



Stream Biological Conditions EA Report


Project Name	H-600 Pipeline Spread D	AFE	124300132	Spread	H-600 Pipeline Spread D
Contractor	Precision	Report #	444		
Environmental Auditor	Gary Cruz	Date/Time	12/21/2023 1:45 PM		
Stream ID	S-IJ60	Crossing Start Date	12/11/2023	Crossing Completion Date	12/21/2023
Milepost	112.79	Pre-Con Assessment Date	12/11/2023	Post-Con Assessment Date	12/28/2023
Station	5955+43	Bankfull Width (ft.)	2.0	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?	N/A
	Time of Year Restrictions (TOYR)? <u>N/A</u> Mussel Relocation? <u>N/A</u>	
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 <input checked="" type="checkbox"/> Flume <input checked="" type="checkbox"/> Cofferdam <input type="checkbox"/> Conventional Bore <input type="checkbox"/> Horizontal Directional Drill (HDD) Bore <input type="checkbox"/>	
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	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)	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	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						
<p>Expanded notes on non-impacted post construction photo: Due to minor foot traffic downstream just off the Limit of Disturbance (LOD) on the right-hand side of the channel, curlex was installed outside of the high-water mark to ensure bank stabilization.</p> <p>12/11/2023 - A pump and dam conveyance system was established prior to any ground disturbance inside the feature. A flume pipe was installed at the end of each day for overnight conveyance of the stream. The flume and pump/dam conveyance systems were used throughout the crossing on an as needed basis. The top 12" of stream substrate between the high-water marks was removed, segregated, and stockpiled on geotextile fabric in an upland area prior to the preparation of blasting activities.</p> <p>12/12/2023-12/14/2023 - Trenching and blasting activities of the ditch line were conducted for the next three days.</p> <p>12/15/2023-12/16/2023 - After trenching was completed, a section of pipe that extended from the coming in side (CIS) loose end to just past the going away side (GAS) of the feature was lowered in. To make the pipe fit properly in the ditch, a short 5' pup section was lowered in at the CIS loose end and two welds were required at the CIS loose end to make the tie-in.</p> <p>12/18/202-12/19/2023 – After x-ray verified the welds on the CIS were good, the pipe was coated, and rock shields were applied. The last section of pipe was lowered in, which extended from the GAS of the stream to the GAS loose end. Once the final two welds on the GAS were verified by x-ray, the pipe was coated, and rock shields were applied.</p> <p>12/20/2023 - Trench breakers were installed on the CIS and GAS of the stream at station number 5955+24 & 5955+37 respectively. The pipe was padded using clean subsoil and the trench was backfilled between the 50' buffer zones from either side of stream.</p> <p>12/21/2023 – Once the trench was backfilled to within the top 12" from grade between the 50' buffer zones, the stream substrate was replaced. The stream bank and 10' buffer zones were reconstructed using the previously removed topsoil from this area. Survey verified that all elevations and contours met pre-construction specifications, prior to applying the proper seed mix to the disturbed areas along the stream banks. Erosion control devices were installed on the CIS and GAS boundaries of the stream prior to removing the pump around conveyance system and establishing natural stream flow.</p>						
<p>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.</p>						
Name		Signature		Company		
Gary Cruz				SWCA		
				Date		
				12/22/2023		

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Required Photos

			
GPS Location	See photo above	GPS Location	See photo above
Description	Downstream view of permitted impact area during pre-construction assessment.	Description	Downstream view of unimpacted area during pre-construction assessment.
			
GPS Location	See photo above	GPS Location	See photo above
Description	Downstream view of permitted impact area during post-construction assessment.	Description	Downstream view of unimpacted area during post-construction assessment.
			
GPS Location	See photo above	GPS Location	See photo above
Description	Upstream view of permitted impact area during pre-construction assessment.	Description	Operator removing the top 12" of substrate.

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Optional Photos

			
GPS Location	See photo above	GPS Location	See photo above
Description	Drilling to blast the stream and 50' buffer zones.	Description	Excavated ditch line through stream feature and buffer zones.
			
GPS Location	See photo above	GPS Location	See photo above
Description	Stream section of pipe placed in the ditch.	Description	Impervious trench breaks installed of CIS and GAS of stream.
			
GPS Location	See photo above	GPS Location	See photo above
Description	Backfilling stream section of ditch.	Description	Survey verifying that all elevations and contours met pre-construction specifications.