

<b>STREAM ID</b> S-C33	<b>STREAM NAME</b> UNT to Flatwoods Branch
<b>LAT</b> 37.256652 <b>LONG</b> -80.281251	<b>DATE</b> 04/09/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> L.Harloe, K.Lamontagne, L. Summers	
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>6.0</u> ft Top of Bank Height: LB <u>1.0</u> ft      RB <u>1.0</u> ft Water Depth: <u>7.00</u> in Water Width: <u>5.0</u> ft High Water Mark: <u>1.0</u> ft Flow Direction: <u>SE</u>	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 10 %   Run 85 % Pool 5 % <b>Turbidity</b> <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)	25	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	65			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Other: Powerline ROW clearing <b>Canopy Cover</b> <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous <b>Floodplain Width</b> <input checked="" type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> W-C9, 12
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Several seeps along banks, overwidening in areas where banks have eroded. Stream flows subterrain in several locations. Upstream portion with low banks, downstream with headcut and incised deep banks.  Perennial
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## Stream Photograph Page

Stream ID S-C33



Photograph Direction NW

Date: 04/09/2015

Comments: 2015 stream identification.



Photograph Direction West

Date: 11/01/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-MM31	<b>STREAM NAME</b> UNT to Flatwoods Branch
<b>LAT</b> 37.25665483 <b>LONG</b> -80.28050925	<b>DATE</b> 11/20/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> A.Grech, A.Stott	
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: 4.0 ft Top of Bank Height: LB 3.0 ft    RB 4.0 ft Water Depth: 2.00 in Water Width: 2.0 ft Ordinary High Water Mark (Width): 2.0 ft Ordinary High Water Mark (Height): 2.0 ft Flow Direction: South	<b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft)    (2 ft/100 ft)    (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 80 %    Run % Pool 20 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <small>100</small>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	80
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	80			
Clay	< 0.004 mm (slick)	10			

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	<b>Indicate the dominant type</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> W-C7/8
	<b>Canopy Cover</b> <input type="checkbox"/> Open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded	

<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Comes from pond
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# Stream Photograph Page

Stream ID S-MM31

Date: 11/20/2015



Photograph Direction South

Comments:

<b>STREAM ID</b> S-C29		<b>STREAM NAME</b> Flatwoods Branch	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.256057	<b>LONG</b> -80.278326	<b>DATE</b> 08/02/2016	<b>COUNTY</b> Montgomery
<b>INVESTIGATORS</b> HBS, ST, SP			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>2.0</u> ft Top of Bank Height: LB <u>0.5</u> ft RB <u>0.5</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft Ordinary High Water Mark (Width): <u>1.2</u> ft Ordinary High Water Mark (Height): <u>3.0</u> in Flow Direction: <u>Southwest</u>	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Within Roadside Ditch</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle % Run % Pool % <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	40			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	50			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> ROW <input type="checkbox"/> Other:	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> <input checked="" type="checkbox"/> Open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded	

