



# Stream Biological Conditions EA Report

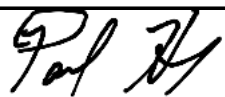
<b>Project Name</b>	H-600 Pipeline Spread C	<b>AFE</b>	124300131	<b>Spread</b>	H-600 Pipeline Spread C
<b>Contractor</b>	Precision	<b>Report #</b>	418		
<b>Environmental Auditor</b>	Paul Hixon	<b>Date/Time</b>	12/1/2023 3:41 PM		
<b>Stream ID</b>	S-KK4b	<b>Crossing Start Date</b>	11/24/2023	<b>Crossing Completion Date</b>	12/1/2023
<b>Milepost</b>	82.15	<b>Pre-Con Assessment Date</b>	11/24/2023	<b>Post-Con Assessment Date</b>	12/1/2023
<b>Station</b>	4337+69	<b>Bankfull Width (ft.)</b>	3.0	<b>Riffle:Pool Complexes Present?</b>	No
<b>State</b>	WV	<b>Stream Classification</b>	Ephemeral		
<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	Mud/Silt/Clay	Mud/Silt/Clay
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)			2	3	
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>11/24/23 - A sand bag dam with visqueen and pump around conveyance system was erected in the ephemeral stream S-KK4b prior to the topsoil from the stream banks being segregated and stockpiled. The top 12' of the streambed was removed and placed in numbered super sacks prior to the excavation of the trench on the going away side (GAS) of the stream. By the end of the day trenching on the GAS was completed with the aid of a rock hammer.</p> <p>11/25/23 – The section of pipe extending from the buffer zone on the GAS of S-KK4b to the loose end on the GAS of S-KK4b was lowered in and welding was completed by mid morning. Stream S-KK3b crossing commenced due to the close proximity of stream S-KK4b to stream S-KK3b. All soils for S-KK3b were managed in accordance with the Restoration Work Plan of the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework. Hammering and excavating of the rock layer continued for the remainder of the day.</p> <p>11/26/23 to 11/ 27/23 – Hammering and excavation of the rock layer continued through features S-KK4b and S-KK3b for the next couple of days while x-ray and coating was completed on the GAS section of pipe of S-KK4b.</p> <p>11/28/23 – A section of pipe extending from coming inside (CIS) of S-KK3b to the GAS of S-KK4b was lowered in, welded, x-rayed, and coated by the end of the day.</p> <p>11/29/23 Bentonite trench breakers were installed at stations 4337.91 and 4338.25 prior to padding the pipe and backfilling the exposed pipe from the CIS of the S-KK4b to tie-in section of pipe upslope on the GAS of the stream.</p> <p>11/30/23 – Once backfilling was completed, restoration of S-KKb4 commenced with the replacement of the top 12" of stream substrate and the restoration of the banks. All elevations and contours were verified by survey to pre-construction specifications. The banks were seeded and coconut matting was installed to help with stabilization.</p> <p>12/1/23 – Super silt fence was installed on the CIS and GAS of S-KK4b prior to removing the dam/pump conveyance system and establishing natural flow.</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>		
Paul Hixon				SWCA		
				<b>Date</b>		
				12/1/2023		

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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>	Dam and pump around for resource S-KK4b.	<b>Description</b>	The Removal of the topsoil from the banks along resource S-KK4b.

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**Optional Photos**

 <p>11/24/2023 11:23:28 +38.672524,-80.475961 285° W S-KK4B (Dur_PH)</p>		 <p>11/25/2023 11:16:22 +38.672380,-80.476357 237° SW S-KK4B (Dur_PH)</p>	
<b>GPS Location</b>	See Photo	<b>GPS Location</b>	See Photo
<b>Description</b>	The stream bed for S-KK4b was placed in numbered super sacks for restoration.	<b>Description</b>	Rock was encountered throughout the resource bedding.
 <p>11/25/2023 11:51:37 +38.672162,-80.476728 221° SW S-KK4B (Dur_PH)</p>		 <p>11/26/2023 11:25:25 +38.671979,-80.477027 91° E S-KK4B (Dur_PH)</p>	
<b>GPS Location</b>	See Photo	<b>GPS Location</b>	See Photo
<b>Description</b>	Lowering in a sections of pipe through resource S-KK4b.	<b>Description</b>	Continued rock hammering from resource S-KK4b to S-KK3b due to proximity.
 <p>11/29/2023 10:26:39 +38.671986,-80.476896 243° SW S-KK3B (Dur_PH)</p>		 <p>11/30/2023 08:44:28 +38.672205,-80.476387 239° SW S-KK4B (Dur_PH)</p>	
<b>GPS Location</b>	See Photo	<b>GPS Location</b>	See Photo
<b>Description</b>	Pipe through both S-KK4b and S-KK3b.	<b>Description</b>	Bentonite breakers placed on both sides of S-KK4b.