Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread F	**AFE**	124300135	**Spread**	H-600 Pipeline Spread F
Contractor	Price Gregory			**Report #**	421
Environmental Auditor	Beth Burdette			**Date/Time**	12/4/2023 9:19 AM

Stream ID	S-G44	**Crossing Start Date**	12/4/2023	**Crossing Completion Date**	12/16/2023
Milepost	190.08	**Pre-Con Assessment Date**	12/4/2023	**Post-Con Assessment Date**	12/16/2023
Station	10036+08	**Bankfull Width (ft.)**	5.3	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Ephemeral		
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)? 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	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	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)	4	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

Pre-Construction Notes
Pre-Construction Meeting - 12/4/2023
15. Grass covered channel. Substrate primarily sand/silt with gravel noted.
18. Grass lined channel. No variability. No flow. Timber mat bridge in place.

12/4/2023 - No Flow. Constructed DS and US dams. Work ongoing outside 10ft buffer. Removed to 12" of substrate. Stream substrate segregated in separate stockpile. Moved equipment. Completed buffer topsoil removal and prepped for drilling of blast bore holes. Blasting crew marked bore hole locations through aquatic resource. Installed flume pipe.

12/5/2023 - No flow. Drilled charge holes (Photo 2). Removed flume pipe. Prepped for blasting. Blasted crossing and buffers. Excavated trench and relayed rock and soil. Reinstalled flume pipe. Sandbags added to trench for padding in upland area. Welding ongoing.

12/6/2023 - No flow. Completed excavating trench in aquatic resource area (Photo 3). Relayed rock and soil. Lowered pipe into upland/upslope trench. Aligned/prepped/welded pipe to existing pipe end. Reworked spoil and blasted outside of aquatic resource area. Flume remained in place.

12/7/2023 - No flow. Aligned/prepped/welded/x-rayed pipe outside of resource area. Blasted going away side slope adjacent to S-G42/W-G6. Sandblasted and coated pre-fabricated pipe. No work in aquatic resource. Flume remained in place.

12/8/2023 - No flow. Jeeped/sandblasted/coated pipe welds on prefab section outside of aquatic resource area. No work in aquatic resource. Flume remained in place.

12/9/2023 - Minimal flow. Added sandbag pillows to trench for padding. Removed flume pipe. Lowered pipe into trench (Photo 4). Aligned/prepped/welded pipe section in placed in aquatic resource. Reinstalled flume pipe.

12/11/2023-12/13/2023 - No flow in flume pipe. Minimal water accumulated in trench in aquatic resource area. Welded/x-rayed/sandblasted/coated outside aquatic resource area. Flume remained in place.

12/14/2023 - Work ongoing outside aquatic resource area. Began backfilling. Flume remained in place.

12/15/2023 - Backfilled trench with subsoil (Photo 5). Installed trench breakers (Photo 6). Added substrate (Photo 7) and contoured. Installed silt fence. Put flume back in place,

12/16/2023 - Seeded aquatic resource buffer (Photo 8) and installed curlex. Removed dam. 10-foot buffer restored.

Post Construction Notes
16., 17. Crossing and riparian areas have been recently restored. These areas will be monitored until 80% vegetative cover has been achieved and areas that do not have 80% vegetative cover within 30 days will be reseeded.
18. Low habitat score due to lack of stream flow.
19. Does not include timber mats that remain in place for travel lane.

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
Beth Burdette		Potesta & Associates, Inc.	12/16/2023

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Required Photos

GPS Location	See Photo
Description	Downstream view of permitted impact area during pre-construction assessment. DS VIEW FROM US EDGE ROW PRE-CONSTRUCTION

GPS Location	See Photo
Description	Downstream view of unimpacted area during pre-construction assessment. DS VIEW FROM DS EDGE ROW PRE-CONSTRUCTION

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

GPS Location	See Photo
Description	Downstream view of unimpacted area during post-construction assessment.

GPS Location	See Photo
Description	Photo 1: Stream substrate removal.

GPS Location	See Photo
Description	Photo 2: Drilling holes for charges.

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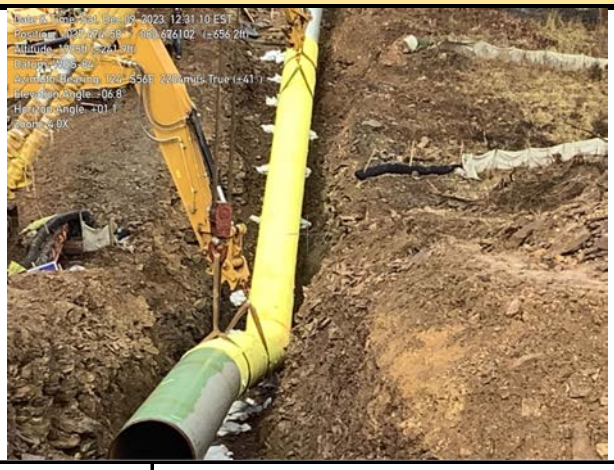
Optional Photos

GPS Location	See Photo
Description	Photo 3: Trench completed in aquatic resource.



GPS Location	See Photo
Description	Photo 4: Lowering pipe into trench.

GPS Location	See Photo
Description	Photo 5: Backfilling.

GPS Location	See Photo
Description	Photo 6: Constructing trench breaker.

GPS Location	See Photo
Description	Photo 7: Substrate added and channel contoured.

GPS Location	See Photo
Description	Photo 8: Seeding buffer.