Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread C	**AFE**	124300131	**Spread**	H-600 Pipeline Spread C
Contractor	Precision			**Report #**	290
Environmental Auditor	Scott Wessel			**Date/Time**	10/10/2023 6:03 AM

Stream ID	S-A92	**Crossing Start Date**	10/10/2023	**Crossing Completion Date**	10/13/2023
Milepost	92.60	**Pre-Con Assessment Date**	9/18/2023	**Post-Con Assessment Date**	10/13/2023
Station	4889+28	**Bankfull Width (ft.)**	3.0	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Ephemeral		
County	Webster	**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)? N/A Mussel Relocation? 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 X Flume X 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	Sand (<0.1")	Sand (<0.1")
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	1	1
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.)	1	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)	1	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

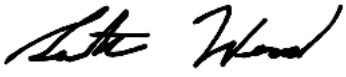
10/10/23 – A flume and pump/dam were available and staged on site but were not needed throughout the crossing due to no flow. The top 12” of stream substrate material was removed and put into super sacks and labeled. Topsoil for stream banks was removed and segregated from subsoil material.

10/11/23 – The day was spent completing excavation of the ditch from the coming in side (CIS) through to the going away side (GAS) of both S-A92 and S-A93 streams.

10/12/23 – The stream pipe section was welded, x-rayed, and coated on the CIS of S-A92 prior to being lowered into the ditch. Bentonite trench breakers were installed within 25 feet of high-water mark. The trench needed to be pumped out, and dewatering operations were conducted as needed throughout the crossing.

10/13/23 – The pipe section for stream S-A92 was padded prior to backfilling the trench with subsoil. The topsoil for the stream banks, along with the top 12” of substrate between the high-water marks of the stream channel were restored and verified by survey to pre-construction elevations and contours. Stream banks and riparian buffer zones were restored with proper seed mixture and erosion control blanket. Numbers 17 and 18 were rated “poor” due to lack of vegetation in the impact area following the completion of crossing and restoration efforts.

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.

Name	Signature	Company	Date
Scott Wessel		SWCA	10/13/2023

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Required Photos

GPS Location	See GPS in above photo.
Description	Downstream view of permitted impact area during pre-construction assessment.

GPS Location	See GPS in above photo.
Description	Downstream view of unimpacted area during pre-construction assessment.

GPS Location	See GPS in above photo.
Description	Downstream view of permitted impact area during post-construction assessment.

GPS Location	See GPS in above photo.
Description	Downstream view of unimpacted area during post-construction assessment.

GPS Location	See GPS in above photo.
Description	Removing topsoil and stream S-A92 substrate to be segregated.

GPS Location	See GPS in above photo.
Description	Substrate material for S-A92 and S-A93 segregated into super sacks.

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Optional Photos

GPS Location	See GPS in above photo.
Description	Trenching preparations for stream crossing on both the CIS and GAS.

GPS Location	See GPS in above photo
Description	Pipe section being lowered into ditch.

GPS Location	See GPS in above photo.
Description	Trench breaker being installed on the CIS (coming in side) of stream.

GPS Location	See GPS in above photo.
Description	Backfill activities being carried out in the buffer zone area m the GAS of stream.

GPS Location	See GPS in above photo.
Description	Post construction erosion blanket and silt fence being installed.

GPS Location	See GPS in above photo.
Description	Post construction reparian zones restored.