

**APPENDIX B:**

**Phase 2 Stream Geomorphic  
Assessment Data**



Phase 2 Segment Summary Report **Hoosic Tribs**

Stream: **Ladd Brook**  
 Reach: **M05S1.01-0**  
 Segment Length(ft): **2,430**  
 Rain: **Yes**

SGAT Version: **4.56**  
 Organization: **Bennington County RPC**  
 Observers: **EPF, EHB**  
 Completion Date: **10/4/2016**  
 Quality Control Status - Consultant: **Provisional**  
 Quality Control Status - Staff: **Provisional**

Step 0 - Location: **This reach begins at the confluence of Ladd Brook and the Hoosic River Mainstem. The reach runs continues under the railroad, Church St and Rte 346, before ending at the reach break just downstream of Route 7.**

Step 5 - Notes:

Step 7 - Narrative: **The reach was incised due to historic straightening, encroachment, and development. The railroad crossing, berms along the mobile home park, and channel manipulation around commercial property south of Church Street. This reach is found at a slope break in the longitudinal profile, and where the valley widens from upstream. This area was likely an alluvial fan historically, and review of historical imagery suggests the channel was re-routed from the north to its current location.**

**Step 1. Valley and Floodplain**

1.1 Segmentation: <b>None</b>	1.4 Adjacent Side	<u>Left</u>	<u>Right</u>	1.5 Valley Features
1.2 Alluvial Fan: <b>None</b>	Hillside Slope:	<b>Hilly</b>	<b>Hilly</b>	Valley Width (ft): <b>735</b>
1.3 Corridor Encroachments:	Continuous w/ Bank:	<b>Sometimes</b>	<b>Sometimes</b>	Width Determination: <b>Measured</b>
<u>Length (ft)</u> <u>One</u> <u>Height</u> <u>Both</u> <u>Height</u>	Within 1 Bankfull W:	<b>Sometimes</b>	<b>Sometimes</b>	Confinement Type: <b>VB</b>
Berm: <b>95</b> <b>2</b> <b>0</b>	Texture:	<b>Mixed</b>	<b>Mixed</b>	In Rock Gorge: <b>No</b>
Road: <b>482</b> <b>10</b> <b>0</b>				Human Caused Change in Valley Width?: <b>No</b>
Railroad: <b>274</b> <b>8</b> <b>0</b>				
Imp. Path: <b>0</b> <b>0</b>				
Dev.: <b>484</b> <b>1,165</b>				

1.6 Grade Controls:

Type	Location	Total Height	Total Height Above Water	Photo Taken?	GPS Taken?
Dam	Mid-segment	2.8	1.9	Yes	



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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Ladd Brook** Reach: **M05S1.01-0**

#### Step 2. Stream Channel

2.1 Bankfull Width (ft.):	<b>12.00</b>	2.11 Riffle/Step Spacing:	<b>15 ft.</b>	2.13 Average Largest Particle on	
2.2 Max Depth (ft.):	<b>1.40</b>	2.12 Substrate Composition		Bed:	<b>22 mm</b>
2.3 Mean Depth (ft.):	<b>0.96</b>	Bedrock:	<b>0.0 %</b>	Bar:	<b>9 mm</b>
2.4 Floodprone Width (ft.):	<b>20.00</b>	Boulder:	<b>1.0 %</b>	2.14 Stream Type	
2.5 Aband. Floodpn (ft.):	<b>0.60</b>	Cobble:	<b>28.0 %</b>	Stream Type:	<b>F</b>
Human Elev FloodPln (ft.):	<b>4.40</b>	Coarse Gravel:	<b>43.0 %</b>	Bed Material:	<b>Gravel</b>
2.6 Width/Depth Ratio:	<b>12.50</b>	Fine Gravel:	<b>12.0 %</b>	Subclass Slope:	<b>None</b>
2.7 Entrenchment Ratio:	<b>1.67</b>	Sand:	<b>15.0 %</b>	Bed Form:	<b>Riffle-Pool</b>
2.8 Incision Ratio:	<b>0.43</b>	Silt and Smaller:	<b>1.0 %</b>	Field Measured Slope:	<b>2.5</b>
Human Elevated Inc. Rat.:	<b>3.14</b>	Silt/Clay Present:	<b>No</b>	2.15 Sub-reach Stream Type	
2.9 Sinuosity:	<b>Low</b>	Detritus:	<b>5.0 %</b>	Reference Stream Type:	
2.10 Riffles Type:	<b>Complete</b>	# Large Woody Debris:	<b>62</b>	Reference Bed Material:	
				Reference Subclass Slope:	
				Reference Bedform:	

#### Step 3. Riparian Features

3.1 Stream Banks			Typical Bank Slope:	<b>Moderate</b>	
Bank Texture			Bank Erosion	<u>Left</u>	<u>Right</u>
Upper	<u>Left</u>	<u>Right</u>	Erosion Length (ft.):	<b>225.0</b>	<b>98.0</b>
Material Type:	<b>Mix</b>	<b>Mix</b>	Erosion Height (ft.):	<b>3.8</b>	<b>4.0</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>	Revetment Type:	<b>Multiple</b>	<b>Rip-Rap</b>
Lower			Revetment Length:	<b>104.0</b>	<b>444.0</b>
Material Type:	<b>Mix</b>	<b>Mix</b>			
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>			
			Near Bank Vegetation Type	<u>Left</u>	<u>Right</u>
			Dominant:	<b>Deciduous</b>	<b>Deciduous</b>
			Sub-dominant:	<b>Shrubs/Sapling</b>	<b>Shrubs/Sapling</b>
			Bank Canopy		
			Canopy %:	<b>76-100</b>	<b>76-100</b>
			Mid-Channel Canopy:	<b>Closed</b>	

#### 3.2 Riparian Buffer

Buffer Width	<u>Left</u>	<u>Right</u>	Corridor Land
Dominant	<b>26-50</b>	<b>26-50</b>	Dominant
Sub-Dominant	<b>51-100</b>	<b>0-25</b>	Sub-dominant
W less than 25	<b>628</b>	<b>1,163</b>	(Legacy)
Buffer Vegetation Type			Failures
Dominant	<b>Shrubs/Sapling</b>	<b>Shrubs/Sapling</b>	Gullies
Sub-Dominant	<b>Deciduous</b>	<b>Deciduous</b>	

#### 3.3 Riparian Corridor

	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Dominant	<b>Residential</b>	<b>Commercial</b>	Mass Failures	
Sub-Dominant	<b>Pasture</b>	<b>Residential</b>	Height	
W less than 25	<u>Amount</u>	<u>Mean Hieght</u>	Gullies Number	<b>0</b>
Failures	<b>None</b>		Gullies Length	<b>0</b>
Gullies	<b>None</b>			



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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Ladd Brook**

Reach: **M05S1.01-0**

#### Step 4. Flow & Flow Modifiers

4.1 Springs / Seeps: <b>Minimal</b>	4.5 Flow Regulation Type <b>None</b>	4.7 Stormwater Inputs
4.2 Adjacent Wetlands: <b>Minimal</b>	Flow Reg. Use:	Field Ditch: <b>0</b> Road Ditch: <b>0</b>
4.3 Flow Status: <b>Low</b>	Impoundments:	Other: <b>0</b> Tile Drain: <b>0</b>
4.4 # of Debris Jams: <b>4</b>	Impoundment Loc.:	Overland Flow: <b>0</b> Urb Strm Wtr Pipe: <b>1</b>
	4.6 Up/Down Strm flow reg.: <b>None</b>	4.9 # of Beaver Dams: <b>0</b>
	(old) Upstrm Flow Reg.:	Affected Length (ft): <b>0</b>

#### 4.8 Channel Constrictions:

Type	Width	Photo Taken?	GPS Taken?	Channel Constriction?	Floodprone Constriction?	Problems
Instream Culvert	8	Yes	No	Yes	Yes	Deposition Above, Deposition Below
Instream Culvert	6	Yes	No	No	No	Deposition Above, Deposition Below
Instream Culvert	10	Yes	No	Yes	Yes	Deposition Above
Instream Culvert	10	Yes	No	Yes	Yes	None

#### Step 5. Channel Bed and Planform Changes

5.1 Bar Types Diagonal: <b>0</b>	5.2 Other Features Neck Cutoff: <b>0</b>	5.4 Stream Ford or Animal Crossing: <b>No</b>
Mid: <b>2</b> Delta: <b>0</b>	Flood chutes: <b>0</b>	Avulsion: <b>0</b>
Point: <b>1</b> Island: <b>0</b>	5.3 Steep Riffles and Head Cuts Head Cuts: <b>0</b>	5.5 Straightening: <b>Straightening</b>
Side: <b>3</b> Braiding: <b>0</b>	Steep Riffles: <b>1</b>	Trib Rejuv.: <b>No</b>
		Straightening Length (ft.): <b>1,132</b>
		5.5 Dredging: <b>None</b>

#### Step 6. Rapid Habitat Assessment Data

6.1 Epifaunal Substrate - Avl.:	6.4 Sediment Deposition:	Stream Gradient Type	<u>Left</u>	<u>Right</u>
6.2 Pool Substrate:	6.5 Channel Flow Status:	6.8 Bank Stability:		
6.3 Pool Variability:	6.6 Channel Alteration:	6.9 Bank Vegetation Protection		
Total Score: <b>0</b>	6.7 Channel Sinuosity:	6.10 Riparian Veg. Zone Width:		
Habitat Rating: <b>0.00</b>				
Habitat Stream Condition:				

#### Step 7. Rapid Geomorphic Assessment Data

Confinement Type	Unconfined	Score	STD	Historic		
7.1 Channel Degradation		<b>5</b>	<b>C to F</b>	<b>No</b>	Geomorphic Rating	<b>0.47</b>
7.2 Channel Aggradation		<b>12</b>	<b>None</b>	<b>No</b>	Channel Evolution Model	<b>F</b>
7.3 Widening Channel		<b>12</b>	<b>None</b>	<b>No</b>	Channel Evolution Stage	<b>II</b>
7.4 Change in Planform		<b>9</b>	<b>None</b>	<b>No</b>	Geomorphic Condition	<b>Fair</b>
Total Score		<b>38</b>			Stream Sensitivity	<b>Extreme</b>



Phase 2 Segment Summary Report **Hoosic Tribs**

Stream: **Ladd Brook**  
 Reach: **M05S1.02-0**  
 Segment Length(ft): **6,332**  
 Rain: **Yes**

SGAT Version: **4.56**  
 Organization: **Bennington County RPC**  
 Observers: **EPF, EHB**  
 Completion Date: **10/4/2016**  
 Quality Control Status - Consultant: **Provisional**  
 Quality Control Status - Staff: **Provisional**

Step 0 - Location: **The reach begins just downstream of where Rte. 7 crosses Ladd Brook. The reach continues northeast parallel to Ladd Rd. until the reach break just downstream of where Ladd Brook bends to the southeast.**

Step 5 - Notes:

Step 7 - Narrative: **This reach is located in a naturally semi-confined valley that it shares with Ladd Road. Encroachment and development have narrowed this valley, but the channel maintains some ability to move and access floodplains within the valley. Grade controls throughout much of the reach maintain vertical stability; in some areas minor widening and planform adjustment processes were observed where sediment is aggrading behind the grade controls.**

**Step 1. Valley and Floodplain**

1.1 Segmentation: <b>None</b>	1.4 Adjacent Side	<u>Left</u>	<u>Right</u>	1.5 Valley Features
1.2 Alluvial Fan: <b>None</b>	Hillside Slope:	<b>Steep</b>	<b>Very Steep</b>	Valley Width (ft): <b>48</b>
1.3 Corridor Encroachments:	Continuous w/ Bank:	<b>Sometimes</b>	<b>Sometimes</b>	Width Determination: <b>Measured</b>
<u>Length (ft)</u> <u>One</u> <u>Height</u> <u>Both</u> <u>Height</u>	Within 1 Bankfull W:	<b>Sometimes</b>	<b>Sometimes</b>	Confinement Type: <b>SC</b>
Berm: <b>0</b> <b>0</b>	Texture:	<b>Mixed</b>	<b>Mixed</b>	In Rock Gorge: <b>No</b>
Road: <b>591</b> <b>8</b> <b>0</b> <b>16</b>				Human Caused Change in Valley Width?: <b>Yes</b>
Railroad: <b>0</b> <b>0</b>				
Imp. Path: <b>0</b> <b>0</b>				
Dev.: <b>612</b> <b>0</b>				

