



Wetland Biological Conditions EA Report

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|------------------------------|-------------------------|--------------------------------|------------|-----------------------------------|-------------------------|
| Project Name | H-600 Pipeline Spread C | AFE | 124300131 | Spread | H-600 Pipeline Spread C |
| Contractor | Precision | Report # | 158 | | |
| Environmental Auditor | Jeffrey Arbogast | | | Date/Time | 12/20/2023 3:05 PM |
| Wetland ID | W-B35 | Crossing Start Date | 12/20/2023 | Crossing Completion Date | 1/2/2024 |
| Milepost | 97.86 | Pre-Con Assessment Date | 12/18/2023 | Post-Con Assessment Date | 1/3/2024 |
| Station | 5166+96 | Cowardin Classification | PSS | Wetland Impact Area(acres) | 0.0108 |
| State | WV | | | | |
| County | Webster | | | | |

Resource Post-Crossing Conditions

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|----|---|-----------|
| 1 | Were equipment mats or other suitable methods utilized under heavy equipment to minimize soil compaction and disturbance in wetlands? | Yes |
| 2 | Was the existing vegetation removed prior to initiating land disturbance within the resource? | Yes |
| 3 | Was the top 1-foot (12-inches) of wetland soil segregated and stockpiled separate from trench spoils? | Yes |
| 4 | Was excess material not needed for backfill removed and disposed of in an upland area? | N/A |
| 5 | Was the top 12-inches of backfill made with clean native wetland topsoil? | Yes |
| 6 | Were standard decompaction practices (disking, plowing, cultivating, tilling, or incorporation of organic matter into the topsoil horizon) implemented prior to applying seed? | Yes |
| 7 | Was wetland topsoil replaced and temporarily seeded? | Yes |
| 8 | Was permanent seed applied to unsaturated wetlands? | Yes |
| 9 | Was equipment/timber matting removed from the wetland area properly by vertically lifting, and not pulling through the impact area? | Yes |
| 10 | Were impervious trench breakers/plugs properly installed within 25-feet of the resource to prevent subsurface erosion to or from the resource area? | See Below |
| 11 | Was the pre-construction survey data utilized during restoration in attempt to maintain the original surface hydrology, and were contours re-established to pre-construction conditions to maintain overland flow patterns? | 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 | Was the time of disturbance minimized by conducting resource work continuously to completion? | Yes |
| 14 | Does the post-construction square footage of wetland area appear to be restored to meet or exceed the pre-construction area square footage? | Yes |
| 15 | Are bareroot saplings required and/or scheduled to be planted for the dormant season (10/1 – 4/30) in PFO classified wetlands? | N/A |
| 16 | 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 |
|----|--|---------|--|----------|
| 17 | Wetland Saturation: Are surface waters, the water table, and/or overall soil saturation present? (Select Yes or No) | No | | No |
| 18 | Resource Alterations: Are the wetland soil conditions visibly disturbed? Examples: Livestock presence, haul roads, farm traffic, drain tiles, recent mowing/clear cutting, recent excavating/disking of soils, etc. Rating: 1-Negligible (undisturbed/natural resource), 2-Minor (20-40% of resource disturbed by alterations), 3-Moderate (40-80% of resource disturbed), 4-Poor (>80% of resource disturbed) | 1 | | 4 |
| 19 | Is vegetation present within the permitted impact area prior to disturbance? (Pre-Con)Are areas properly seeded and stabilized after restoration? (Post-Con) Rating: 1-Optimal (60-100% heavy vegetative cover), 2-Sub-optimal (30-60% mixed vegetative coverage), 3-Marginal (<30% vegetative coverage), 4-Poor (Mowed/maintained area or farmland, impervious area, sparsely vegetative coverage, etc.) | 1 | | 4 |

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Additional Notes

The alignment sheets indicate that the mainline crosses wetland W-B35 from station number 5166+96 to 5167+18.

Wetland W-B35 is in close proximity to multiple other resource crossings. The overlapping buffer areas that intertwine the stream channels and wetland boundaries caused traditional trench breaker placement and the immediate restoration of the buffer zone to be impractical.

Expanded notes for question 10: Bentonite trench breakers were built at 42' from the coming in side (CIS) and at 29' from the going away side (GAS) of the wetland boundaries. The onsite civil survey crew verified the trench breaker locations.

Conditions 18 and 19 were given a rating of 4 due to the lack of vegetation in the disturbed permitted impact area following completion of the crossing and restoration efforts. Wetland W-B35 topsoil was properly stabilized and the disturbed areas were seeded with the appropriate permanent seed mix in accordance with Appendix B: Restoration Work Plan of the Mountain Valley Pipeline Comprehensive Stream and Wetland Monitoring, Restoration and Mitigation Framework.

