STREAM BIOLOGICAL CONDITIONS
ENVIRONMENTAL AUDITOR REPORT

Version 2.3

Wetland Studies and Solutions, Inc.® a DAVEY company

Stream ID: S-EF19	**Crossing Start Date:** 02/08/2024	**Crossing Completion Date:** 03/29/2024
Milepost: 236.9	**Pre-Con Assessment Date:** 02/05/2024	**Post-Con Assessment Date:** 03/29/2024
Station: 12519+41	**Stream Classification:** Ephemeral **(Perennial, Intermittent, Ephemeral)**	**Bankfull Width (ft.):** 5
County: Montgomery	**303(d) Impairment Listing:** Not Impaired	**Riffle:Pool Complexes Present?** No

Item #	Resource Crossing Conditions	N/A	YES	NO
1.	Were all applicable resource specific crossing conditions satisfied? Time of Year Restrictions (TOYR)? N/A Fish Relocation? N/A Mussel Relocation? N/A		X	
2.	Is this resource designated a wild or stockable trout stream?			X
3.	Which crossing methods were utilized during the stream crossing? *(Select one or more)* Dam & Pump, Flume, Cofferdam, Conventional Bore, Horizontal Directional Drill (HDD) Bore?	Flume		
4.	Was the top 1-foot (12-inches) of streambed substrate segregated and stockpiled separate from trench spoils?		X	
5.	Was excess material not needed for backfill removed and disposed of in an upland area?		X	
6.	Was the top 12-inches of backfill made with clean native stream substrate?		X	
7.	Was the pre-construction survey data provided and utilized during restoration in attempt to re-establish pre-construction contours?		X	
8.	Were any field modifications to the stream implemented by project or regulatory personnel to address potential drainage or bank restoration limitations?		X	
9.	Were impervious trench breakers/plugs properly installed within 25-feet of top-of-bank to prevent subsurface erosion to or from the resource area?		X	
10.	Was permanent seed and stabilization material (straw or matting) applied to riparian areas and stream banks prior to re-establishing flow to the impact area of the channel?		X	
11.	Was the time of disturbance minimized by conducting resource work continuously to completion?		X	
12.	Have civil surveys been scheduled to verify as-built conditions meet pre-construction conditions in accordance with the project Mitigation Framework and federal/state permit requirements?		X	
13.	Are bareroot saplings required and/or scheduled to be planted for the dormant season (10/1 – 4/30)?		X	
14.	Did any unauthorized discharges to unpermitted resources occur during the crossing? If so, explain the corrective actions implemented in the Comments section and include additional photos.			X

Item #	Biological Conditions	Pre-Con	Post-Con
15.	**Predominant Substrate Type (select one):** *Bedrock, Boulder (>10"), Cobble (2-10"), Gravel (0.1-2"), Sand (<0.1"), Mud/Silt/Clay*	Mud/Silt/Clay	Mud/Silt/Clay
16.	**Channel Conditions:** **Rating:** *1-Optimal (80-100% stable banks), 2-Suboptimal (60-80% stable banks), 3-Marginal (40-60% stable banks), 4-Poor (20-40% stable banks), 5-Severe (0-20% stable banks, highly eroded or unvegetated banks)*	3 - Marginal	3 - Marginal
17.	**Riparian Buffer Zone within ROW and ≤50 ft. from Stream Top-of-Bank:** **Rating:** *1-Optimal (60-100% heavy vegetative cover), 2-Suboptimal (30-60% mixed vegetated coverage), 3-Marginal (<30% vegetative coverage), 4-Poor (Mowed/maintained area or farmland, impervious area, sparsely vegetated coverage, etc.)*	2 - Suboptimal	3 - Marginal
18.	**Instream Habitat Conditions:** **Examples:** *Varied substrate sizes, varied combination of water velocities/depths, presence of woody/leafy debris, stable substrate with low amount of mobile particles, low embeddedness, shade protection, undercut banks, root mats, submerged aquatic vegetation.* **Rating:** *1-Optimal (Habitat conditions present in >50% of resource), 2-Suboptimal (Habitat conditions in 30-50% of resource), 3-Marginal (Habitat conditions in 10-30% of resource), 4-Poor (Habitat conditions in 0-10% of resource)*	3 - Marginal	3 - Marginal
19.	**Channel Alterations:** **Examples:** *Straightened channel, non-MVP stream crossings, non-native riprap/rock along banks, concrete/gabions/concrete block, manmade embankments, constrictions w/in channel, livestock or agricultural impacts.* **Rating:** *1-Negligible (unaltered/natural stream), 2-Minor (20-40% of resource disrupted by channel alterations), 3-Moderate (40-80% of resource disrupted), 4-Severe (>80% of resource disrupted)*	1 - Negligible	1 - Negligible

Comments/Remarks

E.I. On-site is James Simmons.

