



Local municipalities and regional county municipalities (RCM) carry out or allow to be carried out development, rehabilitation, stabilization, maintenance, or cleanup work on the banks of water bodies and in littoral zones. Numerous statutes and regulations, such as the *Engineers Act*, govern such works. Since each act or regulation has its own requirements and terminology, identifying who can prepare a document or perform a particular activity can be challenging. The purpose of this document is **to summarize the relevant provisions of the *Engineers Act* to help municipalities identify when an engineer must be involved.**

General rule

Under the *Engineers Act*, a structure, whether temporary or permanent, used for the control or use of waters is within the practice of professional engineering when such structure requires studies on the properties of the materials composing or supporting it. To be covered by the provisions of the Act, works carried out on watercourses must **impact the structure** of the watercourse and require **studies on the properties of materials**.

EXAMPLES OF PROPERTIES OF MATERIALS APPLICABLE TO WATERCOURSES AND BANKS OF WATER BODIES:

- Geotechnical properties
- Bearing capacity of soils and/or the loads to be supported
- Resistance of the materials composing or supporting the work (i.e., a low wall)
- Hydraulic properties (flow characteristics, water level, etc.)

EXAMPLES OF STRUCTURES FOR THE CONTROL OR USE OF WATERS:

- Permanent docks and boat shelters anchored in a water environment
- Low walls
- Stabilization (riprap)
- Dams
- Retention basins
- Culverts (please see the [Culvert Guidelines](#) document)

EXAMPLES OF STRUCTURES FOR THE USE OF WATER:

- Structural components of sewer and water systems
- Water intakes

Watercourse or ditch: does it make a difference?

The distinctive characteristics of watercourses and ditches have legal implications concerning regulatory approvals and municipal interventions with respect to watercourses. However, the *Engineers Act* makes no such distinction. **The characteristics of a structure will determine whether it is subject** to the Act or not. In some cases, a ditch may be considered a dependency of a road work. Please see the [Help with Decisions – Roads and Dependencies](#) document for more details.

We thank the following associations for their participation in preparing this document:



