Stream Biological Conditions EA Report

Project Name	H-600 Pipeline Spread F	**AFE**	124300135	**Spread**	H-600 Pipeline Spread F
Contractor	Price Gregory			**Report #**	303
Environmental Auditor	Kristin Duty			**Date/Time**	10/22/2023 9:20 PM

Stream ID	S-J13(3)	**Crossing Start Date**	11/7/2023	**Crossing Completion Date**	11/14/2023
Milepost	160.40	**Pre-Con Assessment Date**	10/24/2023	**Post-Con Assessment Date**	11/14/2023
Station	8469+12	**Bankfull Width (ft.)**	6.0	**Riffle:Pool Complexes Present?**	No
State	WV	**Stream Classification**	Ephemeral		
County	Summers	**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 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	5	5
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.)	4	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	4

Additional Notes

Pre-Construction Notes
Pre-Construction Meeting - 11/2/2023
Stream originates from seep directly adjacent to county road.

11/6/2023 - County road running above resource was replaced with timber mats but this was not considered direct work in the aquatic resource.

11/7/2023 - Constructed dams in resource, two dams upstream on each side of county road, and one dam downstream of aquatic resource crossing. Installed pump-around system above most upstream dam (south side of county road). Excavated first 12" of stream substrate (Photo 1), segregated, and stored in work area (Photo 2). Removed county road bridge exposing existing pipe. Trenched through aquatic resource area (Photo 3). Trench box installed. Added sandbag padding in trench (Photo 4). Placed pipe in trench through aquatic resource (Photo 5). Welding pipe in trench to existing connection. Replaced county road bridge.

11/8/2023 - Pumping from trench in aquatic resource area (to dewatering structure) throughout day. Trench slip at upstream dam. Slip addressed. Welding on-going.

11/9/2023 - Pumping from trench in aquatic resource area (to dewatering structure) throughout day. Welding and X-ray pipe ongoing outside of aquatic resource. Work initiated in S-J13(2).

11/10/2023 - Heavy rainfall throughout day. Removed county road timber bridge to build quikcrete trench breakers adjacent to each side of the road. Due to proximity to resource, northern road trench break is southern aquatic resource trench breaker. Backfilling between road trench breakers with sand that was wetted and packed. Padding added to trench. Backfilling. Bridge replaced. Welding and other activities ongoing outside of aquatic resource.

11/11/23 - Overnight rainfall (0.34 inches). Pumping from trench in aquatic resource area (to dewatering structure) throughout day. Filled road trench with concrete. Continued bedding and backfilling (Photo 6)

11/13/23 - Constructed northern trench breakers and constructed northern trench breaker for resource. Backfilling ongoing.

11/14/23 - Restored the county road with gravel. Survey onsite shooting pre restoration soil levels. Removed stumps and brush in riparian corridor in compliance with landowner agreement. Restored subsoil and contouring channel (Photo 7). Restored topsoil from containment area onto the aquatic resource. Survey shot and verified final soil levels. Staked OHWM. Crew completed restoration of 10 foot buffer. Juke added below OHWM as approved restoration practice. Raked and seeded riparian corridor on RDB and laid and keyed in curlex. Installed P1 fencing around resource as runoff deterrent (Photo 8). Restoration of upland to the south or resource. Stream bed raked and finalized.

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
Kristin Duty		Potesta	11/14/2023

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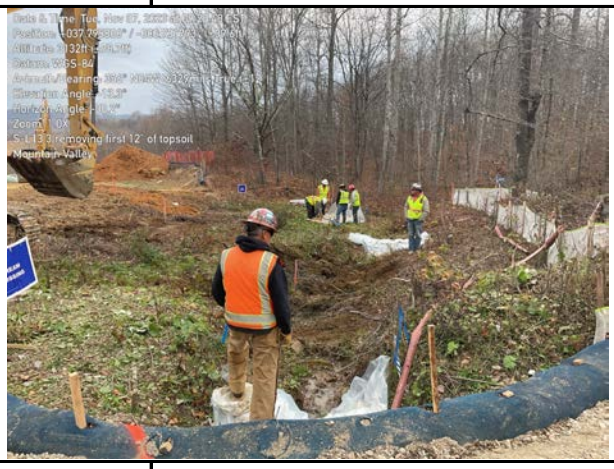
Required Photos

GPS Location	See Photo
Description	Downstream view of permitted impact area during pre-construction assessment. DS view from US edge of ROW pre-construction

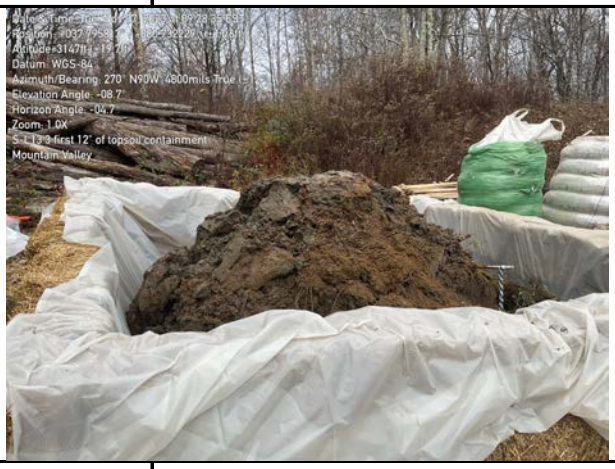
GPS Location	See Photo
Description	Downstream view of unimpacted area during pre-construction assessment. DS view from DS edge of ROW pre-construction

GPS Location	See Photo
Description	Downstream view of permitted impact area during post-construction assessment. DS view from US edge of ROW post-construction

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



GPS Location	See Photo
Description	Photo 1. Excavation of stream substrate.