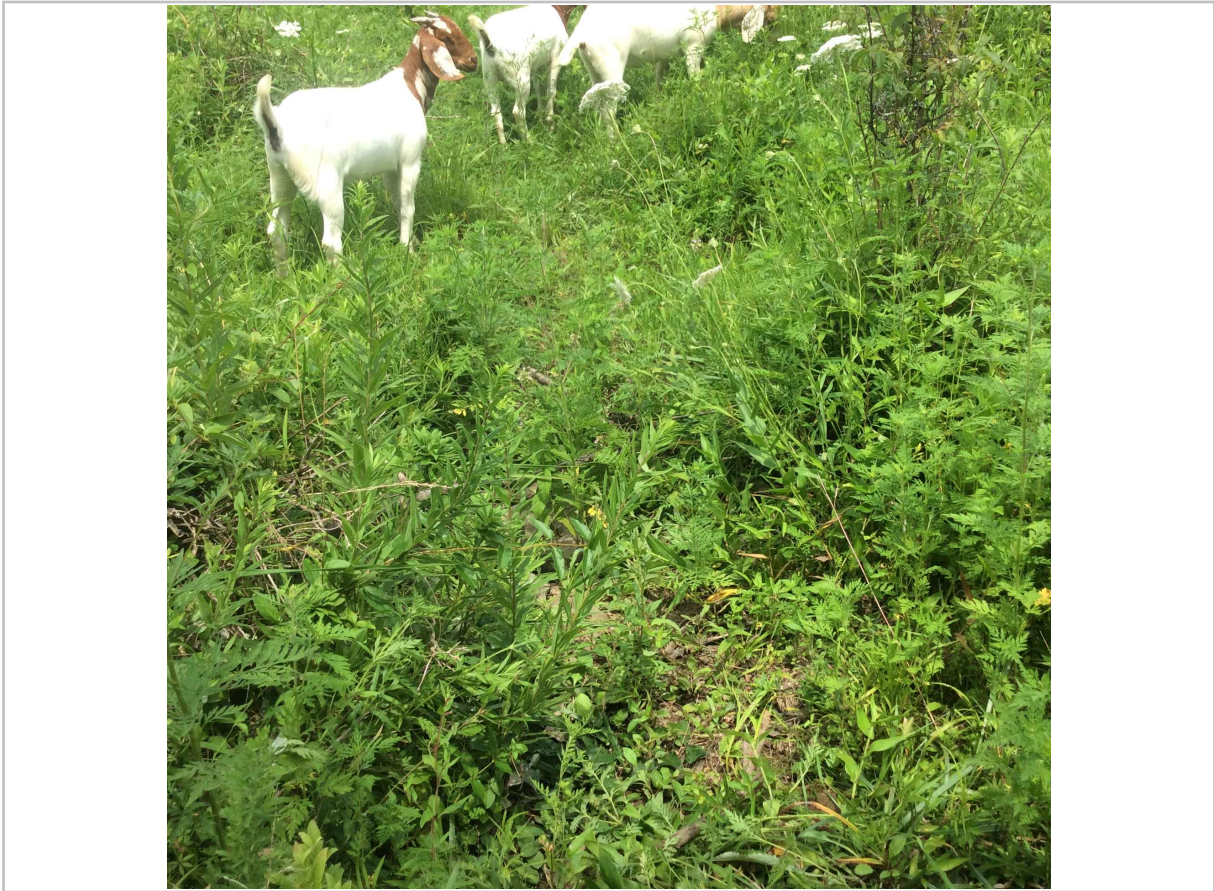
**MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS**

Gap in stream channel where bed and bank not defined, likely due to high levels of horse, goat, and cow activity. Water in the S-C29 channel likely goes to sheetflow in this area. Bed and bank defined up- and downstream of gap.

# Stream Photograph Page

Stream ID S-C29

Date: 08/02/2016



Photograph Direction North

Comments:

<b>STREAM ID</b> S-C25	<b>STREAM NAME</b> UNT to Bradshaw Creek
<b>LAT</b> 37.254410 <b>LONG</b> -80.267957	<b>DATE</b> 04/08/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> L.Harloe, K.Lamontagne, L. Summers	
<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: 3.0 ft Top of Bank Height: LB 6.0 in      RB 6.0 in Water Depth: 1.00 in Water Width: 1.0 ft High Water Mark: 6.0 ft Flow Direction: SE	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle      %      Run 100 % Pool      % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	75
Boulder	> 256 mm (10")	5			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	65			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b>
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Trib to S-C23
	Intermittent

## Stream Photograph Page

Stream ID S-C25



Photograph Direction SE

Date: 04/08/2015

Comments: 2015 stream identification.



Photograph Direction SE

Date: 11/01/2019

Comments: 2019 stream identification confirmation.



<b>STREAM ID</b> S-C24		<b>STREAM NAME</b> UNT to Bradshaw Creek	
<b>LAT</b> 37.254152	<b>LONG</b> -80.266762	<b>DATE</b> 04/08/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> L.Harloe, K.Lamontagne, L. Summers			
<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>3.0</u> ft Top of Bank Height: LB <u>8.0</u> in RB <u>8.0</u> in Water Depth: <u>1.00</u> in Water Width: <u>1.5</u> ft High Water Mark: <u>8.0</u> in Flow Direction: <u>SE</u>	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle % Run 100 % Pool % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		55	Detritus	sticks, wood, coarse plant materials (CPOM)	75
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	10	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	25			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	5			

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b>
	<b>Canopy Cover</b> <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	

<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input checked="" type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Trib to S-C23.
	Intermittent.

