

# STREAM BIOLOGICAL CONDITIONS ENVIRONMENTAL AUDITOR REPORT

Version 2.3



<b>Stream ID:</b> S-G39	<b>Crossing Start Date:</b> 11/07/2023	<b>Crossing Completion Date:</b> 02/05/2024
<b>Milepost:</b> 227.7	<b>Pre-Con Assessment Date:</b> 10/30/2023	<b>Post-Con Assessment Date:</b> 03/20/2024
<b>Station:</b> 12030+31	<b>Stream Classification:</b> Intermittent (Perennial, Intermittent, Ephemeral)	<b>Bankfull Width (ft.):</b> 6
<b>County:</b> Montgomery	<b>303(d) Impairment Listing:</b> Not Impaired	<b>Riffle:Pool Complexes Present?</b> No

Item #	Resource Crossing Conditions	N/A	YES	NO
1.	Were all applicable resource specific crossing conditions satisfied? Time of Year Restrictions (TOYR)? <u>Yes</u> Fish Relocation? <u>N/A</u> Mussel Relocation? <u>N/A</u>		X	
2.	Is this resource designated a wild or stockable trout stream?			X
3.	Which crossing methods were utilized during the stream crossing? ( <i>Select one or more</i> ) Dam & Pump, Flume, Cofferdam, Conventional Bore, Horizontal Directional Drill (HDD) Bore?	Flume, Dam & Pump		
4.	Was the top 1-foot (12-inches) of streambed substrate segregated and stockpiled separate from trench spoils?		X	
5.	Was excess material not needed for backfill removed and disposed of in an upland area?		X	
6.	Was the top 12-inches of backfill made with clean native stream substrate?		X	
7.	Was the pre-construction survey data provided and utilized during restoration in attempt to re-establish pre-construction contours?		X	
8.	Were any field modifications to the stream implemented by project or regulatory personnel to address potential drainage or bank restoration limitations?		X	
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?		X	
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?		X	
11.	Was the time of disturbance minimized by conducting resource work continuously to completion?		X	
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?		X	
13.	Are bareroot saplings required and/or scheduled to be planted for the dormant season (10/1 – 4/30)?			X
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.		X	

Item #	Biological Conditions	Pre-Con	Post-Con
15.	<b>Predominant Substrate Type (select one):</b> <i>Bedrock, Boulder (&gt;10"), Cobble (2-10"), Gravel (0.1-2"), Sand (&lt;0.1"), Mud/Silt/Clay</i>	Bedrock	Bedrock
16.	<b>Channel Conditions:</b> <b>Rating:</b> 1-Optimal (80-100% stable banks), 2-Suboptimal (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)	4 - Poor	2 - Sub-optimal
17.	<b>Riparian Buffer Zone within ROW and ≤50 ft. from Stream Top-of-Bank:</b> <b>Rating:</b> 1-Optimal (60-100% heavy vegetative cover), 2-Suboptimal (30-60% mixed vegetated coverage), 3-Marginal (<30% vegetative coverage), 4-Poor (Mowed/maintained area or farmland, impervious area, sparsely vegetated coverage, etc.)	2 - Suboptimal	3 - Marginal
18.	<b>Instream Habitat Conditions:</b> <b>Examples:</b> 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, submerged aquatic vegetation. <b>Rating:</b> 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)	3 - Marginal	3 - Marginal
19.	<b>Channel Alterations:</b> <b>Examples:</b> 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. <b>Rating:</b> 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)	3 - Moderate	3 - Moderate

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## Comments/Remarks

10-30-2023: Precon meeting at 10am. MVP EI is Dan Roach. Open cut crossing-dam and pump and flume anticipated. Blasting anticipated due to bedrock in stream. Modification likely on left bank due to soil creep/slip due to preexisting landowner road. Slip mitigation for trench expected 50 ft on either side of resource. Trench breakers expected to be installed outside of 25 ft from top of bank due to site constraints. Survey to take new points for restoration. Channel protection mats and rail car bridge to be removed during restoration. Dewatering structure to be built on the hill on GAS of resource. -S. Fisher

10-31-2023: No work activity near or adjacent to resource. -S. Fisher

11-1-2023: Work in upland area on GAS slope. Contractor grading ROW down to vertical mats installed near 50' buffer zone. Per EI, no work will be performed in resource today, and dam and pump will be set up prior to removal of channel protection mats. -S. Fisher

11-2-2023: Topsoil within the 50ft buffer on the going away side was stockpiled. Additional E&S installed on the left side of the stream resource consisting of silt fence and filter. Prepping for old timber mat bridge removal/ haul off. Area for salvaged stream bed material setup. - J. Bellinger

11-3-2023: Old timber mats used for landslide protection were removed from above stream. Fabric put down in channel to avoid impact. Pump around installed for minimal flow. Pump was turned on twice. Mat and fabric removal complete. Stream was not impacted and stream work has not commenced. Next steps; clear CIS 50' buffer, remove mat retaining walls, dig CIS trench, prior to working in 10' buffer and stream, est 11/10/23.

