



MTO Railway Guidelines

**Ministry of Transportation
Highway Design Office
March 2023**

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1.0 Purpose

The purpose of this document is to provide ministry staff with a consistent and effective approach when working with railway companies during the project design process and during construction, highway maintenance and routine bridge inspection. The procedures described herein are to be followed at all times on ministry projects involving railways.

The Railway Association of Canada's online atlas can assist in identifying the railways potentially affected by a project: <https://rac.imaponline.net/canadianrailatlas/>

2.0 Programming of Work – Identification of Flagging Needs

Any work taking place in the vicinity of an active railway will require flagging protection, which involves the use of a qualified employee by the railway company (Flagperson) to secure the area for the safe movement of trains. This includes field investigations during design, as well as construction and maintenance activities.

When a highway improvement project affecting the Canadian National Railway (CN) and/or the Canadian Pacific Railway (CP) has been programmed and flagging needs are identified by the Project Delivery Section, the MTO project manager (MTO PM) shall inform the ministry's Regional Railway Representative to include the project on the 5-Year Flagging Needs list as soon as possible. The 5-Year Flagging Needs list is maintained by the ministry's Provincial Railway Coordinator, with input from the Regional Railway Representatives. The purpose of the list is to inform the railway companies of upcoming work and to ensure resources are available when flagging operations are required. It is important that the Provincial Railway Coordinator be updated of any changes that would impact the 5-Year Flagging Needs list so that CN and CP can be informed and can allocate their resources accordingly.

For flagging needs involving railways other than CN or CP, the railway company should be contacted directly by the MTO PM as soon as the needs are identified so that they may allocate their resources.

During the design stage of a project when flagging requirements for field investigations are identified, the MTO PM shall submit a request for a Purchase Order Number to the regional Contract Services Section for flagging. The Contract Services Section will then issue a Flagging Purchase Order Form, as shown in Appendix A. This form is to be provided to the railway company by the MTO PM and the Purchase Order Number shown on the form is to be included on the invoices submitted by the railway company. Invoices are to be submitted by the railway company to the MTO PM who, in turn, will submit to the Contract Services Section for payment.

During construction, the MTO's Area Contract Services Section should submit a separate Purchase Order Number request to the regional Contract Services Section for

flagging requirements. The Flagging Purchase Order Form shall be provided to the railway company by the Contract Services Administrator (CSA). The CSA shall work with construction staff and the railway to establish the communication protocol for invoices. In general, the railway company will submit the invoices to the Contract Administrator (CA), who will review the rates and hours billed with the CSA, and then the CSA will submit the invoice to Contract Services Section for payment.

To reduce resource pressure on railway companies, consideration should be given to combining multiple projects that are within reasonable proximity, require flagging and impact the same railway company, into a bundled contract. This allows the railway to assign one flagger to multiple sites and benefits both the ministry and the railway company through a more efficient use of resources.

It should be noted that availability of flagging resources may be reduced at the end of the calendar year, and appropriate planning is required.

CP generally requires the following notice depending on the flagging duration required:

Flagging Request Duration	Minimum Advance Notice
30 days or more in duration	12 months advance notice is required
less than 30 days in duration	At least 90 days notice should be provided
less than 5 days in duration	at least 2 weeks notice should be provided

* For other railways a minimum of 4 months should be allowed to obtain flagging for engineering investigations.

3.0 Railway Corridor Access

When access is required within the railway company’s corridor, the responsible ministry representative (e.g., MTO PM, Design-Builder) shall contact the railway company as soon as the need for access is known to obtain and execute any required access permits or agreements. For example, the MTO PM shall contact the railway company for access permits or agreements prior to any field investigations being carried out during design, or the Provincial Structures Office shall contact the railway company for access permits when scheduling any routine structural inspection work. Access permits/agreements are to be signed by the Manager of the corresponding functional office.

When ministry service providers or contractors are expected to access the railway corridor, the responsible ministry representative shall ensure that any requirements (health and safety, insurance, indemnification, etc.) outlined within the railway’s access permits or agreements are adhered to by both the ministry and the aforementioned service provider/contractor.

3.1. Routine Bridge Inspection Work

Ministry staff and representatives must abide by all applicable railway safety protocols and requirements when conducting inspections on / over / near the railway tracks / right of way. These inspection works may or may not involve the use of a Bridgmaster or other specialized lift devices. Flagging for this work is coordinated and paid for through the Provincial Structures Office. Regional staff should submit locations requiring flagging to the Provincial Structures Office no later than January to ensure availability for the upcoming year.

3.2. Routine Maintenance Work

Contractors are responsible for contacting railway authorities to schedule work near railway crossings. Under the General Duties of the Contractor in the ministry's maintenance agreements, no work shall take place within 5 metres of a railway crossing without the approval of the railway authority. Any work requiring flagging is coordinated and paid for through the regional Operational Services.

