

## Baseline Assessment – Stream Attributes

### *Revisit*

***\*Additional field visits were attempted on 1/12/2022, however Water quality and Benthic data could not be collected due to no flow conditions at the time of inspection.***

### **Reach S-H55 (Timber Mat Crossing) \* Ephemeral Spread I Pittsylvania County, Virginia**

| <b>Data</b>                             | <b>Included</b> |
|---|-----------------|
| Photos                                  | ✓*              |
| SWVM Form                               | ✓*              |
| FCI Calculator and HGM Form             | ✓*              |
| RBP Physical Characteristics Form       | ✓*              |
| Water Quality Data                      | N/A - No flow   |
| RBP Habitat Form                        | ✓*              |
| RBP Benthic Form                        | ✓*              |
| Benthic Identification Sheet            | N/A – No flow   |
| Wolman Pebble Count                     | ✓*              |
| RiverMorph Data Sheet                   | ✓*              |
| USM Form (Virginia Only)                | ✓*              |
| Longitudinal Profile and Cross Sections | ✓               |

## Spread I Stream S-H55 (Timber Mat) Pittsylvania County



Photo Type: US VIEW

Location, Orientation, Photographer Initials: Downstream at ROW/LOD looking NE upstream, CL



## Spread I Stream S-H55 (Timber Mat) Pittsylvania County

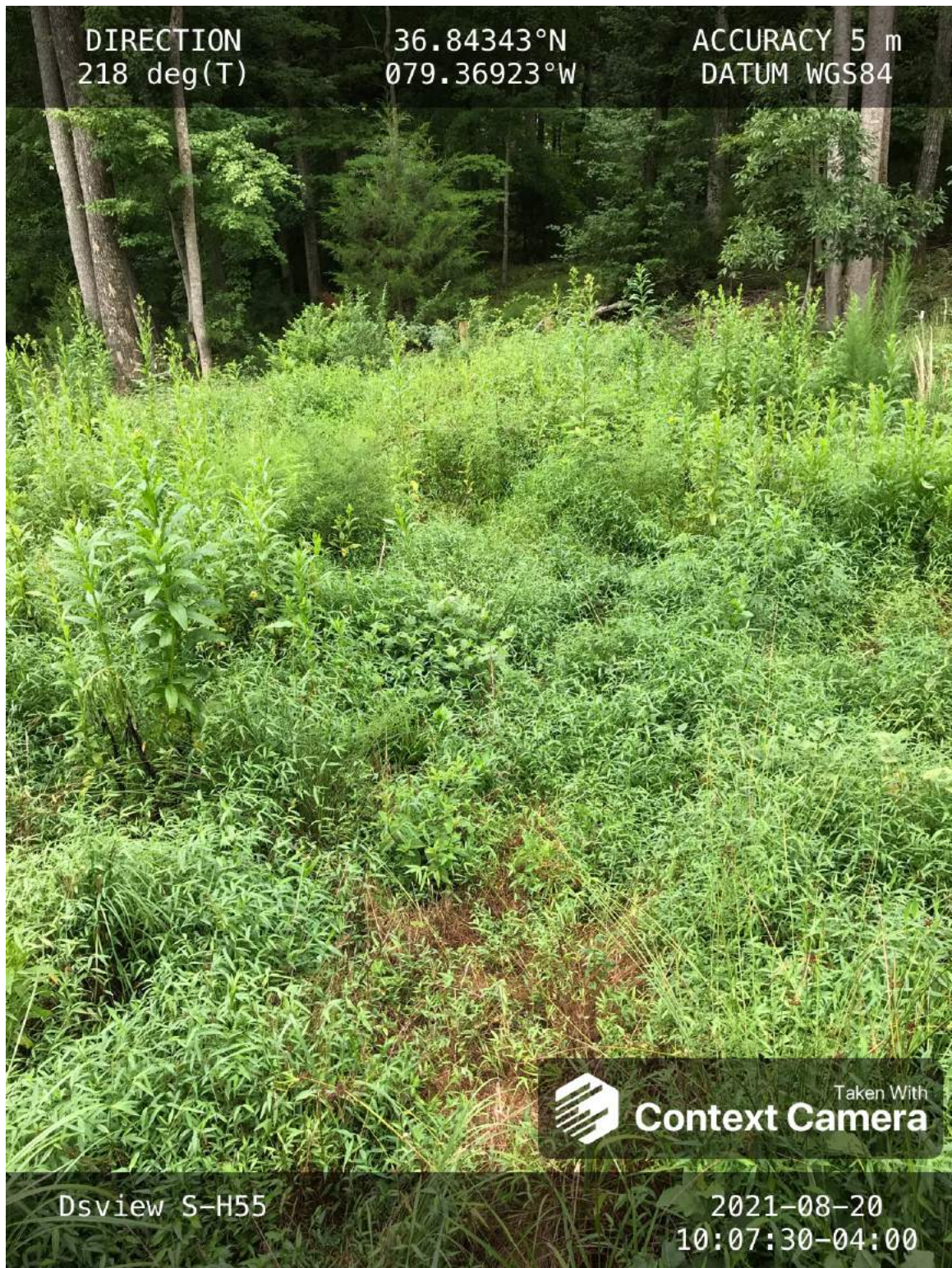


Photo Type: DS COND

Location, Orientation, Photographer Initials: Downstream at ROW/LOD looking SW downstream, CL



## Spread I Stream S-H55 (Timber Mat) Pittsylvania County



Photo Type: LB CL

Location, Orientation, Photographer Initials: On thalweg at pipe centerline looking N at right streambank, CL



## Spread I Stream S-H55 (Timber Mat) Pittsylvania County



Photo Type: RB CL

Location, Orientation, Photographer Initials: On thalweg at pipe centerline looking SE at left streambank, CL



## Spread I Stream S-H55 (Timber Mat) Pittsylvania County



Photo Type: DS COND  
Location, Orientation, Photographer Initials: Upstream at ROW/LOD looking E upstream, CL





Photo Type: DS VIEW

Location, Orientation, Photographer Initials: Downstream view of LOC looking S, KB



Photo Type: US VIEW

Location, Orientation, Photographer Initials: Upstream view of LOC looking N, SB





Photo Type: LB CL

Location, Orientation, Photographer Initials: Standing on LB looking at RB along pipe centerline looking NW, SB



Photo Type: RB CL

Location, Orientation, Photographer Initials: Standing on RB looking at LB along pipe centerline looking SE, SB





Photo Type: DS COND

Location, Orientation, Photographer Initials: Downstream conditions outside of LOC looking S, SB

*L:\22000s\22800\22865.06\Admin\05-ENVR\Field Data\Spread I\Field Forms\S-H55\Revisit\Photo Document Template\_V2.docx*







## FCI Calculator for the High-Gradient Headwater Streams in Appalachia

To ensure accurate calculations, the **UPPERMOST STRATUM** of the plant community is determined based on the calculated value for  $V_{CCANOPY}$  ( $\geq 20\%$  cover is required for tree/sapling strata). Go to the SAR Data Entry tab and enter site characteristics and data in the yellow cells. For information on determining how to split a project into SARs, see Chapter 5 of the Operational Draft Regional Guidebook for the Functional Assessment of High-Gradient Headwater Streams and Low-Gradient Perennial Streams in Appalachia (Environmental Laboratory U.S. Army Corps of Engineers 2017).

**Project Name:** Mountain Valley Pipeline

**Location:**

**Sampling Date:** 1/12/2022

Project Site      Before Project

**Subclass for this SAR:**

Ephemeral Stream

**Uppermost stratum present at this SAR:**

Shrub/Herb Strata

**SAR number:** S-H55

### Functional Results Summary:

Enter Results in Section A of the Mitigation Sufficiency Calculator

| Function               | Functional Capacity Index |
|------------------------|---------------------------|
| Hydrology              | 0.18                      |
| Biogeochemical Cycling | 0.12                      |
| Habitat                | 0.05                      |

### Variable Measure and Subindex Summary:

| Variable        | Name  | Average Measure | Subindex |
|-----------------|---|-----------------|----------|
| $V_{CCANOPY}$   | Percent canopy over channel.                          | Not Used, <20%  | Not Used |
| $V_{EMBED}$     | Average embeddedness of channel.                      | 1.00            | 0.10     |
| $V_{SUBSTRATE}$ | Median stream channel substrate particle size.        | 0.08            | 0.04     |
| $V_{BERO}$      | Total percent of eroded stream channel bank.          | 0.00            | 1.00     |
| $V_{LWD}$       | Number of down woody stems per 100 feet of stream.    | 0.00            | 0.00     |
| $V_{TDBH}$      | Average dbh of trees.                                 | Not Used        | Not Used |
| $V_{SNAG}$      | Number of snags per 100 feet of stream.               | 0.00            | 0.10     |
| $V_{SSD}$       | Number of saplings and shrubs per 100 feet of stream. | 0.00            | 0.00     |
| $V_{SRICH}$     | Riparian vegetation species richness.                 | 0.00            | 0.00     |
| $V_{DETRITUS}$  | Average percent cover of leaves, sticks, etc.         | 2.83            | 0.03     |
| $V_{HERB}$      | Average percent cover of herbaceous vegetation.       | 88.33           | 1.00     |
| $V_{WLUSE}$     | Weighted Average of Runoff Score for Catchment.       | 0.32            | 0.34     |