1.6 Grade Controls:

Type	Location	Total Height	Total Height Above Water	Photo Taken?	GPS Taken?
Ledge	Mid-segment	2.0	1.0	No	
Ledge	Mid-segment	0.0	0.0	No	
Ledge	Mid-segment	2.0	1.0	No	
Ledge	Mid-segment	4.0	3.5	No	
Ledge	Mid-segment	6.5	6.0	No	
Ledge	Mid-segment	2.0	1.8	No	
Ledge	Mid-segment	2.8	2.6	No	
Ledge	Mid-segment	3.5	3.0	No	
Dam	Mid-segment	4.0	3.4	Yes	
Ledge	Mid-segment	0.0	0.0	No	
Ledge	Mid-segment	0.0	0.0	No	
Ledge	Mid-segment	8.0	7.7	No	
Ledge	Mid-segment	3.5	3.0	No	



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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Ladd Brook** Reach: **M05S1.02-0**

#### Step 2. Stream Channel

2.1 Bankfull Width (ft.):	<b>16.50</b>	2.11 Riffle/Step Spacing:	<b>25 ft.</b>	2.13 Average Largest Particle on	
2.2 Max Depth (ft.):	<b>1.60</b>	2.12 Substrate Composition		Bed:	<b>25 mm</b>
2.3 Mean Depth (ft.):	<b>0.94</b>	Bedrock:	<b>19.0 %</b>	Bar:	<b>8 mm</b>
2.4 Floodprone Width (ft.):	<b>35.00</b>	Boulder:	<b>4.0 %</b>	2.14 Stream Type	
2.5 Aband. Floodpn (ft.):	<b>1.60</b>	Cobble:	<b>38.0 %</b>	Stream Type:	<b>B</b>
Human Elev FloodPln (ft.):		Coarse Gravel:	<b>20.0 %</b>	Bed Material:	<b>Cobble</b>
2.6 Width/Depth Ratio:	<b>17.55</b>	Fine Gravel:	<b>9.0 %</b>	Subclass Slope:	<b>None</b>
2.7 Entrenchment Ratio:	<b>2.12</b>	Sand:	<b>8.0 %</b>	Bed Form:	<b>Riffle-Pool</b>
2.8 Incision Ratio:	<b>1.00</b>	Silt and Smaller:	<b>2.0 %</b>	Field Measured Slope:	
Human Elevated Inc. Rat.:	<b>0.00</b>	Silt/Clay Present:	<b>No</b>	2.15 Sub-reach Stream Type	
2.9 Sinuosity:	<b>Low</b>	Detritus:	<b>5.0 %</b>	Reference Stream Type:	
2.10 Riffles Type:	<b>Complete</b>	# Large Woody Debris:	<b>331</b>	Reference Bed Material:	
				Reference Subclass Slope:	
				Reference Bedform:	

#### Step 3. Riparian Features

3.1 Stream Banks			Typical Bank Slope:	<b>Steep</b>		
Bank Texture			Bank Erosion	<u>Left</u>	<u>Right</u>	Near Bank Vegetation Type <u>Left</u> <u>Right</u>
Upper	<u>Left</u>	<u>Right</u>	Erosion Length (ft.):	<b>168.3</b>	<b>66.6</b>	Dominant: <b>Deciduous</b> <b>Deciduous</b>
Material Type:	<b>Mix</b>	<b>Mix</b>	Erosion Height (ft.):	<b>4.1</b>	<b>13.9</b>	Sub-dominant: <b>Shrubs/Sapling</b> <b>Shrubs/Sapling</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>	Revetment Type:	<b>Multiple</b>	<b>Rip-Rap</b>	Bank Canopy
Lower			Revetment Length:	<b>342.2</b>	<b>1,669.1</b>	Canopy %: <b>76-100</b> <b>76-100</b>
Material Type:	<b>Mix</b>	<b>Mix</b>				Mid-Channel Canopy: <b>Closed</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>				

#### 3.2 Riparian Buffer

Buffer Width	<u>Left</u>	<u>Right</u>
Dominant	<b>&gt;100</b>	<b>26-50</b>
Sub-Dominant	<b>26-50</b>	<b>0-25</b>
W less than 25	<b>266</b>	<b>739</b>
Buffer Vegetation Type		
Dominant	<b>Deciduous</b>	<b>Deciduous</b>
Sub-Dominant	<b>Herbaceous</b>	<b>Shrubs/Sapling</b>

#### 3.3 Riparian Corridor

Corridor Land	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Dominant	<b>Forest</b>	<b>Industrial</b>	Mass Failures	<b>107.40</b> <b>32.465</b>
Sub-dominant	<b>Residential</b>	<b>Residential</b>	Height	<b>07</b> <b>85</b>
(Legacy)	<u>Amount</u>	<u>Mean Height</u>	Gullies Number	<b>1</b>
Failures	<b>Multiple</b>	<b>20.8</b>	Gullies Length	
Gullies	<b>One</b>	<b>2.0</b>		



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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Ladd Brook**

Reach: **M05S1.02-0**

#### Step 4. Flow & Flow Modifiers

4.1 Springs / Seeps: <b>Minimal</b>	4.5 Flow Regulation Type: <b>None</b>	4.7 Stormwater Inputs
4.2 Adjacent Wetlands: <b>Minimal</b>	Flow Reg. Use:	Field Ditch: <b>0</b> Road Ditch: <b>1</b>
4.3 Flow Status: <b>Low</b>	Impoundments:	Other: <b>0</b> Tile Drain: <b>0</b>
4.4 # of Debris Jams: <b>33</b>	Impoundment Loc.:	Overland Flow: <b>0</b> Urb Strm Wtr Pipe: <b>7</b>
	4.6 Up/Down Strm flow reg.: <b>None</b>	4.9 # of Beaver Dams: <b>0</b>
	(old) Upstrm Flow Reg.:	Affected Length (ft): <b>0</b>

#### 4.8 Channel Constrictions:

Type	Width	Photo Taken?	GPS Taken?	Channel Constriction?	Floodprone Constriction?	Problems
Instream Culvert	5.8	Yes	No	Yes	Yes	Deposition Above
Instream Culvert	6	Yes	No	Yes	Yes	Deposition Above
Instream Culvert	5	Yes	No	Yes	Yes	Deposition Below, Scour Above
Bridge	7	Yes	No	Yes	Yes	None
Bridge	11	Yes	No	Yes	Yes	None

#### Step 5. Channel Bed and Planform Changes

5.1 Bar Types Diagonal: <b>0</b>	5.2 Other Features Neck Cutoff: <b>0</b>	5.4 Stream Ford or Animal Crossing: <b>No</b>
Mid: <b>23</b> Delta: <b>0</b>	Flood chutes: <b>2</b> Avulsion: <b>0</b>	5.5 Straightening: <b>Straightening</b>
Point: <b>14</b> Island: <b>3</b>	5.3 Steep Riffles and Head Cuts Head Cuts: <b>0</b>	Straightening Length (ft.): <b>542</b>
Side: <b>23</b> Braiding: <b>0</b>	Steep Riffles: <b>0</b> Trib Rejuv.: <b>No</b>	5.5 Dredging: <b>None</b>

#### Step 6. Rapid Habitat Assessment Data

6.1 Epifaunal Substrate - Avl.:	6.4 Sediment Deposition:	Stream Gradient Type	<u>Left</u>	<u>Right</u>
6.2 Pool Substrate:	6.5 Channel Flow Status:	6.8 Bank Stability:		
6.3 Pool Variability:	6.6 Channel Alteration:	6.9 Bank Vegetation Protection:		
Total Score: <b>0</b>	6.7 Channel Sinuosity:	6.10 Riparian Veg. Zone Width:		
Habitat Rating: <b>0.00</b>				
Habitat Stream Condition:				

#### Step 7. Rapid Geomorphic Assessment Data

Confinement Type	Confined	Score	STD	Historic		
7.1 Channel Degradation		15	None	No	Geomorphic Rating	0.65
7.2 Channel Aggradation		13	None	No	Channel Evolution Model	F
7.3 Widening Channel		13	None	No	Channel Evolution Stage	I
7.4 Change in Planform		11	None	No	Geomorphic Condition	Good
Total Score		52			Stream Sensitivity	Moderate



Phase 2 Segment Summary Report Hoosic Tribs

Stream: Tubbs Brook  
Reach: M01T1.01-0  
Segment Length(ft): 3,347  
Rain: Yes

SGAT Version: 4.56  
Organization: Bennington County RPC  
Observers: JHB, EHB  
Completion Date: 8/18/2016  
Quality Control Status - Consultant: Provisional  
Quality Control Status - Staff: Provisional

Step 0 - Location: This reach begins at the confluence of Tubbs Brook and the Hoosic River. After crossing under the railroad and Route 346, the reach continues running north parallel to Skiparee Road to the upstream reach break at the confluence with the first unnamed trib

Step 5 - Notes: Lower half of the reach was dry during Phase 2 assessments.

Step 7 - Narrative: The reach was deeply incised due to historic straightening through the agricultural fields. There was evidence of deposition from increased sediment loads working their way through the channel after hurricane Irene. We did not see evidence of planform adjustment. The banks were fairly stable and vegetated. We assessed the reach as Stage II likely progressing towards Stage III.

Step 1. Valley and Floodplain

1.1 Segmentation: None

1.2 Alluvial Fan: None

1.3 Corridor Encroachments:

	<u>Length (ft)</u>	<u>One</u>	<u>Height</u>	<u>Both</u>	<u>Height</u>
Berm:	0			0	
Road:	330	8		210	8
Railroad:	0			0	15
Imp. Path:	0			0	
Dev.:	196			702	

1.4 Adjacent Side Left Right

Hillside Slope: Hilly Hilly

Continuous w/ Bank: Sometimes Sometimes

Within 1 Bankfull W: Sometimes Sometimes

Texture: Mixed Mixed

1.5 Valley Features

Valley Width (ft): 850

Width Determination: Measured

Confinement Type: VB

In Rock Gorge: No

Human Caused Change in Valley Width?: Yes

1.6 Grade Controls: None





# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook** Reach: **M01T1.01-0**

#### Step 2. Stream Channel

2.1 Bankfull Width (ft.):	<b>24.00</b>	2.11 Riffle/Step Spacing:	<b>80 ft.</b>	2.13 Average Largest Particle on	
2.2 Max Depth (ft.):	<b>2.10</b>	2.12 Substrate Composition		Bed:	<b>350 mm</b>
2.3 Mean Depth (ft.):	<b>1.57</b>	Bedrock:	<b>0.0 %</b>	Bar:	<b>140 mm</b>
2.4 Floodprone Width (ft.):	<b>43.00</b>	Boulder:	<b>2.0 %</b>	2.14 Stream Type	
2.5 Aband. Floodpn (ft.):	<b>5.60</b>	Cobble:	<b>36.0 %</b>	Stream Type:	<b>B</b>
Human Elev FloodPln (ft.):		Coarse Gravel:	<b>33.0 %</b>	Bed Material:	<b>Gravel</b>
2.6 Width/Depth Ratio:	<b>15.29</b>	Fine Gravel:	<b>21.0 %</b>	Subclass Slope:	<b>c</b>
2.7 Entrenchment Ratio:	<b>1.79</b>	Sand:	<b>8.0 %</b>	Bed Form:	<b>Riffle-Pool</b>
2.8 Incision Ratio:	<b>2.67</b>	Silt and Smaller:	<b>0.0 %</b>	Field Measured Slope:	
Human Elevated Inc. Rat.:	<b>0.00</b>	Silt/Clay Present:	<b>No</b>	2.15 Sub-reach Stream Type	
2.9 Sinuosity:	<b>High</b>	Detritus:	<b>2.0 %</b>	Reference Stream Type:	
2.10 Riffles Type:	<b>Complete</b>	# Large Woody Debris:	<b>32</b>	Reference Bed Material:	
				Reference Subclass Slope:	
				Reference Bedform:	

