

Chapter 4.8 Completing Changes in and About a Stream Activity Details

4.8 Changes in and About a Stream

Applicants applying for an energy resource activity causing changes in and about a stream as defined in the Water Sustainability Act must complete the changes in and about a stream application tab in the Application Management System (AMS). The changes in and about a stream tab is made up of two components: stream details and exemptions. This section includes an overview of changes in and about a stream activity permitting, guidance regarding changes in and about a stream planning and design, details related to changes in and about a stream specific application requirements and detailed instructions for completing the data fields within the changes in and about a stream activity tab.

Please Note:

This manual is written as a whole and available to industry in sections to allow permit holders to access activity chapters. It is prudent of the permit holder to review the manual in its entirety and be aware of the content in other sections of the manual.

4.8.1 Changes in and About a Stream Defined

Common changes in and about a stream activities include the construction, maintenance and removal of watercourse crossings and crossing structures. Other types of works that comprise changes in and about a stream include stream diversion, stream bank erosion protection and/or stabilization, debris removal and beaver dam management.

Changes in and about a stream (instream works) are defined in the [Water Sustainability Act \(WSA\)](#) as:

- Any modification to the nature of a stream including the land, vegetation, natural environment or flow of water within a stream.
- Any activity or construction within the stream channel that has or may have an impact on a stream.

The Regulator considers any works within the high water mark of any stream as “changes in and about a stream.”

Doing any instream works without a written authorization is a violation of the WSA. This includes the construction of dugouts across streams, or the diversion of streams into dugouts, to enhance water capture and storage.

Instream works are authorized in one of two ways. For energy resource activities (wells, pipelines, geophysical, facilities or roads) permitted under ERAA, instream works can be authorized by the energy resource activity permit, and the provisions of ERAA and the EPMR apply. For instream works associated with related activities, including CER related approvals, instream works must be authorized in accordance with Section 11 of the WSA or Section 39 of the WSR. There are some distinct differences between these application streams with respect to instream works.

Despite the differences in the definition of a “stream” between the WSA and EPMR, operational assessments and field surveys usually integrate the two criteria. As noted further in this document, all applications for changes in and about a stream must indicate the riparian classification of the stream per Section 22-24 of the EPMR, as this detail is required for the Regulator’s review. This is further detailed in the Environmental Protection and Management Guideline (EPMG).

Instream Works for Energy Resource Activities

The legal mechanism by which instream works associated with energy resource activities is authorized is ERAA. A review under the federal Fisheries Act may also be required by DFO for any changes in and about a stream.

Section 39(5) of the Water Sustainability Regulation defines instream works authorized by a permit issued under the ERAA and in accordance with the EPMR and any applicable permit conditions as authorized changes; additional authorization under Section 11 of the WSA is not required for ERAA activities.

Thus, for instream works associated with energy resource activity applications, the definition and classification of streams as defined in the EPMR will be used to evaluate and authorize works.

The EPMR defines a stream as a watercourse scoured by water or containing observable deposits of mineral alluvium, a continuous channel bed greater than 100 metres in length, connected to a fish-bearing stream or lake or waterworks (all as defined in the regulation).

Small ephemeral or intermittent streams that do not meet the EPMR definition and classifications of a stream (S1-S6) are classified as “Non-Classified Drainages (NCD)”. An NCD is an ephemeral or intermittent watercourse having a continuous defined channel that is less than 100 metres in length and at some points may spread over a level area without defined banks, before flowing again as a defined channel.

Please Note:

A NCD is not a stream under the EPMR. Therefore, it is not required to be identified or evaluated in new ERAA applications where changes in and about a stream are applied for with an ERAA activity, or for amendment applications where the original permit included an ERAA activity. However, if the existence of a NCD is suggested in the TRIM data, the construction plan should show it as a NCD.

Instream Works for Related Energy Resource Activities

The legal mechanism by which instream works associated with a related activity are authorized is Section 11 of the WSA. A review under the federal Fisheries Act may also be required by DFO for any changes in and about a stream.

The requirement for authorizations for instream works under Section 11 of the WSA pertains to streams as defined in that Act, which has a broader meaning than in the EPMR. A “stream,” as defined in the WSA, includes any natural watercourse or source of water supply, whether usually containing water or not, and a lake, river, creek, spring, ravine, wetland, swamp or gulch”. Streams do not have to contain water in all times of the year, and can be ephemeral or intermittent.

The term “natural watercourse” is not defined in the WSA; however, common usage indicates that a natural watercourse is a natural channel where water flows over a bed between defined banks. The flow of water does not need to be constant, but the channel must be a permanent and distinct feature on the landscape. The watercourse may also, at some point, spread over a level area without defined banks, before flowing again as a defined channel.

Please Note:

A NCD is a stream under the WSA, therefore, it must be identified or evaluated in CER applications and/or related activity applications where changes in and about a stream have been included. Appropriate provincial authorizations and/or approvals must be acquired before commencing any works in and about a NCD.

Authorized Changes

As per [INDB 2021-06](#), Regulator staff have received designations as Habitat Officers. As a result, applicants proposing activities constituting an “authorized change”, per Section 39 of the WSR, can submit their notification(s) directly to the Regulator.

The new designation does not modify the regulatory requirements for submitting a notification of an authorized change under of the WSR.

A statement of the terms and conditions for the authorized changes may be provided by the Habitat Officer, or if an applicant has not received a response from the Habitat Officer within 45 days, they may proceed with the authorized changes subject to the requirements set out in Part 3 of the WSR.

In order to submit a notification of change in and about a stream to the Regulator, applicants must submit a Changes In and About a Stream application through the Regulator’s Application Management System (AMS). Applicants must indicate in the Application Description section of AMS that the application meets the requirements for notification under Section 39 of the WSR. In addition, applicants will need to upload a project description that states how their activities are consistent with an authorized change set out in Section 39 of the WSR, including relevant conditions.

Applying for Authorization to Carry Out Instream Works

Activities comprising of or including instream works, as defined above, require authorization in writing, other than Authorized Changes under the WSR .

Regulator staff may need to make a determination during application or project review as to whether the works will be authorized under ERAA or the WSA.

Guidance on operational assessment is as follows:

- Streams, as mapped in the provincial Freshwater Atlas coverage (TRIM maps, at 1:20,000 scale), are assumed to be streams under the WSA and ERAA, unless demonstrated otherwise.
- Activities crossing or intersecting a “mapped” stream, but where there is believed to be no stream, require the submission of field-based evidence collected by a qualified individual to demonstrate that there is no stream.
- Small streams, which can have subtle field expression, are difficult for field surveys done in the winter season, when snow covers the ground. It should not be assumed that because a stream cannot be seen under snow cover that a stream does not exist.
- Any streams meeting the S1-S6 classification of streams as defined in the EPMR are required to further identify the riparian management areas associated with the streams as part of the application deliverables.

There are instances where a stream exists in the field but is not depicted on the provincial map base. Authorization for any works in or about the stream is still required.

If a feature depicted as a stream on the Freshwater Atlas coverage is not evident during the field survey, the construction plan submitted in conjunction with the application should note “No Watercourse Evident” or “No Watercourse Visible” (or something similar) and instream works for that watercourse do not need to be included in the application itself (i.e. in the spatial data submitted with the application). The features must not be listed as NCD in the application.

Man-made ditches and ditch lines are generally not streams under the WSA, and applicable authorization may not be required for a person to do “works” associated with ditches. That said, where manmade structures have sufficiently naturalized, they may become streams to which the provisions of WSA or ERAA

apply. Where there is a question of whether or not a watercourse or waterbody is a stream, please contact the appropriate Regulator's Authorizations Director to discuss the specific situation and how works in or in proximity to that feature may be considered in an application.

In addition, in some cases, where ditches are being used as fish habitat (this can occur commonly on floodplain areas) the requirements of the federal *Fisheries Act* may apply.

4.8.2 Creating a Changes in and About a Stream Activity

It is recommended that instream works be applied together with the related ERAA or CER activity(s) application or as an amendment to the related ERAA or CER activity permit. If it is necessary to apply for instream works as a stand-alone (single) activity, applicants must provide rationale explaining why the related application determination(AD) number cannot be amended to include the changes in and about a stream activity. Single activity applications for instream works must provide a cross reference number to a primary energy resource activity to which the application relates in accordance with Section 24(3) of ERAA.

Regardless of what regulatory provision the instream works will be authorized under, the location of any proposed works must be included in the spatial data and "Changes in and About a Stream" must be selected as an activity type in the application. For information on completing this tab in the AMS, refer to section 4.8.4, below.

Applications can include multiple stream impacts (e.g. multiple stream crossings for a road, pipeline or geophysical program).

Changes in and About a Stream Authorization Amendments

Permit holders must submit an amendment application to add, or modify any portion of an authorization for instream works. For any instream works authorized through an ERAA permit, any modifications to the authorization will require an amendment to the ERAA permit. An amendment can include requests for multiple changes to a single permit but multiple amendment applications cannot be submitted for the same permit at once.

Term of Approval

Changes in and About a Stream authorizations are only valid for the initial construction of the works, unless otherwise indicated in the permit or authorization. Specific permit provisions authorizing instream works for general maintenance and operations activities associated with ERAA road and pipeline permits authorize instream works for the life of the activity. Refer to the terms of the specific permit when considering whether additional authorization is required for instream works for maintenance or operations purposes.

4.8.3 Changes in and About a Stream Planning & Design

This section provides planning requirements, guidelines and considerations when planning an application for instream works. The Regulator reviews the application relative to technical information provided in AMS; therefore, applicants should review this section for an indication of any application requirements or attachments required.

Regulatory Requirements

Changes in and about a stream must meet the applicable design and operational requirements outlined in the [Energy Resource Activities Act](#) (ERAA), the [Water Sustainability Act](#) (WSA), the [Water Sustainability Regulation](#) (WSR), the [Ground Water Protection Regulation](#) (GWPR), the [Dam Safety Regulation](#) (DSR), and the [Water District Regulation](#) (WDR). The Regulator does not grant exemptions under the WSA.

Guidance Requirements

In addition to this Manual, applications for instream works should follow guidance provided in the EPMG for minimizing and/or avoiding impacts on the surrounding landscape. Additional guidance is available from the following:

- [Fish-stream Crossing Guidebook](#) (published by the Ministry of Forests, the Ministry of Environment, Fisheries and Oceans Canada) for more information on planning stream crossings on fish bearing streams.
- For many types of proposed works, relevant standards and best practices are found at the following Ministry of Environment link: [Standards and Best Practices for Instream Works](#).
- The Canadian Association of Petroleum Producers provides guidance on pipeline-associated watercourse crossings: [Pipeline-Associated Watercourse Crossings](#).

If the energy resource activities cannot adhere to these guidance recommendations, a rationale must be included in the permit application. This rationale must be prepared by a Qualified Professional and include site specific information regarding the guidelines not followed, an explanation of why they cannot be followed, and the proposed plan and mitigation strategies the company will implement in lieu of the guidance recommendations not followed.

Riparian Classification

All watercourses impacted by the application must be assigned a riparian classification as defined in Section 22, 23 and 24 of the EPMR. Guidelines and requirements for riparian classification of streams, wetlands, and lakes are provided in Chapter 5 of the Regulator's EPMG. The riparian classification must be entered in the Application Management System. Please see note above regarding non-classifiable streams (NCDs).

Crossing-type Selection

For watercourse crossings, the crossing method must be indicated in the application. Crossing methods include: aerial, bank erosion protection, bridge, ice bridge, clear span bridge, snow fill, culvert, major culvert, debris removal, gravel removal, punch and bore, (HDD) directional drill, micro tunneling, matting, stream

diversion, temporary ford, flow isolation and open cut. Applications may include multiple stream impacts and/or crossings..

If an activity requires multiple crossing methods for a stream crossing location, applicants are required to identify one primary crossing method. Applicants must then select all other crossing method(s) that may be required from the secondary crossing method drop down list. Primary and secondary crossing methods are not applicable to mechanical crossings.

If a mechanical stream crossing is required, the applicant must respond 'Yes' to the question, "Is a mechanical crossing required at this location?". When 'Yes' is selected, applicants may select the applicable mechanical crossing method from the drop down list.

4.8.4 Changes in and About a Stream Activity Requirements

This section outlines application requirements for changes in and about a stream application. Requirements are dependent on the characteristics of instream works and are outlined in full details below. In most cases, the details are input into the changes in and about a stream application tab in AMS, but may require the upload of supporting attachments, including:

- Sketch plan (if applicable).
- Fisheries habitat assessment.
- Mitigation Plan.

Attachments must meet specific size and file formatting restrictions as defined in Chapter 7 of this manual.

Fish Habitat Assessment

Where instream operations are required within a fish bearing stream or where there may be an impact to fish and/or fish habitat, a fish habitat assessment prepared by a Qualified Professional is required to be submitted with the application. Applicants are responsible for determining fish presence or absence and assessing fish streams for fish habitat values prior to application for instream works.

A Fisheries Habitat Assessment must include at a minimum the following information:

- a) Stream classification as per the Environmental Protection and Management Act.
- b) Description of fisheries habitat at the stream reach to be impacted.
- c) List of fish species that may be present within the stream reach to be impacted.
- d) Applicable Least-Risk Fisheries Timing Window.
- e) Confirmation if works are to occur within or without the applicable Least-Risk Fisheries Timing Window.
- f) Mitigation to be implemented if works are to occur outside the applicable Least-Risk Fisheries Timing Window.

Plans, Designs and Drawings Signed by a Qualified Professional

Some changes in and about a stream applications require the submission of designs, plans and drawings signed and sealed by a Professional Engineer (P.Eng) licensed or registered under the Engineers and Geoscientists Act, and/or a Qualified Professional (QP). Applications that require these deliverables include:

- Bank erosion protection – P.Eng.
- Bridge construction, maintenance or removal (other than clear span) – P.Eng.
- Major culvert construction, maintenance or removal – P.Eng (a Major Culvert is a pipe that has a diameter of 2,000 mm or greater, a pipe arch having a span of 2,130 mm or greater, an open bottom arch having a span of 2,130 mm or greater; or any stream culvert with a maximum design discharge of 6 cubic metres per second or greater.

- Stream diversion – QP.
- Large debris removal – QP.
- Gravel removal – QP.

Works plan

For applications involving works other than watercourse crossings, a Works Plan must accompany the application. The Works Plan for projects involving gravel or debris removal, bank erosion protection, or stream diversion, must be completed by a Qualified Professional. Works Plans should include the following:

- A detailed description of the works proposed including a rationale for why the works are required.
- Site-specific stream and aquatic habitat information.
- A description of the operational activities that the company will utilize to avoid or mitigate impacts to the stream values.
- A project monitoring plan.
- Any other relevant information that may assist the decision maker in rendering a decision on the application. Photos are recommended.