## High-Gradient Headwater Streams in Appalachia Field Data Sheet and Calculator

|   |  |
|---|--|
| Team: <b>KB NF</b>  | Latitude/UTM Northing: <b>36.841093</b>  |
| Project Name: <b>Mountain Valley Pipeline</b>   | Longitude/UTM Easting: <b>-79.366942</b> |
| Location:   | Sampling Date: <b>1/12/2022</b>          |
| SAR Number: <b>S-H55</b>  | Reach Length (ft): <b>67</b>             |
| Stream Type: <b>Ephemeral Stream</b> ▼  |  |
| Top Strata: <b>Shrub/Herb Strata</b> (determined from percent calculated in $V_{CCANOPY}$ ) |  |
| Site and Timing: <b>Project Site</b> ▼  | <b>Before Project</b> ▼                  |

### Sample Variables 1-4 in stream channel

| 1   | $V_{CCANOPY}$  | Average percent cover over channel by tree and sapling canopy. Measure at no fewer than 10 roughly equidistant points along the stream. Measure only if tree/sapling cover is at least 20%. (If less than 20%, enter at least one value between 0 and 19 to trigger Top Strata choice.)  | Not Used,<br><20% |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
|---|--|--|-------------------|--------|--------------------|------|--|---|--|---|---|---|---|------|--|------|------|--|--|--|--|--|--|------|------|------|------|--|--|--|--|--|--|------|------|------|------|--|--|--|--|--|--|------|------|------|------|--|--|--|--|--|--|
| List the percent cover measurements at each point below:  |  |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 10%;">0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>  |  |  |                   | 0      |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 0   |  |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
|   |  |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 2   | $V_{EMBED}$  | Average embeddedness of the stream channel. Measure at no fewer than 30 roughly equidistant points along the stream. Select a particle from the bed. Before moving it, determine the percentage of the surface and area surrounding the particle that is covered by fine sediment, and enter the rating according to the following table. If the bed is an artificial surface, or composed of fine sediments, use a rating score of 1. If the bed is composed of bedrock, use a rating score of 5. | 1.0               |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| <p>Embeddedness rating for gravel, cobble and boulder particles (rescaled from Platts, Megahan, and Minshall 1983 )</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Rating</th> <th style="width: 90%;">Rating Description</th> </tr> </thead> <tbody> <tr><td>5</td><td>&lt;5 percent of surface covered, surrounded, or buried by fine sediment (or bedrock)</td></tr> <tr><td>4</td><td>5 to 25 percent of surface covered, surrounded, or buried by fine sediment</td></tr> <tr><td>3</td><td>26 to 50 percent of surface covered, surrounded, or buried by fine sediment</td></tr> <tr><td>2</td><td>51 to 75 percent of surface covered, surrounded, or buried by fine sediment</td></tr> <tr><td>1</td><td>&gt;75 percent of surface covered, surrounded, or buried by fine sediment (or artificial surface)</td></tr> </tbody> </table> |  |  |                   | Rating | Rating Description | 5    | <5 percent of surface covered, surrounded, or buried by fine sediment (or bedrock) | 4 | 5 to 25 percent of surface covered, surrounded, or buried by fine sediment | 3 | 26 to 50 percent of surface covered, surrounded, or buried by fine sediment | 2 | 51 to 75 percent of surface covered, surrounded, or buried by fine sediment | 1    | >75 percent of surface covered, surrounded, or buried by fine sediment (or artificial surface) |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| Rating  | Rating Description   |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 5   | <5 percent of surface covered, surrounded, or buried by fine sediment (or bedrock)             |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 4   | 5 to 25 percent of surface covered, surrounded, or buried by fine sediment                     |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 3   | 26 to 50 percent of surface covered, surrounded, or buried by fine sediment                    |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 2   | 51 to 75 percent of surface covered, surrounded, or buried by fine sediment                    |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 1   | >75 percent of surface covered, surrounded, or buried by fine sediment (or artificial surface) |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| List the ratings at each point below:   |  |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
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| 1   | 1  | 1  | 1                 |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 1   | 1  | 1  | 1                 |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 1   | 1  | 1  | 1                 |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 1   | 1  | 1  | 1                 |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 1   | 1  | 1  | 1                 |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 3   | $V_{SUBSTRATE}$  | Median stream channel substrate particle size. Measure at no fewer than 30 roughly equidistant points along the stream; use the same points and particles as used in $V_{EMBED}$ .   | 0.08 in           |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| Enter particle size in inches to the nearest 0.1 inch at each point below (bedrock should be counted as 99 in, asphalt or concrete as 0.0 in, sand or finer particles as 0.08 in):  |  |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>0.08</td><td>0.08</td><td>0.08</td><td>0.08</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.08</td><td>0.08</td><td>0.08</td><td>0.08</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.08</td><td>0.08</td><td>0.08</td><td>0.08</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.08</td><td>0.08</td><td>0.08</td><td>0.08</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.08</td><td>0.08</td><td>0.08</td><td>0.08</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>   |  |  |                   | 0.08   | 0.08               | 0.08 | 0.08   |   |  |   |   |   |   | 0.08 | 0.08   | 0.08 | 0.08 |  |  |  |  |  |  | 0.08 | 0.08 | 0.08 | 0.08 |  |  |  |  |  |  | 0.08 | 0.08 | 0.08 | 0.08 |  |  |  |  |  |  | 0.08 | 0.08 | 0.08 | 0.08 |  |  |  |  |  |  |
| 0.08  | 0.08   | 0.08   | 0.08              |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 0.08  | 0.08   | 0.08   | 0.08              |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 0.08  | 0.08   | 0.08   | 0.08              |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 0.08  | 0.08   | 0.08   | 0.08              |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 0.08  | 0.08   | 0.08   | 0.08              |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| 4   | $V_{BERO}$   | Total percent of eroded stream channel bank. Enter the total number of feet of eroded bank on each side and the total percentage will be calculated. If both banks are eroded, total erosion for the stream may be up to 200%.   | 0 %               |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |
| <div style="display: flex; justify-content: space-between;"> <span>Left Bank: <b>0 ft</b></span> <span>Right Bank: <b>0 ft</b></span> </div>  |  |  |                   |        |                    |      |  |   |  |   |   |   |   |      |  |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |      |      |      |      |  |  |  |  |  |  |

