Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread F	**AFE**	124300135	**Spread**	H-600 Pipeline Spread F
Contractor	Price Gregory			**Report #**	423
Environmental Auditor	Beth Burdette			**Date/Time**	12/4/2023 4:50 PM

Stream ID	S-G42	**Crossing Start Date**	12/29/2023	**Crossing Completion Date**	1/13/2024
Milepost	190.24	**Pre-Con Assessment Date**	12/6/2023	**Post-Con Assessment Date**	1/13/2024
Station	10044+60	**Bankfull Width (ft.)**	4.0	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Intermittent		
County	Monroe	**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 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	2
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	1

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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

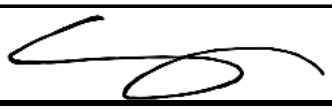
Additional Notes

Pre-Construction Notes
Pre-Construction Meeting - 12/6/2023
Recent rain/snow
17. Heavily vegetated. Sections with slight bed/bank or deeper depressions.
18. Resource within wetland (W-G6) and lacks flow and defined bed and banks. Surface water in depressional areas.

12/29/2023 - Installed US and DS dams for aquatic resource. Flow visible above US timber mat but not visible DS of timber mat. Excavated top 12 inches of substrate (Photo 1) and transported material to north hill stockpile for segregated storage. Prepped for blast: drill charge holes, etc. Blasted. Removed blast mats in the vicinity of aquatic resource to install flume pipe (Photo 2).
12/30/2023 - Removed remaining blast mats. Removed flume pipe. Placed timber mats in aquatic resource area. Excavated trench upslope of resources and into topsoiled aquatic resource. Subsoil transported to coming-in sidehill. Welded pipe in upland area. Reinstalled flume.
12/31/2023 - Completed excavation of trench through aquatic resource (Photo 3) and relayed subsoil. Pumped water from trench to dewatering structure. Welded pipe in upland area. Timber mat bridge installed across trench for landowner to access property opposite ROW.
1/2/2024 - Pumped water from trench. Walked pipe section to upland trench. Welded pipe in upland area.
1/3/2024 - Pumped water from trench. Walked pipe section to upland trench. Walked pipe section for aquatic resource area from southern work area to closer location north of the crossing. Welded pipe in upland area. No activity in aquatic resources.
1/4/2024 - Welded, jeeped, coated, and wrapped pipe with rock shield outside aquatic resource. No activity in aquatic resources.
1/5/2024 - Pumped water from trench. Walked and lowered pipe section into trench in aquatic resource area (Photo 4). Aligned pipe and prepped pipe followed by welding of pipe in upland area.
1/6/2024 - Rain Out. Trench contained a moderate amount of water that was clear prior to heavy rain. ECDs in place.
1/7/2024 - Site was extremely muddy. Trench contained significant amount of water that ran into the upland area and bore pit. Dewatering was ongoing. Water in structure was discharging clear. Dozer brought down from upland which removed water bars and allowed for access to equipment above S-G43. Pipe brought down and cut. Timber mats placed in trench for welders. New pipe section aligned and welded. Weld completed after dark. ECDs put in place. X-ray stayed onsite.
1/8/2024 - Site muddy due to weekend precipitation. Minimal stream flowed thru flume. Pumped water from trench. Dewatering structure discharge clear. Prepped pipe for weld. Welded pipe. X-rayed.
1/9/2024 - Rain out. Actively pumped water from trench.
1/10/2024 - Pumped water from trench. Sandblasted, jeeped, coated, and wrapped pipe with rock shield outside aquatic resource. Site cleanup. No activity in aquatic resources.
1/11/2024 - Pumped water from trench to dewatering structure. Sandblasted, jeeped, coated, and wrapped pipe with rock shield outside aquatic resource. Site cleanup. Backfilled trench.
1/12/2024 - Pumped water from trench to dewatering structure. Site cleanup. Installed resource trench breakers. Backfilled trench. Rain in afternoon.
1/13/2024 - Pumped water out of trench. Backfilled with padding dirt (Photo 5). Removed flume pipe. Survey onsite, shot elevations (Photo 6). Contoured and restored substrate (Photo 7). Removed dams (Photo 8). Survey shot final elevations.

Post Construction Notes
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 do not have 80% vegetative cover within 30 days will be reseeded.
18. Low habitat score due to lack of instream diversity.
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	1/13/2024

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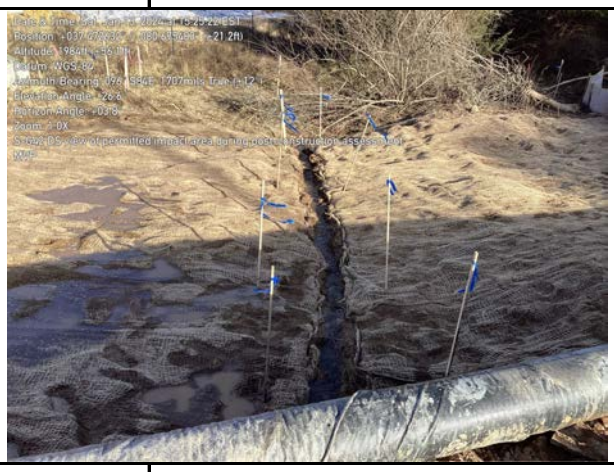
Required Photos

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: Excavation of the top 12 inches of substrate.

GPS Location	See Photo
Description	Photo 2: Installing flume pipe post blasting.

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Optional Photos

GPS Location	See Photo
Description	Photo 3: Completing trench through to aquatic resource.

GPS Location	See Photo
Description	Photo 4: Lowered pipe in trench through aquatic resource.

GPS Location	See Photo
Description	Photo 5: Backfilling with padding dirt.

GPS Location	See Photo
Description	Photo 6: Survey shooting elevations.

GPS Location	See Photo
Description	Photo 7: Restoring substrate.

GPS Location	See Photo
Description	Photo 8: Removing downstream dam.