12/20/2023: The upper 12 inches of topsoil was removed, placed in super sacks and stored in an upland area. The native wetland subsoil was separated so it could be used as backfill material.

12/21/2023: The ditch excavation was extended enough for another pipe section to be lowered in and welded in place. The ditch was then backfilled through stream S-B34.

12/22/2023: The nearby stream crossing (S-B34) was completed.

12/23/2023-12/26/2023: Christmas Break.

12/27/2023: Rain out.

12/28/2023: The next section of pipe was welded, while site preparation for ditch excavation for the following day was conducted.

12/29/2023: The next section of the ditch was excavated, which extended through the remaining features in the area to be crossed.

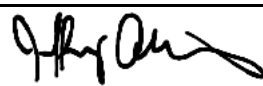
12/30/2023: With ditching completed, the next section of pipe was lowered in and welded in place.

12/31/2023: The trench was backfilled from CIS of S-B35 through to the GAS of S-B39B. The subsoil was brought back to pre-construction elevation in preparation to restore multiple resources after the New Year holiday break.

1/1/2024: Holiday break.

1/2/2024: The wetland topsoil was replaced and brought back to pre-construction elevation. Civil survey verified that all contours, elevations, and any other significant points met pre-construction specification. The wetland was properly seeded prior to the perimeter silt fence being installed.

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 |
|------------------|---|---------|----------|
| Jeffrey Arbogast |  | SWCA | 1/3/2024 |

Required Photos

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|  <p>12/18/2023 07:55:00 +38.493686,-80.561000 10° N W-B35 (Pre-JA)</p> |  <p>12/18/2023 07:54:40 +38.493686,-80.561000 331° NW W-B35 (Pre-JA)</p> |
| <p>GPS Location See Caption in Photo</p> | <p>GPS Location See Caption in Photo</p> |
| <p>Description View of permitted resource impact area during pre-construction assessment. W-B35 with S-B37 passing through it.</p> | <p>Description At edge of LOD, view of unimpacted resource area conditions during pre-construction assessment. W-B35 does not extend off the ROW. Photo of S-B37 downstream off ROW.</p> |
|  <p>01/03/2024 12:53:49 +38.493698,-80.560885 6° N W-B35 (Post-JA)</p> |  <p>01/03/2024 12:54:02 +38.493789,-80.561005 329° NW W-B35 (Post-JA)</p> |
| <p>GPS Location See Caption in Photo</p> | <p>GPS Location See Caption in Photo</p> |
| <p>Description View of permitted resource impact area during post-construction assessment. W-B35 with S-B37 passing through it.</p> | <p>Description At edge of LOD, view of unimpacted resource area conditions during post-construction assessment. W-B35 does not extend off the ROW. Photo of S-B37 downstream off ROW.</p> |
|  <p>12/20/2023 11:50:23 +38.493823,-80.560900 246° SW W-B35 (Dur-JA)</p> |  <p>12/21/2023 16:42:50 +38.493679,-80.561016 9° N W-B35 (Dur-JA)</p> |
| <p>GPS Location See Caption in Photo</p> | <p>GPS Location See Caption in Photo</p> |
| <p>Description Wetland topsoil being placed in super sacks.</p> | <p>Description Bentonite breaker on the CIS of the wetland.</p> |

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Optional Photos

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|---|--|---|---|
| <p>12/29/2023 15:13:19 +38.493752,-80.560988 210° SW W-B35 (Dur-JA)</p> | | <p>12/30/2023 11:55:03 +38.494405,-80.561173 169° S W-B35 (Dur-JA)</p> | |
| GPS Location | See Caption in Photo | GPS Location | See Caption in Photo |
| Description | Ditch excavation continued through the wetland boundary. | Description | Lowering in. |
| <p>12/31/2023 11:19:54 +38.493885,-80.561100 150° SE W-B35 (Dur-JA)</p> | | <p>01/02/2024 12:23:09 +38.493871,-80.560968 201° S W-B35 (Dur-JA)</p> | |
| GPS Location | See Caption in Photo | GPS Location | See Caption in Photo |
| Description | GAS bentonite trench breaker. | Description | Survey checking subsoil elevation. |
| <p>01/02/2024 13:53:13 +38.493693,-80.560894 283° W W-B35 (Dur-JA)</p> | | <p>01/02/2024 14:04:16 +38.493672,-80.560736 311° NW W-B35 (Dur-JA)</p> | |
| GPS Location | See Caption in Photo | GPS Location | See Caption in Photo |
| Description | Wetland topsoil being replaced. | Description | Survey checking stream and wetland interface. |