#### Step 3. Riparian Features

3.1 Stream Banks			Typical Bank Slope:	<b>Steep</b>			
Bank Texture			Bank Erosion	<u>Left</u>	<u>Right</u>	Near Bank Vegetation Type <u>Left</u>	<u>Right</u>
Upper	<u>Left</u>	<u>Right</u>	Erosion Length (ft.):	<b>318.8</b>	<b>176.4</b>	Dominant:	<b>Deciduous</b> <b>Deciduous</b>
Material Type:	<b>Mix</b>	<b>Mix</b>	Erosion Height (ft.):	<b>3.4</b>	<b>3.5</b>	Sub-dominant:	<b>Shrubs/Sapling</b> <b>Shrubs/Sapling</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>	Revetment Type:	<b>Rip-Rap</b>	<b>Rip-Rap</b>	Bank Canopy	
Lower			Revetment Length:	<b>294.6</b>	<b>118.7</b>	Canopy %:	<b>76-100</b> <b>76-100</b>
Material Type:	<b>Mix</b>	<b>Mix</b>				Mid-Channel Canopy:	<b>Closed</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>					

#### 3.2 Riparian Buffer

Buffer Width	<u>Left</u>	<u>Right</u>
Dominant	<b>26-50</b>	<b>26-50</b>
Sub-Dominant	<b>0-25</b>	<b>&gt;100</b>
W less than 25	<b>999</b>	<b>608</b>
Buffer Vegetation Type		
Dominant	<b>Herbaceous</b>	<b>Herbaceous</b>
Sub-Dominant	<b>Shrubs/Sapling</b>	<b>Deciduous</b>

#### 3.3 Riparian Corridor

Corridor Land	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Dominant	<b>Residential</b>	<b>Crop</b>	Mass Failures	
Sub-dominant	<b>Crop</b>	<b>Forest</b>	Height	
(Legacy)	<u>Amount</u>	<u>Mean Hieght</u>	Gullies Number	<b>0</b>
Failures	<b>None</b>		Gullies Length	<b>0</b>
Gullies	<b>None</b>			



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook**

Reach: **M01T1.01-0**

#### Step 4. Flow & Flow Modifiers

4.1 Springs / Seeps: <b>Minimal</b>	4.5 Flow Regulation Type <b>None</b>	4.7 Stormwater Inputs <b>None</b>
4.2 Adjacent Wetlands: <b>None</b>	Flow Reg. Use:	Field Ditch: Road Ditch:
4.3 Flow Status: <b>Low</b>	Impoundments:	Other: Tile Drain:
4.4 # of Debris Jams: <b>8</b>	Impoundment Loc.:	Overland Flow: Urb Strm Wtr Pipe:
	4.6 Up/Down Strm flow reg.: <b>None</b>	4.9 # of Beaver Dams: <b>0</b>
	(old) Upstrm Flow Reg.:	Affected Length (ft): <b>0</b>

4.8 Channel Constrictions:

Type	Width	Photo Taken?	GPS Taken?	Channel Constriction?	Floodprone Constriction?	Problems
Bridge	21	Yes	No	Yes	Yes	Deposition Above, Deposition Below
Bridge	26	Yes	No	Yes	Yes	Deposition Below
Bridge	48	Yes	No	No	No	Deposition Above, Deposition Below

#### Step 5. Channel Bed and Planform Changes

5.1 Bar Types Diagonal: <b>6</b>	5.2 Other Features Neck Cutoff: <b>0</b>	5.4 Stream Ford or Animal Crossing: <b>Yes</b>
Mid: <b>2</b> Delta: <b>0</b>	Flood chutes: <b>2</b> Avulsion: <b>0</b>	5.5 Straightening: <b>Straightening</b>
Point: <b>3</b> Island: <b>0</b>	5.3 Steep Riffles and Head Cuts Head Cuts: <b>0</b>	Straightening Length (ft.): <b>693</b>
Side: <b>12</b> Braiding: <b>0</b>	Steep Riffles: <b>0</b> Trib Rejuv.: <b>No</b>	5.5 Dredging: <b>None</b>

#### Step 6. Rapid Habitat Assessment Data

6.1 Epifaunal Substrate - Avl.:	6.4 Sediment Deposition:	Stream Gradient Type	<u>Left</u>	<u>Right</u>
6.2 Pool Substrate:	6.5 Channel Flow Status:	6.8 Bank Stability:		
6.3 Pool Variability:	6.6 Channel Alteration:	6.9 Bank Vegetation Protection		
Total Score: <b>0</b>	6.7 Channel Sinuosity:	6.10 Riparian Veg. Zone Width:		
Habitat Rating: <b>0.00</b>				
Habitat Stream Condition:				

#### Step 7. Rapid Geomorphic Assessment Data

Confinement Type	Unconfined	Score	STD	Historic		
7.1 Channel Degradation		<b>5</b>	<b>C to B</b>	<b>Yes</b>	Geomorphic Rating	<b>0.49</b>
7.2 Channel Aggradation		<b>12</b>	<b>None</b>	<b>No</b>	Channel Evolution Model	<b>F</b>
7.3 Widening Channel		<b>11</b>	<b>None</b>	<b>No</b>	Channel Evolution Stage	<b>II</b>
7.4 Change in Planform		<b>11</b>	<b>None</b>	<b>No</b>	Geomorphic Condition	<b>Fair</b>
Total Score		<b>39</b>			Stream Sensitivity	<b>High</b>



Phase 2 Segment Summary Report **Hoosic Tribs**

Stream: **Tubbs Brook**  
 Reach: **M01T1.02-0**  
 Segment Length(ft): **4,776**  
 Rain: **No**

SGAT Version: **4.56**  
 Organization: **Bennington County RPC**  
 Observers: **EPF, EHB**  
 Completion Date: **10/3/2016**  
 Quality Control Status - Consultant: **Provisional**  
 Quality Control Status - Staff: **Provisional**

Step 0 - Location: **The reach begins at the confluence with the first unnamed tributary to Tubbs Brook near the intersection of Skiparee Rd and North Pownal Rd. The reach continues north running parallel to Skiparee Rd to the upstream reach break at tributary confluence**

Step 5 - Notes:

Step 7 - Narrative: **The phase 1 slope was steeper than typical for the reach due to several large grade controls, but average slope was closer to 1.5-2.5% for the reach. Entrenchment was variable, ranging from 1.8 to 2.5, and is typically Cb-type by reference in a narrow unconfined valley. Future incision is unlikely due to numerous grade controls throughout the reach. Ongoing coarse sediment loads from upstream continue to aggrade in the channel and will increase the rate of widening and planform adjustment. We assessed the reach as Stage IV due to these factors.**

**Step 1. Valley and Floodplain**

1.1 Segmentation: <b>None</b>	1.4 Adjacent Side	<u>Left</u>	<u>Right</u>	1.5 Valley Features
1.2 Alluvial Fan: <b>None</b>	Hillside Slope:	<b>Very Steep</b>	<b>Very Steep</b>	Valley Width (ft): <b>122</b>
1.3 Corridor Encroachments:	Continuous w/ Bank:	<b>Sometimes</b>	<b>Sometimes</b>	Width Determination: <b>Measured</b>
<u>Length (ft)</u> <u>One</u> <u>Height</u> <u>Both</u> <u>Height</u>	Within 1 Bankfull W:	<b>Sometimes</b>	<b>Sometimes</b>	Confinement Type: <b>NW</b>
Berm: <b>0</b> <b>0</b>	Texture:	<b>Mixed</b>	<b>Mixed</b>	In Rock Gorge: <b>No</b>
Road: <b>1,042</b> <b>8</b> <b>0</b>				Human Caused Change in Valley Width?: <b>No</b>
Railroad: <b>0</b> <b>0</b>				
Imp. Path: <b>0</b> <b>0</b>				
Dev.: <b>141</b> <b>0</b>				

1.6 Grade Controls:

Type	Location	Total Height	Total Height Above Water	Photo Taken?	GPS Taken?
Ledge	Mid-segment	1.5	1.2	No	
Ledge	Mid-segment	7.2	7.0	No	
Ledge	Mid-segment	0.0	0.0	No	
Ledge	Mid-segment	0.0	0.0	No	
Ledge	Mid-segment	0.0	0.0	No	
Waterfall	Mid-segment	28.0	24.0	Yes	
Ledge	Mid-segment	3.0	1.0	No	



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook** Reach: **M01T1.02-0**

#### Step 2. Stream Channel

2.1 Bankfull Width (ft.):	<b>23.80</b>	2.11 Riffle/Step Spacing:	<b>90 ft.</b>	2.13 Average Largest Particle on	
2.2 Max Depth (ft.):	<b>2.10</b>	2.12 Substrate Composition		Bed:	<b>250 mm</b>
2.3 Mean Depth (ft.):	<b>1.53</b>	Bedrock:	<b>0.0 %</b>	Bar:	<b>110 mm</b>
2.4 Floodprone Width (ft.):	<b>56.00</b>	Boulder:	<b>2.0 %</b>	2.14 Stream Type	
2.5 Aband. Floodpn (ft.):	<b>3.20</b>	Cobble:	<b>50.0 %</b>	Stream Type:	<b>C</b>
Human Elev FloodPln (ft.):		Coarse Gravel:	<b>25.0 %</b>	Bed Material:	<b>Cobble</b>
2.6 Width/Depth Ratio:	<b>15.56</b>	Fine Gravel:	<b>9.0 %</b>	Subclass Slope:	<b>b</b>
2.7 Entrenchment Ratio:	<b>2.35</b>	Sand:	<b>14.0 %</b>	Bed Form:	<b>Riffle-Pool</b>
2.8 Incision Ratio:	<b>1.52</b>	Silt and Smaller:	<b>0.0 %</b>	Field Measured Slope:	<b>2.2</b>
Human Elevated Inc. Rat.:	<b>0.00</b>	Silt/Clay Present:	<b>No</b>	2.15 Sub-reach Stream Type	
2.9 Sinuosity:	<b>Low</b>	Detritus:	<b>3.0 %</b>	Reference Stream Type:	
2.10 Riffles Type:	<b>Complete</b>	# Large Woody Debris:	<b>59</b>	Reference Bed Material:	
				Reference Subclass Slope:	
				Reference Bedform:	

#### Step 3. Riparian Features

3.1 Stream Banks			Typical Bank Slope:	<b>Steep</b>				
Bank Texture			Bank Erosion	<u>Left</u>	<u>Right</u>	Near Bank Vegetation Type <u>Left</u>	<u>Right</u>	
Upper	<u>Left</u>	<u>Right</u>	Erosion Length (ft.):	<b>430.1</b>	<b>341.4</b>	Dominant:	<b>Deciduous</b>	<b>Deciduous</b>
Material Type:	<b>Gravel</b>	<b>Gravel</b>	Erosion Height (ft.):	<b>5.3</b>	<b>4.3</b>	Sub-dominant:	<b>Shrubs/Sapling</b>	<b>Shrubs/Sapling</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>	Revetment Type:	<b>None</b>	<b>None</b>	Bank Canopy		
Lower			Revetment Length:	<b>0.0</b>	<b>0.0</b>	Canopy %:	<b>76-100</b>	<b>76-100</b>
Material Type:	<b>Boulder/Cobbles</b>	<b>Boulder/Cobbles</b>				Mid-Channel Canopy:	<b>Closed</b>	
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>						

#### 3.2 Riparian Buffer

Buffer Width	<u>Left</u>	<u>Right</u>
Dominant	<b>&gt;100</b>	<b>&gt;100</b>
Sub-Dominant	<b>26-50</b>	<b>26-50</b>
W less than 25	<b>75</b>	<b>173</b>
Buffer Vegetation Type		
Dominant	<b>Deciduous</b>	<b>Deciduous</b>
Sub-Dominant	<b>Shrubs/Sapling</b>	<b>Shrubs/Sapling</b>

#### 3.3 Riparian Corridor

Corridor Land	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Dominant	<b>Forest</b>	<b>Forest</b>	Mass Failures	
Sub-dominant	<b>Residential</b>	<b>Hay</b>	Height	
(Legacy)	<u>Amount</u>	<u>Mean Height</u>	Gullies Number	<b>2</b>
Failures	<b>One</b>	<b>15.0</b>	Gullies Length	<b>90</b>
Gullies	<b>Multiple</b>	<b>9.3</b>		



