



Stream Biological Conditions EA Report


Project Name	H-600 Pipeline Spread F	AFE	124300135	Spread	H-600 Pipeline Spread F
Contractor	Price Gregory	Report #	422		
Environmental Auditor	Aaron Crank	Date/Time	12/4/2023 9:27 AM		
Stream ID	S-MN2	Crossing Start Date	12/4/2023	Crossing Completion Date	12/23/2023
Milepost	185.88	Pre-Con Assessment Date	12/4/2023	Post-Con Assessment Date	12/23/2023
Station	9814+22	Bankfull Width (ft.)	5.0	Riffle:Pool Complexes Present?	No
State	WV	Stream Classification	Perennial		
County	Monroe	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 Flume <input checked="" type="checkbox"/> 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)	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.)	3	4

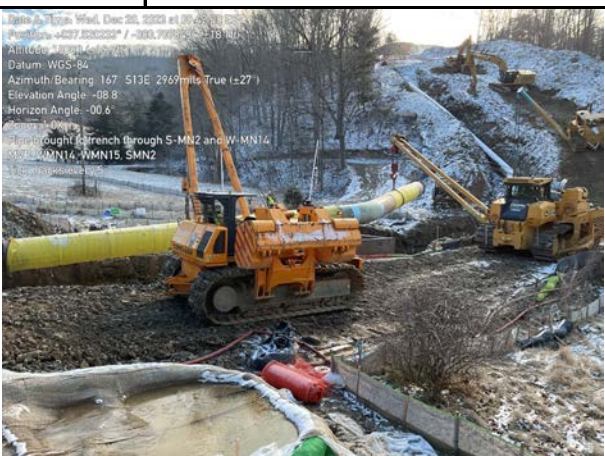
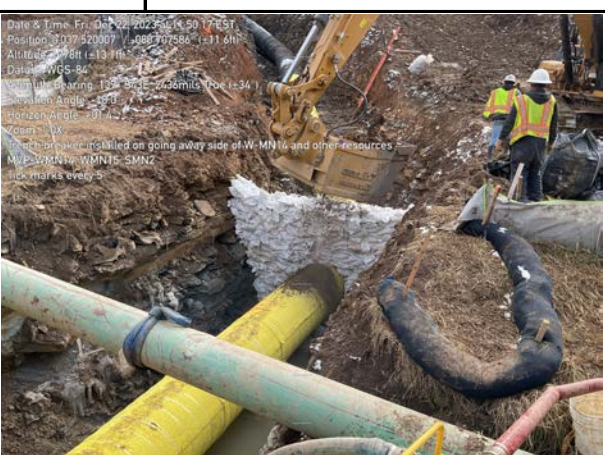