02/05/24- Pre-con assessment and pre-con meeting completed. The crew plans to flume the stream at night while using a dam and pump during the day for construction purposes. Per item #8, A revetment plan has been designed for the upland area on the G.A.S. in accordance with MVP Annual Standard and Specification MVP-44A, MVP-44B, and MVP-45 for Slide Mitigation Highwall Revetment & Steep Slope Revetment. With a length of 150 feet to prevent slippage due to steep slope. Before construction begins, the crew will have to haul in all of the sandbags needed for the revetment plan. Dewatering sled will be used for filtering trench water. Biological conditions remain stable. - S. Frost

02/06/24- No work in the buffer area. Welding of the stream section of pipe began in an upland area. Sandbags for trench breakers and revetment delivered and hauled on-site. Biological conditions remain stable. - S. Frost

02/07/24- No work in the buffer area. Welding and QC completed in an upland area, on the stream section of pipe. Dewatering sled delivered and hauled on-site. Dewatering sled pad completed outside of the 50 ft buffer in an upland area. Construction within the buffer area is set to begin 02/08/24. Biological conditions remain stable. - S. Frost

02/08/24- Dewatering sled set in place outside of the 50ft buffer in an upland area. 12 inches of stream substrate removed and segregated on timber mats and geotech in an upland and stabilized with Kerlex. 12 inches of buffer topsoil on the C.I.S. segregated and stockpiled outside of the 50ft buffer. Flume was installed with sandbags to divert flow to the downstream energy dissipater. Downstream flow remains consistent and biological conditions remain stable. - S. Frost

02/09/24- 12 inches of buffer topsoil removed fromthe G.A.S. and segregated in an upland area. Environmental preparations made for anticipated rain events. Stabilization matting laid 200ft on both sides of the resource to prevent erosion during anticipated rain event on 02/10/24. Biological conditions remain stable. - S. Frost

02/10/24- 02/13/24- Rain Out. No work in the buffer areas. - S. Frost

02/14/24- Drying out the travel lane throughout the ROW. No work in the buffer areas. Preparing for blasting in the travel lane 02/15/24.
Slip occurred on the G.A.S. outside of the buffer area. Dirt was removed from super silt fence and redistributed in an upland area. Biological conditions remain stable within the resource. - S. Frost

02/15/24- Drilling in the travel lane with the John Henry for blasting due to subsurface rock causing interference with equipment travel. Blasting operations for travel lane were completed and no impacts to the biological conditions were observed. - S. Frost

02/16/24- Drilling and blasting on the C.I.S. of ROW completed with no impacts to biological conditions. Kerlex was applied to slopes in preparation for overnight rain event. - S. Frost

02/17/24- Test drilled G.A.S. of ROW. No blasting will be needed for the G.A.S. Rock hammering began in the upland area inside of the 50ft buffer area. Trenching set to begin 02/18/24. Biological conditions remain stable. - S. Frost

02/18/24- Trenching construction began on G.A.S. Biological conditions remain stable. - S. Frost

02/19/24- Trenching continues through the resource area. Biological conditions remain stable. - S. Frost

02/20/24- Trenching continues through the resource area. Biological conditions remain stable. - S. Frost

02/21/24- Trenching continues. Rock hammer needed to complete the trench. Subsoil loaded and transported to an upland area for stock piling. Preparations for pipe installation on 02/21/24. Biological conditions remain stable. - S. Frost

02/22/24- Stream section of pipe installed into trench through the resource area. Sandbags installed for pipe padding. Pad dirt loaded and transported downhill and backfilled into the trench. Kerlex applied on slopes for anticipated overnight rain event. Preparing for trench breaker installation on 02/23/24. Biological conditions remain stable. - S. Frost

02/23/24- No work in the resource area due to rain event. Concrete totes brought in for trench breaker installation after the rain event. Biological conditions remain stable. - S. Frost

02/24/24- Concrete bags were brought down slope in preparation for trench breaker installation. Trench breakers were installed on both sides of the resource with 25ft of the resource area. Subsoil backfill continued. Biological conditions remain stable. - S. Frost