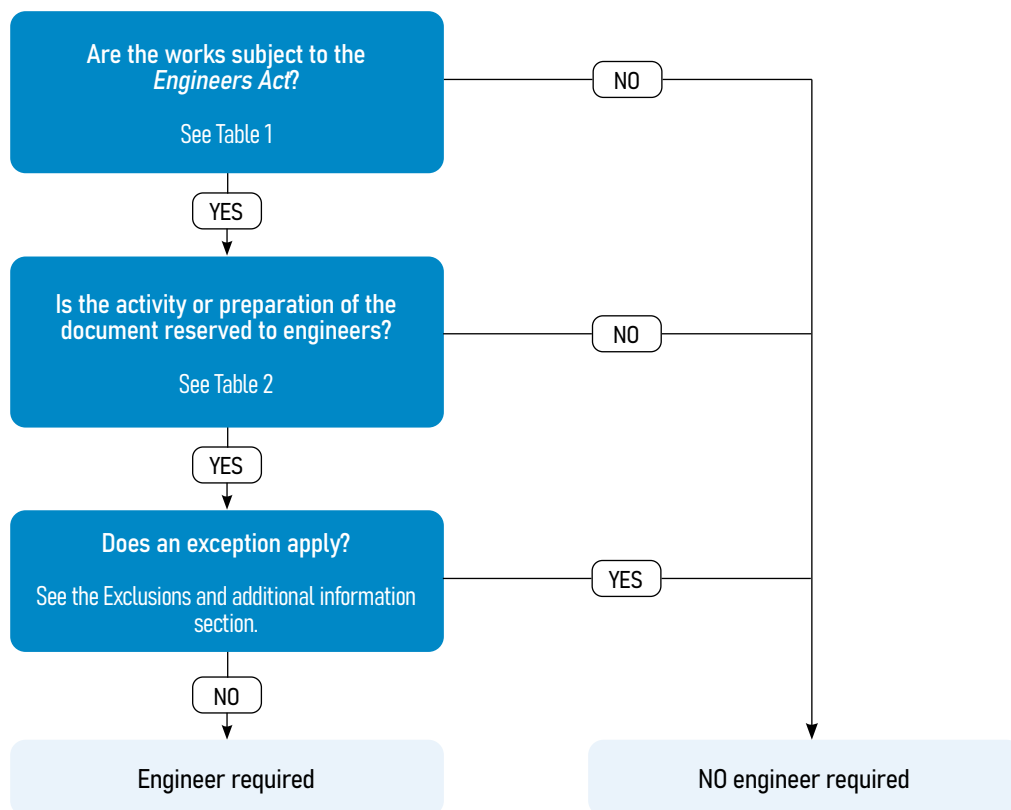
Legislative framework

Interventions in watercourses are subject to several acts and regulations enacted by various levels of government. These acts and regulations require compliance with a set of rules and the submission of various documents, for example to get permission to carry out work. The authorities often do not specify which professional is responsible for the preparation of a given document. They rely on legislation governing fields of practice, such as the *Engineers Act*.



Caution! The fact that an act or regulation does not apply to a situation does not mean that all other acts and regulations do not apply. **Interventions in the water environment are usually subject to prescriptive provisions of several federal, provincial, and municipal acts and regulations.**

Three questions determine whether an engineer must prepare a document required under an act or a regulation:



IS A MUNICIPAL PERMIT REQUIRED?

Some works, such as the installation of a crossing, the stabilization of an embankment, or the construction of a drainage outlet, require a municipal permit. **To obtain the permit, you may need to submit plans or calculations that stem from professional activities reserved to engineers.** Please **contact your municipality and/or RCM** before starting any work.

TABLE 1

Determining whether the proposed work is subject to the *Engineers Act*

The list of examples provided is not exhaustive. Competent authorities may require that certain documents be prepared by a professional or specialist in a particular field (e.g., hydrology, hydraulics, hydrogeology, hydrogeomorphology, etc.) even if engineering work is not involved.

Type of work	Descriptions and examples	Engineer required?
Development or modification	Any intervention in a watercourse that has the effect of, among other things, affecting or modifying its geometry , deepening it, altering its course, channelling it, creating thresholds, or increasing the slope of its banks.	YES
Restoration An intervention aimed at initiating or accelerating the natural regeneration of an ecosystem that has been degraded, damaged through artificialization, or destroyed by altering the ecological functions, structure, processes, dynamics, and physical, chemical, or biological characteristics of the site.	Restoration with modification of stream structure with respect to regional hydraulic geometry curves (e.g., re-meandering).	YES
	Restoration without modification of the structure of the watercourse in keeping with the original plans (e.g., addition of dead wood, planting of aquatic vegetation for filtration purposes, low-tech installations/ interventions to benefit from the watercourse's natural adaptation mechanisms).	NO
Stabilization Techniques used to prevent or correct erosion, landslide, and slope stability problems Note: Before carrying out work in mapped areas of concern that require special measures, contact your municipality or RCM.	Mechanical stabilization techniques (e.g., low wall, riprap, or other stabilization structures made of inert materials; may include some phytotechnology solutions such as fascines).	YES
	Mixed stabilization techniques (e.g., riprap with plants or seeding).	YES
	Vegetative stabilization techniques (e.g., planting, wattling, and seeding). * An engineer can suggest appropriate stabilization techniques.	NO*
Maintenance	Intervention that does not require modification or development of the watercourse. The work usually consists in removing accumulated sediment from the bottom of the watercourse and restoring the site . Examples: removal of accumulated sediments by dredging; lowering or reprofiling of slopes to a gentler gradient; occasional riprap refilling; site rehabilitation (e.g., drainage outlets); seeding; etc.	NO
Cleanup	Cleanup operations are occasional works that require targeted intervention to remove a nuisance or obstruction from a watercourse. These works do not affect the bottom or banks of the watercourse and aim to restore the normal flow of water. Examples: removal of obstructions, tree branches, rubbish, animal carcasses, jams, or beaver dams.	NO

TABLE 2

Activities reserved to engineers

NOTE: It is neither the title nor the name of a document, but rather its actual content that determine whether its preparation is within professional activities reserved to engineers. The list of examples provided is not exhaustive.

