacement Index	Form of Mitigation	Adjusted Final Unit Score to Offset (Debit)	Applicant Input Mitigation (Credit)	Balance	
Emergent	0.0065		0.0065		-0.0065	
Scrub-Shrub	0	Restoration	0		0	
Forested	0	Restoration	0		0	
Open Water	0		0		0	
Net-Total	0.0065		0.0065	#DIV/0!	#DIV/0!	

# **W-ST12**



Photograph Number: 1 Feature Name: W-ST12 Cowardin Class: PSS

**Direction:** S **Date:** 07/14/2016

Project/Site: MVP	City/County: Harrison		Sampling Date: 07/14/2016		
Applicant/Owner: MVP			Sampling Point: W-ST12 PSS		
	Section, Township, Range: N		<u> </u>		
Landform (hillslope, terrace, etc.): Floodplain			Slone (%): 0-3		
Subregion (LRR or MLRA): LRR N		Slope (%) Datum: NAD 83			
	_				
Soil Map Unit Name: Gilpin-Upshur complex, 15					
Are climatic / hydrologic conditions on the site typic	-				
Are Vegetation, Soil, or Hydrology	significantly disturbed? Are "Norma	l Circumstances" p	present? Yes No		
Are Vegetation, Soil, or Hydrology	naturally problematic? (If needed, or	explain any answe	rs in Remarks.)		
SUMMARY OF FINDINGS – Attach sit	e map showing sampling point location	ons, transects	, important features, etc.		
Hydrophytic Vegetation Present? Yes	No Is the Sampled Area				
Hydric Soil Present? Yes	No.	V V	No		
Wetland Hydrology Present? Yes		res	NO		
Remarks: Cowardin Code: PSS	HGM: Riverine Water Type:	BDWWD			
	riow. riverine water type.	UL AAAAD			
Open					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)		
Primary Indicators (minimum of one is required; of	heck all that apply)	Surface Soil	Cracks (B6)		
Surface Water (A1)		getated Concave Surface (B8)			
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	✓ Drainage Par			
Saturation (A3)	✓ Oxidized Rhizospheres on Living Roots (C3)				
Water Marks (B1)	<ul><li>Presence of Reduced Iron (C4)</li><li>Recent Iron Reduction in Tilled Soils (C6)</li></ul>		Water Table (C2)		
Sediment Deposits (B2)	Crayfish Bur				
Drift Deposits (B3)	Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)		tressed Plants (D1)			
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	✓ Geomorphic Shallow Aqui				
Water-Stained Leaves (B9)			aphic Relief (D4)		
Aquatic Fauna (B13)		FAC-Neutral Test (D5)			
Field Observations:			(/		
	Depth (inches):				
Water Table Present? Yes No	Depth (inches):				
		Hvdrology Preser	nt? Yes No		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous inspections), if ava	ailable:			
Remarks:					

