

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Utility Line Crossings



Effective Date: January 6, 2021
Expiration Date: April 7, 2025

Activities Covered by this Permit

This general permit authorizes the construction, maintenance, repair, rehabilitation or replacement of utility line crossings of streams. This general permit also authorizes horizontal directional drill crossings of wetlands in addition to the maintenance, repair, and rehabilitation of utility line crossings of wetlands. The alteration of wetlands and streams due to construction or easement maintenance of aerial utility lines, including permanent vegetation suppression is not authorized by this general permit. The cumulative number of crossings that may be authorized under this general permit is dependent on the trenching technique, and line alignment in relation to water resources. For example, a greater number of crossing points may be authorized for utility line types that typically involve directional drilling and do not follow surface topography, such as fiber optic, gas transmission, and electric lines, than for gravity sewer lines utilizing traditional blasting or hoe-ramming trenching techniques.

In addition, the following activities may be performed without submittal of an application or written authorization from the division prior to the commencement of work, provided the work is performed in accordance with the applicable terms and conditions of this general permit:

- a. Utility line activities employing non-invasive technologies such as pipe bursting, or slip-lining.
- b. Up to 3 crossings (boreholes) utilizing horizontal directional drilling, provided no Federal or State-listed deemed in need of management, threatened, or endangered aquatic species are located within one-mile of the project location, and all special conditions, including subparts of condition #5 are met.
- c. Utility lines suspended from a culvert, bridge, or similar structure.
- d. Single residential service lines.

Certain activities due to size, location or potential water quality impacts are not covered under this general permit, as described in both the Special and General Conditions sections. Activities not qualifying for authorization under this general permit may be authorized by a standard (individual) permit provided that all requirements of the *Tennessee Water Quality Control Act of 1977* (the Act) are met.

Special Conditions

1. Written notification of the commencement of authorized work shall be provided to the local TDEC Environmental Field Office prior to, or within 24 hours after the authorized work has commenced.
2. Provisions shall be made to prevent the loss of stream flow due to fracturing of bedrock.
 - a. Sewer line crossing streams with bedrock streambeds must provide non-erodible fill and cover, such as concrete or controlled low strength materials (flowable fill), and trench plugs at each end of the crossing.

- b. No blasting will be permitted in the excavation of trenches that parallel or lie within 50 feet of a stream or wetland, including all stream crossings.
3. In the case of proposed utility lines that follow the stream gradient or otherwise parallel the stream channel, the number of crossings shall be minimized to the maximum extent practicable.
4. Trench plugs will be placed throughout any trench running parallel within 50 feet of a stream channel.
 - a. Trench plugs are barriers placed within an open pipeline excavation in order to slow flow and reduce erosion in the trench and also to prevent the trench from becoming a subsurface drainage path. Since the bedding and embedment are constructed using cohesionless, free-draining soils, a path is created for water to flow easily (French drain effect) alongside the pipe. In areas where there is high groundwater, where the pipeline crosses streams or aquifers, or where the natural groundwater flow would be affected or even diverted by the select material, trench plugs of compacted, cohesive, soils or impervious materials should be constructed at intervals along the pipeline.
 - b. The trench plug area will have a bedding of compacted, cohesive soils or impervious materials (such as concrete or controlled low strength materials a.k.a. flowable fill), whereas the bedding on both sides of the trench plug will have a bedding of uncompacted, cohesionless soil. Trench plugs must have lower permeability than the surrounding native soil.
 - c. Location and spacing of trench plugs:
 - i) Minimum of one trench plug between manholes, and one trench plug at each end of the stream crossing or wetland.
 - ii) The trench plugs between manholes shall be located near the upstream manhole.
5. Crossings that utilize horizontal directional drilling are authorized, provided that:
 - a. Entry and exit locations are at least 50 feet from the stream bank or wetland margin.
 - b. The depth of bore below the streambed is sufficient to reasonably prevent release of drilling fluid, based on the parent material.
 - c. A site-specific contingency and containment plan for inadvertent release of drilling fluid must be received and approved by the Division prior to commencement of work. This plan must include notification to the division within 24 hours after release to surface waters. The site specific contingency and containment plan becomes a part of the application upon which coverage is issued and must be followed in the case of an inadvertent release.
 - d. Alignments with stream or wetland crossings in three or more counties are not authorized by this general permit.
6. A maximum of 5 crossings may be authorized for open trenching techniques and auger boring (jack and bore).
 - a. Sewer line crossing of streams must provide non-erodible fill and cover, such as concrete or controlled low strength materials (flowable fill), and trench plugs at each end of the crossing.
 - b. Manholes shall not be located in wetlands, and must be a minimum of 50 feet from the stream bank.