### Sample Variables 5-9 within the entire riparian/buffer zone adjacent to the stream channel (25 feet from each bank).

| 5   | $V_{LWD}$  | Number of down woody stems (at least 4 inches in diameter and 36 inches in length) per 100 feet of stream reach. Enter the number from the entire 50'-wide buffer and within the channel, and the amount per 100 feet of stream will be calculated. | 0.0      |           |            |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|------------|---|----------|-----------|------------|--|--|--|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Number of downed woody stems: <b>0</b>  |            |   |          |           |            |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6   | $V_{TDBH}$ | Average dbh of trees (measure only if $V_{CCANOPY}$ tree/sapling cover is at least 20%). Trees are at least 4 inches (10 cm) in diameter. Enter tree DBHs in inches.  | Not Used |           |            |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| List the dbh measurements of individual trees (at least 4 in) within the buffer on each side of the stream below:   |            |   |          |           |            |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="5">Left Side</th> <th colspan="5">Right Side</th> </tr> </thead> <tbody> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> |            |   |          | Left Side |            |  |  |  | Right Side |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Left Side   |            |   |          |           | Right Side |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 7   | $V_{SNAG}$ | Number of snags (at least 4" dbh and 36" tall) per 100 feet of stream. Enter number of snags on each side of the stream, and the amount per 100 feet will be calculated.  | 0.0      |           |            |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <div style="display: flex; justify-content: space-between;"> <span>Left Side: <b>0</b></span> <span>Right Side: <b>0</b></span> </div>  |            |   |          |           |            |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8   | $V_{SSD}$  | Number of saplings and shrubs (woody stems up to 4 inches dbh) per 100 feet of stream (measure only if tree cover is <20%). Enter number of saplings and shrubs on each side of the stream, and the amount per 100 ft of stream will be calculated. | 0.0      |           |            |  |  |  |            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|   |   |   |  |      |
|---|---|---|--|------|
| 9   | V <sub>SRICH</sub>                                  | Riparian vegetation species richness per 100 feet of stream reach. Check all species present from Group 1 in the tallest stratum. Check all exotic and invasive species present in all strata. Species richness per 100 feet and the subindex will be calculated from these data. |  | 0.00 |
| Group 1 = 1.0   |   | Group 2 (-1.0)  |  |      |
| <input type="checkbox"/> <i>Acer rubrum</i>             | <input type="checkbox"/> <i>Magnolia tripetala</i>  | <input type="checkbox"/> <i>Ailanthus altissima</i>   | <input type="checkbox"/> <i>Lonicera japonica</i>                |      |
| <input type="checkbox"/> <i>Acer saccharum</i>          | <input type="checkbox"/> <i>Nyssa sylvatica</i>     | <input type="checkbox"/> <i>Albizia julibrissin</i>   | <input type="checkbox"/> <i>Lonicera tatarica</i>                |      |
| <input type="checkbox"/> <i>Aesculus flava</i>          | <input type="checkbox"/> <i>Oxydendrum arboreum</i> | <input type="checkbox"/> <i>Alliaria petiolata</i>  | <input type="checkbox"/> <i>Lotus corniculatus</i>               |      |
| <input type="checkbox"/> <i>Asimina triloba</i>         | <input type="checkbox"/> <i>Prunus serotina</i>     | <input type="checkbox"/> <i>Alternanthera philoxeroides</i>   | <input type="checkbox"/> <i>Lythrum salicaria</i>                |      |
| <input type="checkbox"/> <i>Betula alleghaniensis</i>   | <input type="checkbox"/> <i>Quercus alba</i>        | <input type="checkbox"/> <i>Aster tataricus</i>   | <input checked="" type="checkbox"/> <i>Microstegium vimineum</i> |      |
| <input type="checkbox"/> <i>Betula lenta</i>            | <input type="checkbox"/> <i>Quercus coccinea</i>    | <input type="checkbox"/> <i>Cerastium fontanum</i>  | <input type="checkbox"/> <i>Paulownia tomentosa</i>              |      |
| <input type="checkbox"/> <i>Carya alba</i>              | <input type="checkbox"/> <i>Quercus imbricaria</i>  | <input type="checkbox"/> <i>Coronilla varia</i>   | <input type="checkbox"/> <i>Polygonum cuspidatum</i>             |      |
| <input type="checkbox"/> <i>Carya glabra</i>            | <input type="checkbox"/> <i>Quercus prinus</i>      | <input type="checkbox"/> <i>Elaeagnus umbellata</i>   | <input type="checkbox"/> <i>Pueraria montana</i>                 |      |
| <input type="checkbox"/> <i>Carya ovalis</i>            | <input type="checkbox"/> <i>Quercus rubra</i>       | <input type="checkbox"/> <i>Lespedeza bicolor</i>   | <input type="checkbox"/> <i>Rosa multiflora</i>                  |      |
| <input type="checkbox"/> <i>Carya ovata</i>             | <input type="checkbox"/> <i>Quercus velutina</i>    | <input type="checkbox"/> <i>Lespedeza cuneata</i>   | <input type="checkbox"/> <i>Sorghum halepense</i>                |      |
| <input type="checkbox"/> <i>Cornus florida</i>          | <input type="checkbox"/> <i>Sassafras albidum</i>   | <input type="checkbox"/> <i>Ligustrum obtusifolium</i>  | <input type="checkbox"/> <i>Verbena brasiliensis</i>             |      |
| <input type="checkbox"/> <i>Fagus grandifolia</i>       | <input type="checkbox"/> <i>Tilia americana</i>     | <input type="checkbox"/> <i>Ligustrum sinense</i>   |  |      |
| <input type="checkbox"/> <i>Fraxinus americana</i>      | <input type="checkbox"/> <i>Tsuga canadensis</i>    |   |  |      |
| <input type="checkbox"/> <i>Liriodendron tulipifera</i> | <input type="checkbox"/> <i>Ulmus americana</i>     |   |  |      |
| <input type="checkbox"/> <i>Magnolia acuminata</i>      |   |   |  |      |
| 0 Species in Group 1                                    |   | 1 Species in Group 2  |  |      |

|  |                       |  |  |            |        |    |  |            |  |  |  |     |    |    |  |    |     |    |  |  |  |  |  |  |  |  |  |  |  |
|--|-----------------------|--|--|------------|--------|----|--|------------|--|--|--|-----|----|----|--|----|-----|----|--|--|--|--|--|--|--|--|--|--|--|
| Sample Variables 10-11 within at least 8 subplots (40" x 40", or 1m x 1m) in the riparian/buffer zone within 25 feet from each bank. The four subplots should be placed roughly equidistantly along each side of the stream. |                       |  |  |            |        |    |  |            |  |  |  |     |    |    |  |    |     |    |  |  |  |  |  |  |  |  |  |  |  |
| 10   | V <sub>DETRITUS</sub> | Average percent cover of leaves, sticks, or other organic material. Woody debris <4" diameter and <36" long are include. Enter the percent cover of the detrital layer at each subplot.  |  |            | 2.83 % |    |  |            |  |  |  |     |    |    |  |    |     |    |  |  |  |  |  |  |  |  |  |  |  |
|  |                       | <table><tr><td colspan="4">Left Side</td><td colspan="4">Right Side</td></tr><tr><td>0</td><td>1</td><td>5</td><td></td><td>10</td><td>0</td><td>1</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>   |  | Left Side  |        |    |  | Right Side |  |  |  | 0   | 1  | 5  |  | 10 | 0   | 1  |  |  |  |  |  |  |  |  |  |  |  |
| Left Side  |                       |  |  | Right Side |        |    |  |            |  |  |  |     |    |    |  |    |     |    |  |  |  |  |  |  |  |  |  |  |  |
| 0  | 1                     | 5  |  | 10         | 0      | 1  |  |            |  |  |  |     |    |    |  |    |     |    |  |  |  |  |  |  |  |  |  |  |  |
|  |                       |  |  |            |        |    |  |            |  |  |  |     |    |    |  |    |     |    |  |  |  |  |  |  |  |  |  |  |  |
| 11   | V <sub>HERB</sub>     | Average percentage cover of herbaceous vegetation (measure only if tree cover is <20%). Do <i>not</i> include woody stems at least 4" dbh and 36" tall. Because there may be several layers of ground cover vegetation percentages up through 200% are accepted. Enter the percent cover of ground vegetation at each subplot. |  |            | 88 %   |    |  |            |  |  |  |     |    |    |  |    |     |    |  |  |  |  |  |  |  |  |  |  |  |
|  |                       | <table><tr><td colspan="4">Left Side</td><td colspan="4">Right Side</td></tr><tr><td>100</td><td>95</td><td>80</td><td></td><td>70</td><td>100</td><td>85</td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>  |  | Left Side  |        |    |  | Right Side |  |  |  | 100 | 95 | 80 |  | 70 | 100 | 85 |  |  |  |  |  |  |  |  |  |  |  |
| Left Side  |                       |  |  | Right Side |        |    |  |            |  |  |  |     |    |    |  |    |     |    |  |  |  |  |  |  |  |  |  |  |  |
| 100  | 95                    | 80   |  | 70         | 100    | 85 |  |            |  |  |  |     |    |    |  |    |     |    |  |  |  |  |  |  |  |  |  |  |  |
|  |                       |  |  |            |        |    |  |            |  |  |  |     |    |    |  |    |     |    |  |  |  |  |  |  |  |  |  |  |  |