11-4-2023: Layer of visqueen set in channel for removal of channel protection mats. Mats were removed and survey was on site to collect updated points for restoration. Contractor still working on GAS slope outside of buffer zones. Debris removal and changing E&S controls on CIS slope to accommodate future work space for crossing. Seed and erosion control matting to be installed where channel protection mats were removed. Additional mats being installed vertically along existing bridge in upland area. Fill dirt to be graded against vertical mats to create additional workspace in upland area on CIS of resource. -S. Fisher

11-6-2023: Work in 50' buffer zone to add fill from CIS of ROW hillside to increase upland workspace area for resource crossing. Timber mats and dead man anchors used to install a wall for backfilling in upland area. Dam and flume crossing expected to be installed tomorrow, prior to removal of top 12" of stream substrate (or what's available on top of bedrock). No work within the temporary resource impact area. -S. Fisher

11-7-2023: Top 12" of stream substrate bagged and/or removed and stockpiled separately. Flume installed and secured with log pallets and geofabric. Plastic sheeting and sandbags were placed at both ends. 10' buffer right-of-wayed on SE facing slope to the resource, and top 12" of stream bank soil stockpiled separately and secured with hay. NW facing slope right-of-wayed in 50' buffer to the resource. - J. White

11-8-2023: Established pipe centerline and began drilling within 50' buffer for blasting. Reached the water table within 30' of resource on SE facing slope. Tomorrow finish drilling on NW facing slope and dam the resource and remove flume in preparation for drilling in resource. - J. White

11-9-2023: Upon arrival, crew was setting up to finish drilling. Explosive crew from Hoover placed charges in drill holes from previous day. Precision crew installed upstream dam and removed protection features installed 11-7-2023 for drilling in resource channel. Hoover crew drilled in resource for explosive placement. Blasting occurred approximately 11:45am around channel, followed by clearing blast deposits from channel. Channel contours restored and flume and supporting structures reinstalled. Curlex fabric was installed on both banks - J. White

11-10-2023: Precision crew began preparing NW facing slope for further drilling and blasting above the resource. Drilling 6" holes for mat posts commenced approximately 10:30 a.m. between 10' and 50' buffer during a light rain, followed by mat installation. Water bar installed above 50' buffer. Tomorrow will drill for blasting above 50' buffer on NW facing slope. - J. White

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11-11-2023: Precision crew continued working the NW facing slope in preparation for drilling and blasting above 50' buffer. Finished mat installation within 50' buffer. Flume is intact and functioning, with resource protection measures in place. Blasting predicted to occur Monday, 11-13-2023. - J. White

11-14-2023- Precision crew prepping upland area outside 50' buffer on GS slope - anticipate trenching tomorrow. During upland prepping on slope rocks slide passed rock wall catch into stream (on flume and dam structures) - Rock rubble cleaned up by crew. - M. Smith.

11-15-2023 - Rock wall diverter and silt fence (re) installed on right side of stream to prevent rock entering stream above dam flume. Trenching began on GS (NW) slope outside of 50' foot buffer. Water bars and flumes installed at end of day. -M. Smith

11-16-19-2023 - Trenching above 50' buffer continued through the week and was completed. Dewatering station installed on upland shelf slope GS of Resource. Sandbags installed in open trench above resource. Water bars installed on slope at end of day. -M. Smith

11-20-2023 – Crews started hammering rock upland of stream. Prepping area for anticipation of rain. Timber mats used for travel lane within the trench, cleared away. Silt fence installed along stream banks in anticipation of rain. Curlex installed on both upslope areas from stream. Water bars installed on slope at end of day. -C. Devono

11-24-2023 - Crews cleaning timber mat bridge after rain event. Crews removing sediment accumulation from silt fence. Sandbags installed in trench upslope from resource. -C. Devono