## Stream Photograph Page

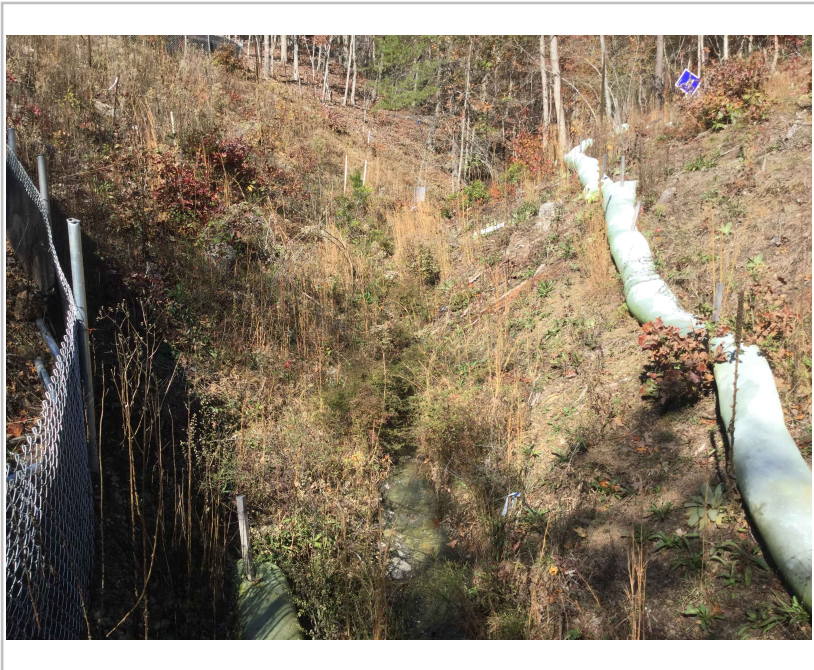
Stream ID S-C24



Photograph Direction NNW

Date: 04/08/2015

Comments: 2015 stream identification.



Photograph Direction SSE

Date: 11/01/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-C21	<b>STREAM NAME</b> Bradshaw Creek
<b>LAT</b> 37.252811 <b>LONG</b> -80.259676	<b>DATE</b> 04/08/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> L.Harloe, K.Lamontagne, L. Summers	
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>25.0</u> ft Top of Bank Height: LB <u>2.0</u> ft      RB <u>2.0</u> ft Water Depth: <u>2.00</u> ft Water Width: <u>20.0</u> ft High Water Mark: <u>3.0</u> ft Flow Direction: <u>S</u>	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 75 %   Run 20 % Pool 5 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	85	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	15			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other:	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous <b>Floodplain Width</b> <input checked="" type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b>
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Floodplain and terrace development with sandy soils, no hydric indicators.
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# Stream Photograph Page

Stream ID S-C21

Date: 04/08/2015



Photograph Direction SE

Comments:

<b>STREAM ID</b> S-NN19		<b>STREAM NAME</b> UNT to Roanoke River	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.244317	<b>LONG</b> -80.206998	<b>DATE</b> 08/02/2016	<b>COUNTY</b> Montgomery
<b>INVESTIGATORS</b> D Hadersbeck K Pulver C Sorden			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>4.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>1.00</u> in Water Width: <u>1.0</u> ft Ordinary High Water Mark (Width): <u>3.5</u> ft Ordinary High Water Mark (Height): <u>6.0</u> in Flow Direction: <u>Northwest</u>	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft) <b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 10 % Run 80 % Pool 10 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		20	Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	5			
Cobble	64-256 mm (2.5"-10")	15	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	30			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> ROW <input type="checkbox"/> Other:	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> <input type="checkbox"/> Open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>

# Stream Photograph Page

Stream ID S-NN19

Date: 08/02/2016



Photograph Direction SSE

Comments:

<b>STREAM ID</b> S-NN16-Braid		<b>STREAM NAME</b> Roanoke River	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.233624	<b>LONG</b> -80.197708	<b>STATE</b> Virginia	<b>COUNTY</b> Montgomery
<b>INVESTIGATORS</b> D. McCullough, K. Larsen, R. Turner			<b>DATE</b> 08/28/2015
<b>WATER TYPE</b> TNW <input checked="" type="checkbox"/> RPW <input type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>50.0</u> ft Top of Bank Height: LB <u>15.0</u> ft RB <u>10.0</u> ft Water Depth: <u>18.00</u> in Water Width: <u>25.0</u> ft Ordinary High Water Mark (Width): <u>44.0</u> ft Ordinary High Water Mark (Height): <u>24.0</u> in Flow Direction: East _____	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> <input checked="" type="checkbox"/> Flat ___ Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast <input checked="" type="checkbox"/> Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 20 % Run 50 % Pool 30 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		5	Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	40	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	15			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> ___ Forest ___ Commercial <input checked="" type="checkbox"/> Field/Pasture ___ Industrial ___ Agricultural <input checked="" type="checkbox"/> Residential ___ ROW ___ Other:	<b>Floodplain Width</b> <input checked="" type="checkbox"/> Wide > 30ft ___ Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open <input checked="" type="checkbox"/> Partly shaded ___ Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Stream was revisited on 1/8/2019 the presence of a stream channel and OHWM was confirmed.