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Biological Conditions Continued					Pre-Con	Post-Con
18	Instream Habitat Conditions: Examples: Varied substrate sizes, varied combination of water velocities & depths, presence of woody/leafy debris, stable substrate with low amount of mobile particles, 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)			2	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	1	
Additional Notes						
<p>Pre-Construction Notes Pre-Construction Meeting - 11/29/2023 15. Substrate consisted of roughly 40% gravel and 60% mud/silt/clay. Minimal disturbance observed.</p> <p>12/04/2023 - Excavated top 12 inches of substrate (Photo 1) and segregated in upland area (Photo 2). Upstream and downstream dams put in place. Pump-around system set up. Holes drilled into aquatic resource area with John Henry, explosives placed for blasting (Photo 3). Blasted. Excavating trench and welding occurred outside aquatic resource area on coming-in side throughout the day. 12/05/2023 - Excavators removed soil displaced by blasting in aquatic resource. Flume pipe installed. No additional work occurred within aquatic resource. Trenching, hammering and welding occurred outside aquatic resource area throughout the day. 12/06/2023-12/09/2023 - Environmental crew installed silt sock along edge of non-impacted aquatic resource area. Trenching, hammering, welding, coating and backfilling occurred outside aquatic resource throughout each day. Section of pipe placed on skids over aquatic resource (12/08/2023). No work occurred in resource area. Flume pipe remained in place. 12/11/2023 - Rain from previous day resulted in higher water level throughout aquatic resource. No work occurred in aquatic resource area. Welding occurred outside aquatic resource area in buffer zone throughout the day. Flume pipe remained in place. 12/12/2023-12/13/2023 - No work occurred in aquatic resource area. Welding, sandblasting and coating occurred outside aquatic resource area in buffer zone throughout the day. Flume pipe remained in place. 12/14/2023 - Crew marked route of pipe centerline through aquatic resource. Trenching began in resource area (Photo 4). Water pumping intermittently from excavated trench throughout the day and continued overnight. Flume pipe removed and restored over trench through aquatic resource throughout the day. 12/15/23 - No flow in stream. Excavated trench. No pumping. Hammering in trench completed. Removed flume pipe. Lowered pipe into trench in adjacent aquatic resource. Began Welding. Flume pipe restored. 12/16/23 - Trenching through aquatic resource continued. Crew tried to place the pipe but due to wrong size had to begin the recutting and rewelding process. 12/18/2023 - Water pumped from trench in aquatic resource and continued overnight. Sandblasting and coating occurred outside aquatic resource area. 12/19/2023 - Water pumped from trench in resource. Trench box installed. Welding, coating and X-ray inspection occurred outside aquatic resource area. 12/20/2023 - Flume pipe removed. Water pumped from trench in aquatic resource. Pipe lowered into trench (Photo 5). Welding occurred outside aquatic resource area. Flume pipe replaced. 12/21/2023 - Backfilling, sandblasting and coating occurred outside aquatic resource area. No work occurred in aquatic resource. 12/22/2023 - Water pumped from trench in aquatic resource. Trench breaker installed. River weights placed over pipe (Photo 6). Backfilling ongoing. Second trench breaker installed (Photo 7). Substrate replaced (Photo 8). Topsoil restored in buffer. Jute installed. Dams removed. No water observed flowing through aquatic resource. Other work occurred outside aquatic resource throughout the day. 12/23/2023 - Seeded. No additional work occurred in resource area. 01/02/2024 - Post-construction assessment revisited. Banks are stable and have been permanently reseeded.</p> <p>Post Construction Notes 15. Substrate is predominantly mud/silt/sand with some fine gravel and gravel observed. 16., 17. 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. Does not include timber mats that remain 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		Date
Aaron Crank				Potesta		1/2/2024

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Required Photos

 <p>Date & Time: Mon, Dec 04, 2023 at 09:56:04 EST Position: +037.520009 / -080.707647 (-15.81) Altitude: 1795ft (+11.2ft) Datum: WGS-84 Azimuth/Bearing: 243° S43W 4320mils True (+23°) Elevation Angle: -17.1° Horizon Angle: -00.3° Zoom: 1.0X Stream substrate removal for S-MN2 MVP-WMN14, WMN15, SMN2 Tick marks every 5'</p>	 <p>Date & Time: Mon, Dec 04, 2023 at 09:58:04 EST Position: +037.520009 / -080.707647 (-15.81) Altitude: 1795ft (+11.2ft) Datum: WGS-84 Azimuth/Bearing: 228° S48W 4053mils True (+24°) Elevation Angle: -22.9° Horizon Angle: -00.3° Zoom: 1.0X S-MN2 viewed downstream from MNP MVP-WMN14, WMN15, SMN2 Tick marks every 5'</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>Date & Time: Tue, Jan 02, 2024 at 14:44:45 EST Position: +037.520021 / -080.707499 (-15.457ft) Altitude: 1797ft (+10.71ft) Datum: WGS-84 Azimuth/Bearing: 251° S71W 4447mils True (+13°) Elevation Angle: -00.1° Horizon Angle: -00.1° Zoom: 1.0X Downstream view of permitted impact area during post-construction assessment MVP-WMN2</p>	 <p>Date & Time: Sat, Dec 23, 2023 at 19:02:48 EST Position: +037.519993 / -080.707647 (-15.81) Altitude: 1777ft (+11.3ft) Datum: WGS-84 Azimuth/Bearing: 308° N52W 5476mils True (+33°) Elevation Angle: -03.9° Horizon Angle: -00.1° Zoom: 1.0X S-MN2 viewed W of MNP MVP-WMN14, WMN15, SMN2 Tick marks every 5'</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>Date & Time: Mon, Dec 04, 2023 at 11:50:38 EST Position: +037.520410 / -080.707688 (-15.81) Altitude: 1801ft (+11.0ft) Datum: WGS-84 Azimuth/Bearing: 051° N63E 1120mils True (+36°) Elevation Angle: -10.3° Horizon Angle: -02.3° Zoom: 1.0X Stream substrate removal for S-MN2 MVP-WMN14, WMN15, SMN2 Tick marks every 5'</p>	 <p>Date & Time: Mon, Dec 04, 2023 at 11:50:38 EST Position: +037.520410 / -080.707688 (-15.81) Altitude: 1801ft (+11.0ft) Datum: WGS-84 Azimuth/Bearing: 051° N63E 1120mils True (+36°) Elevation Angle: -10.3° Horizon Angle: -02.3° Zoom: 1.0X Stream substrate removal for S-MN2 MVP-WMN14, WMN15, SMN2 Tick marks every 5'</p>
GPS Location See Photo	GPS Location See Photo
Description Photo 1: Excavating top 12 inches of substrate.	Description Photo 2: Substrate segregated in upland area.

