



# Stream Biological Conditions EA Report


<b>Project Name</b>	H-600 Pipeline Spread D	<b>AFE</b>	124300132	<b>Spread</b>	H-600 Pipeline Spread D
<b>Contractor</b>	Precision	<b>Report #</b>	344		
<b>Environmental Auditor</b>	Gary Cruz	<b>Date/Time</b>	11/8/2023 10:39 AM		
<b>Stream ID</b>	S-N10	<b>Crossing Start Date</b>	11/6/2023	<b>Crossing Completion Date</b>	11/11/2023
<b>Milepost</b>	122.71	<b>Pre-Con Assessment Date</b>	11/6/2023	<b>Post-Con Assessment Date</b>	11/11/2023
<b>Station</b>	6478+92	<b>Bankfull Width (ft.)</b>	4.0	<b>Riffle:Pool Complexes Present?</b>	No
<b>State</b>	WV	<b>Stream Classification</b>	Perennial		
<b>County</b>	Nicholas	<b>303(d) Impairment Listing</b>	No		

### Resource Post-Crossing Conditions

1	Were all applicable resource specific crossing conditions satisfied? Time of Year Restrictions (TOYR)? <u>Yes</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 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	<b>Predominant Substrate Type (select one):</b> Bedrock, Boulder (>10"), Cobble (2-10"), Gravel (0.1-2"), Sand (<0.1"), Mud/Silt/Clay	Bedrock, Boulder (>10")	Bedrock, Boulder (>10")
16	<b>Channel Conditions: Rating:</b> 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	2
17	<b>Riparian Buffer Zone within ROW and ≤50 ft. from Stream Top-of-Bank: Rating:</b> 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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<b>Biological Conditions Continued</b>					<b>Pre-Con</b>	<b>Post-Con</b>
18	<b>Instream Habitat Conditions:</b> 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	<b>Channel Alterations:</b> 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	
<b>Additional Notes</b>						
<p>Expanded notes for question 1: Stream S-N10 has a time of year restriction (TOYR) prohibiting construction between September 15th to March 31st. A waiver has been obtained from the appropriate agencies to allow construction within this window.</p> <p>11/6/2023 – Due to the proximity of S-N10 and S-N10-braid, the start of stream S-N10 was required and construction activities for both streams were conducted simultaneously for the remainder of S-N10. The signature boulders, surface rocks and the top 12" of stream substrate between the high water marks of S-N10 were segregated and stockpiled onto geotextile fabric. The contractor then completed the excavation of the ditch line for the stream features S-N10 and S-N10-braid. A flume pipe was installed for S-N10 at the end of the day for overnight conveyance of the stream. The flume and pump/dam conveyance systems were used throughout the crossing on an as needed basis.</p> <p>11/7/2023 – A section of pipe that expanded across the stream features S-N10 and S-N10-braid was lowered-in. The pipe was welded, and x-rayed in an upland area on the going away side (GAS) of stream S-N10-braid.</p> <p>11/8/2023 - The crew excavated the ditch line in an upland area on the coming in side (CIS) of S-N10 to expose more pipe so that the section could properly fit. The tie-in section of pipe was lowered-in on the CIS of S-N10 in an upland area while coating and jeeeping activities were being completed on the previous days welds on the GAS of S-N10-braid.</p> <p>11/9/2023 - A tie-in weld and x-ray was complete on the CIS of S-N10 in an upland area while backfilling of the ditch line on the GAS of S-N10-braid in the upland area began.</p> <p>11/10/2023 - Trench breakers were installed on the CIS, between the streams, and on the GAS of S-N10 and S-N10-braid at station numbers 6479+13, 6478+54 &amp; 6479+85, respectively. The trench was backfilled to within the top 12" of grade for streams S-N10 and S-N10-braid using subsoil. The remainder of the day was focused on the restoration of S-N10-braid.</p> <p>11/11/2023 – Stream S-N10 topsoil was replaced with the elevations and contours verified by survey. During the restoration of S-N10, the Utility Inspector was concerned with the integrity of the pipe with some of the larger signature boulders being restored to their original locations over the pipe. It was agreed that smaller boulders would be placed over the pipe portion of the stream in keeping with the essence of the stream pre-construction features. Survey verified that the smaller boulders elevations and contours met pre-construction specifications. Erosion control devices were installed on the boundaries of S-N10 and the proper seed mix was applied to the disturbed areas of the stream bank and the stream flow was reestablished.</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>						
<b>Name</b>		<b>Signature</b>		<b>Company</b>		
Gary Cruz				SWCA		
				Date		
				11/11/2023		









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**Required Photos**

			
<b>GPS Location</b>	See photo above	<b>GPS Location</b>	See photo above
<b>Description</b>	Downstream view of permitted impact area during pre-construction assessment.	<b>Description</b>	Downstream view of unimpacted area during pre-construction assessment.
			
<b>GPS Location</b>	See photo above	<b>GPS Location</b>	See photo above
<b>Description</b>	Downstream view of permitted impact area during post-construction assessment.	<b>Description</b>	Downstream view of unimpacted area during post-construction assessment.
			
<b>GPS Location</b>	See photo above	<b>GPS Location</b>	See photo above
<b>Description</b>	Upstream view of permitted impact area during pre-construction assessment.	<b>Description</b>	Contractor removing the top 12" of substrate and boulders of stream feature.



**Optional Photos**

			
<b>GPS Location</b>	See photo above	<b>GPS Location</b>	See photo above
<b>Description</b>	The ditch line has been excavated through the stream feature.	<b>Description</b>	The stream feature section of pipe has been lowered-in.
			
<b>GPS Location</b>	See photo above	<b>GPS Location</b>	See photo above
<b>Description</b>	Contractor backfilling stream section of ditch with subsoil.	<b>Description</b>	Impervious trench breaker has been installed the GAS of S-N10.
			
<b>GPS Location</b>	See photo above	<b>GPS Location</b>	See photo above
<b>Description</b>	Survey verifying that all elevations and contours meet pre-construction specifications.	<b>Description</b>	Upstream view of permitted impact area during post-construction assessment.