Phase 2 Segment Summary Report

Hoosic Tribs

Stream: **Tubbs Brook**

Reach: **M01T1.02-0**

**Step 4. Flow & Flow Modifiers**

4.1 Springs / Seeps: <b>Minimal</b>	4.5 Flow Regulation Type <b>None</b>	4.7 Stormwater Inputs
4.2 Adjacent Wetlands: <b>Minimal</b>	Flow Reg. Use:	Field Ditch: <b>0</b> Road Ditch: <b>0</b>
4.3 Flow Status: <b>Low</b>	Impoundments: <b>None</b>	Other: <b>0</b> Tile Drain: <b>0</b>
4.4 # of Debris Jams: <b>4</b>	Impoundment Loc.:	Overland Flow: <b>0</b> Urb Strm Wtr Pipe: <b>2</b>
	4.6 Up/Down Strm flow reg.: <b>None</b>	4.9 # of Beaver Dams: <b>0</b>
	(old) Upstrm Flow Reg.: <b>None</b>	Affected Length (ft): <b>0</b>

4.8 Channel Constrictions:

Type	Width	Photo Taken?	GPS Taken?	Channel Constriction?	Floodprone Constriction?	Problems
<b>Instream Culvert</b>	<b>8.5</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>Scour Below</b>

**Step 5. Channel Bed and Planform Changes**

5.1 Bar Types Diagonal: <b>0</b>	5.2 Other Features Neck Cutoff: <b>0</b>	5.4 Stream Ford or Animal Crossing: <b>No</b>
Mid: <b>7</b> Delta: <b>1</b>	Flood chutes: <b>1</b>	Avulsion: <b>0</b>
Point: <b>6</b> Island: <b>0</b>	5.3 Steep Riffles and Head Cuts Head Cuts: <b>0</b>	Straightening Length (ft.): <b>0</b>
Side: <b>10</b> Braiding: <b>0</b>	Steep Riffles: <b>0</b>	Trib Rejuv.: <b>No</b>
		5.5 Dredging: <b>None</b>

**Step 6. Rapid Habitat Assessment Data**

6.1 Epifaunal Substrate - Avl.: <b>0</b>	6.4 Sediment Deposition:	Stream Gradient Type	<u>Left</u>	<u>Right</u>
6.2 Pool Substrate:	6.5 Channel Flow Status:	6.8 Bank Stability:		
6.3 Pool Variability:	6.6 Channel Alteration:	6.9 Bank Vegetation Protection		
Total Score: <b>0</b>	6.7 Channel Sinuosity:	6.10 Riparian Veg. Zone Width:		
Habitat Rating: <b>0.00</b>				
Habitat Stream Condition:				

**Step 7. Rapid Geomorphic Assessment Data**

Confinement Type	Unconfined	Score	STD	Historic		
7.1 Channel Degradation		<b>14</b>	<b>None</b>	<b>No</b>	Geomorphic Rating	<b>0.71</b>
7.2 Channel Aggradation		<b>13</b>	<b>None</b>	<b>No</b>	Channel Evolution Model	<b>F</b>
7.3 Widening Channel		<b>14</b>	<b>None</b>	<b>No</b>	Channel Evolution Stage	<b>IV</b>
7.4 Change in Planform		<b>16</b>	<b>None</b>	<b>No</b>	Geomorphic Condition	<b>Good</b>
Total Score		<b>57</b>			Stream Sensitivity	<b>High</b>



Phase 2 Segment Summary Report **Hoosic Tribs**

Stream: **Tubbs Brook**  
 Reach: **M01T1.03-0**  
 Segment Length(ft): **1,703**  
 Rain: **Yes**

SGAT Version: **4.56**  
 Organization: **Bennington County RPC**  
 Observers: **EPF, EHB**  
 Completion Date: **10/3/2016**  
 Quality Control Status - Consultant: **Provisional**  
 Quality Control Status - Staff: **Provisional**

Step 0 - Location: **The reach begins upstream of where Tubbs Brook crosses Skiparee Road and continues northwest. The stream ends at a tributary confluence after crossing under Hemlock Hill Road.**

Step 5 - Notes:

Step 7 - Narrative: **The phase 1 slope was steeper than typical for the reach due to a large grade control, but average slope was closer to 1.5% for the reach. Entrenchment ratio was typically greater than 2.2 in a narrow unconfined valley with a C-type reference for the reach. High coarse sediment loads contributed to aggradation upstream of grade controls and our assessment as Stage III for the reach.**

**Step 1. Valley and Floodplain**

1.1 Segmentation: <b>None</b>	1.4 Adjacent Side	<u>Left</u>	<u>Right</u>	1.5 Valley Features
1.2 Alluvial Fan: <b>None</b>	Hillside Slope:	<b>Hilly</b>	<b>Very Steep</b>	Valley Width (ft): <b>100</b>
1.3 Corridor Encroachments:	Continuous w/ Bank:	<b>Sometimes</b>	<b>Sometimes</b>	Width Determination: <b>Measured</b>
<u>Length (ft)</u> <u>One</u> <u>Height</u> <u>Both</u> <u>Height</u>	Within 1 Bankfull W:	<b>Sometimes</b>	<b>Sometimes</b>	Confinement Type: <b>NW</b>
Berm: <b>0</b> <b>62</b> <b>0</b>	Texture:	<b>Mixed</b>	<b>Mixed</b>	In Rock Gorge: <b>No</b>
Road: <b>0</b> <b>0</b> <b>8</b>				Human Caused Change in Valley Width?: <b>No</b>
Railroad: <b>0</b> <b>0</b>				
Imp. Path: <b>0</b> <b>0</b>				
Dev.: <b>0</b> <b>272</b>				

1.6 Grade Controls:

Type	Location	Total Height	Total Height Above Water	Photo Taken?	GPS Taken?
<b>Waterfall</b>	<b>Mid-segment</b>	<b>22.0</b>	<b>18.0</b>	<b>Yes</b>	
<b>Ledge</b>	<b>Mid-segment</b>	<b>5.0</b>	<b>3.0</b>	<b>No</b>	



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook** Reach: **M01T1.03-0**

#### Step 2. Stream Channel

2.1 Bankfull Width (ft.):	<b>24.00</b>	2.11 Riffle/Step Spacing:	<b>80 ft.</b>	2.13 Average Largest Particle on	
2.2 Max Depth (ft.):	<b>1.60</b>	2.12 Substrate Composition		Bed:	<b>28 mm</b>
2.3 Mean Depth (ft.):	<b>1.16</b>	Bedrock:	<b>0.0 %</b>	Bar:	<b>28 mm</b>
2.4 Floodprone Width (ft.):	<b>87.00</b>	Boulder:	<b>0.0 %</b>	2.14 Stream Type	
2.5 Aband. Floodpn (ft.):	<b>1.60</b>	Cobble:	<b>27.0 %</b>	Stream Type:	<b>C</b>
Human Elev FloodPln (ft.):		Coarse Gravel:	<b>46.0 %</b>	Bed Material:	<b>Gravel</b>
2.6 Width/Depth Ratio:	<b>20.69</b>	Fine Gravel:	<b>10.0 %</b>	Subclass Slope:	<b>None</b>
2.7 Entrenchment Ratio:	<b>3.63</b>	Sand:	<b>16.0 %</b>	Bed Form:	<b>Riffle-Pool</b>
2.8 Incision Ratio:	<b>1.00</b>	Silt and Smaller:	<b>1.0 %</b>	Field Measured Slope:	<b>1.5</b>
Human Elevated Inc. Rat.:	<b>0.00</b>	Silt/Clay Present:	<b>No</b>	2.15 Sub-reach Stream Type	
2.9 Sinuosity:	<b>Low</b>	Detritus:	<b>4.0 %</b>	Reference Stream Type:	
2.10 Riffles Type:	<b>Complete</b>	# Large Woody Debris:	<b>41</b>	Reference Bed Material:	
				Reference Subclass Slope:	
				Reference Bedform:	

#### Step 3. Riparian Features

3.1 Stream Banks			Typical Bank Slope:	<b>Shallow</b>		
Bank Texture			Bank Erosion	<u>Left</u>	<u>Right</u>	Near Bank Vegetation Type <u>Left</u> <u>Right</u>
Upper	<u>Left</u>	<u>Right</u>	Erosion Length (ft.):	<b>50.0</b>	<b>0.0</b>	Dominant: <b>Deciduous</b> <b>Deciduous</b>
Material Type:	<b>Mix</b>	<b>Mix</b>	Erosion Height (ft.):	<b>3.0</b>	<b>0.0</b>	Sub-dominant: <b>Shrubs/Sapling</b> <b>Shrubs/Sapling</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>	Revetment Type:	<b>Rip-Rap</b>	<b>Rip-Rap</b>	Bank Canopy
Lower			Revetment Length:	<b>85.0</b>	<b>78.0</b>	Canopy %: <b>76-100</b> <b>76-100</b>
Material Type:	<b>Mix</b>	<b>Mix</b>				Mid-Channel Canopy: <b>Closed</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>				

#### 3.2 Riparian Buffer

Buffer Width	<u>Left</u>	<u>Right</u>
Dominant	<b>&gt;100</b>	<b>&gt;100</b>
Sub-Dominant	<b>0-25</b>	<b>None</b>
W less than 25	<b>496</b>	<b>0</b>
Buffer Vegetation Type		
Dominant	<b>Deciduous</b>	<b>Deciduous</b>
Sub-Dominant	<b>Shrubs/Sapling</b>	<b>Shrubs/Sapling</b>

#### 3.3 Riparian Corridor

Corridor Land	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Dominant	<b>Forest</b>	<b>Forest</b>	Mass Failures	
Sub-dominant	<b>Residential</b>	<b>None</b>	Height	
(Legacy)	<u>Amount</u>	<u>Mean Hieght</u>	Gullies Number	<b>1</b>
Failures	<b>One</b>	<b>6.0</b>	Gullies Length	<b>100</b>
Gullies	<b>One</b>	<b>2.0</b>		



### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook**

Reach: **M01T1.03-0**

#### Step 4. Flow & Flow Modifiers

4.1 Springs / Seeps: <b>Minimal</b>	4.5 Flow Regulation Type <b>None</b>	4.7 Stormwater Inputs <b>None</b>
4.2 Adjacent Wetlands: <b>Minimal</b>	Flow Reg. Use:	Field Ditch: Road Ditch:
4.3 Flow Status: <b>Low</b>	Impoundments:	Other: Tile Drain:
4.4 # of Debris Jams: <b>6</b>	Impoundment Loc.:	Overland Flow: Urb Strm Wtr Pipe:
	4.6 Up/Down Strm flow reg.: <b>None</b>	4.9 # of Beaver Dams: <b>0</b>
	(old) Upstrm Flow Reg.:	Affected Length (ft): <b>0</b>

4.8 Channel Constrictions:

Type	Width	Photo Taken?	GPS Taken?	Channel Constriction?	Floodprone Constriction?	Problems
<b>Instream Culvert</b>	<b>5.9</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>Deposition Above, Scour Below</b>

#### Step 5. Channel Bed and Planform Changes

5.1 Bar Types Diagonal: <b>1</b>	5.2 Other Features Neck Cutoff: <b>0</b>	5.4 Stream Ford or Animal Crossing: <b>No</b>
Mid: <b>3</b> Delta: <b>0</b>	Flood chutes: <b>1</b> Avulsion: <b>0</b>	5.5 Straightening: <b>Straightening</b>
Point: <b>0</b> Island: <b>0</b>	5.3 Steep Riffles and Head Cuts Head Cuts: <b>0</b>	Straightening Length (ft.): <b>260</b>
Side: <b>13</b> Braiding: <b>0</b>	Steep Riffles: <b>0</b> Trib Rejuv.: <b>No</b>	5.5 Dredging: <b>None</b>

#### Step 6. Rapid Habitat Assessment Data

6.1 Epifaunal Substrate - Avl.: <b>0</b>	6.4 Sediment Deposition:	Stream Gradient Type: <u>Left</u> <u>Right</u>
6.2 Pool Substrate:	6.5 Channel Flow Status:	6.8 Bank Stability:
6.3 Pool Variability:	6.6 Channel Alteration:	6.9 Bank Vegetation Protection:
Total Score: <b>0</b>	6.7 Channel Sinuosity:	6.10 Riparian Veg. Zone Width:
Habitat Rating: <b>0.00</b>		
Habitat Stream Condition:		