# Stream Photograph Page

Stream ID S-NN16-Braid

Date: 08/28/2015



Photograph Direction NNE

Comments:



<b>STREAM ID</b> S-NN16	<b>STREAM NAME</b> Roanoke River
<b>LAT</b> 37.2334624 <b>LONG</b> -80.197144	<b>DATE</b> 08/28/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> D. McCullough, K. Larsen, R. Turner	
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	<b>WATER TYPE</b> TNW <input checked="" type="checkbox"/> RPW <input type="checkbox"/> NRPW <input type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>100.0</u> ft Top of Bank Height: LB <u>18.0</u> ft      RB <u>20.0</u> ft Water Depth: <u>2.00</u> ft Water Width: <u>40.0</u> ft High Water Mark: <u>3.0</u> ft Flow Direction: <u>East</u>	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft)    (2 ft/100 ft)    (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input checked="" type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 40 %    Run 30 % Pool 30 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		15	Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")	15			
Cobble	64-256 mm (2.5"-10")	40	Muck-Mud	black, very fine organic (FPOM)	0
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0			

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other:	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous <b>Floodplain Width</b> <input checked="" type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> <sup>W-NN8</sup>
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Large river with fish, clams, snails and many other aquatic organisms. Large forested wetland (W-NN8) on sand/gravel bar in river that separates the main stem of the river from a ponded braid. - 2015 comment  Stream was revisited on 1/8/2019. Presence of a stream channel and OHWM was confirmed.
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# Stream Photograph Page

Stream ID S-NN16

Date: 08/28/2015



Photograph Direction East

Comments:

<b>STREAM ID</b> S-AB16		<b>STREAM NAME</b> UNT to Roanoke River	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.231689	<b>LONG</b> -80.198788	<b>DATE</b> 04/11/2016	<b>COUNTY</b> Montgomery
<b>INVESTIGATORS</b> J. Hart, A. Larson, T. Woods			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>5.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>1.00</u> in Water Width: <u>2.0</u> ft Ordinary High Water Mark (Width): <u>5.0</u> ft Ordinary High Water Mark (Height): <u>4.0</u> in Flow Direction: <u>East</u>	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Within Roadside Ditch</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Culvert Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input checked="" type="checkbox"/> Standing water <input type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle % Run 100 % Pool % <b>Turbidity</b> <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	5	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)	15	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	45			
Clay	< 0.004 mm (slick)	25			

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input checked="" type="checkbox"/> ROW <input type="checkbox"/> Other: _____	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> <input checked="" type="checkbox"/> Open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Intermittent stream occurs in roadside ditch adjacent to Hwy 11. Wetland vegetation present within OHWM

# Stream Photograph Page

Stream ID S-AB16

Date: 04/11/2016



Photograph Direction SW

Comments:

<b>STREAM ID</b> S-11	<b>STREAM NAME</b> UNT to Roanoke River
<b>LAT</b> 37.231265 <b>LONG</b> -80.198246	<b>DATE</b> 04/11/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> Yarbrough, Stoliker, Heule, Hatfield, Richardson	
<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: 14.0 ft Top of Bank Height: LB 4.0 ft      RB 4.0 ft Water Depth: 3.00 in Water Width: 6.0 ft High Water Mark: 1.0 ft Flow Direction: East	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft)   (2 ft/100 ft)   (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 25 %   Run 60 % Pool 15 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")	5			
Cobble	64-256 mm (2.5"-10")	5	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	70			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	<b>Indicate the dominant type (Check one)</b> <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input checked="" type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> <small>In channel</small>
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Man-made ditch paralleling railroad with in-channel wetland veg
	Information listed on this form represents the data collected in 2015. The stream was revisited on 11/01/2019. The presence of a stream channel and OHWM was unable to be confirmed.

## Stream Photograph Page

Stream ID S-11



Photograph Direction ENE

Date: 04/11/2015

Comments: 2015 stream identification.