- c. The entry pit for auger boring shall be no closer than 20 feet from the stream bank or wetland margin.
7. For gravity sewer line installations, as-builts or record drawings of the line installation will be submitted to the division 45 days after completion of the project.
8. The alignment of new utility line crossings shall intersect the stream channel as close to 90 degrees or as perpendicular as possible. Alignment shall be no less than 45 degrees angle from the centerline of the stream.
9. New utility line crossings shall be located such as to avoid permanent alteration or damage to the integrity of the stream channel or wetland. Large trees, steep banks, rock outcroppings etc., should be avoided.
10. The crossing shall be designed to prevent the impoundment or loss of normal or base flows. Base flow is the usual or normal flow of the stream that is supplied primarily by groundwater from springs and seeps, but not affected by rapid runoff during and after rainfall. In the case of streams with bedrock streambeds, special provisions shall be made to prevent the loss of stream flow due to fracturing of the bedrock.
11. The excavation and fill activities associated with the utility line crossing of non-navigable streams shall be kept to a minimum and shall be separated from flowing waters. The crossing shall be constructed in the dry to the maximum extent practicable, by diverting flow utilizing cofferdams, berms, temporary channels or pipes. Temporary diversion channels shall be protected by non-erodible material and lined to the expected high water level. For navigable streams as defined by §10 of the *Rivers and Harbors Act of 1899*, the excavation and fill activities associated with utility line crossing may be accomplished within the flowing water.
12. New construction using open cut crossings of wetlands is not authorized. Maintenance, repair and rehabilitation of existing utility lines in wetlands is authorized provided that all of the following special provisions are met:
 - a. the total amount of excavation or fill within wetlands, including temporary equipment access roads does not exceed 50 cubic yards;
 - b. the wetlands alteration is located within the right of way of the existing utility line; and
 - c. temporary impacts to wetlands shall be mitigated by the removal and stockpiling of the first 12 inches of topsoil, prior to construction. Temporary wetland crossings or access roads shall utilize timber matting. Upon completion of construction activities, all temporary wetland impact areas are to be restored to pre-construction contours, and the stockpiled topsoil spread to restore these areas to pre-construction elevation. Other side-cast material shall not be placed within the temporary impact locations. Permanent vegetative stabilization using native species of all disturbed areas in or near the wetland must be initiated within 14 days of project completion (see also *Landscaping with Natives* at tneppc.org). Non-native, non-invasive annuals may be used as cover crops until native species can be established.
13. All spoil material from trench excavation, bore pits and other earth disturbing activities shall be deposited in an upland location and stabilized within 7 days in order to prevent erosion into waters of the state.
14. All dewatering activities shall be conducted in such a manner as to prevent the discharge of sediment-laden water into waters of the state.

15. Stream bank armoring at open cut crossings shall be minimized to the backfilled, disturbed area and shall in no case exceed 40 linear feet of stream bank. Riprap or concrete shall not line the bed of the channel. Non-erodible fill and cover, such as concrete or controlled low strength materials (flowable fill) required for pipe protection must be the minimum necessary to protect the pipeline, and should be overlain with natural bed material to the maximum extent practicable.

General Conditions

1. The amount of fill, stream channel and bank modifications, or other impacts associated with the activity shall be limited to the minimum necessary to accomplish the project purpose. The permittee shall utilize the least impactful practicable method of construction.
2. All activities must be accomplished in conformance with the approved plans, specifications, data, and other information submitted in support of the ARAP application (form CN-1091) and the limitations, requirements, and conditions set forth herein. Failure to comply with the terms and conditions of this permit is a violation of the Act.
3. Activities, either individually or cumulatively, that may result in greater an appreciable permanent loss of resource values to streams or wetlands are not covered. This general permit shall not be used incrementally to combine with other activities resulting in a net loss of water resource values.
4. Clearing, grubbing, and other disturbance to riparian vegetation shall be kept at the minimum necessary for slope construction and equipment operations. Unnecessary native riparian vegetation removal, including tree removal, is prohibited. Native riparian vegetation must be reestablished in all areas of disturbance outside of any permanent authorized structures after work is completed. Coverage under this permit does not serve to waive any local riparian buffer protection requirement, and permittees are responsible for obtaining any necessary local approval.
5. This activity may not result in the permanent disruption to the movement of fish or other aquatic life upon project completion.
6. Blasting within 50 feet of any jurisdictional stream or wetland is prohibited.
7. Other than those activities described in Special Condition 12, activities that directly impact wetlands, or impair surface water flow into or out of any wetland areas are prohibited.
8. Activities located in a component of the National Wild and Scenic River System or waters designated as Outstanding National Resource Waters are not covered.
9. Activities occurring in known or likely habitat of state or federally listed threatened, endangered, deemed in need of management, or species of special concern may not be authorized without prior coordination with the Tennessee Wildlife Resources Agency (TWRA) and TDEC Division of Natural Areas (DNA) to determine if any special conditions are required to avoid and/or minimize harm to the listed species or their habitat. Adverse effects to federally listed threatened and endangered species are not authorized by this permit. Permittee is responsible for obtaining prior authorization from the United States Fish and Wildlife Service (USFWS) as required by Section 7 or Section 10 under the Endangered Species Act.
10. Work shall not commence until the permittee has obtained all necessary authorizations pursuant to applicable provisions of section 10 of The Rivers and Harbors Act of 1899, section 404 of the Clean Water Act, section 26a of The Tennessee Valley Authority Act, section 402 of the Clean Water Act (including, but not limited to, an NPDES permit for construction stormwater), or any other federal, state, or local laws.