| Sample Variable 12 within the entire catchment of the stream. |                    |  |                                  |              |                |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |
|---|--------------------|--|----------------------------------|--------------|----------------|----------------------------|---|-----|----|----|--|-----|----|----|--|---|---|----|---|---|---|----|---|-----|---|----|--|-----|----|-----|--|--|--|--|--|--|--|--|--|--|--|
| 12  | V <sub>WLUSE</sub> | Weighted Average of Runoff Score for watershed:  |                                  |              | 0.32           |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |
|   |                    | <table><thead><tr><th>Land Use (Choose From Drop List)</th><th>Runoff Score</th><th>% in Catchment</th><th>Running Percent (not &gt;100)</th></tr></thead><tbody><tr><td>Forest and native range (&lt;50% ground cover)</td><td>0.5</td><td>10</td><td>10</td></tr><tr><td>Open space (pasture, lawns, parks, etc.), grass cover &gt;75%</td><td>0.3</td><td>22</td><td>32</td></tr><tr><td>Impervious areas (parking lots, roofs, driveways, etc)</td><td>0</td><td>0</td><td>32</td></tr><tr><td>Newly graded areas (bare soil, no vegetation or pavement)</td><td>0</td><td>0</td><td>32</td></tr><tr><td>Forest and native range (&lt;50% ground cover)</td><td>0.5</td><td>0</td><td>32</td></tr><tr><td>Open space (pasture, lawns, parks, etc.), grass cover &gt;75%</td><td>0.3</td><td>68</td><td>100</td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></tbody></table> | Land Use (Choose From Drop List) | Runoff Score | % in Catchment | Running Percent (not >100) | Forest and native range (<50% ground cover) | 0.5 | 10 | 10 | Open space (pasture, lawns, parks, etc.), grass cover >75% | 0.3 | 22 | 32 | Impervious areas (parking lots, roofs, driveways, etc) | 0 | 0 | 32 | Newly graded areas (bare soil, no vegetation or pavement) | 0 | 0 | 32 | Forest and native range (<50% ground cover) | 0.5 | 0 | 32 | Open space (pasture, lawns, parks, etc.), grass cover >75% | 0.3 | 68 | 100 |  |  |  |  |  |  |  |  |  |  |  |
| Land Use (Choose From Drop List)                              | Runoff Score       | % in Catchment   | Running Percent (not >100)       |              |                |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |
| Forest and native range (<50% ground cover)                   | 0.5                | 10   | 10                               |              |                |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |
| Open space (pasture, lawns, parks, etc.), grass cover >75%    | 0.3                | 22   | 32                               |              |                |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |
| Impervious areas (parking lots, roofs, driveways, etc)        | 0                  | 0  | 32                               |              |                |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |
| Newly graded areas (bare soil, no vegetation or pavement)     | 0                  | 0  | 32                               |              |                |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |
| Forest and native range (<50% ground cover)                   | 0.5                | 0  | 32                               |              |                |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |
| Open space (pasture, lawns, parks, etc.), grass cover >75%    | 0.3                | 68   | 100                              |              |                |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |
|   |                    |  |                                  |              |                |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |
|   |                    |  |                                  |              |                |                            |   |     |    |    |  |     |    |    |  |   |   |    |   |   |   |    |   |     |   |    |  |     |    |     |  |  |  |  |  |  |  |  |  |  |  |

|                        |                |          |   |  |
|------------------------|----------------|----------|---|--|
| S-H55                  |                |          | Notes:  |  |
| Variable               | Value          | VSI      | Land Cover Analysis was completed using the 2019 National Land Cover Database (NLCD), from Landsat satellite imagery and other supplementary datasets. Watershed boundaries are based off of field delineated stream impacts. *Percentages in catchment values have been rounded to the nearest whole number. |  |
| V <sub>CCANOPY</sub>   | Not Used, <20% | Not Used |   |  |
| V <sub>EMBED</sub>     | 1.0            | 0.10     |   |  |
| V <sub>SUBSTRATE</sub> | 0.08 in        | 0.04     |   |  |
| V <sub>BERO</sub>      | 0 %            | 1.00     |   |  |
| V <sub>LWD</sub>       | 0.0            | 0.00     |   |  |
| V <sub>TDBH</sub>      | Not Used       | Not Used |   |  |
| V <sub>SNAG</sub>      | 0.0            | 0.10     |   |  |
| V <sub>SSD</sub>       | 0.0            | 0.00     |   |  |
| V <sub>SRICH</sub>     | 0.00           | 0.00     |   |  |
| V <sub>DETRITUS</sub>  | 2.8 %          | 0.03     |   |  |
| V <sub>HERB</sub>      | 88 %           | 1.00     |   |  |
| V <sub>WLUSE</sub>     | 0.32           | 0.34     |   |  |



|   |  |   |  |
|---|--|---|--|
| STREAM NAME S-H55                           |  | LOCATION Pittsylvania County                |  |
| STATION # _____ RIVERMILE _____             |  | STREAM CLASS Ephemeral                      |  |
| LAT <u>36.843486</u> LONG <u>-79.369222</u> |  | RIVER BASIN Banister                        |  |
| STORET # _____                              |  | AGENCY VADEQ                                |  |
| INVESTIGATORS KB                            |  |   |  |
| FORM COMPLETED BY<br><b>KB</b>              |  | DATE <u>1/12/2022</u><br>TIME <u>1:00pm</u> | REASON FOR SURVEY<br>Baseline Assessment |

*Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 1* A-5



# PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

|  |   |  |
|--|---|--|
| <b>WATERSHED FEATURES</b>                    | <b>Predominant Surrounding Landuse</b><br><input type="checkbox"/> Forest <input type="checkbox"/> Commercial<br><input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial<br><input type="checkbox"/> Agricultural <input type="checkbox"/> Other _____<br><input type="checkbox"/> Residential  | <b>Local Watershed NPS Pollution</b><br><input checked="" type="checkbox"/> No evidence <input type="checkbox"/> Some potential sources<br><input type="checkbox"/> Obvious sources<br><b>Local Watershed Erosion</b><br><input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy |
| <b>RIPARIAN VEGETATION (18 meter buffer)</b> | <b>Indicate the dominant type and record the dominant species present</b><br><input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous<br><b>Dominant species present</b> <u>Juncus effusus, Microstegium</u>  |  |
| <b>INSTREAM FEATURES</b>                     | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>Estimated Reach Length</b> <u>16.75</u> m<br/> <b>Estimated Stream Width</b> <u>0.1</u> m<br/> <b>Sampling Reach Area</b> <u>1.68</u> m<sup>2</sup><br/> <b>Area in km<sup>2</sup> (m<sup>2</sup>x1000)</b> <u>0.0017</u> km<sup>2</sup><br/> <b>Estimated Stream Depth</b> <u>0</u> m<br/> <b>Surface Velocity (at thalweg)</b> <u>N/A</u> m/sec           </div> <div style="width: 45%;"> <b>Canopy Cover</b><br/> <input checked="" type="checkbox"/> Partly open      <input type="checkbox"/> Partly shaded      <input type="checkbox"/> Shaded<br/> <b>High Water Mark</b> <u>0</u> m<br/> <b>Proportion of Reach Represented by Stream Morphology Types</b><br/>             Riffle <u>      </u> %      Run <u>100</u> %<br/>             Pool <u>      </u> %<br/> <b>Channelized</b>      <input type="checkbox"/> Yes      <input checked="" type="checkbox"/> No<br/> <b>Dam Present</b>      <input type="checkbox"/> Yes      <input checked="" type="checkbox"/> No           </div> </div>  |  |
| <b>LARGE WOODY DEBRIS</b>                    | <b>LWD</b> <u>0</u> m <sup>2</sup><br><b>Density of LWD</b> <u>0</u> m <sup>2</sup> /km <sup>2</sup> (LWD/ reach area)  |  |
| <b>AQUATIC VEGETATION</b>                    | <b>Indicate the dominant type and record the dominant species present</b><br><input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating<br><input type="checkbox"/> Floating Algae <input type="checkbox"/> Attached Algae<br><b>Dominant species present</b> <u>None present</u><br><b>Portion of the reach with aquatic vegetation</b> <u>0</u> %  |  |
| <b>WATER QUALITY</b><br>No flow              | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>Temperature</b> <u>N/A</u> °C<br/> <b>Specific Conductance</b> <u>N/A</u><br/> <b>Dissolved Oxygen</b> <u>N/A</u><br/> <b>pH</b> <u>N/A</u><br/> <b>Turbidity</b> <u>N/A</u><br/> <b>WQ Instrument Used</b> <u>N/A</u> </div> <div style="width: 45%;"> <b>Water Odors</b><br/> <input checked="" type="checkbox"/> Normal/None      <input type="checkbox"/> Sewage<br/> <input type="checkbox"/> Petroleum      <input type="checkbox"/> Chemical<br/> <input type="checkbox"/> Fishy      <input type="checkbox"/> Other _____<br/> <b>Water Surface Oils</b><br/> <input type="checkbox"/> Slick      <input type="checkbox"/> Sheen      <input type="checkbox"/> Globs      <input type="checkbox"/> Flecks<br/> <input checked="" type="checkbox"/> None      <input type="checkbox"/> Other _____<br/> <b>Turbidity (if not measured)</b><br/> <input type="checkbox"/> Clear      <input type="checkbox"/> Slightly turbid      <input type="checkbox"/> Turbid<br/> <input type="checkbox"/> Opaque      <input type="checkbox"/> Stained      <input type="checkbox"/> Other _____           </div> </div> |  |
| <b>SEDIMENT/SUBSTRATE</b>                    | <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>Odors</b><br/> <input checked="" type="checkbox"/> Normal      <input type="checkbox"/> Sewage      <input type="checkbox"/> Petroleum<br/> <input type="checkbox"/> Chemical      <input type="checkbox"/> Anaerobic      <input type="checkbox"/> None<br/> <input type="checkbox"/> Other _____<br/> <b>Oils</b><br/> <input checked="" type="checkbox"/> Absent      <input type="checkbox"/> Slight      <input type="checkbox"/> Moderate      <input type="checkbox"/> Profuse           </div> <div style="width: 45%;"> <b>Deposits</b><br/> <input type="checkbox"/> Sludge      <input type="checkbox"/> Sawdust      <input type="checkbox"/> Paper fiber      <input type="checkbox"/> Sand<br/> <input type="checkbox"/> Relict shells      <input type="checkbox"/> Other _____<br/> <b>Looking at stones which are not deeply embedded, are the undersides black in color?</b><br/> <input type="checkbox"/> Yes      <input type="checkbox"/> No           </div> </div>   |  |