#### Step 7. Rapid Geomorphic Assessment Data

Confinement Type	Unconfined	Score	STD	Historic		
7.1 Channel Degradation		<b>14</b>	<b>None</b>	<b>No</b>	Geomorphic Rating	<b>0.69</b>
7.2 Channel Aggradation		<b>12</b>	<b>None</b>	<b>No</b>	Channel Evolution Model	<b>F</b>
7.3 Widening Channel		<b>14</b>	<b>None</b>	<b>No</b>	Channel Evolution Stage	<b>III</b>
7.4 Change in Planform		<b>15</b>	<b>None</b>	<b>No</b>	Geomorphic Condition	<b>Good</b>
Total Score		<b>55</b>			Stream Sensitivity	<b>High</b>





Phase 2 Segment Summary Report **Hoosic Tribs**

Stream: **Tubbs Brook**  
 Reach: **M01T1.04-A**  
 Segment Length(ft): **2,065**  
 Rain: **Yes**

SGAT Version: **4.56**  
 Organization: **Bennington County RPC**  
 Observers: **JHB, EHB**  
 Completion Date:  
 Quality Control Status - Consultant: **Provisional**  
 Quality Control Status - Staff: **Provisional**  
 Why Not Assessed: **bedrock gorge**

Step 0 - Location: **This segment begins at the confluence with the first unnamed tributary to Tubbs Brook upstream of Hemlock Hill Road. The segment continues north, parallel to Hemlock Hill Road, which becomes a trail to the upstream segment break at the top of the gorge.**

Step 5 - Notes: **Depositional features were primarily associated with bedrock grade controls and large debris jams stuck within the gorge.**

Step 7 - Narrative:

**Step 1. Valley and Floodplain**

1.1 Segmentation: <b>Grade Controls</b>	1.4 Adjacent Side	<u>Left</u>	<u>Right</u>	1.5 Valley Features
1.2 Alluvial Fan: <b>None</b>	Hillside Slope:	<b>Extr.Steep</b>	<b>Extr.Steep</b>	Valley Width (ft):
1.3 Corridor Encroachments:	Continuous w/ Bank:	<b>Sometimes</b>	<b>Sometimes</b>	Width Determination:
<u>Length (ft)</u> <u>One</u> <u>Height</u> <u>Both</u> <u>Height</u>	Within 1 Bankfull W:	<b>Sometimes</b>	<b>Sometimes</b>	Confinement Type: <b>NC</b>
Berm: <b>0</b>	Texture:	<b>Bedrock</b>	<b>Bedrock</b>	In Rock Gorge: <b>Yes</b>
Road: <b>0</b>				Human Caused Change in Valley Width?: <b>No</b>
Railroad: <b>0</b>				
Imp. Path: <b>0</b>				
Dev.: <b>0</b>				

1.6 Grade Controls:

Type	Location	Total Height	Total Height Above Water	Photo Taken?	GPS Taken?
Ledge	Mid-segment	2.0	0.0	No	
Waterfall	Mid-segment	18.0	15.0	No	
Ledge	Mid-segment	10.0	8.0	Yes	
Ledge	Mid-segment	23.0	20.0	Yes	
Ledge	Mid-segment	2.0	1.0	No	



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook** Reach: **M01T1.04-A**

#### Step 2. Stream Channel

2.1 Bankfull Width (ft.):		2.11 Riffle/Step Spacing:		2.13 Average Largest Particle on	
2.2 Max Depth (ft.):		2.12 Substrate Composition		Bed:	
2.3 Mean Depth (ft.):		Bedrock:	%	Bar:	
2.4 Floodprone Width (ft.):		Boulder:	%	2.14 Stream Type	
2.5 Aband. Floodpn (ft.):		Cobble:	%	Stream Type:	<b>A</b>
Human Elev FloodPln (ft.):		Coarse Gravel:	%	Bed Material:	<b>Bedrock</b>
2.6 Width/Depth Ratio:	<b>0.00</b>	Fine Gravel:	%	Subclass Slope:	
2.7 Entrenchment Ratio:	<b>0.00</b>	Sand:	%	Bed Form:	<b>Cascade</b>
2.8 Incision Ratio:	<b>0.00</b>	Silt and Smaller:	%	Field Measured Slope:	
Human Elevated Inc. Rat.:	<b>0.00</b>	Silt/Clay Present:	<b>No</b>	2.15 Sub-reach Stream Type	
2.9 Sinuosity:		Detritus:	<b>2.0 %</b>	Reference Stream Type:	<b>A</b>
2.10 Riffles Type:		# Large Woody Debris:	<b>82</b>	Reference Bed Material:	<b>Bedrock</b>
				Reference Subclass Slope:	
				Reference Bedform:	<b>Cascade</b>

#### Step 3. Riparian Features

3.1 Stream Banks				Typical Bank Slope:	<b>Steep</b>			
Bank Texture			Bank Erosion	<u>Left</u>	<u>Right</u>	Near Bank Vegetation Type <u>Left</u>	<u>Right</u>	
Upper	<u>Left</u>	<u>Right</u>	Erosion Length (ft.):	<b>0.0</b>	<b>0.0</b>	Dominant:	<b>Coniferous</b>	<b>Coniferous</b>
Material Type:	<b>Bedrock</b>	<b>Bedrock</b>	Erosion Height (ft.):	<b>0.0</b>	<b>0.0</b>	Sub-dominant:	<b>Deciduous</b>	<b>Deciduous</b>
Consistency:	<b>Cohesive</b>	<b>Cohesive</b>	Revetment Type:	<b>None</b>	<b>None</b>	Bank Canopy		
Lower			Revetment Length:	<b>0.0</b>	<b>0.0</b>	Canopy %:	<b>76-100</b>	<b>76-100</b>
Material Type:	<b>Bedrock</b>	<b>Bedrock</b>				Mid-Channel Canopy:	<b>Closed</b>	
Consistency:	<b>Cohesive</b>	<b>Cohesive</b>						

#### 3.2 Riparian Buffer

Buffer Width	<u>Left</u>	<u>Right</u>
Dominant	<b>&gt;100</b>	<b>&gt;100</b>
Sub-Dominant	<b>None</b>	<b>None</b>
W less than 25	<b>0</b>	<b>0</b>
Buffer Vegetation Type		
Dominant	<b>Coniferous</b>	<b>Coniferous</b>
Sub-Dominant	<b>Deciduous</b>	<b>Deciduous</b>

#### 3.3 Riparian Corridor

Corridor Land	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Dominant	<b>Forest</b>	<b>Forest</b>	Mass Failures	<b>30.184</b>
Sub-dominant	<b>None</b>	<b>None</b>	Height	<b>10.0</b>
(Legacy)	<u>Amount</u>	<u>Mean Height</u>	Gullies Number	<b>0</b>
Failures	<b>One</b>	<b>10.0</b>	Gullies Length	<b>0</b>
Gullies	<b>None</b>			



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook**

Reach: **M01T1.04-A**

#### Step 4. Flow & Flow Modifiers

4.1 Springs / Seeps: <b>Abundant</b>	4.5 Flow Regulation Type <b>None</b>	4.7 Stormwater Inputs <b>None</b>
4.2 Adjacent Wetlands: <b>Minimal</b>	Flow Reg. Use:	Field Ditch: Road Ditch:
4.3 Flow Status: <b>Low</b>	Impoundments:	Other: Tile Drain:
4.4 # of Debris Jams: <b>6</b>	Impoundment Loc.:	Overland Flow: Urb Strm Wtr Pipe:
	4.6 Up/Down Strm flow reg.: <b>None</b>	4.9 # of Beaver Dams: <b>0</b>
	(old) Upstrm Flow Reg.:	Affected Length (ft): <b>0</b>

4.8 Channel Constrictions:

#### Step 5. Channel Bed and Planform Changes

5.1 Bar Types	Diagonal: <b>2</b>	5.2 Other Features	Neck Cutoff: <b>0</b>	5.4 Stream Ford or Animal Crossing: <b>No</b>
Mid: <b>8</b>	Delta: <b>0</b>	Flood chutes: <b>1</b>	Avulsion: <b>0</b>	5.5 Straightening: <b>None</b>
Point: <b>0</b>	Island: <b>0</b>	5.3 Steep Riffles and Head Cuts	Head Cuts: <b>0</b>	Straightening Length (ft.): <b>0</b>
Side: <b>16</b>	Braiding: <b>0</b>	Steep Riffles: <b>0</b>	Trib Rejuv.: <b>No</b>	5.5 Dredging: <b>None</b>

#### Step 6. Rapid Habitat Assessment Data

6.1 Epifaunal Substrate - Avl.:	6.4 Sediment Deposition:	Stream Gradient Type	<u>Left</u>	<u>Right</u>
6.2 Pool Substrate:	6.5 Channel Flow Status:	6.8 Bank Stability:		
6.3 Pool Variability:	6.6 Channel Alteration:	6.9 Bank Vegetation Protection		
Total Score:	6.7 Channel Sinuosity:	6.10 Riparian Veg. Zone Width:		
Habitat Rating:				
Habitat Stream Condition:				

#### Step 7. Rapid Geomorphic Assessment Data

Confinement Type	<b>Confined</b>	<u>Score</u>	<u>STD</u>	<u>Historic</u>	Geomorphic Rating
7.1 Channel Degradation					
7.2 Channel Aggradation					<b>F</b>
7.3 Widening Channel					<b>I</b>
7.4 Change in Planform					<b>Reference</b>
Total Score					<b>Very Low</b>



Phase 2 Segment Summary Report **Hoosic Tribs**

Stream: **Tubbs Brook**  
Reach: **M01T1.04-B**  
Segment Length(ft): **2,644**  
Rain: **Yes**

SGAT Version: **4.56**  
Organization: **Bennington County RPC**  
Observers: **JHB, EHB**  
Completion Date: **8/17/2016**  
Quality Control Status - Consultant: **Provisional**  
Quality Control Status - Staff: **Provisional**

Step 0 - Location: **The segment begins at upstream of the gorge north of Hemlock Hill Road. The segment continues north, crossing Fowlers Way and then running parallel to the road to the upstream segment break where slope increases and bankfull width narrows.**

Step 5 - Notes:

Step 7 - Narrative: **Reach slope was affected by gorge in downstream segment. Segment has average slope closer to 3-4% and is B-type by reference. Despite the higher slope the reach is typically located in a narrow unconfined valley. High coarse sediment loads are increasing planform adjustment processes. We assessed this reach as stage IV due to these processes.**

**Step 1. Valley and Floodplain**

1.1 Segmentation: **Channel Dimensions**

1.2 Alluvial Fan: **None**

1.3 Corridor Encroachments:

	<u>Length (ft)</u>	<u>One</u>	<u>Height</u>	<u>Both</u>	<u>Height</u>
Berm:	0			0	
Road:	2,030	7		0	
Railroad:	0			0	
Imp. Path:	0			0	
Dev.:	0			0	

1.4 Adjacent Side

Hillside Slope:

Continuous w/ Bank:

Within 1 Bankfull W:

Texture:

Left

Right

**Very Steep**

**Steep**

**Sometimes**

**Sometimes**

**Sometimes**

**Sometimes**

**Mixed**

**Mixed**

1.5 Valley Features

Valley Width (ft): **100**

Width Determination: **Measured**

Confinement Type: **NW**

In Rock Gorge: **No**

Human Caused Change in Valley Width?: **Yes**

1.6 Grade Controls: **None**



### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook** Reach: **M01T1.04-B**

