Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread F	**AFE**	124300135	**Spread**	H-600 Pipeline Spread F
Contractor	Price Gregory			**Report #**	226
Environmental Auditor	Beth Burdette			**Date/Time**	9/9/2023 8:11 PM

Stream ID	S-J5	**Crossing Start Date**	9/19/2023	**Crossing Completion Date**	10/6/2023
Milepost	172.86	**Pre-Con Assessment Date**	9/11/2023	**Post-Con Assessment Date**	10/6/2023
Station	9127+20	**Bankfull Width (ft.)**	16.3	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Perennial		
County	Summers	**303(d) Impairment Listing**	No		

	Resource Post-Crossing Conditions	
1	Were all applicable resource specific crossing conditions satisfied?	N/A
	Time of Year Restrictions (TOYR)? N/A Mussel Relocation? N/A	
2	This question is not applicable in WV.	
3	Which crossing methods were utilized during the stream crossing? (If so select one or more) Dam & Pump X Flume X Cofferdam Conventional Bore Horizontal Directional Drill (HDD) Bore	
4	Was the top 1-foot (12-inches) of streambed substrate segregated and stockpiled separate from trench spoils?	Yes
5	Was excess material not needed for backfill removed and disposed of in an upland area?	Yes
6	Was the top 12-inches of backfill made with clean native stream substrate?	Yes
7	Was the pre-construction survey data utilized during restoration in attempt to re-establish pre-construction contours?	Yes
8	Were any field modifications to the stream implemented by project or regulatory personnel to address potential drainage or bank restoration limitations?	See Below
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?	Yes
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?	Yes
11	Was the time of disturbance minimized by conducting resource work continuously to completion?	Yes
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?	Yes
13	Are bareroot saplings required and/or scheduled to be planted for the dormant season (10/1 - 4/30)?	No
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.	No

	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	Gravel (0.1-2")	Gravel (0.1-2")
16	**Channel Conditions:Rating:** 1-Optimal (80-100% stable banks), 2-Sub-optimal (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	2	4
17	**Riparian Buffer Zone within ROW and ≤50 ft. from Stream Top-of-Bank: Rating:** 1-Optimal (60-100% heavy vegetative cover), 2-Sub-optimal (30-60% mixed vegetated coverage), 3-Marginal (<30% vegetative coverage), 4-Poor (Mowed/maintained area or farmland, impervious area, sparsely vegetated coverage, etc.)	1	4

AFE	124300135	Date/Time	9/9/2023 8:11 PM	Report #	226

Biological Conditions Continued		Pre-Con	Post-Con
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, Varied combination of water velocities, 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)	1	1
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)	2	2

Additional Notes

Pre-Construction Notes
Pre-Construction Meeting - 9/11/2023
*Bank full width measured at OHWM stakes within proposed trench area.
Flow present; travel lane was not included in assessment.
15., 19. Livestock activity noted within resource/banks/surrounding area. Cobble substrate; however, excessive sedimentation throughout reach due to livestock activity.

Day 1 (9/19/2023)
Dam was constructed in the resource. Lower dam was put in place once resource cleared. No aquatic life observed. Stream substrate removed and stored in upland area. Blasting occurred in upland and resource area. Trenching began in resource.

Day 2 and 3 (9/20/2023 and 9/21/2023)
Trenching, hammering and relay of soil occurred in and adjacent to resource area (Photo 3). Blasting occurred (9/21/023) and bedding was installed in the trench (Photo 4).

Day 4 (9/22/2023)
Pipe moved adjacent to resource area. Welding, coating, and x-ray completed. Pipe lowered into aquatic resource area (Photo 5).

Day 5 (9/23/2023)
Rain occurred in am. Activities included hammering, soil relay, and cutting/welding of pipe, all outside of the aquatic resource.

Day 6 (9/25/2023)
Placement of river weights and trench breakers installed (Photo 6). Trench was filled and stream substrate was placed in resource area. Survey confirmed stream contours (Photo 7). Banks were seeded (Photo 8) and Curlex installed. Flow was restored. Once flow was restored, some drainage to trench occurred. Hand tools were utilized to place stream material on RDB and then compacted until issue was resolved (no further seepage). Hand tools also utilized to define restored channel per pre-construction photos. Stream buffer within 10 feet of OHWM was not restored on one bank.

