Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread F	**AFE**	124300135	**Spread**	H-600 Pipeline Spread F
Contractor	Price Gregory			**Report #**	313
Environmental Auditor	Eric Schicker			**Date/Time**	10/25/2023 12:47 PM

Stream ID	S-EE4	**Crossing Start Date**	10/25/2023	**Crossing Completion Date**	11/6/2023
Milepost	159.10	**Pre-Con Assessment Date**	10/25/2023	**Post-Con Assessment Date**	11/6/2023
Station	8400+57	**Bankfull Width (ft.)**	2.5	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Intermittent		
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?	No
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)?	N/A
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	Mud/Silt/Clay	Mud/Silt/Clay
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	1	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

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	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)	4	4
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	1

Additional Notes

Pre-construction Notes:
Pre-construction Meeting - 10/21/2023
Pre-construction Assessment - 10/25/2023
Bankfull width measured at OHWM.
15. Substrate noted as mud/silt/clay dominate with small amounts of cobble and gravel.
18. Low habitat score due to lack of stream flow.

10/25/2023 - Dam placed instream for pumping system. Stream crossing started, top 12-inches of stream substrate removed (Photo 1) and substrate stockpiled separately (Photo 2). Blasting prep and completed (to breakup bedrock). Rock and spoil removed from trench and relocated to upland area within LOD. Pumping system replaced with a flume due to lack of flow.

10/26/2023 - No Flow. Additional blasting occurred. Topsoil removed from riparian area. Timber mats put in place. Excavating trench in aquatic resource (Photo 3), rock and spoil removed and transported to upland area within LOD. Trench through aquatic resource crossing completed. Trenching continues outside resource area.

10/27/2023 - No Flow. More trenching outside resource area. Began pumping from trench. Padding added to trench (Photo 4). Pipe sections transported to resource crossing and placed in trench. Hammering and excavation ongoing outside resource crossing, rock and spoil removed.

10/28/2023 - No Flow. Pumping from trench. Excavating in trench, hammering, and spoil removal outside of aquatic resource area. Shaker buckets utilized to add bedding to trench. Rock shield applied to pipe and pipe sections transported to trench outside resource area.

10/30/2023-10/31/2023 - No Flow. Pumping from trench. Lowering pipe sections into trench outside resource area. Welding, x-ray and sandblasting ongoing. Pipe sections transported to trench outside resource area.

11/1/2023 - No Flow. Welding, sandblasting and coating continued. Lead wire for test box installed.

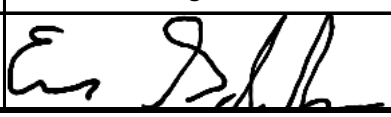
11/2/2023 - No Flow. Pumping from trench. Impervious trench breakers built within 25ft of stream crossing (Photo 5). Welding outside resource area. Rock shield applied to pipe. X-ray of welds.

11/3/2023 - No Flow. Trench backfilled (Photo 6). Survey team onsite (Photo 7). Stream substrate returned to stream and survey team used pre-construction data to return stream contour. Dams removed from stream crossing and ECD's installed.

11/4/2023 - 11/6/202 - No Flow. P1 installed around 50-foot riparian buffer zone and seeding of stream banks (Photo 8). Grading outside of resource ongoing. Jute installed to stream banks and curlex installed in 50-foot riparian buffer zone. 10-foot buffer established on southern side of resource. Additional survey to verify OHWM. Restoration Complete.

Post-construction Notes:
16., 17. Crossing and riparian areas have been recently restored. These areas will be monitored until 80% vegetative coverage has been achieved and areas that do not have 80% vegetative cover within 30 days will be reseeded.
18. Low score partially due to lack of flow as well as lack of instream substrate and associated physical habitat.
Road crossing outside of resource area completed concurrently with this stream crossing.

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
Eric Schicker		Potesta	11/9/2023

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Required Photos

GPS Location	See Photo
Description	Downstream view of permitted impact area during pre-construction assessment.

GPS Location	See Photo
Description	Downstream view of unimpacted area during pre-construction assessment.

GPS Location	See Photo
Description	Downstream view of permitted impact area during post-construction assessment.

GPS Location	See Photo
Description	Downstream view of unimpacted area during post-construction assessment.

GPS Location	See Photo
Description	Photo 1: Removal of top 12 inches of stream substrate from aquatic resource

GPS Location	See Photo
Description	Photo 2: Segregating stream substrate.

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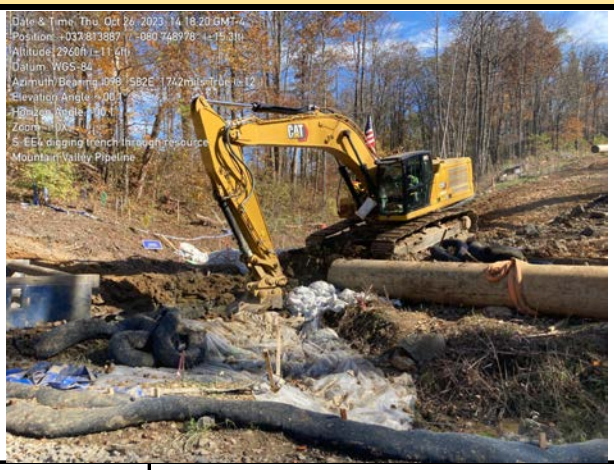
Optional Photos



GPS Location	See Photo
Description	Photo 3: Excavating trench through aquatic resources.

GPS Location	See Photo
Description	Photo 4: Placing padding in trench through aquatic resource area.

GPS Location	See Photo
Description	Photo 5: Construction of impervious trench breakers within 25ft of resource crossing

GPS Location	See Photo
Description	Photo 6: Backfilling in trench.

GPS Location	See Photo
Description	Photo 7: Survey team using pre-construction data to restore stream contours.

GPS Location	See Photo
Description	Photo 8: Seeding banks.