



Stream Biological Conditions EA Report

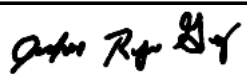
Project Name	H-600 Pipeline Spread C	AFE	124300131	Spread	H-600 Pipeline Spread C
Contractor	Precision	Report #	252		
Environmental Auditor	Josh Guy	Date/Time	9/14/2023 9:41 PM		
Stream ID	S-I57	Crossing Start Date	9/14/2023	Crossing Completion Date	9/20/2023
Milepost	79.89	Pre-Con Assessment Date	9/6/2023	Post-Con Assessment Date	9/20/2023
Station	4218+17	Bankfull Width (ft.)	32.6	Riffle:Pool Complexes Present?	No
State	WV	Stream Classification	Perennial		
County	Braxton	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	Bedrock, Boulder (>10")	Bedrock, Boulder (>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	1	
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>9/14/23 – A pump and dam conveyance system was established prior to the removal of all large signature boulders that were stockpiled separately. Surface rocks roughly melon size and larger were collected prior to segregating the top 12" of substrate that was available and stockpiling each respectively in their own super sacks. The contractor hit bedrock within the top 12" of the surface. Blasting crew drilled and blasted the ditch line prior to the start of trenching, where the use of a hammer attachment was required in ditching efforts. A flume pipe was installed at end of day for overnight conveyance of the stream. The contractor used the flume and pump around system as needed throughout the crossing.</p> <p>9/15/23 – Dewatering of the trench was required prior to continuing with hammering and ditching efforts. Dewatering of the trench was conducted throughout the crossing by the contractor in an as needed basis. In the early afternoon the stream section of pipe was lowered in, and welding operations commenced on the coming inside (CIS) of the crossing.</p> <p>9/16/20 – A welding repair was required on the CIS of the crossing prior to initiating the installation of saddle weights and the backfilling of the stream section. During the restoration of the stream, the segregated stones, boulders, and topsoil from the stream were replaced to pre-construction contours and elevations which was verified by survey. The natural flow to the stream was not re-established, due to not having the 10ft. riparian buffer on the going away side (GAS) restored by the end of the day.</p> <p>9/17/23 - No work was conducted on Sunday.</p> <p>9/18/23 - No work was conducted due to a rain out.</p> <p>9/19/23 - Due to a forecasted rain event the GAS had been backfilled on 9/16/23 to ensure stability of the soils through the event and now required excavation so that the pipe could be lowered-in, install a trench box, and welding operations could commence. Welding, X-ray, and coating of the pipe on the GAS were completed by the end of the day.</p> <p>9/20/23 – Trench breakers were installed within 25ft. of the high-water mark on either side of the stream. Prior to the resource crossing the embankment on the CIS of the stream was approximately a 15-to-20-foot rock face that abutted up to the high-water mark. The contractor restored this area by packing soil into the embankment and terracing large boulders for stabilization that came from this area during construction. Seeding and environmental control devices (ECD) were put in place and all restoration requirements mentioned in Appendix B; Sections 3.4 and 4.1 of the Mitigation Framework were met.</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		
Josh Guy				SWCA		
				Date		
				9/20/2023		

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Required Photos					
					
GPS Location In photo above		GPS Location In photo above			
Description Downstream view of permitted impact area during pre-construction assessment. Viewing downstream from beneath mat bridge of permitted impact area pre-construction.		Description Downstream view of unimpacted area during pre-construction assessment. Viewing downstream from edge of LOD of unimpacted area outside of the LOD.			
					
GPS Location In photo above		GPS Location In photo above			
Description Downstream view of permitted impact area during post-construction assessment. Viewing downstream from beneath mat bridge of restored stream bed and banks within impact rea.		Description Downstream view of unimpacted area during post-construction assessment. Viewing downstream from edge of LOD of unimpacted area outside of the LOD.			
					
GPS Location n photo above		GPS Location n photo above			
Description Viewing downstream from mat bridge of contractor ditching through stream bed.		Description View from mat bridge of contractor drilling stream bed and preparing for blasting efforts.			

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Optional Photos

			
GPS Location	In photo above	GPS Location	In photo above
Description	Viewing downstream of mat bridge of contractor ditching/hammering ditch line after blasting efforts.	Description	View of stream section lowered in and contractor preparing to make a weld in upland area.
			
GPS Location	In photo above	GPS Location	In photo above
Description	Viewing upstream from LOD of contractor having restored stream bed within high water marks and backfilling C.I.S. buffer zone.	Description	View from G.A.S. stream bank of contractor stabilizing C.I.S. stream buffer soils with large stones/boulders.
Insert image here		Insert image here	
GPS Location		GPS Location	
Description		Description	