Day 7, Day 8, and Day 9 (9/26/2023-9/28/2023)
Blasting, welding and x-ray ongoing outside of resource. Minor stream rework (as per FERC) (9/28/2023). RDB riparian restoration (9/28/2023).

Day 10 to Day 15 (9/29/2023 - 10/5/2023)
Blasting, welding, x-ray and other construction activities ongoing outside of resource.

Day 16 (10/6/2023)
Riparian buffer on RDB restored including within 10 feet of OHWM.

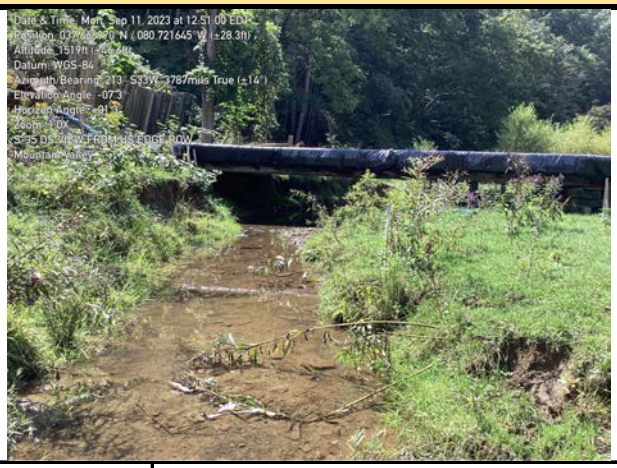
Post Construction Notes
8. See Day 6 - Seepage addressed.
16., 17. Crossing and riparian areas have been recently restored. These areas will be monitored until 80% vegetative cover has been achieved and areas that no not have 80% vegetative cover within 30 days will be reseeded.
19. Does not include timber mats that remain in place for travel lane.

In accordance with the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework, 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.

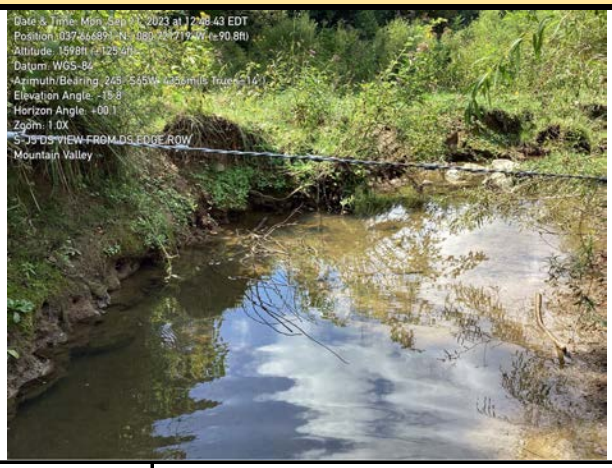
Name	Signature	Company	Date
Beth Burdette		POTESTA	10/6/2023