Sampling Point: W-ST12 PS
---------------------------

Tree Stratum (Plot size: 30'	Absolute	Dominant		Dominance Test worksheet:	
Tice offatarii (Flot size)	% Cover			Number of Dominant Species	
1. Salix nigra	5		OBL	That Are OBL, FACW, or FAC:7	(A)
2		-		Total Number of Dominant	
3					(B)
4				Percent of Dominant Species	
5					(A/B)
6					,
7				Prevalence Index worksheet:	
	5	= Total Cov	ver	Total % Cover of: Multiply by:	
50% of total cover: <u>2.5</u>	20% of	total cover	: <u> </u>	OBL species x 1 =	
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =	
1. Salix nigra	35	<b>~</b>	OBL	FAC species x 3 =	
2. Acer negundo	5		FAC	FACU species x 4 =	
3		_	. <u> </u>	UPL species x 5 =	
4				Column Totals: (A)	
					. ,
5				Prevalence Index = B/A =	
6				Hydrophytic Vegetation Indicators:	
7				1 - Rapid Test for Hydrophytic Vegetation	
8		-	<del></del>	✓ 2 - Dominance Test is >50%	
9	4.0			3 - Prevalence Index is ≤3.0 <sup>1</sup>	
00		= Total Cov		4 - Morphological Adaptations <sup>1</sup> (Provide supp	orting
50% of total cover: 20	20% of	total cover	:8	data in Remarks or on a separate sheet)	
TIEID Stratum (1 lot size)	45	,		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain	) l
1. Verbesina alternifolia	15		F <u>AC</u>	resistant rydrophyno regendueri (Explant	.,
2. Euthamia graminifolia	10		F <u>AC</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology m	uet
3. Dichanthelium clandestium	15		FAC	be present, unless disturbed or problematic.	usi
4. Carex vulpinoidea	10		OBL	Definitions of Four Vegetation Strata:	
5. Scirpus atrovirens	15		OBL		
6. Polygonum sagittatum	5		OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 c	
7. Asclepias incarnata	5		OBL	more in diameter at breast height (DBH), regardle height.	SS 01
8. Carex lurida	15	~	OBL		
g Solidago gigantea	10		FACW	Sapling/Shrub – Woody plants, excluding vines, than 3 in. DBH and greater than or equal to 3.28 f	less
10. Impatiens capensis	15	<b>V</b>	FACW	m) tall.	(1
11			. <u> </u>		
	115	= Total Cov		<b>Herb</b> – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall.	dless
50% of total cover: _ 57.5				of size, and woody plants less than 5.20 it tall.	
Woody Vine Stratum (Plot size: 15' )	2070 01	total cover		Woody vine – All woody vines greater than 3.28 f	ft in
				height.	
1					
2		-	<del></del>		
3					
4		-	<del></del>	Hydrophytic	
5				Vegetation	
•		= Total Cov	^	Present? Yes No	
50% of total cover: 0	20% of	total cover	:0		
Remarks: (Include photo numbers here or on a separate s	heet.)				

Color (moist)	PL SL Disturbed
4-15 7.5YR 4/1 90 7.5YR 4/6 10 C M/P  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. rdric Soil Indicators: Histosol (A1) Dark Surface (S7)	PL CL  2Location: PL=Pore Lining, M=Matrix.
rpe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  dric Soil Indicators:  Histosol (A1)  Dark Surface (S7)	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
dric Soil Indicators:  Histosol (A1) Dark Surface (S7)	
Histosol (A1) Dark Surface (S7)	
Iric Soil Indicators: Histosol (A1) Dark Surface (S7)	
Iric Soil Indicators: Histosol (A1) Dark Surface (S7)	
ric Soil Indicators: Histosol (A1) Dark Surface (S7)	
Histosol (A1) Dark Surface (S7)	
Histosol (A1) Dark Surface (S7)	Indicators for Problematic Hydric Soils
	2 cm Muck (A10) (MLRA 147)
Black Histic (A3)  Thin Dark Surface (S9) (MLRA 147, 146)	
Hydrogen Sulfide (A4)  Loamy Gleyed Matrix (F2)	(MLRA 147, 148)  Piedmont Floodplain Soils (F19)
Stratified Layers (A5)  Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)  Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12) Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N	<b>l</b> ,
MLRA 147, 148) MLRA 136)	
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)	
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA	
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127,	unless disturbed or problematic.
trictive Layer (if observed):	
Туре:	
Depth (inches):	Hydric Soil Present? Yes No
marks:	

USACE FILE NO./Project Name:	Mountain Valley Pipeline Project			COORDINATES:	Lat.	39.337471	Lon.	-80.522128
STREAM/SITE ID AND SITE DESCR	IPTION:			Wetland ST12-PSS (	W-ST12	-PSS), 47.449 ac watershed, HUC 12 w	atershed	Headwaters
(% stream slope, watershed size {a	creage}, unaltered o	or impairments)		Ten	mile Cre	ek, Riverine, RPWWD, scrub shrub we	etland	
FORM OF MITIGATION:		Mitiga	tion Bank					
DATE:	7/14	/2016	WEATHER CONDITIONS:			PRECIPITATION PAST 48 HRS:		
	PART I - Wetl	and Indicators						
Impact Wetland ID:	Impact Wetland Classification	Impacts (acreage)	Mitigation Wetland Classification					
W-ST12-PSS	Scrub-Shrub	0.1444	Emergent					
						PART III - Advanced	Mitigatio	1
						Sustainable Determination Made on Advanced Mitigation (Y or N)		n
Total Impact		0.1444						
Wotland C	PART II - I	Unit Scores	Replacement Unit(s)			Estimated ILF Costs		
Total Emergent	old Still Cation		0.1444			ill Costs		
Total Scrub-Shrub			0.1444			\$8,664.00		
Total Forested			0			φ0,004.00		
Total Open Water			0					