3.3. Incident Management

In the event of an incident requiring an emergency response, contact the relevant railway authority via the dedicated 24-hour emergency phone number to coordinate response.

Railway	Contact Numbers
Canadian National	800-465-9239
Canadian Pacific	800-716-9132
Metrolinx	800-371-5465
Via Rail	888-842-7245

Railway crossings will have identifiers, which display the name of the railway, the mile marker and the emergency telephone number for that railway. This crossing information may be affixed to crossbucks, railway signal masts and lights, or nearby signal bungalows and relay houses, and can be a decal or a reflective sign.

4.0 Design

The MTO PM shall be the single point of contact during design between MTO and the railway company for designs completed in-house and by service providers.

For alternative delivery contracts such as Design-Build and Construction Manager General Contractor, the railway company should be contacted by the MTO PM prior to advertising and the MTO PM should ensure their concerns are addressed and documented in the RFP language as appropriate.

Canada's two largest railways, CN and CP, have generally established practices and preferences which are described in this document. For projects involving other railways the rail company should be contacted as early as possible in the design process to determine their requirements for contract review, legal agreements, flagging and work permitting.

4.1. Design Considerations

The *Railway Safety Act* is the main legislation that gives Transport Canada responsibility for overseeing rail safety on federally regulated railways. Under the Act, *Grade Crossing Regulations* have been set to advance safety at road, sidewalk, path or trail crossings at railways. The *Grade Crossing Regulations* reference the *Grade Crossing Standards* that are to be applied during design to meet legislated safety requirements. To determine if a grade crossing is a federally-regulated crossing, you can check to see if it is located on Transport Canada's grade crossing map located here: <https://tc-tdg.maps.arcgis.com>.

For a typical highway or structure rehabilitation project, a railway company is unlikely to close a track to rail traffic for any length of time (sometimes colloquially referred to as a "track block"). Opportunities for construction activities potentially interfering with train operations occur between the passing of trains, the times of which are highly variable.

During design consultation with the railway companies, the MTO PM should review construction items and their associated application methods, procedures, materials, equipment and timelines with the railway, especially for the operations within the train profile/envelope to ensure that the designed construction items will not cause any safety concerns and impact to train operation during construction (MTO PM must verify required operating clearance dimensions from the railway company for design/construction purpose). Alternative materials and methods such as the use of precast components to avoid long concrete pumping operations, full road closures to reduce staging or 24-hour operations to maximize work opportunities should be considered as a potential way to mitigate potential delays due to train operations. A schedule and cost estimate for flagging during construction should be prepared by the designer and provided to the CSA at design turnover.

The designer must review the drainage impact (if any) of the proposed project on the railway right of way, as well as any potential impact on aerial or buried utilities located within the railway right of way and ensure that any impacts are fully mitigated.

4.2. Notice and Review of Design Documents - CP

The MTO PM should notify CP's Public Works office in accordance with the following timeline or after the scoping meeting, whichever is earlier:

Scope of Work	Minimum Advance Notice*
Resurfacing that changes the configuration of an at-grade crossing	6 Months
Minor structural rehabilitation or where changes to an active warning system are required	1 Year
Major structural rehabilitation, replacement of a structure or new grade separation	2 Years

*When project timelines do not allow for minimum advance notice as indicated above, the railway company should be notified as soon as possible at the start of design work.

Upon notifying CP, CP will provide the MTO PM with an application form outlining the process and fees associated with plan review/agreement preparation. CP can be contacted at their general email inbox (PublicWorks_East@cpr.ca) at the onset of a project. For Northwestern Region, the project may be located in CP's Central Region. The Provincial Railway Coordinator maintains a list of appropriate contacts for these locations.

4.3. Notice and Review of Design Documents – CN

The MTO PM should notify CN's Public Works office after the scoping approval meeting. Consultation on design to address CN's concerns typically starts at the initial design stage.

For a new project without any CN representatives assigned to it, the general CN communication email inbox may be utilized - ER-Public-Works@cn.ca. By utilizing this inbox CN shall assign a representative to assist with the project. For MTO's Northwestern Region, the project may be located in CN's Central Region. The Provincial Railway Coordinator maintains a list of appropriate contacts for these locations.

The designer should allow for a minimum of 3 weeks between submission of materials for review and receipt of comments from a railway company, although delays may be longer.

4.4. Contract Documentation

Contracts involving work within CP's right of way shall have Standard Special Provision 100F21 and Standard Special Provision 199F04. Fill-in information shall be obtained from CP.

Contracts involving work within CN right of way shall have Standard Special Provision 100S22.

Short lines and other railways should be contacted to determine the required contract language covering insurance or other aspects of construction.