Photograph Direction NE

Date: 11/01/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-CD12b		<b>STREAM NAME</b> UNT to South Fork Roanoke River	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.229764	<b>LONG</b> -80.201144	<b>DATE</b> 06/01/2017	<b>COUNTY</b> Montgomery
<b>INVESTIGATORS</b> E. Foster, J. Cook, S. Pilcher			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>6.0</u> ft Top of Bank Height: LB <u>4.0</u> ft RB <u>4.0</u> ft Water Depth: <u>2.00</u> in Water Width: <u>1.5</u> ft Ordinary High Water Mark (Width): <u>1.5</u> ft Ordinary High Water Mark (Height): <u>15.0</u> in Flow Direction: <u>Northwest</u>	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Within Roadside Ditch</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Culvert Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Culvert Material: <u>Corrugated Metal</u> Culvert Size: <u>36</u> in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 30 % Run 70 % Pool % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	30			
Sand	0.06-2mm (gritty)	30			
Silt	0.004-0.06 mm	30	Marl	grey, shell fragments	
Clay	< 0.004 mm (slick)	10			

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> ROW <input type="checkbox"/> Other:	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> <input type="checkbox"/> Open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Channelized stream feeds into S-I1.

# Stream Photograph Page

Stream ID S-CD12b

Date: 06/01/2017



Photograph Direction NNE

Comments:



<b>STREAM ID</b> S-EF19		<b>STREAM NAME</b> UNT to Indian Run	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.216093	<b>LONG</b> -80.19743	<b>DATE</b> 04/11/2016	<b>COUNTY</b> Montgomery
<b>INVESTIGATORS</b> D Hadersbeck, J Swilik, J Potrikus			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>5.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft Ordinary High Water Mark (Width): <u>1.0</u> ft Ordinary High Water Mark (Height): <u>6.0</u> in Flow Direction: <u>West</u>	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle % Run % Pool % <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	100
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	20			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> ROW <input type="checkbox"/> Other:	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> <input type="checkbox"/> Open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Stream completely covered by leaves. NHD ephemeral line on mapbook.

# Stream Photograph Page

Stream ID S-EF19

Date: 04/11/2016



Photograph Direction East

Comments:

<b>STREAM ID</b> S-EF20A		<b>STREAM NAME</b> UNT to Roanoke River	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.211225	<b>LONG</b> -80.192773	<b>DATE</b> 04/11/2016	<b>COUNTY</b> Montgomery
<b>INVESTIGATORS</b> D Hadersbeck, J Swilik, J Potrikus			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>6.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>8.00</u> in Water Width: <u>4.0</u> ft Ordinary High Water Mark (Width): <u>5.0</u> ft Ordinary High Water Mark (Height): <u>8.0</u> in Flow Direction: <u>Northeast</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat <input checked="" type="checkbox"/> Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast <input checked="" type="checkbox"/> Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 10 % Run 80 % Pool 10 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	40
Boulder	> 256 mm (10")	10			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	50			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> <input checked="" type="checkbox"/> Wide > 30ft ___ Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open <input checked="" type="checkbox"/> Partly shaded ___ Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Bisects W-EF5. Extended downstream as S-EF20B, S-EF20C, S-EF20D along Yellow Finch Ln

# Stream Photograph Page

Stream ID S-EF20A

Date: 04/11/2016



Photograph Direction ENE

Comments:

<b>STREAM ID</b> S-MM22	<b>STREAM NAME</b> UNT to Roanoke River
<b>LAT</b> 37.205489 <b>LONG</b> -80.187353	<b>DATE</b> 09/16/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> A.Grech, A. Stott, L.Sexton	
<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>15.0</u> ft Top of Bank Height: LB <u>0.0</u> ft      RB <u>0.0</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft High Water Mark: <u>0.0</u> ft Flow Direction: <u>North</u>	<b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle      %    Run      % Pool      % <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: Access road	<b>Indicate the dominant type (Check one)</b> <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	<b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b>

<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Stream needs revisited - Data partially collected in field due to being removed from property by owner.
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# Stream Photograph Page

Stream ID S-MM22

Date: 09/16/2015



Photograph Direction North

Comments:

<b>STREAM ID</b> S-IJ50		<b>STREAM NAME</b> UNT to Roanoke River	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.193575	<b>LONG</b> -80.167123	<b>DATE</b> 07/15/2016	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, K. Lew, J. Bittner			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>25.0</u> ft Top of Bank Height: LB <u>4.0</u> ft RB <u>4.0</u> ft Water Depth: <u>6.00</u> in Water Width: <u>8.0</u> ft Ordinary High Water Mark (Width): <u>10.0</u> ft Ordinary High Water Mark (Height): <u>12.0</u> in Flow Direction: <u>Northwest</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast <input checked="" type="checkbox"/> Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 30 % Run 35 % Pool 35 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		50	Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	10	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
none observed

