



Stream Biological Conditions EA Report


Project Name	H-600 Pipeline Spread B	AFE	124300130	Spread	H-600 Pipeline Spread B
Contractor	Precision	Report #	212		
Environmental Auditor	Clayton Biden	Date/Time	8/24/2023 1:16 PM		
Stream ID	S-I63	Crossing Start Date	8/24/2023	Crossing Completion Date	8/31/2023
Milepost	55.28	Pre-Con Assessment Date	8/24/2023	Post-Con Assessment Date	9/1/2023
Station	2918+65	Bankfull Width (ft.)	20.0	Riffle:Pool Complexes Present?	No
State	WV	Stream Classification	Perennial		
County	Lewis	303(d) Impairment Listing	Biological and Iron		

Resource Post-Crossing Conditions

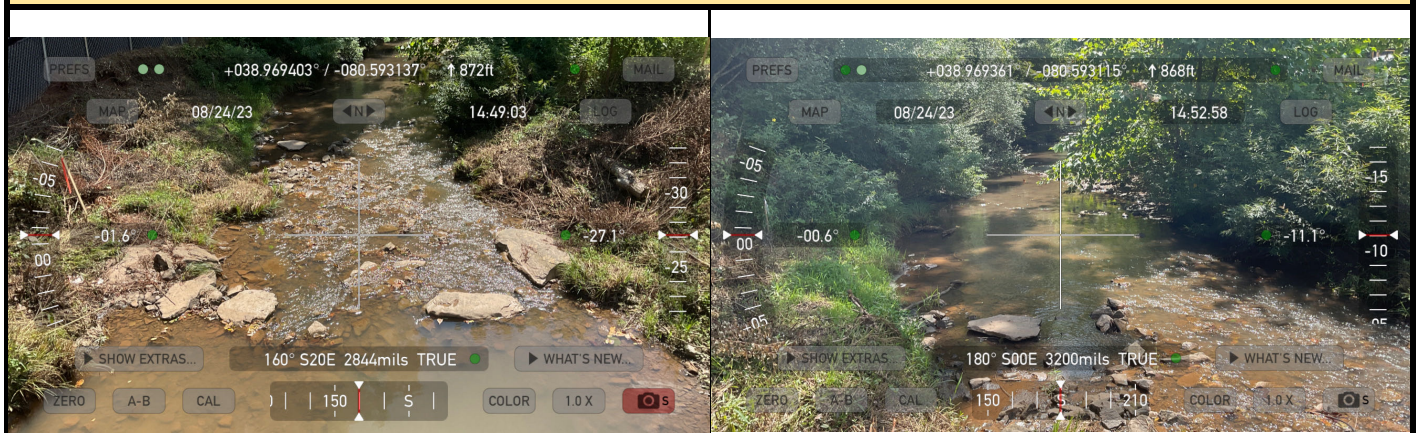
1	Were all applicable resource specific crossing conditions satisfied? Time of Year Restrictions (TOYR)? <u> N/A </u> Mussel Relocation? <u> N/A </u>	See Below
2	This question is not applicable in WV.	
3	Which crossing methods were utilized during the stream crossing? (If so select one or more) Dam & Pump <input checked="" type="checkbox"/> Flume <input 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?	Yes
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)?	Yes
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.	Yes