In addition to the above, the MTO PM shall include railway agreements/work permit applications as part of the contract package when appropriate and in accordance with confidentiality clauses outlined within.

5.0 Legal Agreements

5.1 General

Railway Agreements are required for infrastructure to be located upon or across railway lands, as well as for the construction, maintenance and use of such infrastructure upon and across railway lands. Example agreements include CN's *Standard New Grade Separation Agreement* and *Standard Grade Separation Reconstruction Agreement*.

When a new legal agreement is required, the MTO PM should work with the railway company to start drafting the agreement as early as possible to avoid potential impacts or delays to the project schedule. Upon review and acceptance by the MTO Project Team, new agreements shall be reviewed by MTO Legal Services and the Contract Management Office. A minimum of 6 months should be allowed for any required legal review.

It is important to note that, under Section 28 of the Financial Administration Act, a ministry shall not enter into any financial arrangement, financial commitment, guarantee, indemnity or similar transaction that would increase, directly or indirectly, the indebtedness or contingent liabilities of Ontario, or seek the approval of the Lieutenant Governor in Council to enter into any such transaction, without the prior written approval of the Minister of Finance. Therefore, if a legal agreement contains sections of contingent liabilities, approval by MTO Legal Counsel, MTO Executives, Ministry of Finance and Treasury Board in accordance with Section 28 of the Financial Administration Act will be required. A minimum of nine (9) months should be allowed for these approvals. To ensure consistency and to streamline the agreement process, Section 28 Class Approvals have been secured for various generic CN and CP crossing agreements.

MTO PMs shall consult any existing legal agreements and board orders for additional information about existing crossings and grade separations. Existing documents may provide further insight into ownership, maintenance, payment, etc. responsibilities. Historical legal agreements may be obtained from the respective regional office or, alternatively, from Canada Transportation Agency.

5.2 Legal Agreements – CP

CP requires MTO to enter into a project-specific agreement prior to commencing rehabilitation, reconstruction or new construction work within their right of way. CP has three types of agreements:

- Grade Separation Rehabilitation Agreement.
- Grade Separation Agreement – for construction of a new grade-separated crossing or for widening or replacement of an existing grade-separated crossing.
- Crossing and Maintenance Agreement.

CP should be contacted to verify the type of agreement required for a given project.

CP will provide the required legal agreement template to the MTO PM who is required to fill in any project-specific requirements. New at-grade crossings, extensive reconstructions and widening will require more extensive consultation as there is not an approved generic Crossing and Maintenance Agreement.

CP and MTO have a generic Grade Separation Rehabilitation Agreement. Depending on the scope of the project, CP may require a separate legal agreement to be signed between MTO and CP for each structural rehabilitation project. If a Grade Separation Rehabilitation Agreement is required, CP will provide a project-specific agreement. MTO PM shall review the agreement provided by CP and ensure that it conforms to the generic Grade Separation Rehabilitation Agreement. An agreement that conforms to the generic agreement shall be signed by the Design and Engineering Branch Director. Any variances in the standard wording shall be reviewed by MTO Legal Services Branch and the Contract Management Office prior to the agreement being signed. Any changes to legal terms other than project specific may require a series of executive approvals depending on the extent of changes.

5.3 Legal Agreements – CN

CN requires MTO to enter into a project-specific agreement for different projects based on the scope of work. The MTO PM shall contact CN to determine the required type of agreement. The following are typical agreements required for MTO projects and specify MTO and CN cost obligations including maintenance, rehabilitation and decommissioning costs:

- Standard New Grade Separation Agreement (for new grade separation structure).
- Standard Crossing Reconstruction Agreement (for reconstruction of at grade road and rail crossing).
- At Grade Crossing and Maintenance Agreement (for new at grade road and rail crossing).
- Standard Grade Separation Reconstruction Agreement (for bridge replacement and major rehabilitation that changes the bridge profile including, but not limited to structural widening, extension, and alignment changes).

For the rehabilitation of an existing grade separation where a new agreement is not required, the MTO PM shall confirm property access requirements with CN and request a copy of the existing agreement from CN to verify it matches what MTO has on file.

CN and MTO have generic Standard Grade Separation Reconstruction Agreement, Standard Crossing Reconstruction Agreement, Standard New Grade Separation

Agreement templates. Depending on the scope of the project, CN will provide the applicable project-specific agreement. MTO PM shall review the agreement provided by CN and ensure that it conforms to the generic agreement templates. Agreements that conform to the generic templates shall be signed by the Design and Engineering Branch Director. Any variances in the standard wording shall be reviewed by MTO Legal Services Branch and the Contract Management Office prior to the agreement being signed. Any changes to legal terms other than project specific may require a series of executive approvals depending on the extent of the changes.