02/25/24- Concrete and sandbags were brought down slope in preparation for the revetment plan on the G.A.S. Trenching began on the C.I.S. in the upland area for main line construction. Stabilization matting applied to slope due to anticipated rain event on 02/26/24. Biological conditions remain stable. - S. Frost

02/26/24 - 02/28/24- Rain out. No work in the buffer area and biological conditions remain stable in the resource. - S. Frost

02/29/24- No work in the buffer area. Drying out of travel lane due to recent rain events. - S. Frost

03/01/24- No work in the buffer area. Upland trenching construction began. Pipe padding laid in trench. Second section of Pipe was prepped to be lowered into the trench. - S. Frost

03/02/24- No work in the buffer area. Pipe lowered into trench and welding completed in the upland area. - S. Frost

03/03/24- No work in the buffer area. X-ray and coating completed in the upland area. - S. Frost

03/04/24- No work in the buffer area. Upland trenching construction continues. Third section of Pipe was prepped to be lowered into the trench. - S. Frost

03/05/24- No work in the buffer area. Third joint section of pipe lowered into the trench in the upland area. Welding began on second joint section of pipe. 200ft of Kerlex will be applied to the C.I.S. slope in preparation for the anticipated rain event on 03/06/24. - S. Frost

03/06/24- Rain out. No work in the resource area. - S. Frost

03/07/24- Welding completed on the third joint section of pipe. X-ray completed and coating preparations for 03/08/24. Biological conditions remain stable. - S. Frost

03/08/24- Pipe QC completed. Subsoil pad dirt sifted for backfill. Subsoil backfill began. 200ft of Kerlex was applied on the steep slope on the C.I.S. due to anticipated rain event on 03/09/24. Biological conditions remain stable. - S. Frost

03/09/24- Rain out. No work in the resource. - S. Frost

03/10/24- Backfilling subsoil in the upland area outside of the buffer area. Biological conditions remain stable. - S. Frost

03/11/24- Sifting subsoil for backfill. Trenching began in the upland area outside of the buffer area. Trenching began on the G.A.S. slope. Biological conditions remain stable. - S. Frost

03/12/24- Trenching continues in the upland area outside of the buffer area. Preparations made to move and install fourth section of pipe on 03/13/24. Hauled off garbage debris from the ROW. Trenching continues on the G.A.S. slope. Biological conditions remain stable. - S. Frost

03/13/24- Fourth section of pipe installed in the trench on the C.I.S. slope. Welding completed. X-ray to begin 03/14/24. Trenching continues on the G.A.S. slope. Prepping to lower in pipe on 03/14/24. Biological conditions remain stable. - S. Frost

03/14/24- X-ray completed. Pipe QC completed. Prepping subsoil for backfilling on the C.I.S. slope. Pipe lowered into trench on the G.A.S. slope. Weld could not begin due to pipe alignment issues. Biological conditions remain stable. - S. Frost

03/15/24- No work in the buffer area. G.A.S. work was commenced in the upland area off of the slope. C.I.S. completed the trench breaker and daylight drain outside of the buffer area in the upland area slope. Subsoil backfill completed. Biological conditions remain stable. - S. Frost

03/16/24- G.A.S. tie in weld began. C.I.S. trenching and subsoil relaying began in the upland area slope. Fifth section of pipe prepped for installation on 3/18/24. Biological conditions remain stable. - S. Frost

03/18/24- G.A.S. pipe QC completed. Second section of pipe lowered into trench. First weld began. Tie in does not line up and will need to be cut and a third pipe section added. C.I.S. trenching completed and fifth section of pipe installed into trench. Welding completed on the C.I.S. and X-ray failed. Weld repair will begin 03/19/24. All work is in an upland area outside of the buffer area. Biological conditions remain stable. - S. Frost

03/19/24- C.I.S. Weld repair completed and X-rayed. QC was also completed. Backfill will begin 03/20/24. G.A.S. tie in repair continues. All work is in an upland area outside of the buffer area. Biological conditions remain stable. - S. Frost

03/20/24- Three tie in welds were completed and QC completed on the G.A.S. Trench breaker installed in the upland area slope. C.I.S. was backfilled covering 100 feet of pipe. All work was completed in an upland area outside of the buffer area. Biological conditions remain stable. - S. Frost