# \*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit). Years Sub-Total PART IV- Factors (See instruction page for default values for MITIGATION BANKING and ILF.) \*\*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit). \*\*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit). \*\*Years \*\*O\*\* \*\*O\*

Temporal Loss-Maturity						
*Note: Period between completion of compensatory mitigation measures and the time						
required for maturity, as it relates to function (i.e. maturity of tree stratum to provide organic matter and detritus within riparian stream or wetland buffer corridor).						
maker and deutids within inpartain stream of wettand buller comdon).						
O/ Add Mitiration	Towns and I are Materity (Verse)					
% Add. Mitigation	Temporal Loss-Maturity (Years)					
00/						
0%						
Sub-Total	0					

Long-tern	n Protection
% Add. Mitigation and Monitoring Period	Long-Term Protection (Years)
0 + 5/10 Year Monitoring	Perpetual
Sub-Total	0

Extended Upland Buffer Zone				
*Note <sup>1</sup> : Reference Instructional handout for the definitions of the Buffer Zone Mitigation				
Average Buffer Width	Mitigation Type			
0	0-50	None		
0	51-150	None		

PART V - Final Unit Score							
Wetland Classification	Replacement Index	Form of Mitigation	Adjusted Final Unit Score to Offset (Debit)	Applicant Input Mitigation (Credit)	Balance		
Emergent	0.1444		0.1444		-0.1444		
Scrub-Shrub	0	Restoration	0		0		
Forested	0	Restoration	0		0		
Open Water	0		0		0		
Net-Total	0.1444		0.1444	#DIV/0!	#DIV/0!		

# W-K52

## **Wetland Photograph Page**

### Wetland ID W-K52



Photograph Direction West

Date: 06/02/2015

Comments: 2015 wetland delineation.



Photograph Direction East

Date: 09/18/19

Comments: 2019 wetland delineation confirmation.

Project/Site: MVP		City/Co	ounty: Doddridge		Sampling Date: 06/02/2015		
Applicant/Owner: MVP					Sampling Point: W-K52		
Investigator(s): J. Hart, D. Santille	o, J. Potrikus	Sectio	n. Township, Range: N/	<u> </u>	_		
Landform (hillslope, terrace, etc.): Hi					Slope (%): 3		
Subregion (LRR or MLRA): LRRN					Datum: NAD 83		
Soil Map Unit Name: Gilpin-Peabo			_				
Are climatic / hydrologic conditions or			4		·		
Are Vegetation, Soil, o		•					
Are Vegetation, Soil, Commany OF FINDINGS —							
	_	ap snowing sam	pinig point locatio	nis, transects,	, important reatures, etc.		
Hydrophytic Vegetation Present?	Yes	No	Is the Sampled Area				
Hydric Soil Present?	Yes	No	within a Wetland?	Yes	No		
Wetland Hydrology Present?  Remarks:	Yes	No					
Cowardin Code: PEM HGM: Slope W 2015 comments: Wetland plot paired roadbed. Small drainage feature also Information listed on this form repres hydrophytic vegetation, and hydric so	with W-K52UP. SI contributes flows. ents the data collections.	cted in 2015. The wet	land was revisited on 09	9/18/2019. The pre	sence of wetland hydrology,		
HYDROLOGY							
Wetland Hydrology Indicators:					tors (minimum of two required)		
Primary Indicators (minimum of one	is required; check	all that apply)	_	Surface Soil (			
Surface Water (A1)		True Aquatic Plants (E			etated Concave Surface (B8)		
High Water Table (A2)		Hydrogen Sulfide Odd		Drainage Pat			
Saturation (A3)		es on Living Roots (C3)	Moss Trim Li				
Water Marks (B1)		Iron (C4)	Dry-Season Water Table (C2)				
Sediment Deposits (B2)		n in Tilled Soils (C6)	Crayfish Burrows (C8)				
Drift Deposits (B3)	Drift Deposits (B3) Thin Muck Surface (C7) Algal Mat or Crust (B4) Other (Explain in Remarks)				Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)		
Iron Deposits (B5)	_ `	Julei (Explain in Ren	iaiks)	Geomorphic I	` '		
Inundation Visible on Aerial Ima	gery (B7)			Shallow Aquit			
Water-Stained Leaves (B9)	go.y ( <i>D1</i> )				phic Relief (D4)		
Aquatic Fauna (B13)				FAC-Neutral			
Field Observations:					,		
Surface Water Present? Yes	No 🗸	Depth (inches):					
		Depth (inches):					
		Depth (inches):		lydrology Presen	t? Yes ✔ No		
(includes capillary fringe)							
Describe Recorded Data (stream ga	uge, monitoring we	ell, aerial photos, prev	vious inspections), if ava	ılable:			
Remarks:							
, temane.							