| INORGANIC SUBSTRATE COMPONENTS<br>(should add up to 100%) |                      |                                 | ORGANIC SUBSTRATE COMPONENTS<br>(does not necessarily add up to 100%) |   |                                |
|---|----------------------|---------------------------------|---|---|--------------------------------|
| Substrate Type  | Diameter             | % Composition in Sampling Reach | Substrate Type  | Characteristic                              | % Composition in Sampling Area |
| Bedrock   |                      | 0                               | Detritus  | sticks, wood, coarse plant materials (CPOM) | 10                             |
| Boulder   | > 256 mm (10")       | 0                               |   |   |                                |
| Cobble  | 64-256 mm (2.5"-10") | 0                               | Muck-Mud  | black, very fine organic (FPOM)             | 0                              |
| Gravel  | 2-64 mm (0.1"-2.5")  | 0                               |   |   |                                |
| Sand  | 0.06-2mm (gritty)    | 40                              | Marl  | grey, shell fragments                       | 0                              |
| Silt  | 0.004-0.06 mm        | 20                              |   |   |                                |
| Clay  | < 0.004 mm (slick)   | 40                              |   |   |                                |



# HABITAT ASSESSMENT FIELD DATA SHEET - HG - USE ON ALL STREAMS (FRONT)

|                                 |  |                                     |  |
|---------------------------------|--|-------------------------------------|--|
| STREAM NAME S-H55               |  | LOCATION Pittsylvania County        |  |
| STATION # _____ RIVERMILE _____ |  | STREAM CLASS Ephemeral              |  |
| LAT 36.843486 LONG -79.369222   |  | RIVER BASIN Banister                |  |
| STORET # _____                  |  | AGENCY VADEQ                        |  |
| INVESTIGATORS KB                |  |                                     |  |
| FORM COMPLETED BY<br>KB         |  | DATE 1/12/2022<br>TIME 1:00pm AM PM | REASON FOR SURVEY<br>Baseline Assessment |

|  | Habitat Parameter   | Condition Category  |   |  |  |
|--|---|---|---|--|--|
|  |   | Optimal   | Suboptimal  | Marginal   | Poor   |
| Parameters to be evaluated in sampling reach | 1. Epifaunal Substrate/<br>Available Cover  | Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are <u>not</u> new fall and <u>not</u> transient). | 40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale). | 20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.   | Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking. |
|  | SCORE 0   | 20 19 18 17 16  | 15 14 13 12 11  | 10 9 8 7 6   | 5 4 3 2 1 0  |
|  | 2. Embeddedness   | Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space.  | Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment.   | Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment.  | Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment.     |
|  | SCORE 2   | 20 19 18 17 16  | 15 14 13 12 11  | 10 9 8 7 6   | 5 4 3 2 1 0  |
|  | 3. Velocity/Depth Regime  | All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is < 0.3 m/s, deep is > 0.5 m.)   | Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes).  | Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low).  | Dominated by 1 velocity/depth regime (usually slow-deep).                                |
|  | SCORE 0   | 20 19 18 17 16  | 15 14 13 12 11  | 10 9 8 7 6   | 5 4 3 2 1 0  |
| 4. Sediment Deposition                       | Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition. | Some new increase in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools.  | Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.   | Heavy deposits of fine material, increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition. |  |
| SCORE 2                                      | 20 19 18 17 16  | 15 14 13 12 11  | 10 9 8 7 6  | 5 4 3 2 1 0  |  |
| 5. Channel Flow Status                       | Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.                       | Water fills >75% of the available channel; or <25% of channel substrate is exposed.   | Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.   | Very little water in channel and mostly present as standing pools.   |  |
| SCORE 0                                      | 20 19 18 17 16  | 15 14 13 12 11  | 10 9 8 7 6  | 5 4 3 2 1 0  |  |

Notes: no defined bed and bank, stream assessed as ephemeral based on initial delineation however portrays upland swale/drainage feature characteristics.



# HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (BACK)

| Habitat Parameter  | Condition Category   |  |   |   |
|--|--|--|---|---|
|  | Optimal  | Suboptimal   | Marginal  | Poor  |
| <b>6. Channel Alteration</b><br><br>SCORE 18 <input type="text"/>  | Channelization or dredging absent or minimal; stream with normal pattern.  | Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.  | Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.  | Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.   |
|  | 20 19 18 17 16   | 15 14 13 12 11   | 10 9 8 7 6  | 5 4 3 2 1 0   |
| <b>7. Frequency of Riffles (or bends)</b><br><br>SCORE 0 <input type="text"/>  | Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.     | Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.  | Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.   | Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.   |
|  | 20 19 18 17 16   | 15 14 13 12 11   | 10 9 8 7 6  | 5 4 3 2 1 0   |
| <b>8. Bank Stability (score each bank)</b><br><br>Note: determine left or right side by facing downstream.<br>SCORE 10 <input type="text"/><br>SCORE 10 <input type="text"/> | Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.   | Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.   | Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.  | Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.   |
|  | Left Bank 10 9   | 8 7 6  | 5 4 3   | 2 1 0   |
|  | Right Bank 10 9  | 8 7 6  | 5 4 3   | 2 1 0   |
| <b>9. Vegetative Protection (score each bank)</b><br><br>SCORE 6 <input type="text"/><br>SCORE 6 <input type="text"/>  | More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally. | 70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining. | 50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining. | Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height. |
|  | Left Bank 10 9   | 8 7 6  | 5 4 3   | 2 1 0   |
|  | Right Bank 10 9  | 8 7 6  | 5 4 3   | 2 1 0   |
| <b>10. Riparian Vegetative Zone Width (score each bank riparian zone)</b><br><br>SCORE 5 <input type="text"/><br>SCORE 5 <input type="text"/>                                | Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.  | Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.   | Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.   | Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.   |
|  | Left Bank 10 9   | 8 7 6  | 5 4 3   | 2 1 0   |
|  | Right Bank 10 9  | 8 7 6  | 5 4 3   | 2 1 0   |

Total Score **64**

Notes: no defined bed and bank, stream assessed as ephemeral based on initial delineation however portrays upland swale/drainage feature characteristics.

## BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

|                                 |  |                               |  |
|---------------------------------|--|-------------------------------|--|
| STREAM NAME S-H55               |  | LOCATION Pittsylvania County  |  |
| STATION # _____ RIVERMILE _____ |  | STREAM CLASS Ephemeral        |  |
| LAT 36.843486 LONG -79.369222   |  | RIVER BASIN Banister          |  |
| STORET # _____                  |  | AGENCY VADEQ                  |  |
| INVESTIGATORS KB                |  | LOT NUMBER                    |  |
| FORM COMPLETED BY <b>KB</b>     |  | DATE 1/12/2022<br>TIME 1:00pm | REASON FOR SURVEY<br>Baseline Assessment |

|                          |  |
|--------------------------|--|
| <b>HABITAT TYPES</b>     | <b>Indicate the percentage of each habitat type present</b><br><input type="checkbox"/> Cobble _____% <input type="checkbox"/> Snags _____% <input type="checkbox"/> Vegetated Banks _____% <input type="checkbox"/> Sand _____%<br><input type="checkbox"/> Submerged Macrophytes _____% <input type="checkbox"/> Other ( _____ ) _____%  |
| <b>SAMPLE COLLECTION</b> | <b>Gear used</b> <input type="checkbox"/> D-frame <input type="checkbox"/> kick-net <input type="checkbox"/> Other _____<br><br><b>How were the samples collected?</b> <input type="checkbox"/> wading <input type="checkbox"/> from bank <input type="checkbox"/> from boat<br><br><b>Indicate the number of jabs/kicks taken in each habitat type.</b><br><input type="checkbox"/> Cobble _____ <input type="checkbox"/> Snags _____ <input type="checkbox"/> Vegetated Banks _____ <input type="checkbox"/> Sand _____<br><input type="checkbox"/> Submerged Macrophytes _____ <input type="checkbox"/> Other ( _____ ) _____ |
| <b>GENERAL COMMENTS</b>  | Benthics not collected due to no flow in channel.  |

### QUALITATIVE LISTING OF AQUATIC BIOTA

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant

|                   |   |   |   |   |   |                    |   |   |   |   |   |
|-------------------|---|---|---|---|---|--------------------|---|---|---|---|---|
| Periphyton        | 0 | 1 | 2 | 3 | 4 | Slimes             | 0 | 1 | 2 | 3 | 4 |
| Filamentous Algae | 0 | 1 | 2 | 3 | 4 | Macroinvertebrates | 0 | 1 | 2 | 3 | 4 |
| Macrophytes       | 0 | 1 | 2 | 3 | 4 | Fish               | 0 | 1 | 2 | 3 | 4 |