AFE	124300135	Date/Time	9/9/2023 8:11 PM	Report #	226

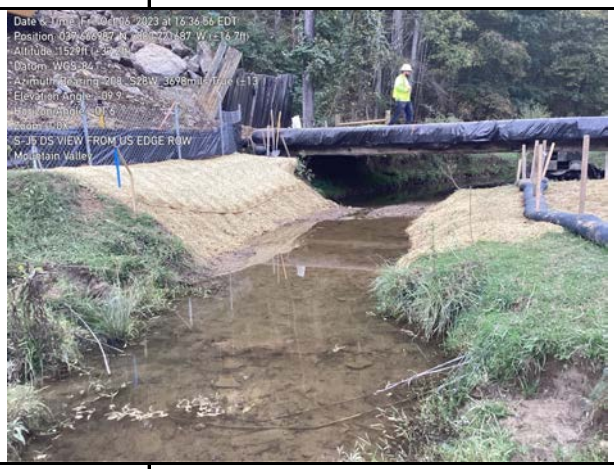
Required Photos



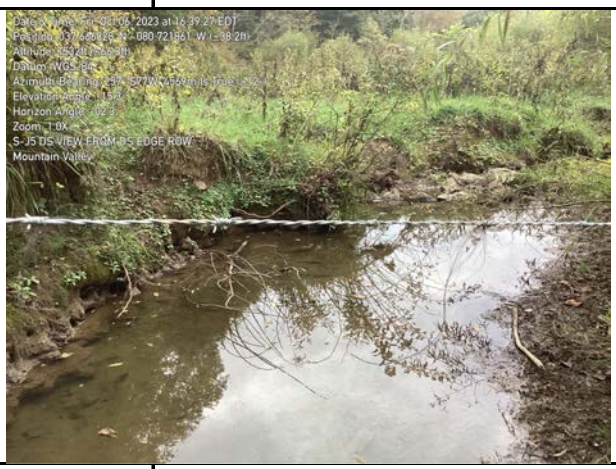
GPS Location	See Photo
Description	Downstream view of permitted impact area during pre-construction assessment. DS View of resource from US edge of ROW



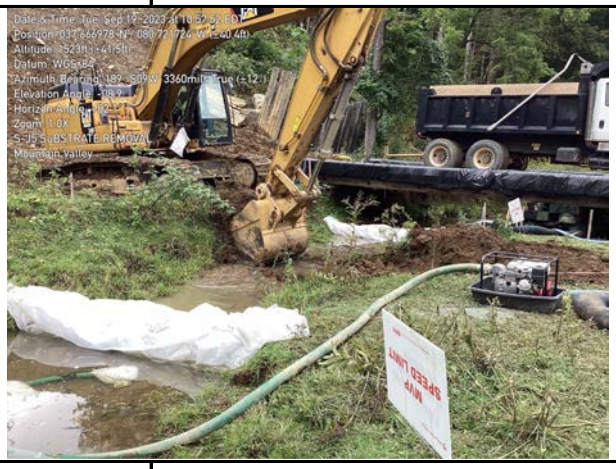
GPS Location	See Photo
Description	Downstream view of unimpacted area during pre-construction assessment. DS View of resource from DS edge of ROW



GPS Location	See Photo
Description	Downstream view of permitted impact area during post-construction assessment. DS View of resource from US edge of ROW



GPS Location	See Photo
Description	Downstream view of unimpacted area during post-construction assessment. DS View of resource from DS edge of ROW



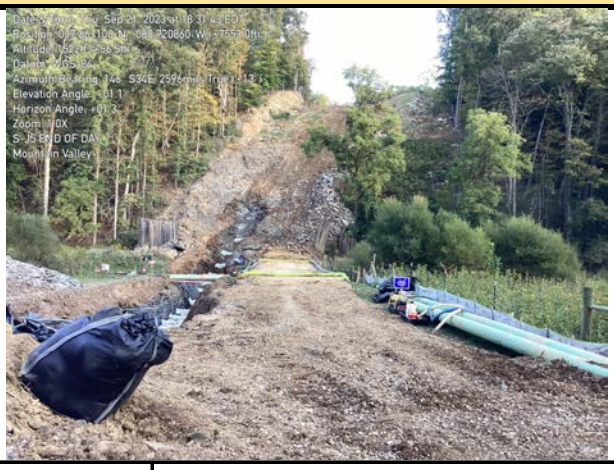
GPS Location	See Photo
Description	Photo 1: Removal of stream substrate.

GPS Location	See Photo
Description	Photo 2: Stream substrate segregated in an upland area.

