Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread A	**AFE**	124300129	**Spread**	H-600 Pipeline Spread A
Contractor	Precision			**Report #**	236
Environmental Auditor	Devin Jen			**Date/Time**	9/11/2023 8:54 AM

Stream ID	S-K77	**Crossing Start Date**	9/11/2023	**Crossing Completion Date**	9/16/2023
Milepost	32.41	**Pre-Con Assessment Date**	9/11/2023	**Post-Con Assessment Date**	9/16/2023
Station	1711+25	**Bankfull Width (ft.)**	4.0	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Intermittent		
County	Doddridge	**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 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?	See Below
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?	See Below
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	Cobble (2-10")	Cobble (2-10")
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	5
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)	3	3
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

9/11/2023
The weather on 9/112023 had a high of 78°F and was partly cloudy, however, the weather fluctuated throughout the day. The crew removed the top 12 inches of streambed substrate, as well as the top 12 inches of the abutting wetland topsoil. The topsoil was segregated from the trench spoils. The crew began excavation on the trench.

9/12/2023
The weather on 9/12/2023 had a high of 79°F and was partly cloudy, however, the weather fluctuated throughout the day. The crew continued excavation of the trench.

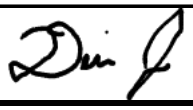
9/13/2023
The temperature on 9/13/2023 had a high of 74°F and was partly cloudy, however, the weather fluctuated throughout the day. The crew continued trench excavation, placed sandbags, and positioned the pipe in the area of the stream crossing. The welding crew completed the weld to the north of the stream crossing.

9/14/2023
The weather on 9/14/2023 had a high of 72°F and was partly cloudy, however, the weather fluctuated throughout the day. The crew built trench breakers and added pea gravel in the area of the stream crossing. For safety reasons, due to the unstable walls of one section of the trench, the trench breaker north of the stream crossing is ~35 feet from the top of the bank. The location of the trench breaker is reflected in the survey data.

9/15/2023
The weather on 9/15/2023 had a high of 74°F and was clear, however, the weather fluctuated throughout the day. The crew began backfilling in the area of the stream crossing.

9/16/2023
The weather on 9/16/2023 had a high of 75°F and was clear, however, the weather fluctuated throughout the day. The stream substrate was replaced and the stream was restored to pre-construction contours. Conditions 16 and 17 were given a rating of 5 and 4 respectively due to the lack of vegetation in the disturbed permitted impact area following the completion of the crossing and restoration. Due to the adjacent wetland W-K45 on both sides of the stream, erosion control fabric or other mulch product was not used to stabilize the stream banks, however, the disturbed area has been seeded with the appropriate permanent seed mix and/or planted with bare-root saplings (as required) in accordance with Appendix B: Restoration Work Plan of the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework.

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
Devin Jen		ERM	9/18/2023

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Required Photos

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

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

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

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

GPS Location	See photograph.
Description	The photo taken on 9/12/2023 shows the progress of the trench excavation.

GPS Location	See photograph.
Description	The photo shows the pipe and sandbags placed in the area of the stream crossing at the end of the workday on 9/13/2023.

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Optional Photos

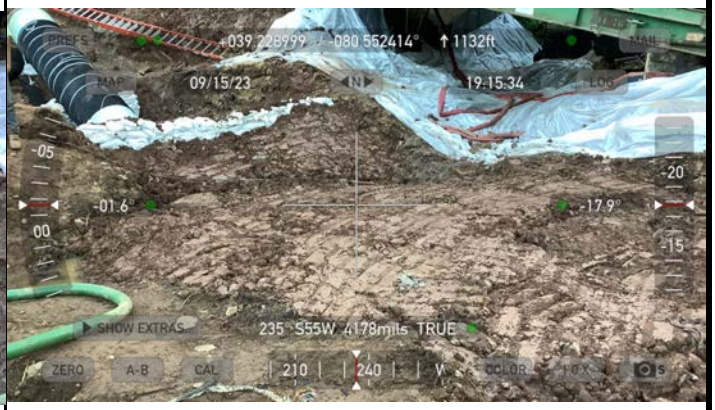
GPS Location	See photograph.
Description	The photo shows the addition of the trench breaker and pea gravel that were placed on 9/14/2023 in the area of the stream crossing.

Insert image here

GPS Location	
Description	

Insert image here

GPS Location	
Description	



GPS Location	
Description	The photo shows the progress of backfilling on 9/15/2023.

Insert image here

GPS Location	
Description	

Insert image here

GPS Location	
Description	