### FIELD OBSERVATIONS OF MACROBENTHOS

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)

|                 |   |   |   |   |   |             |   |   |   |   |   |               |   |   |   |   |   |
|-----------------|---|---|---|---|---|-------------|---|---|---|---|---|---------------|---|---|---|---|---|
| Porifera        | 0 | 1 | 2 | 3 | 4 | Anisoptera  | 0 | 1 | 2 | 3 | 4 | Chironomidae  | 0 | 1 | 2 | 3 | 4 |
| Hydrozoa        | 0 | 1 | 2 | 3 | 4 | Zygoptera   | 0 | 1 | 2 | 3 | 4 | Ephemeroptera | 0 | 1 | 2 | 3 | 4 |
| Platyhelminthes | 0 | 1 | 2 | 3 | 4 | Hemiptera   | 0 | 1 | 2 | 3 | 4 | Trichoptera   | 0 | 1 | 2 | 3 | 4 |
| Turbellaria     | 0 | 1 | 2 | 3 | 4 | Coleoptera  | 0 | 1 | 2 | 3 | 4 | Other         | 0 | 1 | 2 | 3 | 4 |
| Hirudinea       | 0 | 1 | 2 | 3 | 4 | Lepidoptera | 0 | 1 | 2 | 3 | 4 |               |   |   |   |   |   |
| Oligochaeta     | 0 | 1 | 2 | 3 | 4 | Sialidae    | 0 | 1 | 2 | 3 | 4 |               |   |   |   |   |   |
| Isopoda         | 0 | 1 | 2 | 3 | 4 | Corydalidae | 0 | 1 | 2 | 3 | 4 |               |   |   |   |   |   |
| Amphipoda       | 0 | 1 | 2 | 3 | 4 | Tipulidae   | 0 | 1 | 2 | 3 | 4 |               |   |   |   |   |   |
| Decapoda        | 0 | 1 | 2 | 3 | 4 | Empididae   | 0 | 1 | 2 | 3 | 4 |               |   |   |   |   |   |
| Gastropoda      | 0 | 1 | 2 | 3 | 4 | Simuliidae  | 0 | 1 | 2 | 3 | 4 |               |   |   |   |   |   |
| Bivalvia        | 0 | 1 | 2 | 3 | 4 | Tabinidae   | 0 | 1 | 2 | 3 | 4 |               |   |   |   |   |   |
|                 |   |   |   |   |   | Culcidae    | 0 | 1 | 2 | 3 | 4 |               |   |   |   |   |   |



# WOLMAN PEBBLE COUNT FORM

|              |                                 |            |       |
|--------------|---------------------------------|------------|-------|
| County:      | Pittslyvania                    | Stream ID: | S-H55 |
| Stream Name: | UNT to Little Cherrystone Creek |            |       |
| Survey Date: | 1/13/2022                       |            |       |
| Surveyors:   | KB NF                           |            |       |
| Type:        | Representative Bankfull         |            |       |

| PEBBLE COUNT |              |             |               |             |         |        |        |
|--------------|--------------|-------------|---------------|-------------|---------|--------|--------|
| Inches       | PARTICLE     | Millimeters |               | Particle    | Total # | Item % | % Cum  |
|              | Silt/Clay    | < .062      | S/C           | ▲<br>▼      | 85      | 85.00  | 85.00  |
|              | Very Fine    | .062-.125   | S A N D       | ▲<br>▼      | 10      | 10.00  | 95.00  |
|              | Fine         | .125-.25    |               | ▲<br>▼      | 5       | 5.00   | 100.00 |
|              | Medium       | .25-.5      |               | ▲<br>▼      | 0       | 0.00   | 100.00 |
|              | Coarse       | .50-1.0     |               | ▲<br>▼      | 0       | 0.00   | 100.00 |
| .04-.08      | Very Coarse  | 1.0-2       |               | ▲<br>▼      | 0       | 0.00   | 100.00 |
| .08 -.16     | Very Fine    | 2 -4        |               | G R A V E L | ▲<br>▼  | 0      | 0.00   |
| .16 - .22    | Fine         | 4 -5.7      | ▲<br>▼        |             | 0       | 0.00   | 100.00 |
| .22 - .31    | Fine         | 5.7 - 8     | ▲<br>▼        |             | 0       | 0.00   | 100.00 |
| .31 - .44    | Medium       | 8 -11.3     | ▲<br>▼        |             | 0       | 0.00   | 100.00 |
| .44 - .63    | Medium       | 11.3 - 16   | ▲<br>▼        |             | 0       | 0.00   | 100.00 |
| .63 - .89    | Coarse       | 16 -22.6    | ▲<br>▼        |             | 0       | 0.00   | 100.00 |
| .89 - 1.26   | Coarse       | 22.6 - 32   | ▲<br>▼        |             | 0       | 0.00   | 100.00 |
| 1.26 - 1.77  | Vry Coarse   | 32 - 45     | ▲<br>▼        |             | 0       | 0.00   | 100.00 |
| 1.77 -2.5    | Vry Coarse   | 45 - 64     | ▲<br>▼        |             | 0       | 0.00   | 100.00 |
| 2.5 - 3.5    | Small        | 64 - 90     | C O B B L E   |             | ▲<br>▼  | 0      | 0.00   |
| 3.5 - 5.0    | Small        | 90 - 128    |               | ▲<br>▼      | 0       | 0.00   | 100.00 |
| 5.0 - 7.1    | Large        | 128 - 180   |               | ▲<br>▼      | 0       | 0.00   | 100.00 |
| 7.1 - 10.1   | Large        | 180 - 256   |               | ▲<br>▼      | 0       | 0.00   | 100.00 |
| 10.1 - 14.3  | Small        | 256 - 362   | B O U L D E R | ▲<br>▼      | 0       | 0.00   | 100.00 |
| 14.3 - 20    | Small        | 362 - 512   |               | ▲<br>▼      | 0       | 0.00   | 100.00 |
| 20 - 40      | Medium       | 512 - 1024  |               | ▲<br>▼      | 0       | 0.00   | 100.00 |
| 40 - 80      | Large        | 1024 -2048  |               | ▲<br>▼      | 0       | 0.00   | 100.00 |
| 80 - 160     | Vry Large    | 2048 -4096  |               | ▲<br>▼      | 0       | 0.00   | 100.00 |
|              | Bedrock      |             | BDRK          | ▲<br>▼      | 0       | 0.00   | 100.00 |
|              |              |             |               | Totals      | 100     |        |        |
|              | Total Tally: |             |               |             |         |        |        |

## RIVERMORPH PARTICLE SUMMARY

River Name: UNT to Little Cherrystone Creek  
 Reach Name: S-H55  
 Sample Name: Representative Bankfull  
 Survey Date: 01/13/2022

| Size (mm)     | TOT # | ITEM % | CUM %  |
|---------------|-------|--------|--------|
| 0 - 0.062     | 85    | 85.00  | 85.00  |
| 0.062 - 0.125 | 10    | 10.00  | 95.00  |
| 0.125 - 0.25  | 5     | 5.00   | 100.00 |
| 0.25 - 0.50   | 0     | 0.00   | 100.00 |
| 0.50 - 1.0    | 0     | 0.00   | 100.00 |
| 1.0 - 2.0     | 0     | 0.00   | 100.00 |
| 2.0 - 4.0     | 0     | 0.00   | 100.00 |
| 4.0 - 5.7     | 0     | 0.00   | 100.00 |
| 5.7 - 8.0     | 0     | 0.00   | 100.00 |
| 8.0 - 11.3    | 0     | 0.00   | 100.00 |
| 11.3 - 16.0   | 0     | 0.00   | 100.00 |
| 16.0 - 22.6   | 0     | 0.00   | 100.00 |
| 22.6 - 32.0   | 0     | 0.00   | 100.00 |
| 32 - 45       | 0     | 0.00   | 100.00 |
| 45 - 64       | 0     | 0.00   | 100.00 |
| 64 - 90       | 0     | 0.00   | 100.00 |
| 90 - 128      | 0     | 0.00   | 100.00 |
| 128 - 180     | 0     | 0.00   | 100.00 |
| 180 - 256     | 0     | 0.00   | 100.00 |
| 256 - 362     | 0     | 0.00   | 100.00 |
| 362 - 512     | 0     | 0.00   | 100.00 |
| 512 - 1024    | 0     | 0.00   | 100.00 |
| 1024 - 2048   | 0     | 0.00   | 100.00 |
| Bedrock       | 0     | 0.00   | 100.00 |

|               |      |
|---------------|------|
| D16 (mm)      | 0.01 |
| D35 (mm)      | 0.03 |
| D50 (mm)      | 0.04 |
| D84 (mm)      | 0.06 |
| D95 (mm)      | 0.13 |
| D100 (mm)     | 0.25 |
| Silt/Clay (%) | 85   |
| Sand (%)      | 15   |
| Gravel (%)    | 0    |
| Cobble (%)    | 0    |
| Boulder (%)   | 0    |
| Bedrock (%)   | 0    |

Total Particles = 100.



