Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread D	**AFE**	124300132	**Spread**	H-600 Pipeline Spread D
Contractor	Precision			**Report #**	334
Environmental Auditor	Scott Wessel			**Date/Time**	10/31/2023 7:09 AM

Stream ID	S-L35-2	**Crossing Start Date**	10/31/2023	**Crossing Completion Date**	11/6/2023
Milepost	124.92	**Pre-Con Assessment Date**	10/31/2023	**Post-Con Assessment Date**	11/6/2023
Station	6595+84	**Bankfull Width (ft.)**	4.0	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Perennial		
County	Nicholas	**303(d) Impairment Listing**	No		

	Resource Post-Crossing Conditions	
1	Were all applicable resource specific crossing conditions satisfied?	See Below
	Time of Year Restrictions (TOYR)? Yes 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?	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)	1	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

Expanded Notes for question 1: Stream S-L35-2 has a time of year restriction (TOYR) prohibiting construction between Sept. 15th to March 31st. A waiver has been obtained from the appropriate agencies to allow construction within this window.

10/31/23 – A dam and pump around method was installed and utilized throughout the crossing. The top 12” of stream substrate material was removed, put into labeled super sacks, and staged in an upland area. The substrate material mainly consisted of small pebbles, silt, and mud. The topsoil from stream banks were removed and segregated from subsoil material in an upland area on the coming in side (CIS) of resource. The crew hit solid rock soon after trenching started and a blasting crew was called in for the following day.

11/1/23 – After blasting operations were completed on the CIS and going away side (GAS) of the stream, trenching of S-L35-2 continued.

11/2/23 - Pipe preparations on the CIS of the resource continued with welding, x-ray, and the installation of rock shield covering. The contractor spent most of the day removing spoils from the ditch to get to the required depth. The ditch was lined with sandbags after the water was pumped out to the dewatering structure that was staged on the CIS of the resource.

11/3/23 – The pipe section for S-L35-2 was lowered in, a bentonite trench breaker on the GAS was installed at station number 6596+28, and padding of the pipe began.

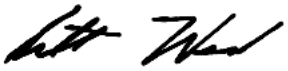
11/4/23 – Once the trench breaker on the CIS was installed at 6595+56, the pipe was padded and backfilled. The topsoil for the 10ft. buffer zone on the GAS was restored to pre-construction specifications and verified by survey.

11/5/23 - No work was conducted on Sunday.

11/6/23 – Once the topsoil for the buffer zone on the CIS was restored to pre-construction specifications, erosion control blankets were installed along with applying the proper seed mixture for the 10ft. buffer zones on both sides of the stream. Super silt fence was installed outside the 10ft. buffer zone areas on both sides of the crossing. Survey verified that the top 12” of substrate for S-L35-2 between the high water marks of the stream channel was restored to pre-construction elevations and contours. The pump and dam were removed, and the flow of the stream was restored.

Numbers 17 and 18 were rated “4” and “3” due to lack of vegetation in the impact area following the completion of crossing and restoration efforts. The disturbed area for stream S-L35-2 was properly stabilized and has been seeded with the appropriate permanent seed mix 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
Scott Wessel		SWCA	11/6/2023

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Required Photos

GPS Location	See coordinates in above photo.
Description	Downstream view of permitted impact area during pre-construction assessment.

GPS Location	See coordinates in above photo.
Description	Downstream view of unimpacted area during pre-construction assessment.

GPS Location	See coordinates in above photo.
Description	Downstream view of permitted impact area during post-construction assessment.

GPS Location	See coordinates in above photo.
Description	Downstream view of unimpacted area during post-construction assessment.

GPS Location	See coordinates in above photo.
Description	Blasting crew on site drilling to set charges on the GAS of resource.

GPS Location	See coordinates in above photo.
Description	Contractor removiong spoils from ditch once blasting crew was done.

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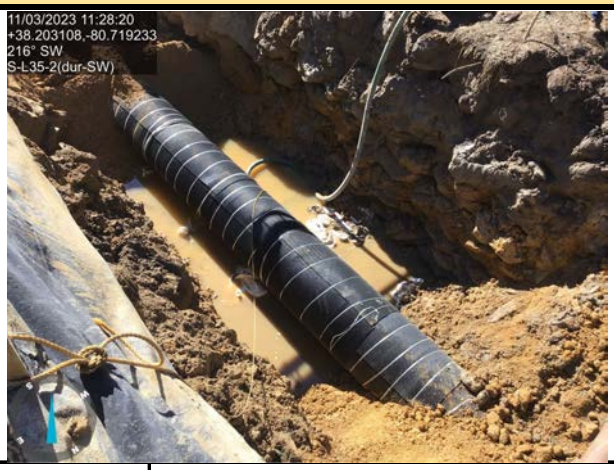
Optional Photos



GPS Location	See coordinates on above photo.
Description	Ditch water being pumped out to dewatering structure before crew adds more padding material to pipe.

GPS Location	See coordinates in above photo.
Description	Padding material being added to crossing after pipe was installed.

GPS Location	See coordinates in above photo.
Description	Topsoil being contoured on the GAS of resource.

GPS Location	See coordinates in above photo.
Description	Top layer of substrate material being put back into resource.

GPS Location	See coordinates in above photo.
Description	Restored area on the GAS of crossing.

GPS Location	See coordinates in above photo.
Description	Restored buffer zones on the CIS and GAS of stream.