Biological Conditions

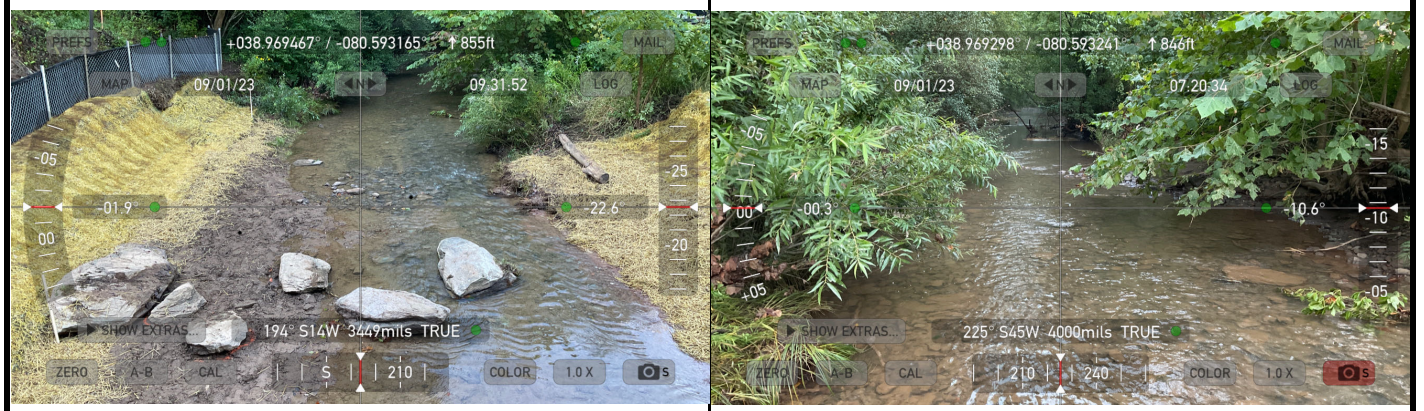
		Pre-Con	Post-Con
15	Predominant Substrate Type (select one): Bedrock, Boulder (>10"), Cobble (2-10"), Gravel (0.1-2"), Sand (<0.1"), Mud/Silt/Clay	Bedrock, Boulder (>10")	Bedrock, Boulder (>10")
16	Channel Conditions: Rating: 1-Optimal (80-100% stable banks), 2-Sub-optimal (60-80% stable banks), 3-Marginal (40-60% stable banks), 4-Poor (20-40% stable banks), 5-Severe (0-20% stable banks, highly eroded or unvegetated banks)	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.)	2	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	4	
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>8/24 Crew commenced crossing with the installation of dam and pump using sandbags and multiple 6" pumps. In-stream invertebrates and fisheries resources removed from drained stream by crews using nets and buckets then relocated downstream. Pump left overnight to drain remaining water. C. Biden</p> <p>8/25 Heavy rain resulted in over-topped dam and delays to construction, no work completed in-stream. C. Biden</p> <p>8/26 Contractor again removed in-stream invertebrates and fisheries resources from the dam and pump area using nets and buckets and relocated downstream and pumped out the remaining water. Contractor used excavators to stage large boulders (surveyed during pre-construction conditions) onto the southern stream bank (adjacent to crossing, within LOD), then removed the substrate/topsoil along the trench line from the waterbody's bed and banks and placed the removed soils in a designated upland area. Contractor completed trenching and lowering-in of the pipe. C. Biden</p> <p>8/27 Contractor worked on welding the pipe, followed by padding and backfill. C. Biden</p> <p>8/28 Higher than expected rain events resulted in over-topped dam. The banks were reestablished and reinforced to prevent overflow into trench. Stream conditions both upstream and downstream of the work area comprised high turbidity and flow rate. No work was completed in-stream. C. Biden</p> <p>8/29 Water continued to be pumped from crossing area and pump-around was maintained. No work completed in-stream. Storms in afternoon further compromised/flooded dam. E. Johnston</p> <p>8/30 Water continued to be pumped from crossing area and pump-around was maintained. No work completed in-stream. Discharge hoses for pumps were monitored for bank scouring downstream of crossing as water levels returned to normal. E. Johnston</p> <p>8/31 Stream restoration and stabilization were completed. Crew took the extra precautionary step to save stream bank topsoil outside of the riparian buffer and put back in same place as original location to aid in vegetative growth. Stream and both banks were restored to pre-construction conditions, then seeded and stabilized. The slope of the northern bank was modified relative to the initial survey due to stabilization concerns from the Lead Environmental Inspector. The contractor pulled the dam at approximately 7PM after installing a turbidity curtain downstream of the LOD. E. Johnston</p> <p>Post Construction Assessment: Numbers 16, 17, and 18 were rated "severe", "poor", and "severe" (respectively) due to lack of vegetation in the disturbed permitted impact area following the completion of the crossing and restoration efforts. The S-163 stream bank and stream bed substrates have been properly stabilized and the disturbed area 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. Number 19 was rated "minor" due to bank slope modifications made due to stabilization concerns. E. Johnston</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		
Clayton Biden				ERM		
				Date		
				9/1/2023		

Required Photos



GPS Location	See photo	GPS Location	See photo
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	GPS Location	See photo
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	GPS Location	See photo
Description	In-stream invertebrates and fisheries resources removed from stream crossing area once water was dammed and pumped.	Description	Dam installed upstream using sand bags to prevent flow.

Optional Photos



GPS Location See photo

Description Water pumps with protective intake screens at the upstream side of the dam and pump

GPS Location See photo

Description First dam overflow occurring on 8/25. Process of pumping out water had to be repeated the following day.



GPS Location See photo

Description This photo shows the dry stream bed prior to substrate removal

GPS Location See photo

Description This photo shows the pipe installed in the stream crossing



GPS Location See photo

Description isolated trench area on 8/30 after backfill.

GPS Location See photo

Description Turbidity curtain installed at LOD upon completion of restabilization and restoration on 8/31.