11. Backfill activities must be accomplished in the least impactful manner possible that stabilizes the streambed and banks to prevent erosion. The completed activities may not disrupt or impound stream flow.
12. The use of monofilament-type erosion control netting or blanket is prohibited in the stream channel, stream banks, or any disturbed riparian areas within 30 feet of top of bank.
13. This permit does not authorize impacts to cultural, historic, or archaeological features or sites.
14. This permit does not authorize access to public or private property. Arrangements concerning the use of public or private property shall be made with the landowner. The permittee is responsible for obtaining any additional permitting or maintenance agreements with other government or public agencies or lands.
15. Where practicable, all activities shall be accomplished in the dry. All surface water flowing towards this work shall be diverted using cofferdams and/or berms constructed of sandbags, clean rock (containing no fines or soils), steel sheeting, or other non-erodible, non-toxic material. All such diversion materials shall be removed upon completion of the work. Any disturbance to the stream bed or banks must be restored to its original condition. As approved after Division review, activities may be conducted in the flowing water if working in the dry will likely cause additional degradation. Any work conducted in the flowing water must be for a short duration and with minimal impact, and conform to the Division-approved methodology.
16. All activities must be carried out in such a manner as will prevent violations of water quality criteria as stated in TDEC Rule Chapter 0400-40-03, or impairment of the uses of waters of the state as designated by Rule Chapter 0400-40-04.
17. Erosion prevention and sediment control measures must be in place and functional before any earth moving operations begin, and shall be designed according to the department's Erosion and Sediment Control Handbook (<http://tnepsc.org/handbook.asp>). Permanent vegetative stabilization using native species of all disturbed areas in or near the stream channel must be initiated within 14 days of project completion (see also Landscaping with Natives at tnepsc.org). Non-native, non-invasive annuals may be used as cover crops until native species can be established.
18. Temporary stream crossings shall be limited to one point in the construction area and erosion control measures shall be utilized where stream bank vegetation is disturbed. Stream beds shall not be used as linear transportation routes for mechanized equipment, rather, the stream channel may be crossed perpendicularly with equipment provided no additional fill or excavation is necessary.

Obtaining Permit Coverage

Utility Line Crossing activities requiring written notification and authorization may obtain coverage by submitting a signed and completed application (form CN-1091), along with any other required information, to the division. Work shall not commence until a written Notice of Coverage (NOC) from the division is received. As noted above, not all activities may be eligible for coverage under this general permit and coverage may be denied when appropriate.

Each Notice of Coverage under this general permit is valid until the expiration date specified on the NOC. If the General Permit is modified, reissued, or revoked, and the permittee has commenced or is under contract to commence this activity before the expiration date, the permittee may have up to twelve (12) months from the date of the modification, reissuance, or revocation of the General Permit to complete the activity under the present terms and conditions of the general permit.

An application fee as established in Rule 0400-40-11-.02 will be assessed to applicants intending to receive an NOC to conduct activities under this general permit. An annual maintenance fee will be assessed to those individuals holding general permit coverage unless a Notice of Termination (NOT) form is received prior to the one-year anniversary of the issuance date of the NOC. An NOT form can be downloaded from the division's ARAP webpage (<https://www.tn.gov/environment/permit-permits/water-permits/aquatic-resource-alteration-permit--arap-.html>).



APPROVED: _____

Jennifer Dodd
Director, Division of Water Resources

DATE: 01/06/2021