# Ephemeral Stream Assessment Form (Form 1a)

Unified Stream Methodology for use in Virginia

For use in ephemeral streams

| Project #               | Project Name   | Locality                                  | Cowardin Class. | HUC      | Date    | SAR # | Impact Length | Impact Factor |
|-------------------------|--|---|-----------------|----------|---------|-------|---------------|---------------|
| 22865.06                | Mountain Valley Pipeline (Mountain Valley Pipeline, LLC) | Pittsylvania                              | R6              | 03010105 | 8/20/21 | S-H55 | 20            | 1             |
| Name(s) of Evaluator(s) |  | Stream Name and Information               |                 |          |         |       | SAR Length    |               |
| RH, MB                  |  | Spread I; UNT to Little Cherrystone Creek |                 |          |         |       | 301           |               |

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

| Conditional Category  |  |   |  |   |   |   |   | NOTES>> Stream was not found in the field; however, riparian buffer scores were assigned based on best professional judgement. |
|---|--|---|--|---|---|---|---|--|
| Optimal   | Suboptimal   |   | Marginal   |   | Poor  |   |   |  |
| Riparian Buffers  | Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands areas. | High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. | Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with >30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation). | High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover. | Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory. | High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition. | Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions. |  |
|   |  | High  | Low  | High  | Low   | High  | Low   |  |
|   |  | Condition Scores  | 1.5  | 1.2   | 1.1   | 0.85  | 0.75  |  |
| 1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors.  |  |   |  |   |   | Ensure the sums   |   |  |
| 2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below. |  |   |  |   |   | of % Riparian   |   |  |
| 3. Enter the % Riparian Area and Score for each riparian category in the blocks below.                                    |  |   |  |   |   | Blocks equal 100  |   |  |
| Right Bank  | % Riparian Area>   | 40%   | 15%  | 45%   |   |   | 100%  |  |
|   | Score >  | 0.7   | 0.8  | 0.75  |   |   |   |  |
| Left Bank   | % Riparian Area>   | 75%   | 5%   | 20%   |   |   | 100%  |  |
|   | Score >  | 0.8   | 0.8  | 0.75  |   |   |   |  |
| REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH   |  |   |  |   |   |   |   |  |
| NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.                  |  |   |  |   |   |   |   |  |
| THE REACH CONDITION INDEX (RCI) >>  |  |   |  |   |   | 0.39  |   |  |
| RCI= (Riparian CI)/2  |  |   |  |   |   |   |   |  |
| COMPENSATION REQUIREMENT (CR) >>  |  |   |  |   |   | 8   |   |  |
| CR = RCI X LF X IF  |  |   |  |   |   |   |   |  |

INSERT PHOTOS:

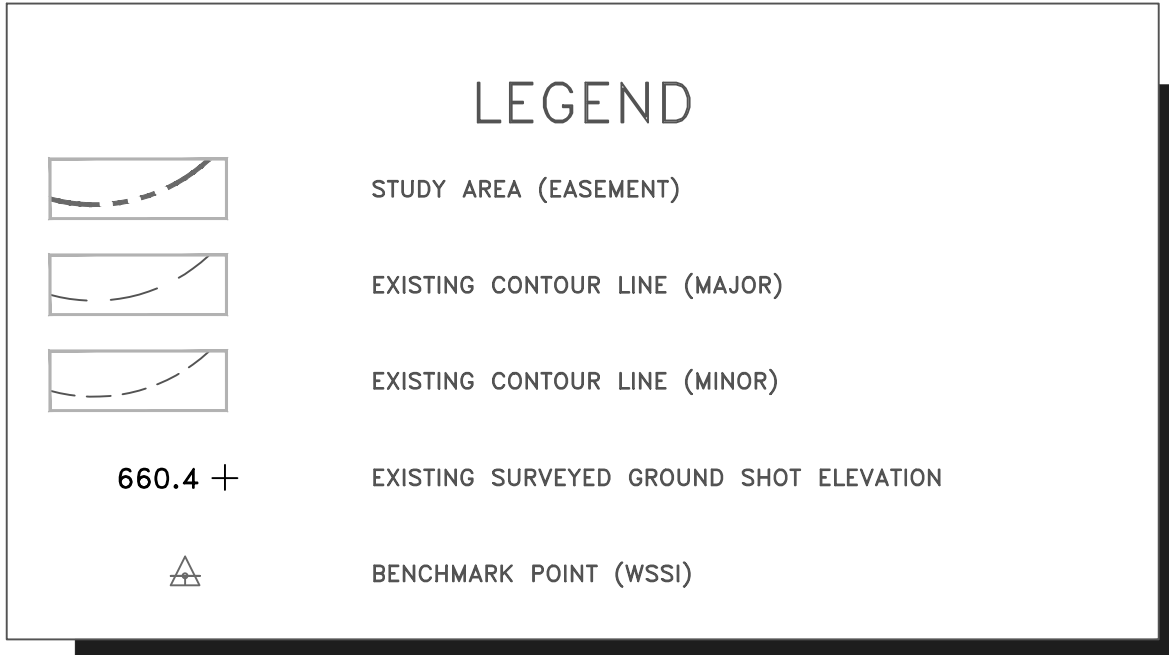


CAPTION. Assessment is limited to areas within the temporary ROW.

DESCRIBE PROPOSED IMPACT:

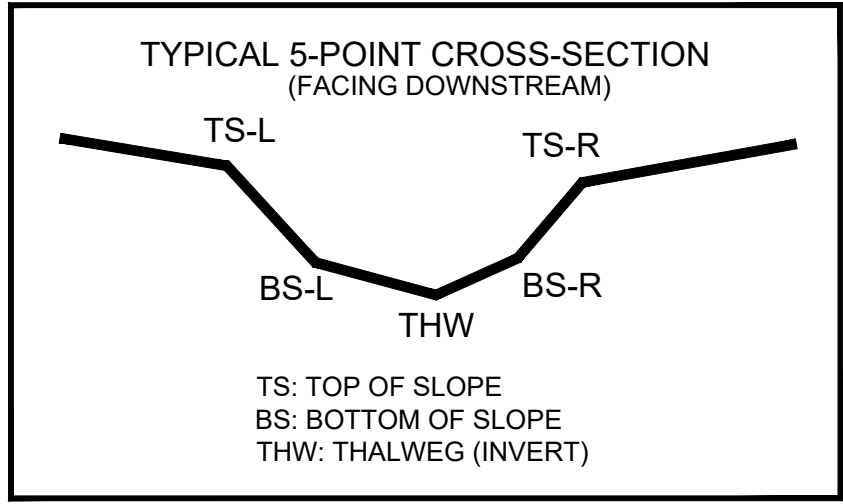
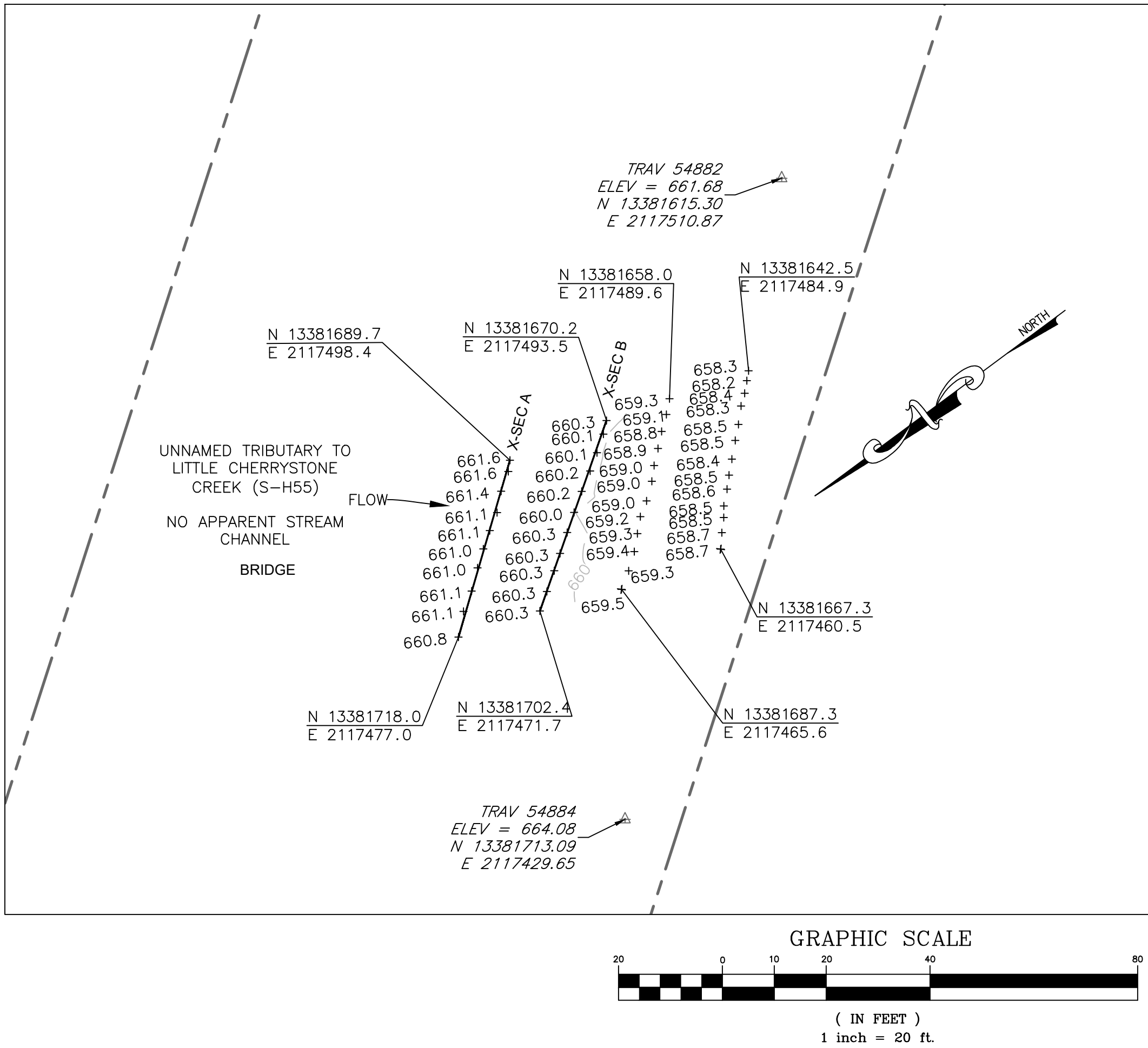
PROVIDED UNDER SEPARATE COVER