# Stream Photograph Page

Stream ID S-IJ50

Date: 07/15/2016



Photograph Direction SE

Comments:



<b>STREAM ID</b> S-Y13	<b>STREAM NAME</b> UNT to Bottom Creek
<b>LAT</b> 37.187804 <b>LONG</b> -80.150962	<b>DATE</b> 07/16/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> D Hadersbeck, K Lew, G Buda, J Swilik	
<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>8.0</u> ft Top of Bank Height: LB <u>6.0</u> in      RB <u>1.0</u> ft Water Depth: <u>1.00</u> in Water Width: <u>4.0</u> ft High Water Mark: <u>4.0</u> ft Flow Direction: <u>E/NE</u>	<b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input type="checkbox"/> Low <input type="checkbox"/> Medium <input checked="" type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle      %    Run 100    % Pool      % <b>Turbidity</b> <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	50			
Sand	0.06-2mm (gritty)	25	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	0			

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	<b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b>

<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Runs adjacent to S-Y14
	Information listed on this form represents the data collected in 2015. The stream was not accessible for survey in 2019 to reconfirm the presence of a stream channel and OHWM.

# Stream Photograph Page

Stream ID S-Y13

Date: 07/16/2015



Photograph Direction East

Comments:

<b>STREAM ID</b> S-Y14	<b>STREAM NAME</b> UNT to Bottom Creek
<b>LAT</b> 37.187677 <b>LONG</b> -80.150851	<b>DATE</b> 07/16/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> D Hadersbeck, K Lew, G Buda, J Swilik	
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>14.0</u> ft Top of Bank Height: LB <u>6.0</u> in      RB <u>1.5</u> ft Water Depth: <u>6.00</u> in Water Width: <u>6.0</u> ft High Water Mark: <u>14.0</u> ft Flow Direction: <u>E/NE</u>	<b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy  <b>Artificial, Modified or Channelized</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High  <b>Gradient</b> <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft)    (2 ft/100 ft)    (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water  <b>Velocity</b> <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle      %    Run 100    % Pool      %  <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	60			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)	0			

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous  <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
	<b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b>

<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Runs adjacent to S-Y13.
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# Stream Photograph Page

Stream ID S-Y14

Date: 07/16/2015



Photograph Direction WSW

Comments:

<b>STREAM ID</b> S-EF57		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.1817736	<b>LONG</b> -80.148948	<b>DATE</b> 09/27/2016	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> D Hadersbeck C Wieman J Niergarth			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>8.0</u> ft Top of Bank Height: LB <u>2.5</u> ft RB <u>2.5</u> ft Water Depth: <u>1.00</u> in Water Width: <u>3.0</u> ft Ordinary High Water Mark (Width): <u>4.0</u> ft Ordinary High Water Mark (Height): <u>6.0</u> in Flow Direction: <u>South</u>	<b>Sinuosity</b> ___ Low ___ Medium <input checked="" type="checkbox"/> High <b>Gradient</b> ___ Flat <input checked="" type="checkbox"/> Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast ___ Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 30 % Run 70 % Pool % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256 mm (10")	10			
Cobble	64-256 mm (2.5"-10")	25	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	45			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft ___ Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> ___ Open <input checked="" type="checkbox"/> Partly shaded ___ Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
connects S-EF34

# Stream Photograph Page

Stream ID S-EF57

Date: 09/27/2016



Photograph Direction North

Comments:

<b>STREAM ID</b> S-EF55		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.181506	<b>LONG</b> -80.149497	<b>DATE</b> 09/27/2016	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> D Hadersbeck C Wieman J Niergarth			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>8.0</u> ft Top of Bank Height: LB <u>1.5</u> ft RB <u>1.5</u> ft Water Depth: <u>3.00</u> in Water Width: <u>3.0</u> ft Ordinary High Water Mark (Width): <u>4.0</u> ft Ordinary High Water Mark (Height): <u>5.0</u> in Flow Direction: <u>Southeast</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat ___ Moderate <input checked="" type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast <input checked="" type="checkbox"/> Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 50 % Run 40 % Pool 10 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	15			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	35			
Sand	0.06-2mm (gritty)	30	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft ___ Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
joins into S-EF34

# Stream Photograph Page

Stream ID S-EF55

Date: 09/27/2016



Photograph Direction NNE

Comments: