



Stream Biological Conditions EA Report


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|------------------------------|-------------------------|----------------------------------|-------------------|---------------------------------------|-------------------------|
| Project Name | H-600 Pipeline Spread A | AFE | 124300129 | Spread | H-600 Pipeline Spread A |
| Contractor | Precision | Report # | 277 | | |
| Environmental Auditor | Devin Jen | Date/Time | 10/2/2023 1:26 PM | | |
| Stream ID | S-K65 | Crossing Start Date | 10/2/2023 | Crossing Completion Date | 10/9/2023 |
| Milepost | 34.33 | Pre-Con Assessment Date | 10/2/2023 | Post-Con Assessment Date | 10/9/2023 |
| Station | 1812+61 | Bankfull Width (ft.) | 8.0 | Riffle:Pool Complexes Present? | No |
| State | WV | Stream Classification | Intermittent | | |
| County | Doddridge | 303(d) Impairment Listing | N/A | | |

Resource Post-Crossing Conditions

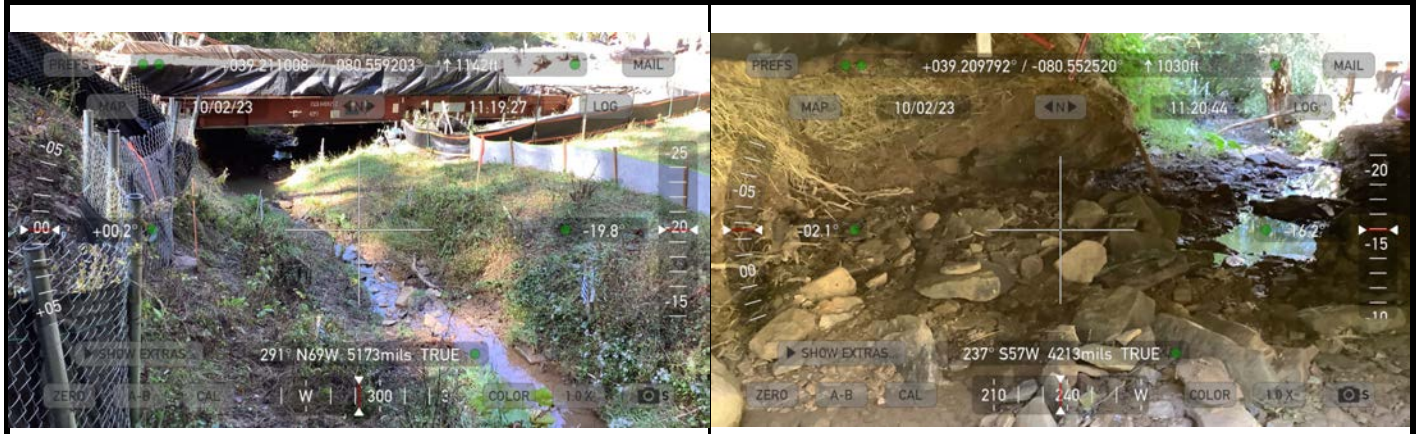
| | | |
|----|---|-----|
| 1 | Were all applicable resource specific crossing conditions satisfied? Time of Year Restrictions (TOYR)? <u> N/A </u> Mussel Relocation? <u> N/A </u> | Yes |
| 2 | This question is not applicable in WV. | |
| 3 | Which crossing methods were utilized during the stream crossing? (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