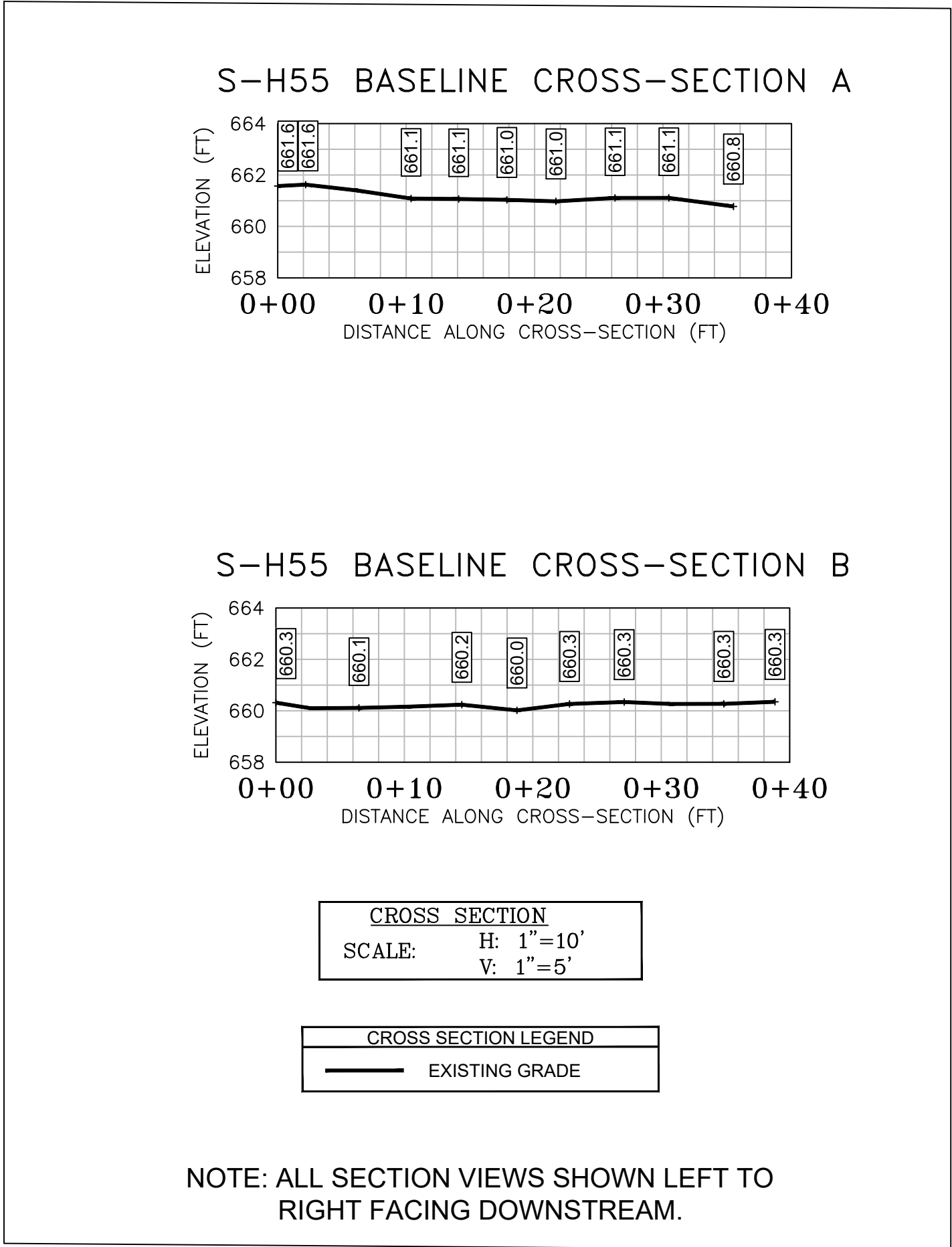


SURVEY NOTES:

- This map has been oriented to NAD 1983 UTM ZONE 17N, and vertically to The North American Vertical Datum of 1988 (NAVD 88), using a Real Time Network (RTN) GPS. Field locations were completed on December 31, 2019.
- Monumentation, including traverse stations and fly points, shown on this drawing should be used to orient any future boundary, topographic, or location survey.
- Easement lines shown on plan view were provided by Mountain Valley Pipeline (MVP).
- WSSI Contour Interval = 2.0'. Contours within the channel were interpolated using stream channel breaklines (i.e. top of slopes, toe of slopes, thalweg) and cross-sectional points. Contours outside the channel were interpolated using cross-sectional spot shots.
- Wetland boundary flagging not complete/present during field survey. Topographic data study extended beyond mapped boundary to ensure adequate coverage of resource.



| CL STAKEOUT POINTS: S-H55 CROSS SECTION (PIPE CL) |  |         |      |               |             |
|---|--|---------|------|---------------|-------------|
| PT. LOC.  | PRE-CROSSING   |         |      | POST-CROSSING |             |
|   | NORTHING   | EASTING | ELEV | VERT. DIFF.   | HORZ. DIFF. |
| TS-L  |  |         |      | ----          | ----        |
| BS-L  | No defined top and bottoms of slope, therefore no coordinates are available for this feature |         |      | ----          | ----        |
| THW   |  |         |      | ----          | ----        |
| BS-R  |  |         |      | ----          | ----        |
| TS-R  |  |         |      | ----          | ----        |



Baseline Wetland Topographic Study

Prepared For: MVP

Crossing S-H55 - UNT to Little Cherrystone Creek (MP: 300.9)

Pittsylvania County, Virginia

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| REVISIONS   |       |             |         | DATE: February, 2022 |  | SCALE: AS NOTED |
|---|-------|-------------|---------|----------------------|--|-----------------|
| No.   | Date  | Description | Rev. By | App. By              |  |                 |
|   |       |             |         |                      |  |                 |
|   |       |             |         |                      |  |                 |
|   |       |             |         |                      |  |                 |
|   |       |             |         |                      |  |                 |
|   |       |             |         |                      |  |                 |
| Horizontal Datum: NAD 1983 UTM ZONE 17N   |       |             |         |                      |  |                 |
| Vertical Datum: NAVD 88   |       |             |         |                      |  |                 |
| Boundary and Topo Source:<br>MVP<br>WSSI 2' C.I. Topo   |       |             |         |                      |  |                 |
| Design  | Draft | Approved    |         |                      |  |                 |
| TLK   | TLK   | PFS         |         |                      |  |                 |
| Sheet #<br><div>1 of 1</div>  |       |             |         |                      |  |                 |
| Computer File Name:<br><small>L:\Survey\22060\22060\22060\22060\01\Survey\1 Work Dwg_22060_01.dwg</small> |       |             |         |                      |  |                 |