Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread D	**AFE**	124300132	**Spread**	H-600 Pipeline Spread D
Contractor	Precision			**Report #**	483
Environmental Auditor	Gary Cruz			**Date/Time**	1/22/2024 10:23 AM

Stream ID	S-IJ62	**Crossing Start Date**	1/3/2024	**Crossing Completion Date**	1/21/2024
Milepost	112.92	**Pre-Con Assessment Date**	1/3/2024	**Post-Con Assessment Date**	1/23/2024
Station	5962+09	**Bankfull Width (ft.)**	1.3	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Intermittent		
County	Nicholas	**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	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	3

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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	2
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	2

Additional Notes

1/3/2024 to 1/5/2024 - A flume/pump and dam conveyance system was established prior to the removal of the top 12” of substrate, which was stockpiled in super sacks. The stream subsoil that could be excavated was segregated and placed on top of geotextile fabric prior to the blasting crew drilled holes and blasted stream feature. For the next two days the ditch line through the stream was excavated and the upland section of pipe for the going away side (GAS) was lowered in and welded to the loose end.

1/6/2024 to 1/7/2024 – No work was conducted due to weather.

1/8/2024 – The next section of pipe that extended from the coming in side (CIS) of the feature through to the first section of pipe that was lowered in on the GAS was lowered in and welding commenced on the GAS end.

1/9/2024 – No work was conducted due to weather.

1/10/2024 to 1/13/2024 – The weld on the GAS of the stream was being completed, while excavation of the trench in the upland area on the CIS from the feature was conducted. On the 11th, the two welds on the GAS of the stream from the previous day were x-rayed and coated. Due to proximity of stream S-IJ62 to wetland W-IJ55, the topsoil from wetland W-IJ55 was removed and blasting operations were conducted shortly afterwards. The following day the excavation of the ditch through W-IJ55 was completed, while a section of pipe that extended from the GAS of the wetland to the CIS of the stream was lowered in and the stream end of the pipe was welded. On the 13th, a short section of pipe extending from the CIS loose end of the wetland to the CIS edge of the wetland was lowered in and welded.

1/14/2024 – No work was conducted due to weather.

1/15/2024 – The section of pipe that was welded onto the CIS of the stream on the 12th was x-rayed and coated while the final section of pipe crossing the wetland was lowered in and welded on the CIS of the wetland.

1/16/2024 – No work was conducted due to weather.

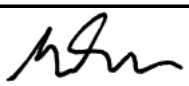
1/17/2024 – The final weld on the GAS of the wetland was completed.

1/18/2024 – The welds on the CIS and GAS of the W-IJ55 were x-rayed, while the trench through and on the GAS of stream S-IJ62 was being padded and backfilled. Bentonite trench breakers were installed on either side of the stream crossing at station numbers 5962+01 & 5962+27, while a trench breaker on the GAS of the wetland was installed at station number 5960+79. The stream’s subsoil was used to backfill the stream section of the ditch to within the top 12” of grade.

1/19/2024 to 1/20/2024 – No work was conducted due to weather.

1/21/2024 – The final padding of the pipe and backfilling of the trench on the CIS of the feature were completed prior to restoring the topsoil of the stream. All elevations and contours were verified by civil survey to preconstruction specifications. Erosion control devices were installed on the boundaries of the stream and the proper seed mix was applied to the disturbed areas of the streambed prior to reestablishing the stream flow.

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
Gary Cruz		SWCA	1/23/2024

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Required Photos

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

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

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

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

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

GPS Location	See photo above
Description	Removing top 12" of stream topsoil.

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Optional Photos

GPS Location	See photo above
Description	Contractor prepping for blasting.

GPS Location	See photo above
Description	Ditch line for stream section of pipe has been excavated.

GPS Location	See photo abvoe
Description	Stream section of pipe lowered in the dich line.

GPS Location	See photo above
Description	Installed impervious trench breakers on the CIS and GAS of stream.

GPS Location	See photo above
Description	Replacing top 12" of substrate to the stream.

GPS Location	See photo above
Description	Survey verifying all elevations and contours met pre-construction specifications.