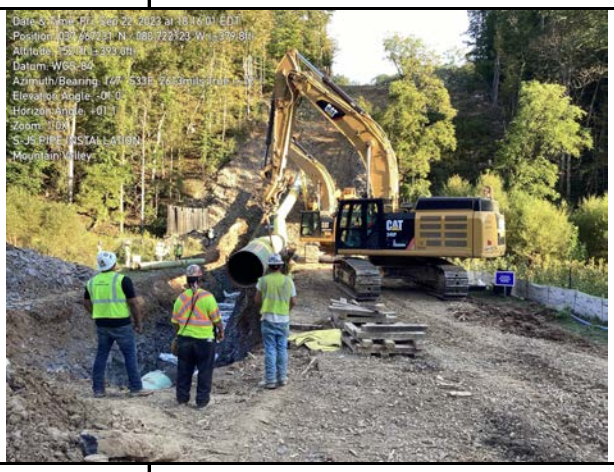
AFE	124300135	Date/Time	9/9/2023 8:11 PM	Report #	226

Optional Photos

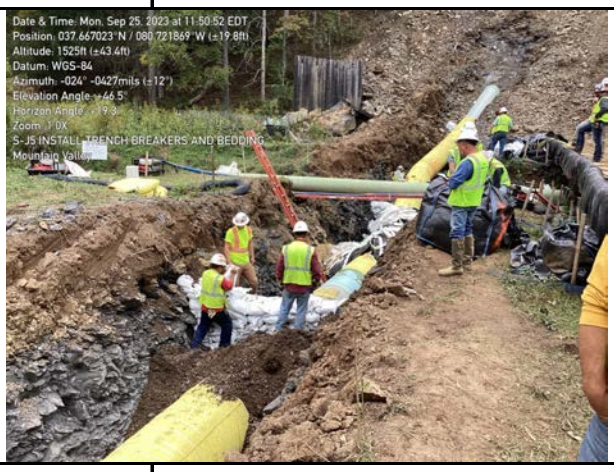
GPS Location	See Photo
Description	Photo 3: Trench through aquatic resource.



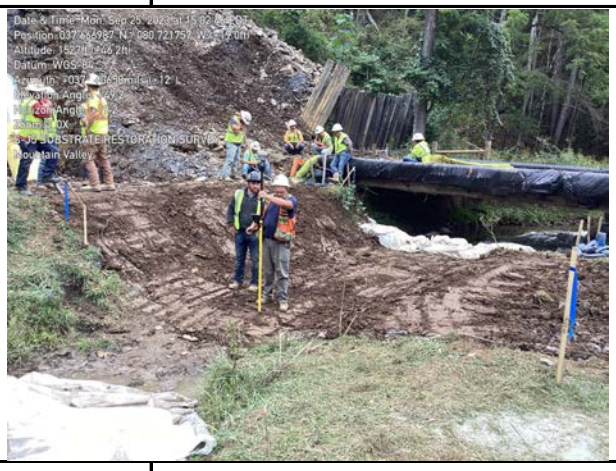
GPS Location	See Photo
Description	Photo 4: Bedding placed in trench in aquatic resource.



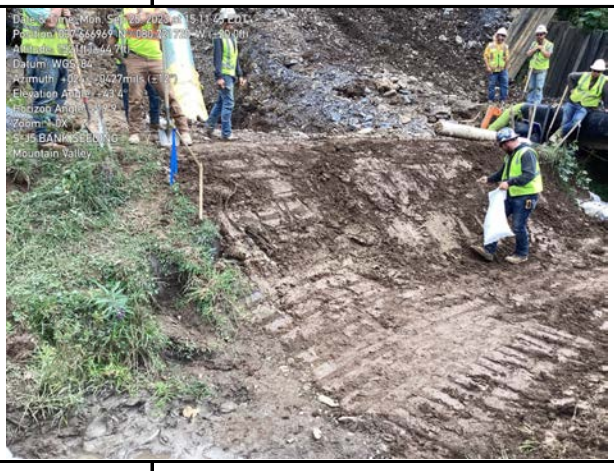
GPS Location	See Photo
Description	Photo 5: Lowering pipe into aquatic resource.



GPS Location	See Photo
Description	Photo 6. River weights and trench breaks installed in aquatic resource area.



GPS Location	See Photo
Description	Photo 7: Substrate restoration and survey.



GPS Location	See Photo
Description	Photo 8: Seeding of banks.