 Reserved to engineers	 Not reserved to engineers
<p>Sizing, calculations</p> <p>Calculations using engineering principles (e.g., riprap sizing), hydraulic calculations (flow velocity, water levels, flow rate, sediment transport, etc.), calculations related to slope stability (bank stability, bottom stability, erosion, scouring).</p>	<p>Worksite layouts</p> <p>Document showing where the works will be carried out. May be a reproduction based on an existing plan or a new layout developed with geomatics.</p>
<p>Plans, projected profiles, specifications</p> <p>A graphical representation (plan, profile) or qualitative description (specification) of an engineering design based on calculations and engineering principles.</p>	<p>Surveys, existing profiles</p> <p>Reflects the existing condition of a watercourse or works, reporting actual measurements as observed in the field; longitudinal profile and cross sections showing the current condition of the watercourse.</p>
<p>Supervision</p> <p>Instructions detailing the program for the verification of works, quality control of materials, and project implementation to ensure that the works comply with the plans and specifications.</p>	<p>Findings, measurements, diagrams, observation reports</p> <p>Observations, findings, measurements, factual reports detailing current site condition (without diagnosis).</p>
<p>Reports</p> <p>Reports with calculations, analyses, diagnoses using engineering principles or including recommendations for engineering work.</p>	<p>Scope of work estimates</p> <p>Mapping of the start and end points of the work on the watercourse alignment according to sediment accumulations (without a diagnosis).</p>
<p>Inspection</p> <p>Instructions detailing the program for the verification of engineering works that are already built to ensure that the works comply with generally accepted standards or expected characteristics, specifically regarding safety.</p>	<p>Watershed delineation</p> <p>Watershed boundaries on a map based on field visits and/or geomatics tools such as LiDAR data, contour lines, and orthophotography. This delineation can be used to establish the contributing area of each property located in whole or in part within the watershed.</p>
<p>Certificate of compliance</p> <p>A certificate issued further to supervision or inspection activities that confirms that the works comply with the plans and specifications, as well as recognized standards and expected characteristics.</p> <p>The person responsible for preparing the certificate must confirm that the works comply with the instructions, various documents, reports, and findings (e.g., final plans, photos, surveys, field visit reports, etc.).</p>	<p>Final survey</p> <p>Description of the current condition of a watercourse or structure as observed in the field; often prepared after the works have been completed to reflect the final state of the site. A final survey may be required to prepare the certificate of compliance.</p>



Exclusions and additional information

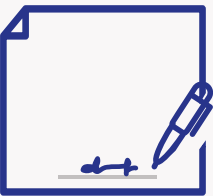
Under certain stringent conditions, some culverts that are situated in a farming environment or a private domain forest may be excluded from the application of the *Engineers Act*.
(See the *Regulation respecting works excluded from the application of section 3 of the Engineers Act*.)

Permitted activities:

- ▶ A municipality may supervise the work that it carries out itself insofar as the work is for minor repairs that do not alter the original design.
- ▶ An owner, contractor, site manager, or foreperson may coordinate work.
- ▶ An individual may contribute, as an employee and under the supervision of an engineer, to the preparation or modification of the following:
 - Plans or specifications
 - Reports or studies
 - Calculations
 - Drawings
 - Operating or maintenance manuals
 - Decommissioning plans
- ▶ A person entrusted with the enforcement of an Act can exercise the function determined in that Act.

The *Engineers Act* cannot be interpreted as infringing on the rights of other professionals, such as forest engineers or agronomists.

Is supervision of work mandatory?



In Quebec, supervision of work is not yet mandatory. The OIQ recommends the supervision of work as a quality control process to protect the public. It ensures that the work is carried out according to the applicable standards, plans, and specifications. The supervision of work is an activity reserved to engineers under the *Engineers Act*.

A person who is not an engineer **may document the execution of work in the field**. If changes are required to the plans or specifications, **the engineer must approve them. An engineer must sign the certificate of compliance or supervision report** confirming that the work complies with the plans and specifications.

For any questions about the *Engineers Act*, please contact us at

 514 845-6141 or toll-free: 1 800 461-6141, ext. 3186

 loi.ing@oiq.qc.ca