



Stream Biological Conditions EA Report


Project Name	H-600 Pipeline Spread E	AFE	124300134	Spread	H-600 Pipeline Spread E
Contractor	Price Gregory	Report #	274		
Environmental Auditor	Dan Miller	Date/Time	10/6/2023 9:06 AM		
Stream ID	S-L20	Crossing Start Date	10/6/2023	Crossing Completion Date	10/14/2023
Milepost	147.53	Pre-Con Assessment Date	10/6/2023	Post-Con Assessment Date	10/14/2023
Station	7789+40	Bankfull Width (ft.)	8.5	Riffle:Pool Complexes Present?	No
State	WV	Stream Classification	Perennial		
County	Greenbrier	303(d) Impairment Listing	N/A		







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 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	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)	2	3
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.)	3	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)			4	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)			2	2	
Additional Notes						
<p>Pre-Construction Notes Pre-Constuction Meeting - 10/5/2023 Bankfull width measured at OHWM takes at the centerline. 18. Low instream habitat score due to no flow conditions. Timber mat in place prior to assessment.</p> <p>10/7/2023 - Stream substrate was removed (Photo 1), segregated and stored separately in an upland area (Photo 2). Excavation of trench started and finished in resource area (Photo 3).</p> <p>10/9/2023 - Sifting bedding into trench. Pipe lowered into trench (Photo 4). Cutting and welding of pipe in trench outside of aquatic resource area.</p> <p>10/10/2023 - Additional pipe lowered into trench outside of resource area. Cutting and welding of pipe in trench outside of aquatic resource area.</p> <p>10/11/2023 - Welding ongoing outside of aquatic resource area.</p> <p>10/12/2023 - Survey evaluated elevations of pipe through aquatic resource area. No realignment needed. Welding, x-ray, coating, and sandblasting on-going on both ends of pipe in trench (outside of resource area). Began backfilling and construction of first trench breaker completed (Photo 5).</p> <p>10/13/2023 - Additionally welding and coating of pipe in trench. Backfilling of trench and construction of section trench breaker. Resource area brought to elevation (Photo 6) and survey staked wetland boundaries.</p> <p>10/14/2023 - Light rain overnight. Survey delineated stream channel and OHWM. Resource area contoured (Photo 7). Stream substrate and topsoil restored (Photo 8). Banks seeded and stabilized with curlex. Additional work continued outside of resource area, but wetland restoration complete.</p> <p>Post Construction Notes 18. Crossing and riparian areas have been recently restored. These areas will be monitored until 80% vegetative coverage has been achieved and areas that do not have 80% vegetative cover within 30 days will be reseeded. 19. Timber mat remains in place for travel lane.</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		
Dan Miller				Potesta		
				Date		
				10/14/2023		

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Required Photos					
 <p><small>Date & Time: Fri, Oct 06, 2023 at 11:33:51 EDT Position: +037.949597 / -080.742577 (+22.24) Altitude: 2911ft (+89.6m) Datum: WGS-84 Azimuth/Bearing: 290° N70W 515mils True (+13) Elevation Angle: -0.8° Horizon Angle: -0.8° Zoom: 1.0X DS view from US resource area facing West MVP S-L20/W-L11</small></p>		 <p><small>Date & Time: Fri, Oct 06, 2023 at 09:56:02 EDT Position: +037.949297 / -080.742587 (+19.84) Altitude: 2920ft (+89.5m) Datum: WGS-84 Azimuth/Bearing: 299° N67W 430mils True (+19°) Elevation Angle: -0.3° Horizon Angle: -0.6° Zoom: 1.0X DS view from DS unimpacted area ROW MVP S-L20/W-L11</small></p>			
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.		
 <p><small>Date & Time: Sat, Oct 14, 2023 at 09:44:44 EDT Position: +037.949589 / -080.742547 (+22.10) Altitude: 2918ft (+89.9m) Datum: WGS-84 Azimuth/Bearing: 103° E 1831mils True (+23) Elevation Angle: -1.5° Horizon Angle: -0.4° Zoom: 1.0X Downstream view of permitted impact area Mountain Valley Pipeline</small></p>		 <p><small>Date & Time: Sat, Oct 14, 2023 at 09:16:47 EDT Position: +037.949632 / -080.742687 (+23.10) Altitude: 2919ft (+89.8m) Datum: WGS-84 Azimuth/Bearing: 214° S94W 3804mils True (+42) Elevation Angle: +18.9° Horizon Angle: -3.8° Zoom: 1.0X Downstream view of unimpacted area Mountain Valley Pipeline</small></p>			
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.		
 <p><small>Date & Time: Sat, Oct 07, 2023 at 09:57:25 EDT Position: +037.949450 / -080.742625 (+22.24) Altitude: 2927ft (+89.6m) Datum: WGS-84 Azimuth/Bearing: 042° N42W 6014mils True (+19°) Elevation Angle: -0.2° Horizon Angle: -01.7° Zoom: 1.0X Stream top soil removal MVP S-L20/W-L11</small></p>		 <p><small>Date & Time: Sat, Oct 07, 2023 at 10:07:43 EDT Position: +037.949495 / -080.742627 (+22.24) Altitude: 2920ft (+89.6m) Datum: WGS-84 Azimuth/Bearing: 337° N23W 5991mils True (+29) Elevation Angle: -10.1° Horizon Angle: +00.5° Zoom: 1.0X Stream top soil labeling and separation MVP S-L20/W-L11</small></p>			
GPS Location	See Photo	GPS Location	See Photo		
Description	Photo 1: Removing first 12 inches of stream substrate.	Description	Photo 2: Stream substrate segregated and stored in upland area.		