#### Step 2. Stream Channel

2.1 Bankfull Width (ft.):	<b>17.37</b>	2.11 Riffle/Step Spacing:	<b>50 ft.</b>	2.13 Average Largest Particle on	
2.2 Max Depth (ft.):	<b>1.40</b>	2.12 Substrate Composition		Bed:	<b>400 mm</b>
2.3 Mean Depth (ft.):	<b>0.95</b>	Bedrock:	<b>0.0 %</b>	Bar:	<b>100 mm</b>
2.4 Floodprone Width (ft.):	<b>23.00</b>	Boulder:	<b>3.0 %</b>	2.14 Stream Type	
2.5 Aband. Floodpn (ft.):	<b>2.40</b>	Cobble:	<b>18.0 %</b>	Stream Type:	<b>B</b>
Human Elev FloodPln (ft.):		Coarse Gravel:	<b>35.0 %</b>	Bed Material:	<b>Gravel</b>
2.6 Width/Depth Ratio:	<b>18.28</b>	Fine Gravel:	<b>25.0 %</b>	Subclass Slope:	<b>None</b>
2.7 Entrenchment Ratio:	<b>1.32</b>	Sand:	<b>19.0 %</b>	Bed Form:	<b>Step-Pool</b>
2.8 Incision Ratio:	<b>1.71</b>	Silt and Smaller:	<b>0.0 %</b>	Field Measured Slope:	<b>3.4</b>
Human Elevated Inc. Rat.:	<b>0.00</b>	Silt/Clay Present:	<b>No</b>	2.15 Sub-reach Stream Type	
2.9 Sinuosity:	<b>Low</b>	Detritus:	<b>3.0 %</b>	Reference Stream Type:	
2.10 Riffles Type:	<b>Complete</b>	# Large Woody Debris:	<b>51</b>	Reference Bed Material:	
				Reference Subclass Slope:	
				Reference Bedform:	

#### Step 3. Riparian Features

3.1 Stream Banks			Typical Bank Slope:	<b>Steep</b>		
Bank Texture			Bank Erosion	<u>Left</u>	<u>Right</u>	Near Bank Vegetation Type <u>Left</u> <u>Right</u>
Upper	<u>Left</u>	<u>Right</u>	Erosion Length (ft.):	<b>81.3</b>	<b>155.4</b>	Dominant: <b>Deciduous</b> <b>Deciduous</b>
Material Type:	<b>Mix</b>	<b>Mix</b>	Erosion Height (ft.):	<b>2.5</b>	<b>3.6</b>	Sub-dominant: <b>Shrubs/Sapling</b> <b>Shrubs/Sapling</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>	Revetment Type:	<b>Multiple</b>	<b>None</b>	Bank Canopy
Lower			Revetment Length:	<b>26.2</b>	<b>0.0</b>	Canopy %: <b>76-100</b> <b>76-100</b>
Material Type:	<b>Boulder/Cobble</b>	<b>Mix</b>				Mid-Channel Canopy: <b>Closed</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>				

#### 3.2 Riparian Buffer

Buffer Width	<u>Left</u>	<u>Right</u>
Dominant	<b>&gt;100</b>	<b>&gt;100</b>
Sub-Dominant	<b>26-50</b>	<b>26-50</b>
W less than 25	<b>32</b>	<b>124</b>
Buffer Vegetation Type		
Dominant	<b>Deciduous</b>	<b>Deciduous</b>
Sub-Dominant	<b>Shrubs/Sapling</b>	<b>Shrubs/Sapling</b>

#### 3.3 Riparian Corridor

Corridor Land	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Dominant	<b>Forest</b>	<b>Forest</b>	Mass Failures	
Sub-dominant	<b>Residential</b>	<b>Residential</b>	Height	
(Legacy)	<u>Amount</u>	<u>Mean Height</u>	Gullies Number	<b>0</b>
Failures	<b>Multiple</b>	<b>12.0</b>	Gullies Length	<b>0</b>
Gullies	<b>None</b>			



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook**

Reach: **M01T1.04-B**

#### Step 4. Flow & Flow Modifiers

4.1 Springs / Seeps: <b>Abundant</b>	4.5 Flow Regulation Type <b>None</b>	4.7 Stormwater Inputs
4.2 Adjacent Wetlands: <b>Minimal</b>	Flow Reg. Use:	Field Ditch: <b>0</b> Road Ditch: <b>0</b>
4.3 Flow Status: <b>Low</b>	Impoundments:	Other: <b>0</b> Tile Drain: <b>0</b>
4.4 # of Debris Jams: <b>5</b>	Impoundment Loc.:	Overland Flow: <b>1</b> Urb Strm Wtr Pipe: <b>0</b>
	4.6 Up/Down Strm flow reg.: <b>None</b>	4.9 # of Beaver Dams: <b>0</b>
	(old) Upstrm Flow Reg.:	Affected Length (ft): <b>0</b>

4.8 Channel Constrictions:

Type	Width	Photo Taken?	GPS Taken?	Channel Constriction?	Floodprone Constriction?	Problems
<b>Instream Culvert</b>	<b>12</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>Deposition Above, Deposition Below</b>
<b>Instream Culvert</b>	<b>6</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>Deposition Above, Deposition Below</b>
<b>Instream Culvert</b>	<b>6</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>Deposition Above, Deposition Below</b>

#### Step 5. Channel Bed and Planform Changes

5.1 Bar Types Diagonal: <b>1</b>	5.2 Other Features Neck Cutoff: <b>0</b>	5.4 Stream Ford or Animal Crossing: <b>No</b>
Mid: <b>10</b> Delta: <b>0</b>	Flood chutes: <b>1</b> Avulsion: <b>0</b>	5.5 Straightening: <b>Straightening</b>
Point: <b>0</b> Island: <b>0</b>	5.3 Steep Riffles and Head Cuts Head Cuts: <b>0</b>	Straightening Length (ft.): <b>621</b>
Side: <b>15</b> Braiding: <b>0</b>	Steep Riffles: <b>6</b> Trib Rejuv.: <b>No</b>	5.5 Dredging: <b>None</b>

#### Step 6. Rapid Habitat Assessment Data

6.1 Epifaunal Substrate - Avl.:	6.4 Sediment Deposition:	Stream Gradient Type	<u>Left</u>	<u>Right</u>
6.2 Pool Substrate:	6.5 Channel Flow Status:	6.8 Bank Stability:		
6.3 Pool Variability:	6.6 Channel Alteration:	6.9 Bank Vegetation Protection		
Total Score: <b>0</b>	6.7 Channel Sinuosity:	6.10 Riparian Veg. Zone Width:		
Habitat Rating: <b>0.00</b>				
Habitat Stream Condition:				

#### Step 7. Rapid Geomorphic Assessment Data

Confinement Type	Unconfined	Score	STD	Historic		
7.1 Channel Degradation		<b>12</b>	<b>None</b>	<b>No</b>	Geomorphic Rating	<b>0.39</b>
7.2 Channel Aggradation		<b>5</b>	<b>None</b>	<b>No</b>	Channel Evolution Model	<b>F</b>
7.3 Widening Channel		<b>9</b>	<b>None</b>	<b>No</b>	Channel Evolution Stage	<b>IV</b>
7.4 Change in Planform		<b>5</b>	<b>None</b>	<b>No</b>	Geomorphic Condition	<b>Fair</b>
Total Score		<b>31</b>			Stream Sensitivity	<b>High</b>



Phase 2 Segment Summary Report **Hoosic Tribs**

Stream: **Tubbs Brook**  
 Reach: **M01T1.04-C**  
 Segment Length(ft): **4,199**  
 Rain: **Yes**

SGAT Version: **4.56**  
 Organization: **Bennington County RPC**  
 Observers: **JHB, EHB**  
 Completion Date:  
 Quality Control Status - Consultant: **Provisional**  
 Quality Control Status - Staff: **Provisional**

Step 0 - Location: **The segment begins between two driveway crossings where channel slope increases and bankfull width narrows. The segment continues north parallel to Mt. Anthony Road, crossing it twice before the segment break where the the channel enters the pasture.**

Step 5 - Notes: **Fine sediment and gravel deposition in the channel noticeable increased in the upper portion of the segment.**

Step 7 - Narrative: **Reach slope was affected by gorge in downstream segment. Segment has average slope closer to 4% and is B-type by reference. Despite the higher slope the reach is typically located in a narrow unconfined valley. High coarse sediment loads are increasing planform adjustment processes. We assessed this reach as stage IV because of these processes.**

**Step 1. Valley and Floodplain**

1.1 Segmentation: <b>Banks and Buffers</b>	1.4 Adjacent Side	<u>Left</u>	<u>Right</u>	1.5 Valley Features
1.2 Alluvial Fan: <b>None</b>	Hillside Slope:	<b>Very Steep</b>	<b>Very Steep</b>	Valley Width (ft): <b>80</b>
1.3 Corridor Encroachments:	Continuous w/ Bank:	<b>Sometimes</b>	<b>Sometimes</b>	Width Determination: <b>Measured</b>
<u>Length (ft)</u> <u>One</u> <u>Height</u> <u>Both</u> <u>Height</u>	Within 1 Bankfull W:	<b>Sometimes</b>	<b>Sometimes</b>	Confinement Type: <b>NW</b>
Berm: <b>0</b> <b>0</b>	Texture:	<b>Mixed</b>	<b>Mixed</b>	In Rock Gorge: <b>No</b>
Road: <b>2,369</b> <b>6</b> <b>0</b>				Human Caused Change in Valley Width?: <b>Yes</b>
Railroad: <b>0</b> <b>0</b>				
Imp. Path: <b>0</b> <b>0</b>				
Dev.: <b>0</b> <b>0</b>				

1.6 Grade Controls:

Type	Location	Total Height	Total Height Above Water	Photo Taken?	GPS Taken?
<b>Ledge</b>	<b>Mid-segment</b>	<b>3.0</b>	<b>1.0</b>	<b>No</b>	



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook** Reach: **M01T1.04-C**

#### Step 2. Stream Channel

2.1 Bankfull Width (ft.):	<b>14.50</b>	2.11 Riffle/Step Spacing:	<b>35 ft.</b>	2.13 Average Largest Particle on	
2.2 Max Depth (ft.):	<b>1.70</b>	2.12 Substrate Composition		Bed:	<b>300 mm</b>
2.3 Mean Depth (ft.):	<b>1.09</b>	Bedrock:	<b>0.0 %</b>	Bar:	<b>120 mm</b>
2.4 Floodprone Width (ft.):	<b>23.00</b>	Boulder:	<b>2.0 %</b>	2.14 Stream Type	
2.5 Aband. Floodpn (ft.):	<b>2.60</b>	Cobble:	<b>14.0 %</b>	Stream Type:	<b>B</b>
Human Elev FloodPln (ft.):		Coarse Gravel:	<b>34.0 %</b>	Bed Material:	<b>Gravel</b>
2.6 Width/Depth Ratio:	<b>13.30</b>	Fine Gravel:	<b>35.0 %</b>	Subclass Slope:	<b>None</b>
2.7 Entrenchment Ratio:	<b>1.59</b>	Sand:	<b>15.0 %</b>	Bed Form:	<b>Riffle-Pool</b>
2.8 Incision Ratio:	<b>1.53</b>	Silt and Smaller:	<b>0.0 %</b>	Field Measured Slope:	<b>4</b>
Human Elevated Inc. Rat.:	<b>0.00</b>	Silt/Clay Present:	<b>No</b>	2.15 Sub-reach Stream Type	
2.9 Sinuosity:	<b>Low</b>	Detritus:	<b>4.0 %</b>	Reference Stream Type:	
2.10 Riffles Type:	<b>Sedimented</b>	# Large Woody Debris:	<b>118</b>	Reference Bed Material:	
				Reference Subclass Slope:	
				Reference Bedform:	

#### Step 3. Riparian Features

3.1 Stream Banks			Typical Bank Slope:	<b>Steep</b>				
Bank Texture			Bank Erosion	<u>Left</u>	<u>Right</u>	Near Bank Vegetation Type <u>Left</u>	<u>Right</u>	
Upper	<u>Left</u>	<u>Right</u>	Erosion Length (ft.):	<b>43.2</b>	<b>139.2</b>	Dominant:	<b>Deciduous</b>	<b>Deciduous</b>
Material Type:	<b>Mix</b>	<b>Mix</b>	Erosion Height (ft.):	<b>6.0</b>	<b>3.9</b>	Sub-dominant:	<b>Herbaceous</b>	<b>Herbaceous</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>	Revetment Type:	<b>Rip-Rap</b>	<b>Rip-Rap</b>	Bank Canopy		
Lower			Revetment Length:	<b>308.5</b>	<b>590.0</b>	Canopy %:	<b>76-100</b>	<b>76-100</b>
Material Type:	<b>Mix</b>	<b>Mix</b>				Mid-Channel Canopy:	<b>Closed</b>	
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>						