11-25-2023 - Crews hammering rock in trench upslope from resource; cleared rock from trench. Crews removed flume pipe from stream for additional trench excavation. Setup materials for pump around; pump active as needed. Flume pipe reinstalled at end of day. Crews cleared sediment accumulation from silt fence, upslope of stream. -C. Devono

11-26-2023 - Crews hammering rock in trench, upslope from stream. Flume pipe remained in place during trenching. Dewatering of trench conducted as needed. Water bars installed EOD. Crews cleaned bridge EOD. -C. Devono

11-27-2023 - Continued trench excavation; flume pipe and dam installed in stream. Dewatering in trench as needed. -C. Devono

11-28-2023. - No work within stream. Crews installed sand bags in trench. Crews cleaning bridge. Biological resource conditions remain consistent. -C. Devono

11-29-2023 - Crews securing soil stockpile upslope, installed timber mat wall. Curlex and silt fence installed on upslope areas. Pipe lowered into trench upslope and under stream. Equipment staged on timber mat bridge within liners. Biological resource conditions remain consistent. - C. Devono

11-30-2023 - Crews prepping pipe and welding seam under flume pipe. Dam and flume pipe remain installed. Biological resource conditions remain consistent. X-ray on site at EOD. Equipment staged on timber mat bridge within plastic liners. Crews installed silt fence at bottom of slope at EOD. - C. Devono

12-1-2023 - Crews prepping for coating. Flume pipe and dam remain installed at stream. Biological resource conditions remain consistent. Work put on hold due to rain. - C. Devono

12-2-2023 - Crews coated weld. Installed pipe wrap and sandbags in trench. Water bars installed EOD. Silt fence installed at bottom of slope EOD. Crews cleaned bridge EOD. Equipment staged on bridge, wrapped in plastic liners. Curlex installed on upslope area. Pump removed from stream bank. Biological resource conditions remain consistent. -C. Devono

12-4-2023 - Crews installing trench breaker. Pump removed from stream bank. Equipment removed from bridge EOD. Biological resource conditions remain consistent. -C. Devono

12-5-2023 - Crews offloading additional sandbags. Resume excavating trench to the northwest slope. Curlex installed on upslope areas. Flume pipe and dam installed. Biological resource conditions remain consistent. -C. Devono

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12-6-2023 - Crews continuing excavation of trench. Add'l sandbags installed around pipe at bottom of slope. Curlex installed on upslope areas. Flume pipe and dam installed. Biological resource conditions remain consistent. -C. Devono

12-7-2023 - Crews installed pipe on west end; add'l trench breaker installed on east side, upslope from stream. Flume pipe and dam installed. Biological resource conditions remain consistent. -C. Devono

12-8-2023 - Crews welded pipe on west side. X-ray completed. Curlex installed on upslope areas. Flume pipe and dam installed. Biological resource conditions remain consistent. -C. Devono

12-9-2023 - Coating and jeeeping recent weld; no other pipe work being conducted due to rain. Crews applying Curlex to slopes, installing silt fence at bottom of slopes in anticipation of additional rain. Flume pipe and dam installed. Biological resource conditions remain consistent. -C. Devono

12-11-2023 - Limited construction activities on account of inclement weather. Repair of super silt fence and general maintenance of ECDs. Dewatering of trench (GAS). Dam and flume pipe functioning properly. No impacts to the biological conditions to report. -K. Douglas

12-12-2023 - Trench backfilled with sandbags (CIS). Tie in segment lowered into the trench and welded onto transition (GAS). Welder suffered minor head injury, in the process, which required bandaging and briefly stalled construction activities. - K. Douglas

12-13-2023 - FERC present onsite. Further backfill of trench with sandbags (CIS). Transition weld X-rayed, blasted and coated. Final impervious, bentonite trench breaker installed. All site drainage and ECDs functioning properly. - K. Douglas

12-14-2023 - No construction activities occurring near the resource on this date. Final tie in segment lowered into place in upland area. First of two, final welds completing tie in finished. Stream flow remains steady and free from turbidity. - K. Douglas

12-15-2023 - No construction activities occurring near the resource on this date. Second weld of final tie in segment finished. X-ray, blasting and coating to be completed on Sat 12-16. No impacts to the biological conditions to report. - K. Douglas

12-16-2023 - ECDs fortified with addition of timber mat against super silt fencing (CIS) in preparation for rainfall, Sun 12-17. X-ray, blasting and coating of final tie in welds completed. Water bars restored and silt fence added along the end of bridge (GAS). Additional Curlex matting installed along stream bank (CIS) and travel lane (GAS). Stream conditions remain unchanged. - K. Douglas