03/21/24- G.A.S. Subsoil backfill began. Trench breaker with a daylight drain was installed on the upland area slope near the 50ft buffer area. Prepping to begin the revetment on the steep slope area on the G.A.S./ C.I.S. trenching began. Prepping sixth section of pipe for installation on 03/22/24. Biological conditions remain stable. - S. Frost

03/22/24- The construction crew drained sumps along the travel lane in an upland area and sprayed the travel lane for dust control. Trenching continues on the C.I.S. Sandbag revetment construction continues on the G.A.S. No work in the buffer area. - S. Frost

03/23/24- Rained out. No work in the buffer areas. - S. Frost

03/24/24- Dried travel lane from rain event. No work in the buffer area and biological conditions remain stable. - S. Frost

03/25/24- Lowered in pipe on the C.I.S. in the trench. Welding completed for tie in. G.A.S. sandbag revetment backfill completed to 50 ft. No work in the buffer area. - S. Frost

03/26/24- lowered in pipe on C.I.S. in the upland area. X-ray and QC completed on tie in weld. G.A.S. sandbag revetment backfill completed to 100ft. No work in the buffer area. - S. Frost

03/27/24- X-ray and coating completed on the C.I.S. G.A.S. upland padding completed. No work in the buffer area. - S. Frost

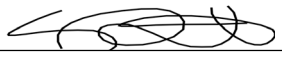
03/28/24- C.I.S. trenching began. Sand blasting weld for QC in the upland area. Daylight trench breaker installed in the upland area. G.A.S. concrete revetment construction began inside the 10 ft buffer. Trench drain added every 8 ft within the revetment wall. Biological conditions remain stable. - S. Frost

03/29/24- G.A.S. concrete revetment construction continues through the 50 ft buffer area. C.I.S. buffer area 12in of topsoil restoration completed. The stream flume was removed and the dams were left in place. 12in of stream substrate restored to pre-construction elevation per survey data. Shovel work on the G.A.S. was utilized to restore the stream bank topsoil up to the 10 ft buffer area. Super silt fencing was installed at the 10ft and 50ft buffer areas. Seeding and stabilization matting was applied to the buffer areas. Dams were removed and flow was restored. Post Con assessment completed. Continued auditor monitoring will be done while the concrete revetment construction continues throughout the 50 ft buffer area on the G.A.S. No unauthorized discharges were observed during construction activities. Biological conditions remain stable. -S. Frost

03/30/24- G.A.S. concrete revetment construction continues inside of the 50 ft buffer. Item #8 - S. Frost

04/01/24- G.A.S. concrete revetment construction continues outside of the 50 ft buffer area. Item #8 - S. Frost

In accordance with the Mountain Valley Pipeline Consent Decree, Case No. CL18006874-00, (Issued October 11, 2019) this independent report was completed to document the on-site monitoring of instream invertebrate and fisheries resources during all construction activity related to waterbody and wetland crossings, and document instream conditions and any impacts to the resources.

This report was written by	Summer Frost *Print Name*	 *Signature*	04/03/2024 *Date*

Required Photos

Photo Description: Downstream view of permitted impact area during pre-construction assessment.

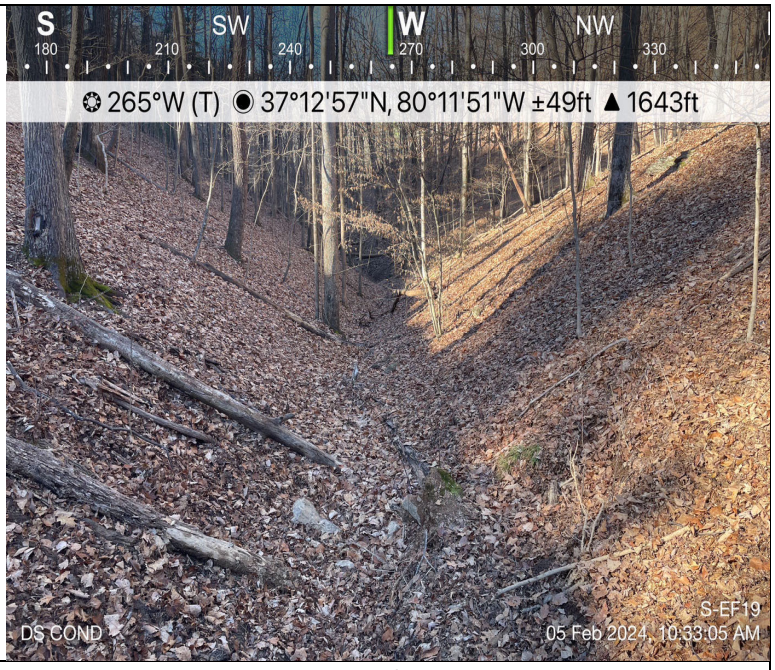


Photo Description: Conditions of the downstream area outside the ROW during pre-construction assessment.