Optional Photos

 <p style="font-size: small; margin-top: 5px;">Date & Time: Sat, Oct 07, 2023 at 10:33:25 EDT Position: +037.9476517, -080.742594, (+20.9ft) Altitude: 2920ft (+51.6ft) Datum: WGS-84 Azimuth Bearing: 338.1923W, 6009mils True (+12.1) Elevation Angle: -12.8 Horizon Angle: -01.8 Zoom: 1.0X resource: crossing aquatic resource MVP: S-120/W-111</p>	 <p style="font-size: small; margin-top: 5px;">Date & Time: Mon, Oct 02, 2023 at 11:56:59 EDT Position: +037.946886 N, -080.742843 W (+20.9ft) Altitude: +3047ft (+36.7ft) Datum: WGS-84 Azimuth Bearing: 018. N16E, 028mils True (+12.1) Elevation Angle: -18.1 Horizon Angle: +02.8 Zoom: 2.0X S-120/W-111 MOVING PIPE Mountain Valley</p>
GPS Location See Photo	GPS Location See Photo
Description Photo 3: Trench crossing aquatic resource.	Description Photo 4: Moving pipe to lower into aquatic resource area.
 <p style="font-size: small; margin-top: 5px;">Date & Time: Sat, Oct 12, 2023 at 16:11:56 EDT Position: +037.9491617, -080.742644, (+17.2ft) Altitude: 2921ft (+52.8ft) Datum: WGS-84 Azimuth Bearing: 349. N14W, 533mils True (+12.1) Elevation Angle: -26.8 Horizon Angle: +01.5 Zoom: 1.0X Building trench breaker on coming in side MVP: S-120/W-111</p>	 <p style="font-size: small; margin-top: 5px;">Date & Time: Thu, Oct 05, 2023 at 14:33:46 EDT Position: +037.9465017, -080.742978, (+20.8ft) Altitude: 2928ft (+53.0ft) Datum: WGS-84 Azimuth Bearing: 317. N43W, 563mils True (+12.1) Elevation Angle: -15.9 Horizon Angle: -01.1 Zoom: 1.0X resource backfilled prior to topsoil placement MVP: S-120/W-111</p>
GPS Location See Photo	GPS Location See Photo
Description Photo 5: Building trench breaker adjacent to resource area.	Description Photo 6: Aquatic resource area backfilled. Prior to stream restoration.
 <p style="font-size: small; margin-top: 5px;">Date & Time: Sat, Oct 14, 2023 at 10:41:06 EDT Position: +037.9496287, -080.742547, (+20.8ft) Altitude: 2907ft (+52.3ft) Datum: WGS-84 Azimuth Bearing: 318. N42W, 5653mils True (+43.1) Elevation Angle: -22.4 Horizon Angle: +00.4 Zoom: 1.0X stream contour complete Mountain Valley Pipeline</p>	 <p style="font-size: small; margin-top: 5px;">Date & Time: Sat, Oct 14, 2023 at 11:05:24 EDT Position: +037.9497037, -080.742593, (+16.9ft) Altitude: 2902ft (+50.6ft) Datum: WGS-84 Azimuth Bearing: 319. N41W, 5671mils True (+50.1) Elevation Angle: -19.4 Horizon Angle: +01.4 Zoom: 1.0X stream substrate replaced Mountain Valley Pipeline</p>
GPS Location See Photo	GPS Location See Photo
Description Photo 7: Creating contour of stream.	Description Photo 8: Stream substrate restored.