12-18-2023 - No crossing construction activities occurring in the vicinity of the resource on this date. All ECDs functioning properly following rain event. No impacts to the biological conditions to report. - K. Douglas

12-19-2023 - Partial backfill of trench using sandbags due to steep incline of the slope (GAS). General maintenance of ECDs. Timber mats staged at crossing in preparation for restoration of stream channel contours. - K. Douglas

12-20-2023 - Mid-slope dewatering station dismantled and hoses extended to upland station utilizing additional pumps to relay water from trench. Dewatering of trench completed and pipe padded with shaker bucket. Backfill ongoing, banks roughed in. Bridge cleaned and ECDs restored. - K. Douglas

12-21-2023 - Sandbag and concrete totes relayed to trench for backfill and construction of additional trench breakers in the upland area. General maintenance of ECDs and site cleanup. Addition of silt fencing at bridge (CIS) and Curlex matting in preparation for the holiday break. Backfill to be resumed Wed 12-27. - K. Douglas

12-22-30-2023 - No crossing construction activities occurring in the vicinity of the resource on this date. All ECDs functioning properly. No impacts to the biological conditions to report. - K. Douglas & G. Aceves

12-31-23 - Moved sand bags from one side of hill to the other, staging it. All ECDs functioning properly. No impacts to the biological conditions to report. - G. Aceves

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1-2-24 - Placement of sandbags for erosion control on slope of hill. All ECDs functioning properly. No impacts to the biological conditions to report. - G. Aceves

1-3-24 - Started backfilling of top of hill. Started padding today and will finish tomorrow. -G. Aceves

1-4-24 - Continued backfilling top of hill. Backfilled to sandbag erosion control placement. Started moving out equipment. Restoration team will come in to complete stream restoration. -G. Aceves

1/5-14/2024 - No crossing construction activities occurring in the vicinity of the resource on this date. All ECDs functioning properly. No impacts to the biological conditions to report. - G. Aceves

1-15-24 - Stabilization of Gas and Removal of erosion control blanket of CIS. -G. Aceves

1-16-24 - Started removal of top soil and preparation for blasting on CIS. No construction activities for GAS restoration. -G. Aceves

1-17-24 - Continued preparation for blast on CIS. No construction activists for GAS restoration. All ECDs functioning properly. -G. Aceves

1-18-24 - Blasting on CIS. Digging and stabilizing continued. No construction activists for GAS restoration. All ECDs functioning properly. -G. Aceves

1-19-24 - Digging and stabilizing continued. No construction activists for GAS restoration. All ECDs functioning properly. -G. Aceves

1-20-24 - Stabilized CIS and installed fall protection boards at bottom of bridge. Restoration on GAS has started, covered stream with plastic for any falling debris. Started building erosion control trench breakers. All ECDs functioning properly. -G. Aceves

1/22-24/2024 - Continued to install erosion control trench breaker, and installed a drain for rain water control. -G. Aceves

1-25-24 - Rain canceled. No crossing construction activities occurring in the vicinity of the resource on this date. All ECDs functioning properly. No impacts to the biological conditions to report. - G. Aceves

1-26-24 - Rain canceled. No crossing construction activities occurring in the vicinity of the resource on this date. All ECDs functioning properly. No impacts to the biological conditions to report. - G. Aceves

1-27-24 - Continued to install erosion control trench breaker. Stabilized the steep slopes with curlex and super silt fence in preparation for the upcoming rain. -A. Thorpe

1-28-24 - Construction activities halted for unfavorable weather conditions. -A. Thorpe

\*ITEM 14\* Accumulation of 1.5 inches of rain on Saturday 1-28-24, caused the protection walls to give way under pressure of mud and water, causing a mudslide that fell into the resource. The mudslide covered the walking path and fell left side into the downstream part out of Right-Of-Way. Accumulation of 4 wooden protection boards fell into the resource with the mud, 39x42 feet out of right away, 4 feet in height was in the resource. Mitigation plan is to work their way down CIS slope, clearing away loose and saturated mud. Flume pipes will be installed for the stream while mitigation is in progress. Estimated 3 days till finish. - G. Aceves

1-30-24 - Continuation of removal of CIS mud from slope, so that they can make their way down towards resource and mudslide. -G. Aceves