Photo Description: Downstream view of permitted impact area during post-construction assessment.

Photo Description: Conditions of the downstream area outside the ROW during post-construction assessment.

Optional Additional Photos

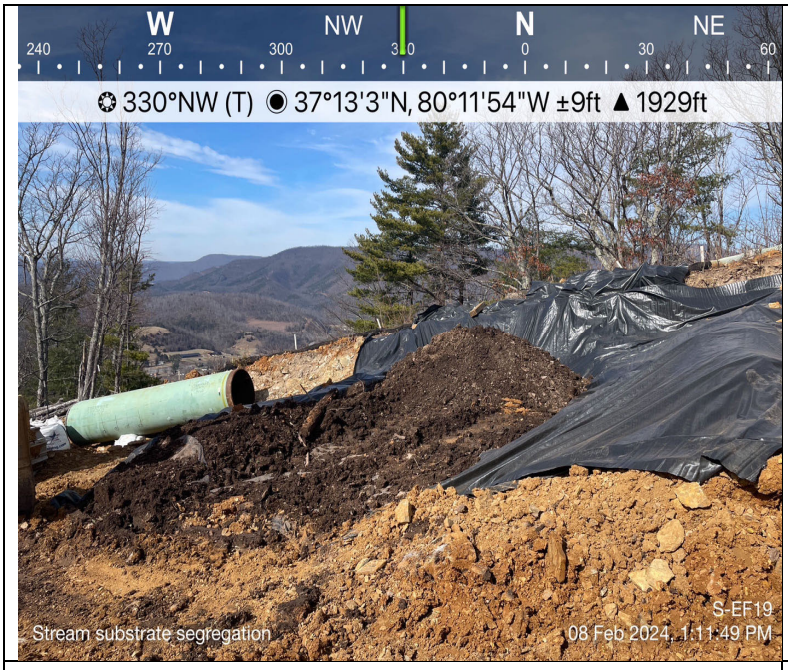


Photo Description: Stream substrate segregation and stockpiled on fabric in upland area.

Photo Description: Dewatering sled on-site throughout the crossing activities.

Photo Description: Trench breakers for G.A.S. & C.I.S installed prior to backfill of pipe.

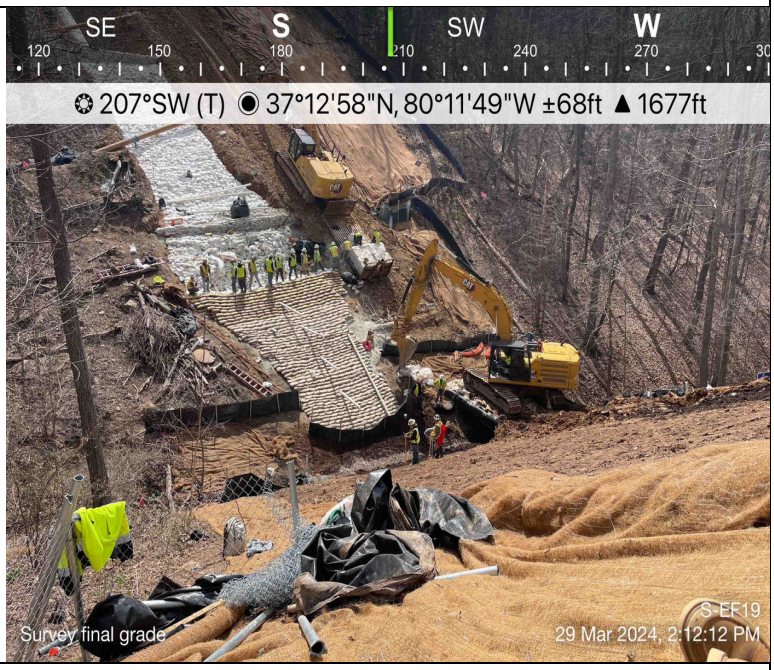


Photo Description: Final grade survey of stream restoration. Installation of the revetment wall continues while resource restoration completed.