GPS Location	See Photo
Description	Photo 2. Segregated stream substrate stored in work area.

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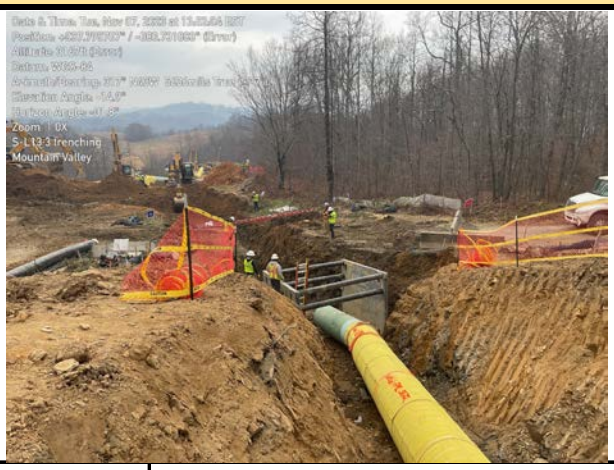
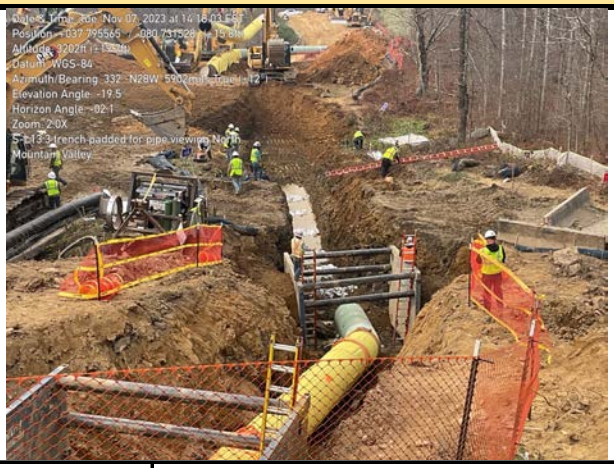
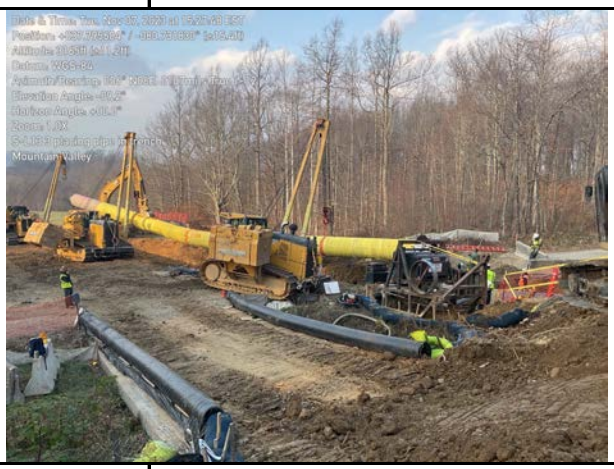
Optional Photos



GPS Location	See Photo
Description	Photo 3. Trench completed.

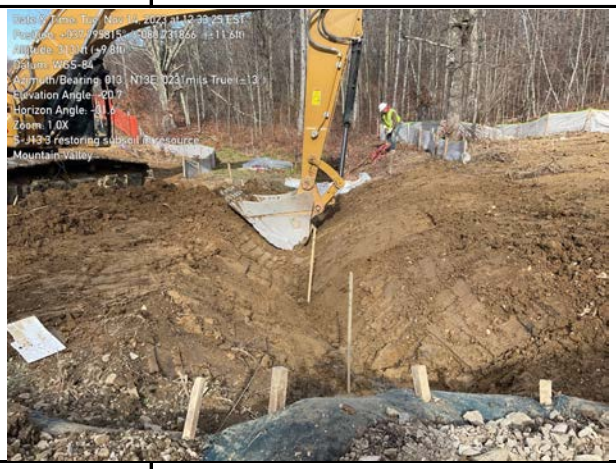


GPS Location	See Photo
Description	Photo 4. Bedding resource portion of trench.

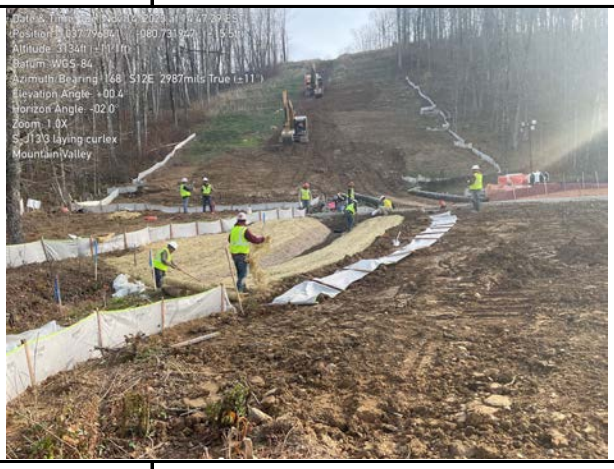


GPS Location	See Photo
Description	Photo 5. Pipe installation.

GPS Location	See Photo
Description	Photo 6. Adding padding dirt.



GPS Location	See Photo
Description	Photo 7. Restoring subsoil and seeding channel.



GPS Location	See Photo
Description	Photo 8. Curlex, juke, and P1.