Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread F	**AFE**	124300135	**Spread**	H-600 Pipeline Spread F
Contractor	Price Gregory			**Report #**	420
Environmental Auditor	Mathew Huber			**Date/Time**	11/30/2023 8:00 AM

Stream ID	S-C38	**Crossing Start Date**	12/11/2023	**Crossing Completion Date**	12/22/2023
Milepost	194.73	**Pre-Con Assessment Date**	12/4/2023	**Post-Con Assessment Date**	12/22/2023
Station	10281+97	**Bankfull Width (ft.)**	7.0	**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 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	1
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 - 11/29/2023
18. Stream dry during assessment. Stream has poorly defined bed and bank through adjacent wetland (W-C13). Aquatic resource located adjacent to utility pole.

12/11/2023 - Excavated top 12 inches of substrate (Photo 1) and segregated in work area. Excavated adjacent buffer (W-C13). Installed flume pipe and associated dams. Excavated outside of aquatic resource. Installed pump-around.

12/12/2023 - Flow present (continued pump-around). Continued to remove topsoil and excavate subsoils in adjacent aquatic resources.

12/13/2023 - Flow present (continued pump-around). Drilled for blasting in buffer. Rubber mats placed. Blasted. Downstream dam repaired. Excavated through aquatic resource. Excavating outside of aquatic resource continued. Trench box placed in trench outside resource area. Welding ongoing.

12/14/2023 - Flow present (continued pump-around). X-rayed. Pumped water from trench. Continued to excavate through aquatic resource and adjacent area (Photo 2). Excavation completed.

12/15/2023 - Flow present (continued pump-around). Pumped water from trench. Pipe placed in trench (Photo 3). Welding ongoing. Bedding/padding (dirt) added to trench.

12/16/2023-12/18/2023 - Flow present (continued pump-around). Pumped water from trench. Welding, x-rayed, cutting, jeeping outside of aquatic resource. Additional sections of pipe added to trench outside aquatic resource area.

12/19/2023 - Flow present (continued pump-around). Pumped water from trench. Welding and X-ray ongoing. Bedding and sandbags (as bedding) added to trench (Photo 4). Began constructing trench breakers on the southern end of resource area (Photo 5) (also northern trench break for S-C41). Trench backfilled. River weights added.

12/20/2023 - Continued to backfill (Photo 6). Trench breaker completed.

12/21/2023 - Completed backfilling. Contoured/graded a restored channel with machine and by hand (Photo 7). Added substrate. Removed the dam and pump. Flow restored. Jute added to banks.

12/22/2023 - Seeded (Photo 8). Post-construction assessment completed.

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.
17., 18. Rated “severe” and “poor” (respectively) due to lack of vegetation in the disturbed permitted impact area following the completion of the crossing and restoration efforts.
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
Mathew Huber		ERM	12/22/2023

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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: Excavating top 12 inches of substrate from aquatic resource.

GPS Location	See Photo
Description	Photo 2: Excavating through aquatic resource and adjacent resource area.

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Optional Photos

GPS Location	See Photo
Description	Photo 3: Pipe placed in trench through aquatic resource.

GPS Location	See Photo
Description	Photo 4: Adding padding to trench in aquatic resource.

GPS Location	See Photo
Description	Photo 5: Constructing southern trench breaker.

GPS Location	See Photo
Description	Photo 6: Continuing to backfill trench.

GPS Location	See Photo
Description	Photo 7: Hand contouring channel with shovels.

GPS Location	See Photo
Description	Photo 8: Seeding banks.