	Dominant Species?		Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC:  Total Number of Dominant Species Across All Strata:  3 (B)
	Species?	<u>Status</u>	That Are OBL, FACW, or FAC:3 (A)  Total Number of Dominant
			Total Number of Dominant
			•
			Species Across All Strata: (B)
			Percent of Dominant Species
			That Are OBL, FACW, or FAC:100 (A/B)
			Prevalence Index worksheet:
0	Total Co.		Total % Cover of: Multiply by:
			OBL species x 1 =
2070 01	total oovor.		FACW species x 2 =
			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
			Column Totals: (A) (B)
-			
			Prevalence Index = B/A =
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			✓ 2 - Dominance Test is >50%
0 =	= Total Cov	er	3 - Prevalence Index is ≤3.0 <sup>1</sup>
			4 - Morphological Adaptations <sup>1</sup> (Provide supporting
			data in Remarks or on a separate sheet)
25		OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
20		FACW_	The disease of heading and continued heading as a second
20		FACW_	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		F <u>AC</u>	Definitions of Four Vegetation Strata:
		F <u>AC</u>	_
5		F <u>ACW</u>	<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
5		<u>OBL</u>	height.
			Sapling/Shrub – Woody plants, excluding vines, less
			than 3 in. DBH and greater than or equal to 3.28 ft (1
			m) tall.
			Herb – All herbaceous (non-woody) plants, regardless
			of size, and woody plants less than 3.28 ft tall.
20% of	total cover:		Woody vine – All woody vines greater than 3.28 ft in
			height.
			Hydrophytic
			Vegetation Present?  Yes   ✓ No
		_	105 <u> </u>
	LOLAI COVEI.		
	20% of 20% of 25 20 20 10 10 5 5 20% of 20%	20% of total cover:  0	0 = Total Cover 20% of total cover: 0  25