Optional Photos

 <p><small>Date & Time: Mon, Dec 04, 2023 at 12:48:25 EST Position: +037.520007 / -080.707600 (+28.0ft) Altitude: 1795ft (+39.4ft) Datum: WGS-84 Azimuth/Bearing: 177.563E 309mils True (+28) Elevation Angle: -15.3 Horizon Angle: -00.8 Zoom: 1.0x Stream Susceptibility: MNP MVP: WMN14, WMN15, SMN2 Tick marks every 5'</small></p>	 <p><small>Date & Time: Mon, Dec 04, 2023 at 08:48:29 EST Position: +037.520007 / -080.707565 (+15.6ft) Altitude: 1795ft (+39.4ft) Datum: WGS-84 Azimuth/Bearing: 222.542W 394mils True (+28) Elevation Angle: -18.3 Horizon Angle: -01.1 Zoom: 1.0x Trench Breaker: SMN2 MVP: WMN14, WMN15, SMN2 Tick marks every 5'</small></p>
GPS Location See Photo	GPS Location See Photo
Description Photo 3: Drilling for blasting in aquatic resource.	Description Photo 4: Excavating trench through aquatic resource.
 <p><small>Date & Time: Wed, Dec 06, 2023 at 09:51:18 EST Position: +037.520007 / -080.707586 (+31.8ft) Altitude: 1794ft (+39.1ft) Datum: WGS-84 Azimuth/Bearing: 167.513E 296mils True (+27) Elevation Angle: -09.8 Horizon Angle: -00.6 Zoom: 1.0x Trench Breaker installed over pipe in S-MN2 MVP: WMN14, WMN15, SMN2 Tick marks every 5'</small></p>	 <p><small>Date & Time: Fri, Dec 08, 2023 at 11:28:39 EST Position: +037.519987 / -080.707560 (+42.8ft) Altitude: 1779ft (+37.1ft) Datum: WGS-84 Azimuth/Bearing: 331.87N 79W 499mils True (+35) Elevation Angle: -28.6 Horizon Angle: -00.3 Zoom: 1.0x River weights installed over pipe in S-MN2 MVP: WMN14, WMN15, SMN2 Tick marks every 5'</small></p>
GPS Location See Photo	GPS Location See Photo
Description Photo 5: Lowered pipe into trench in aquatic resource.	Description Photo 6: Adding river weights.
 <p><small>Date & Time: Fri, Dec 08, 2023 at 14:50:17 EST Position: +037.520007 / -080.707586 (+31.8ft) Altitude: 1798ft (+31.1ft) Datum: WGS-84 Azimuth/Bearing: 139.563E 263mils True (+34) Elevation Angle: -29.0 Horizon Angle: -00.1 Zoom: 1.0x Trench Breaker installed on going away side of W-MN14 and other resources MVP: WMN14, WMN15, SMN2 Tick marks every 5'</small></p>	 <p><small>Date & Time: Fri, Dec 22, 2023 at 15:35:08 EST Position: +037.519870 / -080.707531 (+41.8ft) Altitude: 1820ft (+28.0ft) Datum: WGS-84 Azimuth/Bearing: 150.164E 180mils True (+28) Elevation Angle: -27.3 Horizon Angle: 00.0 Zoom: 1.0x Stream substrate replacement: MNP MVP: WMN14, WMN15, SMN2 Tick marks every 5'</small></p>
GPS Location See Photo	GPS Location See Photo
Description Photo 7: Trench Breaker installed.	Description Photo 8: Substrate restored.