6.0 Construction

After award, it is recommended that the Contract Administrator (CA) become the designated point of contact between the railway companies and MTO. The MTO CSA should be copied on all communications with the railway company, particularly regarding financial issues such as invoicing or construction delays caused by railway operations. The CSA should review any contract-specific requirements (e.g., legal agreements, work permits and contract documentation) that should be included in the CA agreement.

At the start of construction, the CA shall schedule and facilitate a mandatory railway meeting with representatives from MTO, Contractor and affected railway company to discuss safety requirements / protocols and other contract-specific issues. (Refer to the MTO's Construction Administration and Inspection Specifications, CAIS, Manual for additional details).

CN requires a work permit to be signed by the MTO Manager of Construction Management / Highway Operations prior to construction for all MTO construction projects within CN's right-of-way, regardless of the type of project. CN costs including utility locate fees, and damage or delay costs, , resulting from the Contractor's operations shall be the Contractor's responsibility. MTO will pay the costs of all flagging and other traffic control measures required and provided by the railway company within the Working Area as per the General Conditions of Contract.

7.0 Other References

Some Railways maintain their own guidelines and other reference documents that should be read in conjunction with this guideline. CP currently maintains the following documents: *Guide and Application for Construction or Reconstruction of Grade Crossings*, *Grade Separation Construction or Reconstruction Guide & Application*, *Operational Constraints for Projects Within or Foul of the Railway Right of Way*, *Minimum Safety Requirements for Contractors Working on CP Property in Canada* and *Contractor Safety Orientation Briefing Card*. The MTO PM shall obtain the most up-to-date railway reference documents from the impacted railway. In the event of any conflict, such should be brought forward to the Contract Management Office.

Appendix A
Flagging Purchase Order Template

Issued by: Ministry of Transportation Operations Office 159 Sir William Hearst Avenue, 2 nd Floor, Toronto, ON M3M 0B7	Invoice To: Ministry of Transportation Operations Office 159 Sir William Hearst Avenue, 2 nd Floor, Toronto, ON M3M 0B7	Purchase Order Number: <div style="text-align: center; color: red; font-size: 1.2em;">[PO Number]</div>
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	GOVERNMENT PURCHASE ORDER IMPORTANT: SUPPLIERS MUST SHOW THE PURCHASE ORDER NUMBER ON ALL INVOICES, PACKAGES, ETC.	Date: <div style="color: red;">[DATE]</div>	Page 1 of 1
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To Vendor: <div style="color: red;">[RAILWAY NAME]</div> <div style="color: red;">[RAILWAY ADDRESS]</div> Attention: <div style="color: red;">[RAILWAY CONTACT NAME]</div>	Ship to: Same	Address queries to: NAME: <div style="color: red;">[MTO CONTACT NAME]</div> TEL. <div style="color: red;">[MTO CONTACT TEL.]</div> <div style="color: red;">[MTO CONTACT EMAIL]</div>
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SUBJECT TO ALL CONDITIONS AND INSTRUCTIONS ATTACHED TO THE ORDER, PLEASE SUPPLY THE FOLLOWING GOODS AND/OR SERVICES

Item	Quantity	Description	Unit Price	Line Total
1	1	<div style="color: red;">[SERVICES RENDERED e.g. Flagging Services]</div> Contract # <div style="color: red;">[CONTRACT NUMBER]</div> , GWP <div style="color: red;">[GWP NUMBER]</div> Mile <div style="color: red;">[MILE NUMBER]</div> of the <div style="color: red;">[SUBDIVISION NAME]</div> Subdivision, <div style="color: red;">[SUBDIVISION LOCATION i.e. city]</div> , Ontario Contacts: MTO: <div style="color: red;">[MTO CONTACT NAME and TEL.]</div> , <div style="color: red;">[MTO CONTACT EMAIL]</div> CP Contact: <div style="color: red;">[RAILWAY CONTACT NAME and TEL.]</div> , <div style="color: red;">[RAILWAY CONTACT EMAIL]</div>	\$ [UNIT PRICE]	\$ [LINE TOTAL]
TOTAL			\$ [TOTAL UNIT PRICE]	\$ [TOTAL LINE TOTAL]

Required by: ASAP	Ship via: Best Way	F.O.B. Point Destination	Payment Terms NET 30	Harmonized Sales Tax APPLICABLE
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THIS IS TO CERTIFY THAT THE PROPERTY AND/OR SERVICES ORDERED/PURCHASED
 HEREBY ARE PURCHASED BY THE MANAGEMENT BOARD SECRETARIAT FOR THE
 USE OF THE CROWN IN RIGHT OF ONTARIO, AND ARE NOT SUBJECT TO THE
 GOODS AND SERVICES TAX

Signature: _____