1-31-24 - Continuation of removal of CIS mud from slope. Lowered backhoe onto bridge, so that they may be able to reach the mud and wooden mats in the resource. Pulled out all boards and mud. Leveling out walking path. Swapped backhoe for a long arm so as to reach far mud and finish restoring the stream. Impacted areas from restoration were seeded and stabilized with erosion control matting. Continued to build up highwall on GAS. Flume extension continued to work correctly. -G. Aceves

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\*ITEM 8\* Change to restoration of GAS slope due to slope stability and resource being at bottom. Potential for erosion and impact to resource. Adding a highwall of cement bags to mimic angle of slope, 67ft high. Also being installed is pvc pipes acting as drainage for being the highwall every 7-10ft. Due to the steep slope conditions, a slip mitigation wall is to be installed in accordance with MVP Annual Standard and Specification MVP-44A, MVP-44B, and MVP-45 for Slide Mitigation Highwall Revetment & Steep Slope Revetment. – G. Aceves

2-1-24 - Continue to build on highwall on GAS. restoration on damage to stream and stream bank continued. Restoration crew using shovels and hand removing rocks. Also restored socks for right-of-way limits. Seeded and placed erosion blanket for stability in all places disturbed by impact. -G. Aceves

2-2-24 - Continued and finished creating highwall. -G. Aceves

2-3-24 - Backfilled from top of high wall to the top of the slope. Completion of GAS slope. -G. Aceves

2-4-24 - Blasting on CIS slope. No restoration activities on stream until tomorrow after blasting. -G. Aceves

2-5-24 - Restoration for stream continued. Installed dam and pump to bypass stream as restoration was in progress. Used backhoe to assist in removing sandbags and plastic used to cover and protect stream during construction. Survey crews on site assisting restoration of pre-construction contours. Stream substrate and stream bank restored with topsoil. Environmental crew seeded stream bank with winter rye and blanket with erosion control blanket. -G. Aceves

2/6-3/12/2024- Auditor on-site to monitor the upland right of way activities adjacent to the resource and buffer zones. Conditions were monitored from restoration activities to ensure biological conditions could be maintained to the extent practicable. No further unauthorized discharges/impacts were observed during work upslope from resource.  
– G. Aceves & S. Fisher


3-13-24- There was no work conducted within the resource. The stream banks have remained the same after stabilization efforts were made. -M. Craven

3-18-24- All work conducted in the area was upland from the resource. All biological conditions remain the same since bank stabilization took place. -M. Craven

3-20-24- Post-Con assessment was completed. Resource crossing activities completed. Due to TOYR restrictions the slipping soil under the timber mat bridge will be addressed during bridge removal at a later date. -M. Craven

An unauthorized discharge was observed during the crossing activities, and impact to biological riparian buffer conditions due to installation of concrete highwall on GAS of resource.

In accordance with the Mountain Valley Pipeline Consent Decree, Case No. CL18006874-00, (Issued October 11, 2019) 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.

<i>This report was written by</i>	<b>Matthew Craven</b> <i>Print Name</i>	 <i>Signature</i>	<b>03/20/2024</b> <i>Date</i>
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## Required Photos



**Photo Description:** Downstream view of permitted impact area during pre-construction assessment.



**Photo Description:** Conditions of the downstream area outside the ROW during pre-construction assessment.



**Photo Description:** Downstream view of permitted impact area during post-construction assessment.



**Photo Description:** Conditions of the downstream area outside the ROW during post-construction assessment.



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## Optional Additional Photos



**Photo Description:** Upstream view under channel protection mats.



**Photo Description:** Upstream view with old deck mats to be removed.



**Photo Description:** Sled with E&S and crossing materials



**Photo Description:** Top soil stockpile on the going away side of the pipe.



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**Photo Description:** Secondary flume installation to extend flume past the area needed to be disturbed for remediation.



**Photo Description:** Alternative angle of the right of way slip into the downstream area of S-G39.



**Photo Description:** Material from right of way slip was retrieved down to the original stream substrate.



**Photo Description:** Areas impacted for the remediation effort were seeded and stabilized with erosion control matting.



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**Photo Description:** Upstream view of the resource impact area from the timber mat bridge. Highwall installation continues while resource is flumed and plastic in resource to catch debris from upslope.



**Photo Description:** Highwall construction was completed on the GAS of the resource. MVP Specification MVP-44A, 44B, & 45.



**Photo Description:** Pipe lowered into trench and beginning of sandbag backfilling on GAS of resource. Resource flumed throughout crossing activities.



**Photo Description:** Flume outfall onto non-erodible material to prevent downstream scour.