



# Stream Biological Conditions EA Report


<b>Project Name</b>	H-600 Pipeline Spread C	<b>AFE</b>	124300131	<b>Spread</b>	H-600 Pipeline Spread C
<b>Contractor</b>	Precision	<b>Report #</b>	442		
<b>Environmental Auditor</b>	Curtis Barbacci	<b>Date/Time</b>	12/13/2023 8:27 AM		
<b>Stream ID</b>	S-H113	<b>Crossing Start Date</b>	12/12/2023	<b>Crossing Completion Date</b>	12/16/2023
<b>Milepost</b>	87.73	<b>Pre-Con Assessment Date</b>	12/4/2023	<b>Post-Con Assessment Date</b>	12/18/2023
<b>Station</b>	4632+22	<b>Bankfull Width (ft.)</b>	12.0	<b>Riffle:Pool Complexes Present?</b>	No
<b>State</b>	WV	<b>Stream Classification</b>	Perennial		
<b>County</b>	Webster	<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>  N/A  </u> Mussel Relocation? <u>  N/A  </u>	N/A
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	<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	1
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	1	
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	1	
<b>Additional Notes</b>						
<p>12/12/23 - At the commencement of stream crossing S-H113, an upstream sandbag dam and pump around was installed. The topsoil from the stream banks and 10' buffer zone was stripped and segregated prior to signature boulders from the streambed being removed and stockpiled separately. Large rocks manageable by hand were removed from the channel and the top 12" of stream substrate were placed in their respective super sacks and stored in an upland area. Excavation through the stream section began with the aid of a rock hammer.</p> <p>12/13/23 – Trenching was completed from the coming in side (CIS) loose end through to the going away side (GAS) of the stream. A two-joint section of pipe was lowered into the ditch and welding activities began on CIS loose end near station 4631+71 for the remainder of the day.</p> <p>12/14/23 – Trenching operations continued on through to the GAS loose end of the crossing while the final welds were completed on the CIS loose end and x-rayed. The final section of pipe was lowered in and welding began on the GAS of the stream near station 4632+33.</p> <p>12/15/23 – The middle section weld was complete along with the tie-in weld at the loose end on the GAS of the crossing near station 4632+62. Both welds were x-rayed and all welds were coated as padding of the pipe commenced. Backfilling of the trench began along with the installation of the CIS trench breaker at station 4632+05.</p> <p>12/16/23 – The bentonite trench breaker on the GAS was installed at station 4632+45 as padding of the pipe and backfilling efforts continued. Survey verified that the topsoil from the stream banks, the 10' buffer zones, and the stream channel met pre-construction specifications, prior to re-establishing the signature boulders and the large rock locations that create the characteristics of the stream flow. The permanent seed mix and stabilization materials were applied to the riparian areas and stream banks prior to the removal of the sandbag dam to re-establish natural flow of the stream channel.</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>		
Curtis Barbacci				SWCA		
				Date		
				12/18/2023		

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**Required Photos**

			
<b>GPS Location</b>	See photo	<b>GPS Location</b>	See photo
<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	<b>GPS Location</b>	See photo
<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	<b>GPS Location</b>	See photo
<b>Description</b>	Placing stream cobble and substrate into super sacks to be segregated.	<b>Description</b>	View of creek section of pipe being lowered into the ditch.

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**Optional Photos**

			
<b>GPS Location</b>	See photo	<b>GPS Location</b>	See photo
<b>Description</b>	View of GAS loose end exposed near stream S-H113.	<b>Description</b>	View of contractor making final weld of the crossing on the GAS of the stream.
			
<b>GPS Location</b>	See photo	<b>GPS Location</b>	See photo
<b>Description</b>	View of bentonite trench breaker near station 4632+45 being installed on the GAS of the stream.	<b>Description</b>	Contractor coordinating with survey to return stream substrate to pre-construction contours.
			
<b>GPS Location</b>	See photo	<b>GPS Location</b>	See photo
<b>Description</b>	Environmental crew installing erosion control devices after seeding stream banks and 10' buffers.	<b>Description</b>	View of stream restored facing upstream.