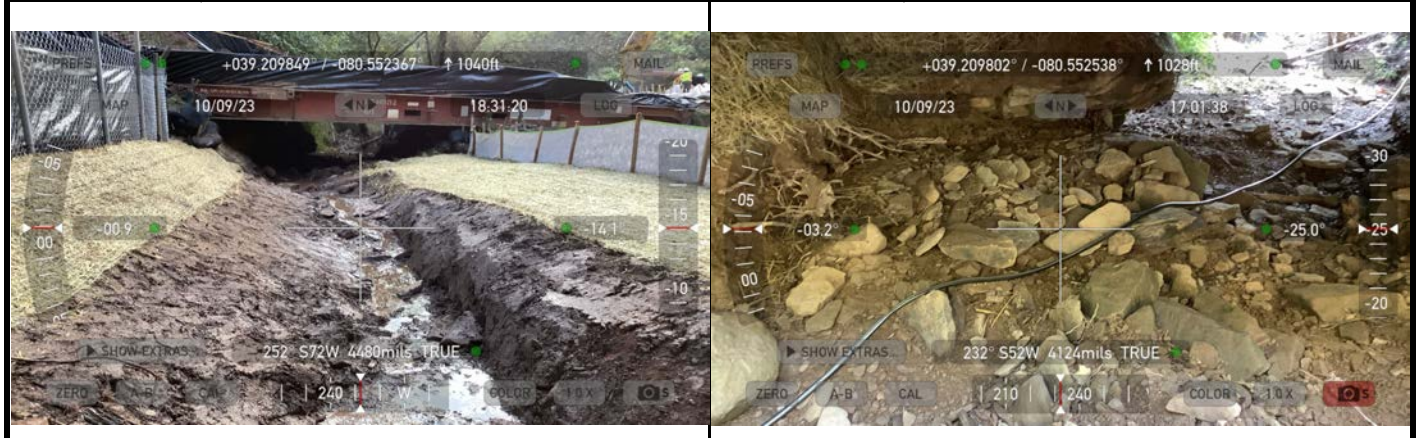
| | | Pre-Con | Post-Con |
|----|--|----------------|----------------|
| 15 | Predominant Substrate Type (select one): Bedrock, Boulder (>10"), Cobble (2-10"), Gravel (0.1-2"), Sand (<0.1"), Mud/Silt/Clay | Cobble (2-10") | Cobble (2-10") |
| 16 | Channel Conditions: Rating: 1-Optimal (80-100% stable 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) | 3 | 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.) | 1 | 4 |

| | | | | | | |
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| AFE | 124300129 | Date/Time | 10/2/2023 1:26 PM | Report # | 277 | |
| 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) | | | 2 | 2 | |
| 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 | | | | | | |
| <p>10/2/2023 The stream flows from northeast to southwest. The stream was given a rating of 3 for channel conditions in the pre construction assessment due to having undercut banks along the portions of the stream. Following installation of the dam and pump, the crew removed the top 12 inches of the stream substrate as well as the streambank topsoil and segregated them from the trench spoils. The crew began excavation of the trench.</p> <p>10/3/2023 The crew continued to excavate the trench in the area of the stream crossing.</p> <p>10/4/2023 The crew continued to excavate the trench and placed sandbags in the area of the stream crossing.</p> <p>10/5/2023 The crew positioned the pipe in the trench and added sandbags in the area of the stream crossing.</p> <p>10/6/2023 The crew began to build the trench breakers in the area of the stream crossing. The welds were completed to the northwest and southeast of the pipe.</p> <p>10/7/2023 The crew finished building the trench breakers, added AquaBlok and pea gravel, and began backfilling the trench in the area of the stream crossing.</p> <p>10/8/2023 The crew did not work today (Sunday), however, the environmental crew was onsite to maintain the pump and dam in the area of the stream crossing.</p> <p>10/9/2023 The stream substrate was replaced, and the stream was restored to pre-construction contours. Conditions 16 and 17 were given a rating of 5 and 4, respectively, due to the lack of vegetation in the disturbed permitted impact area following the completion of the crossing and restoration. The disturbed area has been seeded with the appropriate permanent seed mix and/or planted with bare-root saplings (as required) in accordance with Appendix B: Restoration Work Plan of the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework.</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. | | | | | | |
| Name | | Signature | | Company | | |
| Devin Jen | |  | | ERM | | |
| | | | | Date | | |
| | | | | 10/9/2023 | | |