#### 3.2 Riparian Buffer

Buffer Width	<u>Left</u>	<u>Right</u>
Dominant	<b>&gt;100</b>	<b>51-100</b>
Sub-Dominant	<b>51-100</b>	<b>26-50</b>
W less than 25	<b>402</b>	<b>814</b>
Buffer Vegetation Type		
Dominant	<b>Deciduous</b>	<b>Deciduous</b>
Sub-Dominant	<b>Shrubs/Sapling</b>	<b>Shrubs/Sapling</b>

#### 3.3 Riparian Corridor

Corridor Land	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Dominant	<b>Forest</b>	<b>Forest</b>	Mass Failures	
Sub-dominant	<b>Shrubs/Sapling</b>	<b>Industrial</b>	Height	
(Legacy)	<u>Amount</u>	<u>Mean Hieght</u>	Gullies Number	<b>2</b>
Failures	<b>Multiple</b>	<b>20.0</b>	Gullies Length	<b>130</b>
Gullies	<b>Multiple</b>	<b>3.0</b>		





# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook**

Reach: **M01T1.04-C**

#### Step 4. Flow & Flow Modifiers

4.1 Springs / Seeps: <b>Abundant</b>	4.5 Flow Regulation Type <b>None</b>	4.7 Stormwater Inputs
4.2 Adjacent Wetlands: <b>Minimal</b>	Flow Reg. Use:	Field Ditch: <b>0</b> Road Ditch: <b>4</b>
4.3 Flow Status: <b>Low</b>	Impoundments:	Other: <b>0</b> Tile Drain: <b>0</b>
4.4 # of Debris Jams: <b>10</b>	Impoundment Loc.:	Overland Flow: <b>0</b> Urb Strm Wtr Pipe: <b>0</b>
	4.6 Up/Down Strm flow reg.: <b>None</b>	4.9 # of Beaver Dams: <b>0</b>
	(old) Upstrm Flow Reg.:	Affected Length (ft): <b>0</b>

4.8 Channel Constrictions:

Type	Width	Photo Taken?	GPS Taken?	Channel Constriction?	Floodprone Constriction?	Problems
Instream Culvert	6.5	Yes	No	No	No	Deposition Above, Deposition Below
Instream Culvert	8	Yes	No	Yes	Yes	Deposition Above, Scour Below
Instream Culvert	5	Yes	No	Yes	Yes	Deposition Above, Deposition Below

#### Step 5. Channel Bed and Planform Changes

5.1 Bar Types Diagonal: <b>0</b>	5.2 Other Features Neck Cutoff: <b>0</b>	5.4 Stream Ford or Animal Crossing: <b>No</b>
Mid: <b>15</b> Delta: <b>0</b>	Flood chutes: <b>1</b> Avulsion: <b>0</b>	5.5 Straightening: <b>Straightening</b>
Point: <b>2</b> Island: <b>0</b>	5.3 Steep Riffles and Head Cuts Head Cuts: <b>0</b>	Straightening Length (ft.): <b>2,014</b>
Side: <b>22</b> Braiding: <b>1</b>	Steep Riffles: <b>1</b> Trib Rejuv.: <b>No</b>	5.5 Dredging: <b>None</b>

#### Step 6. Rapid Habitat Assessment Data

6.1 Epifaunal Substrate - Avl.:	6.4 Sediment Deposition:	Stream Gradient Type	<u>Left</u>	<u>Right</u>
6.2 Pool Substrate:	6.5 Channel Flow Status:	6.8 Bank Stability:		
6.3 Pool Variability:	6.6 Channel Alteration:	6.9 Bank Vegetation Protection		
Total Score: <b>0</b>	6.7 Channel Sinuosity:	6.10 Riparian Veg. Zone Width:		
Habitat Rating: <b>0.00</b>				
Habitat Stream Condition:				

#### Step 7. Rapid Geomorphic Assessment Data

Confinement Type	Unconfined	Score	STD	Historic		
7.1 Channel Degradation		<b>12</b>	<b>None</b>	<b>No</b>	Geomorphic Rating	<b>0.38</b>
7.2 Channel Aggradation		<b>4</b>	<b>None</b>	<b>No</b>	Channel Evolution Model	<b>F</b>
7.3 Widening Channel		<b>10</b>	<b>None</b>	<b>No</b>	Channel Evolution Stage	<b>IV</b>
7.4 Change in Planform		<b>4</b>	<b>None</b>	<b>No</b>	Geomorphic Condition	<b>Fair</b>
Total Score		<b>30</b>			Stream Sensitivity	<b>High</b>



Phase 2 Segment Summary Report Hoosic Tribs

Stream: Tubbs Brook  
Reach: M01T1.04-D  
Segment Length(ft): 959  
Rain: Yes

SGAT Version: 4.56  
Organization: Bennington County RPC  
Observers: JHB, EHB  
Completion Date: 8/18/2016  
Quality Control Status - Consultant: Provisional  
Quality Control Status - Staff: Provisional

Step 0 - Location: The segment begins where the channel becomes braided with unstable banks in a cow pasture and continues north parallel to Mt Anthony Road. The segment ends at the reach break just upstream from where Tubbs Brook crosses Mt Anthony Road.

Step 5 - Notes:

Step 7 - Narrative: Reach slope was affected by gorge in downstream segment. Segment has average slope closer to 1-2% and is E-type by reference in a narrow unconfined valley. The segment is historically straightened and the channel bottom and banks are boulder/cobble, and relatively stable. We did not observe active incision. Aggradation appears to be the dominant channel process, resulting in a stage III designation. The banks and floodplain are damaged by cattle through most of the segment. Erosion and incision are limited by the relatively large substrate in the channel and the cobbly soils on the floodplain.

Step 1. Valley and Floodplain

1.1 Segmentation: <b>Banks and Buffers</b>	1.4 Adjacent Side	<u>Left</u>	<u>Right</u>	1.5 Valley Features
1.2 Alluvial Fan: <b>None</b>	Hillside Slope:	<b>Steep</b>	<b>Very Steep</b>	Valley Width (ft): <b>100</b>
1.3 Corridor Encroachments:	Continuous w/ Bank:	<b>Never</b>	<b>Sometimes</b>	Width Determination: <b>Measured</b>
<u>Length (ft)</u> <u>One</u> <u>Height</u> <u>Both</u> <u>Height</u>	Within 1 Bankfull W:	<b>Sometimes</b>	<b>Sometimes</b>	Confinement Type: <b>NW</b>
Berm: <b>0</b>	Texture:	<b>Mixed</b>	<b>Mixed</b>	In Rock Gorge: <b>No</b>
Road: <b>185</b> <b>6</b> <b>0</b>				Human Caused Change in Valley Width?: <b>Yes</b>
Railroad: <b>0</b> <b>0</b>				
Imp. Path: <b>0</b> <b>0</b>				
Dev.: <b>0</b> <b>0</b>				
1.6 Grade Controls: <b>None</b>				



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook** Reach: **M01T1.04-D**

#### Step 2. Stream Channel

2.1 Bankfull Width (ft.):	<b>14.00</b>	2.11 Riffle/Step Spacing:	<b>20 ft.</b>	2.13 Average Largest Particle on	
2.2 Max Depth (ft.):	<b>1.90</b>	2.12 Substrate Composition		Bed:	<b>250 mm</b>
2.3 Mean Depth (ft.):	<b>1.19</b>	Bedrock:	<b>0.0 %</b>	Bar:	<b>30 mm</b>
2.4 Floodprone Width (ft.):	<b>36.00</b>	Boulder:	<b>9.0 %</b>	2.14 Stream Type	
2.5 Aband. Floodpn (ft.):	<b>2.50</b>	Cobble:	<b>29.0 %</b>	Stream Type:	<b>E</b>
Human Elev FloodPln (ft.):		Coarse Gravel:	<b>31.0 %</b>	Bed Material:	<b>Gravel</b>
2.6 Width/Depth Ratio:	<b>11.76</b>	Fine Gravel:	<b>28.0 %</b>	Subclass Slope:	<b>None</b>
2.7 Entrenchment Ratio:	<b>2.57</b>	Sand:	<b>9.0 %</b>	Bed Form:	<b>Riffle-Pool</b>
2.8 Incision Ratio:	<b>1.32</b>	Silt and Smaller:	<b>0.0 %</b>	Field Measured Slope:	<b>1.5</b>
Human Elevated Inc. Rat.:	<b>0.00</b>	Silt/Clay Present:	<b>No</b>	2.15 Sub-reach Stream Type	
2.9 Sinuosity:	<b>Low</b>	Detritus:	<b>2.0 %</b>	Reference Stream Type:	<b>E</b>
2.10 Riffles Type:	<b>Sedimented</b>	# Large Woody Debris:	<b>9</b>	Reference Bed Material:	<b>Cobble</b>
				Reference Subclass Slope:	<b>None</b>
				Reference Bedform:	<b>Riffle-Pool</b>

#### Step 3. Riparian Features

3.1 Stream Banks			Typical Bank Slope:	<b>Moderate</b>		
Bank Texture			Bank Erosion	<u>Left</u>	<u>Right</u>	Near Bank Vegetation Type <u>Left</u> <u>Right</u>
Upper	<u>Left</u>	<u>Right</u>	Erosion Length (ft.):	<b>283.0</b>	<b>167.9</b>	Dominant: <b>Pasture</b> <b>Pasture</b>
Material Type:	<b>Mix</b>	<b>Mix</b>	Erosion Height (ft.):	<b>2.0</b>	<b>2.0</b>	Sub-dominant: <b>Shrubs/Sapling</b> <b>Shrubs/Sapling</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>	Revetment Type:	<b>None</b>	<b>None</b>	Bank Canopy
Lower			Revetment Length:	<b>0.0</b>	<b>0.0</b>	Canopy %: <b>1-25</b> <b>1-25</b>
Material Type:	<b>Mix</b>	<b>Mix</b>				Mid-Channel Canopy: <b>Open</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>				

#### 3.2 Riparian Buffer

Buffer Width	<u>Left</u>	<u>Right</u>	Corridor Land
Dominant	<b>0-25</b>	<b>0-25</b>	Dominant
Sub-Dominant	<b>26-50</b>	<b>26-50</b>	Sub-dominant
W less than 25	<b>306</b>	<b>766</b>	(Legacy)
Buffer Vegetation Type			Failures
Dominant	<b>Herbaceous</b>	<b>Herbaceous</b>	Gullies
Sub-Dominant	<b>Shrubs/Sapling</b>	<b>Shrubs/Sapling</b>	

#### 3.3 Riparian Corridor

	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Dominant	<b>Pasture</b>	<b>Pasture</b>	Mass Failures	
Sub-Dominant	<b>None</b>	<b>None</b>	Height	
W less than 25	<u>Amount</u>	<u>Mean Hieght</u>	Gullies Number	<b>0</b>
Failures	<b>None</b>		Gullies Length	<b>0</b>
Gullies	<b>None</b>			



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Tubbs Brook**

Reach: **M01T1.04-D**

#### Step 4. Flow & Flow Modifiers

4.1 Springs / Seeps: <b>Abundant</b>	4.5 Flow Regulation Type <b>None</b>	4.7 Stormwater Inputs <b>None</b>
4.2 Adjacent Wetlands: <b>Minimal</b>	Flow Reg. Use:	Field Ditch: Road Ditch:
4.3 Flow Status: <b>Low</b>	Impoundments:	Other: Tile Drain:
4.4 # of Debris Jams: <b>1</b>	Impoundment Loc.:	Overland Flow: Urb Strm Wtr Pipe:
	4.6 Up/Down Strm flow reg.: <b>None</b>	4.9 # of Beaver Dams: <b>0</b>
	(old) Upstrm Flow Reg.:	Affected Length (ft): <b>0</b>

4.8 Channel Constrictions:

Type	Width	Photo Taken?	GPS Taken?	Channel Constriction?	Floodprone Constriction?	Problems
<b>Instream Culvert</b>	<b>12</b>	<b>No</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>Deposition Above, Scour Below</b>