SOIL Sampling Point: W-K52

Profile Desc	cription: (Describe t	o the dep	th needed to docur	nent the	indicator	or confirm	the absen	ce of indicators.)
Depth	Matrix		Redo	x Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 4/2	95	10YR 4/6	5	C	M/PL	SC	
8-14	5YR 6/2	92	10YR 5/8	8	С	M	CL	
					<del>-</del>	· ——	•	<u> </u>
					· <del></del>			
					· -			
					·			_
								_
<sup>1</sup> Type: C=C	oncentration, D=Depl	etion, RM:	=Reduced Matrix, MS	S=Maske	d Sand Gr	ains.	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix.
Hydric Soil								icators for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Dark Surface	e (S7)				2 cm Muck (A10) (MLRA 147)
Histic E <sub>l</sub>	pipedon (A2)		Polyvalue Be	low Surfa	ace (S8) <b>(N</b>	ILRA 147,	148)	Coast Prairie Redox (A16)
	istic (A3)		Thin Dark Su			47, 148)		(MLRA 147, 148)
	en Sulfide (A4)		Loamy Gleye		(F2)			Piedmont Floodplain Soils (F19)
	d Layers (A5)		Depleted Ma					(MLRA 136, 147)
	uck (A10) <b>(LRR N)</b> d Below Dark Surface	. (111)	Redox Dark				_	Very Shallow Dark Surface (TF12)
	ark Surface (A12)	(A11)	Depleted Date Redox Depre				_	Other (Explain in Remarks)
	/lucky Mineral (S1) <b>(L</b>	RR N.	Iron-Mangan			LRR N.		
	A 147, 148)	,	MLRA 13		, , , , , , , , , , , , , , , , , , ,	,		
	Gleyed Matrix (S4)		Umbric Surfa	•	(MLRA 13	6, 122)	<sup>3</sup> l	ndicators of hydrophytic vegetation and
Sandy F	Redox (S5)		Piedmont Flo	odplain S	Soils (F19)	(MLRA 14	<b>(8)</b>	wetland hydrology must be present,
	l Matrix (S6)		Red Parent N	Material (F	-21) <b>(MLR</b>	A 127, 147	<b>7)</b> (	unless disturbed or problematic.
Restrictive	Layer (if observed):							
Type:			<u></u>					
Depth (in	ches):		<u></u>				Hydric So	oil Present? Yes 🖊 No
Remarks:								

USACE FILE NO./Project Name:	Mountain Valley Pipeline Project			COORDINATES:	Lat.	39.236727	Lon.	-80.55855
STREAM/SITE ID AND SITE DESCR	RIPTION:			Wetland K52 (W-K5	2), 1.51	ac watershed, HUC 12 watershed Bu	ckeye C	reek, slope,
(% stream slope, watershed size {acreage}, unaltered or impairments)			RPWWN	N, emer	gent wetland along existing dirt acce	ess road	l in the second	
FORM OF MITIGATION:		Mitigation Bank						
DATE:	02-J	02-Jun-16 WEATHER CONDITIONS:			PRECIPITATION PAST 48 HRS:			
	PART I - Wetl	and Indicators						
Impact Wetland ID:	Impact Wetland Classification	Impacts (acreage)	Mitigation Wetland Classification					
W-K52	Emergent	0.0115	Emergent					
						PART III - Advanced I	Vitigatio	on
						Sustainable Determination Made on		
						Advanced Mitigation		n
						(Y or N)		
Total Impact		0.0115						
		Unit Scores				Estimated		
	assification		Replacement Unit(s)			ILF Costs		
Total Emergent			0.0115					
Γotal Scrub-Shrub			0			\$690.00		
Total Forested			0					
Total Open Water			0					

# \*Note: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit). Years Sub-Total O MITIGATION BANKING and ILF.) Long-term P \*Add. Mitigation and Monitoring Period \*\*Mote: Reflects duration of aquatic functional loss between the time of an impact (debit) and completion of compensatory mitigation (credit).

Temporal Loss-Matu	rity
*Note: Period between completion of compensatory mitig for maturity, as it relates to function (i.e. maturity of tree detritus within riparian stream or wetla	stratum to provide organic matter and
% Add. Mitigation	Temporal Loss-Maturity (Years)
0%	0
Sub-Total	0

Long-tern	n Protection
% Add. Mitigation and Monitoring Period	Long-Term Protection (Years)
	Book of
0 + 5/10 Year Monitoring	Perpetual
Sub-Total	0

Extended Upland Buffer Zone						
*Note1: Reference Instructional handout for the definitions of the Buffer Zone Mitigation						
Average Buffer Width		Mitigation Type				
0	0-50	None				
U	51-150	None				

PART V - Final Unit Score							
Wetland Classification	Replacement Index	Form of Mitigation	Adjusted Final Unit Score to Offset (Debit)	Applicant Input Mitigation (Credit)	Balance		
Emergent	0.0115		0.0115		-0.0115		
Scrub-Shrub	0	Restoration	0		0		
Forested	0	Restoration	0		0		
Open Water	0		0		0		
Net-Total	0.0115		0.0115	#DIV/0!	#DIV/0!		