Required Photos



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



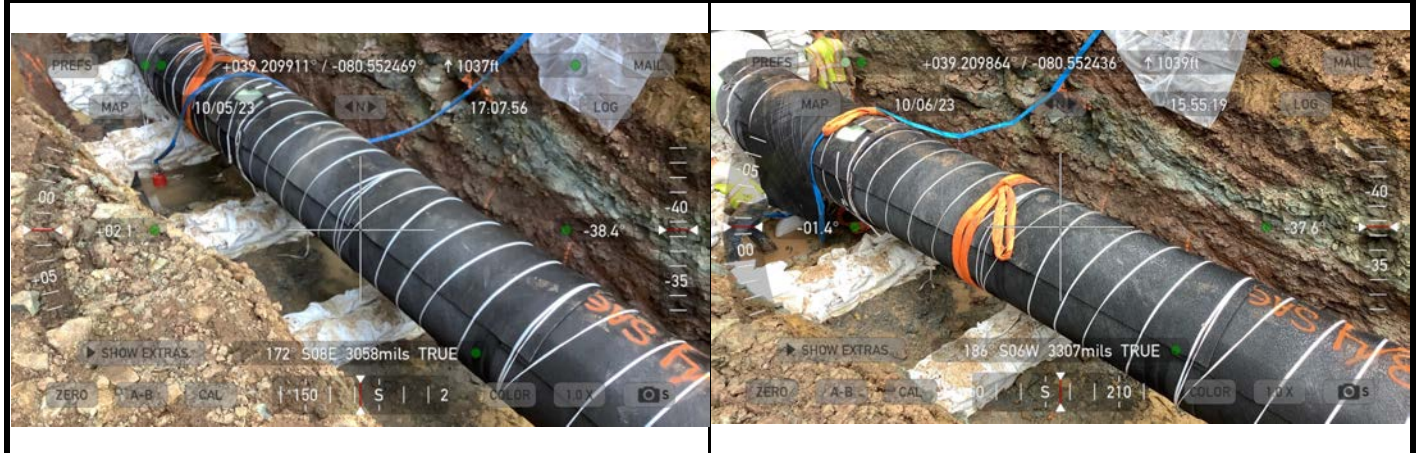
| | | | |
|---------------------|---|---------------------|---|
| GPS Location | See photo. | GPS Location | See photo. |
| Description | Downstream view of permitted impact area during post-construction assessment. | Description | Downstream view of unimpacted area during post-construction assessment.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



| | | | |
|---------------------|---|---------------------|---|
| GPS Location | See photo. | GPS Location | See photo. |
| Description | The photo shows the progress of the trench excavation on 10/3/2023. | Description | The photo shows the progress of construction on 9/4/2023. |

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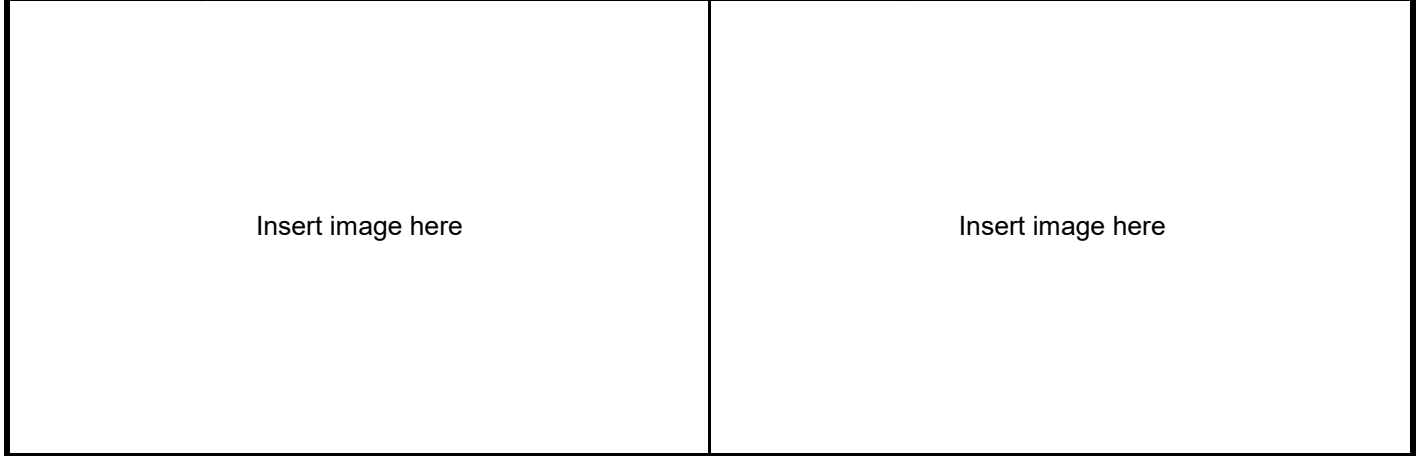
Optional Photos



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|---------------------|---|---------------------|---|
| GPS Location | See photo. | GPS Location | See photo. |
| Description | The photo shows the progress of construction on 9/5/2023. | Description | The photo shows the progress of construction on 9/6/2023. |



| | | | |
|---------------------|---|---------------------|--|
| GPS Location | See photo. | GPS Location | |
| Description | The photo shows the progress of construction on 9/7/2023. | Description | |



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|---------------------|--|---------------------|--|
| GPS Location | | GPS Location | |
| Description | | Description | |