#### Step 5. Channel Bed and Planform Changes

5.1 Bar Types Diagonal: <b>0</b>	5.2 Other Features Neck Cutoff: <b>0</b>	5.4 Stream Ford or Animal Crossing: <b>No</b>
Mid: <b>1</b> Delta: <b>0</b>	Flood chutes: <b>1</b> Avulsion: <b>0</b>	5.5 Straightening: <b>Straightening</b>
Point: <b>0</b> Island: <b>0</b>	5.3 Steep Riffles and Head Cuts Head Cuts: <b>0</b>	Straightening Length (ft.): <b>404</b>
Side: <b>0</b> Braiding: <b>0</b>	Steep Riffles: <b>2</b> Trib Rejuv.: <b>No</b>	5.5 Dredging: <b>None</b>

#### Step 6. Rapid Habitat Assessment Data

6.1 Epifaunal Substrate - Avl.: <b>0</b>	6.4 Sediment Deposition:	Stream Gradient Type: <u>Left</u> <u>Right</u>
6.2 Pool Substrate:	6.5 Channel Flow Status:	6.8 Bank Stability:
6.3 Pool Variability:	6.6 Channel Alteration:	6.9 Bank Vegetation Protection:
Total Score: <b>0</b>	6.7 Channel Sinuosity:	6.10 Riparian Veg. Zone Width:
Habitat Rating: <b>0.00</b>		
Habitat Stream Condition:		

#### Step 7. Rapid Geomorphic Assessment Data

Confinement Type	Unconfined	Score	STD	Historic		
7.1 Channel Degradation		<b>12</b>	<b>None</b>	<b>No</b>	Geomorphic Rating	<b>0.44</b>
7.2 Channel Aggradation		<b>5</b>	<b>None</b>	<b>No</b>	Channel Evolution Model	<b>F</b>
7.3 Widening Channel		<b>5</b>	<b>None</b>	<b>No</b>	Channel Evolution Stage	<b>III</b>
7.4 Change in Planform		<b>13</b>	<b>None</b>	<b>No</b>	Geomorphic Condition	<b>Fair</b>
Total Score		<b>35</b>			Stream Sensitivity	<b>Extreme</b>



Phase 2 Segment Summary Report Hoosic Tribs

Stream:	<b>Fourth Unnamed Tributary to Tubbs Brook</b>	SGAT Version:	<b>4.56</b>
Reach:	<b>M01T1.04S1.01-0</b>	Organization:	<b>Bennington County RPC</b>
Segment Length(ft):	<b>3,439</b>	Observers:	<b>JHB, EHB</b>
Rain:	<b>Yes</b>	Completion Date:	<b>8/17/2016</b>
		Quality Control Status - Consultant:	<b>Provisional</b>
		Quality Control Status - Staff:	<b>Provisional</b>

Step 0 - Location: **This reach begins at the confluence with Tubbs Brook. The reach continues northeast, crossing Mt. Anthony Road and continuing northeast to the reach break.**

Step 5 - Notes: **Channel is carrying a very high load of sediment.**

Step 7 - Narrative: **The VHD centerline is not accurate for most of the reach. Reach is more sinuous and has an average slope closer to 4-5% and is B-type by reference. Despite the higher slope the reach is typically located in a narrow unconfined valley. We did not FIT large amounts of bank erosion in this reach, we did however observe near-continuous bank scour throughout the reach. High coarse sediment load and near-continuous debris jams through much of the reach are increasing widening and planform adjustment processes. We assessed this reach as stage IV due to these processes.**

**Step 1. Valley and Floodplain**

1.1 Segmentation:	<b>None</b>	1.4 Adjacent Side	<u>Left</u>	<u>Right</u>	1.5 Valley Features
1.2 Alluvial Fan:	<b>None</b>	Hillside Slope:	<b>Hilly</b>	<b>Steep</b>	Valley Width (ft): <b>60</b>
1.3 Corridor Encroachments:		Continuous w/ Bank:	<b>Sometimes</b>	<b>Sometimes</b>	Width Determination: <b>Measured</b>
<u>Length (ft)</u>	<u>One</u>	<u>Height</u>	<u>Both</u>	<u>Height</u>	Within 1 Bankfull W:
Berm:	<b>0</b>		<b>0</b>		<b>Sometimes</b>
Road:	<b>252</b>	<b>6</b>	<b>0</b>		<b>Sometimes</b>
Railroad:	<b>0</b>		<b>0</b>		Texture:
Imp. Path:	<b>0</b>		<b>0</b>		<b>Mixed</b>
Dev.:	<b>0</b>		<b>198</b>		<b>Mixed</b>
					In Rock Gorge: <b>No</b>
					Human Caused Change in Valley Width?: <b>No</b>
1.6 Grade Controls:	<b>None</b>				



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Fourth Unnamed Tributary to Tubbs Brook** Reach: **M01T1.04S1.01-0**

#### Step 2. Stream Channel

2.1 Bankfull Width (ft.):	<b>17.00</b>	2.11 Riffle/Step Spacing:	<b>35 ft.</b>	2.13 Average Largest Particle on	
2.2 Max Depth (ft.):	<b>1.40</b>	2.12 Substrate Composition		Bed:	<b>280 mm</b>
2.3 Mean Depth (ft):	<b>0.62</b>	Bedrock:	<b>0.0 %</b>	Bar:	<b>60 mm</b>
2.4 Floodprone Width (ft.):	<b>28.00</b>	Boulder:	<b>2.0 %</b>	2.14 Stream Type	
2.5 Aband. Floodpn (ft.):	<b>2.00</b>	Cobble:	<b>28.0 %</b>	Stream Type:	<b>B</b>
Human Elev FloodPln (ft.):		Coarse Gravel:	<b>21.0 %</b>	Bed Material:	<b>Gravel</b>
2.6 Width/Depth Ratio:	<b>27.42</b>	Fine Gravel:	<b>30.0 %</b>	Subclass Slope:	<b>None</b>
2.7 Entrenchment Ratio:	<b>1.65</b>	Sand:	<b>19.0 %</b>	Bed Form:	<b>Riffle-Pool</b>
2.8 Incision Ratio:	<b>1.43</b>	Silt and Smaller:	<b>0.0 %</b>	Field Measured Slope:	<b>5</b>
Human Elevated Inc. Rat.:	<b>0.00</b>	Silt/Clay Present:	<b>No</b>	2.15 Sub-reach Stream Type	
2.9 Sinuosity:	<b>Low</b>	Detritus:	<b>5.0 %</b>	Reference Stream Type:	
2.10 Riffles Type:	<b>Sedimented</b>	# Large Woody Debris:	<b>151</b>	Reference Bed Material:	
				Reference Subclass Slope:	
				Reference Bedform:	

#### Step 3. Riparian Features

3.1 Stream Banks			Typical Bank Slope:	<b>Steep</b>		
Bank Texture		Bank Erosion	<u>Left</u>	<u>Right</u>	Near Bank Vegetation Type <u>Left</u> <u>Right</u>	
Upper	<u>Left</u>	<u>Right</u>	Erosion Length (ft.):	<b>264.3</b>	<b>165.4</b>	Dominant: <b>Deciduous</b> <b>Deciduous</b>
Material Type:	<b>Mix</b>	<b>Mix</b>	Erosion Height (ft.):	<b>4.3</b>	<b>3.1</b>	Sub-dominant: <b>Shrubs/Sapling</b> <b>Shrubs/Sapling</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>	Revetment Type:	<b>None</b>	<b>None</b>	Bank Canopy
Lower			Revetment Length:	<b>0.0</b>	<b>0.0</b>	Canopy %: <b>76-100</b> <b>76-100</b>
Material Type:	<b>Mix</b>	<b>Mix</b>				Mid-Channel Canopy: <b>Closed</b>
Consistency:	<b>Non-cohesive</b>	<b>Non-cohesive</b>				

#### 3.2 Riparian Buffer

Buffer Width	<u>Left</u>	<u>Right</u>
Dominant	<b>&gt;100</b>	<b>&gt;100</b>
Sub-Dominant	<b>51-100</b>	<b>26-50</b>
W less than 25	<b>136</b>	<b>195</b>
Buffer Vegetation Type		
Dominant	<b>Deciduous</b>	<b>Deciduous</b>
Sub-Dominant	<b>Shrubs/Sapling</b>	<b>Shrubs/Sapling</b>

#### 3.3 Riparian Corridor

Corridor Land	<u>Left</u>	<u>Right</u>	<u>Left</u>	<u>Right</u>
Dominant	<b>Forest</b>	<b>Forest</b>	Mass Failures	
Sub-dominant	<b>Industrial</b>	<b>Residential</b>	Height	
(Legacy)	<u>Amount</u>	<u>Mean Hieght</u>	Gullies Number	<b>1</b>
Failures	<b>Multiple</b>	<b>15.0</b>	Gullies Length	<b>45</b>
Gullies	<b>One</b>	<b>4.0</b>		



# Stream Geomorphic Assessment

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### Phase 2 Segment Summary Report

### Hoosic Tribs

Stream: **Fourth Unnamed Tributary to Tubbs Brook** Reach: **M01T1.04S1.01-0**

#### Step 4. Flow & Flow Modifiers

4.1 Springs / Seeps: <b>Abundant</b>	4.5 Flow Regulation Type: <b>None</b>	4.7 Stormwater Inputs
4.2 Adjacent Wetlands: <b>Minimal</b>	Flow Reg. Use:	Field Ditch: <b>0</b> Road Ditch: <b>2</b>
4.3 Flow Status: <b>Low</b>	Impoundments:	Other: <b>0</b> Tile Drain: <b>0</b>
4.4 # of Debris Jams: <b>21</b>	Impoundment Loc.:	Overland Flow: <b>0</b> Urb Strm Wtr Pipe: <b>0</b>
	4.6 Up/Down Strm flow reg.: <b>None</b>	4.9 # of Beaver Dams: <b>0</b>
	(old) Upstrm Flow Reg.:	Affected Length (ft): <b>0</b>

#### 4.8 Channel Constrictions:

Type	Width	Photo Taken?	GPS Taken?	Channel Constriction?	Floodprone Constriction?	Problems
<b>Instream Culvert</b>	<b>5</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>	<b>Deposition Above</b>

#### Step 5. Channel Bed and Planform Changes

5.1 Bar Types	Diagonal: <b>2</b>	5.2 Other Features	Neck Cutoff: <b>0</b>	5.4 Stream Ford or Animal Crossing: <b>Yes</b>
Mid:	<b>12</b> Delta: <b>0</b>	Flood chutes: <b>2</b>	Avulsion: <b>0</b>	5.5 Straightening: <b>None</b>
Point:	<b>4</b> Island: <b>0</b>	5.3 Steep Riffles and Head Cuts	Head Cuts: <b>0</b>	Straightening Length (ft.): <b>0</b>
Side:	<b>22</b> Braiding: <b>3</b>	Steep Riffles: <b>5</b>	Trib Rejuv.: <b>No</b>	5.5 Dredging: <b>None</b>

#### Step 6. Rapid Habitat Assessment Data

6.1 Epifaunal Substrate - Avl.:	6.4 Sediment Deposition:	Stream Gradient Type	<u>Left</u>	<u>Right</u>
6.2 Pool Substrate:	6.5 Channel Flow Status:	6.8 Bank Stability:		
6.3 Pool Variability:	6.6 Channel Alteration:	6.9 Bank Vegetation Protection:		
Total Score: <b>0</b>	6.7 Channel Sinuosity:	6.10 Riparian Veg. Zone Width:		
Habitat Rating: <b>0.00</b>				
Habitat Stream Condition:				

#### Step 7. Rapid Geomorphic Assessment Data

Confinement Type	Unconfined	Score	STD	Historic		
7.1 Channel Degradation		<b>11</b>	<b>None</b>	<b>No</b>	Geomorphic Rating	<b>0.36</b>
7.2 Channel Aggradation		<b>5</b>	<b>None</b>	<b>No</b>	Channel Evolution Model	<b>F</b>
7.3 Widening Channel		<b>8</b>	<b>None</b>	<b>No</b>	Channel Evolution Stage	<b>IV</b>
7.4 Change in Planform		<b>5</b>	<b>None</b>	<b>No</b>	Geomorphic Condition	<b>Fair</b>
Total Score		<b>29</b>			Stream Sensitivity	<b>High</b>