

Lac-Mégantic Rail Bypass Project

Transport Canada (Proponent) and CMQR (Applicant) Comments on the Draft Hydrogeological Report Prepared by Groupe Conseil UDA

Background and Context

Central Maine & Québec Railway Canada Inc. (“**CMQR**”) is providing this document to the Canadian Transportation Agency (“**Agency**”) in response to its request for comments on the assumptions, methodology, findings, and recommendations set out in a draft hydrogeological report prepared by Groupe Conseil UDA (“**UDA Report**”). The Agency commissioned this draft report from UDA in the context of the Application for Section 98 approval for the Lac-Mégantic Rail Bypass Project. On June 1, 2026, the Agency transmitted to Canadian Pacific Railway Company (dba Canadian Pacific Kansas City “**CPKC**”) on behalf of its subsidiary CMQR (the Applicant) a preliminary draft version of the UDA Report.

Given that Transport Canada is the proponent of the Megantic Bypass Project, and is responsible for the development and implementation of the Groundwater and Potable Water Well Monitoring Plan (“**GPWWMP**”), the Wetlands Monitoring Plan (“**WMP**”), and the Forest Compensation Monitoring Plan (“**FCMP**”), CMQR shared a copy of the UDA Report with Transport Canada. In this regard, we are forwarding to you Transport Canada’s comments, which are set out below, following CMQR’s comments.

CMQR observes that the Agency staff requesting that an applicant review a draft report commissioned by the Agency in the context of a Section 98 application is novel. CMQR understands that the Agency is seeking comments to assist the Agency in finalizing the draft UDA Report. It is unclear that the comments CMQR and Transport Canada are providing will be included in the Application record. CMQR has no objection if they are to be included. CMQR looks forward to receiving more clarity from the Agency on this novel process and its next steps.

CMQR (Applicant) Comments

General Comments

- With respect to the Applicant, the entity is Canadian Pacific Railway Company, as the operating railway company and on behalf of Central Maine and Quebec Canada Railway Inc. (“**CMQR**”). UDA’s report incorrectly refers to CPKC. This should be corrected at the outset (page 1-1) and when referring to the Applicant, use the acronym CMQR.
- CMQR is not the proponent of the Megantic Bypass Project. Canada, represented by Transport Canada, is the proponent. On pages 1-1, 1-3 and 8-4, UDA refers to CPKC as the project proponent. This should be corrected to identify Transport Canada as the proponent.
- Section 1.1 (Context),

- Second paragraph: For clarity and to be consistent with the Appendices, we ask that the first sentence in this paragraph commence with “At the request of Transport Canada” (*À la demande de Transports Canada, ...*).
- The following should be added to this section to provide clarity in terms of the roles and responsibilities of, respectively, the Applicant and the proponent:
 - Transport Canada is responsible for the implementation and adherence to the conditions within the Groundwater and Potable Water Well Monitoring Plan (GPWWMP), the Wetland Monitoring Plan, and the Forest Compensation Monitoring Plan.
 - CMQR is responsible for carrying out construction work in the right-of-way, temporary workspace and access roads in a manner so as to minimize the potential for damage or contamination to drinking water wells that are located within 200 m of the right-of-way, in accordance with industry standard best management practices. CPKC’s commitments regarding wetlands and deforestation are limited to its construction activities.

Technical Comments

The technical comments set out below were obtained from the expert consultants (notably WSP, AECOM and Englobe) who assisted the Applicant with the technical appendices included as part of the Application (including the Hydrogeology Report, engineering design and the Environmental Effects Evaluation).

1. UDA’s Methodology and Assumptions

- UDA’s analysis was based solely on a review of existing documentation, with no new fieldwork or substantive hydrogeological work undertaken.
- UDA defined Hydrogeological Evaluation Units (HEUs) based on regional flow directions, recharge/discharge zones, and topographic/piezometric highs derived from the PACES study (pp. 20–22 of the PDF). However, these units are delineated according to water divides based on piezometric contours (seemingly derived from topography), whereas PACES defines hydrogeological units in hydrostratigraphic terms. The source of the regional piezometric map is not identified.
- The HEU boundaries did not consider the excavation plans; as a result, one of the major excavations crosses the boundary between HEU-1 and HEU-2.
- The limits of the various hydrostratigraphic units were not directly considered in the delineation of zones.
- UDA relied on Englobe's hydrogeological study and notes its conservative nature. As explained in the Application, specifically in the GPWWMP, “the potential long-term areas of influence described in the Englobe reports were based on conservative assumptions and a simplified numerical model for transition analysis. External mitigation factors, such as aquifer heterogeneity, and existing structures were not considered, and additional external factors and the properties of any specific feature will determine whether the feature is impacted or not.” That being said, the affected HEU-1 catchment appears overestimated — the excavated pathway only intersects one extremity of HEU-1 and should not impact its entirety or both sides of the catchment. Englobe's model does not differentiate between overburden deposits and bedrock; consequently, the real trench radius of influence within soils cannot be properly evaluated. The model overestimates impacts on soils, as the bedrock is generally overlain by low-permeability till.

2. Comments on UDA's analysis of effects:

- UDA states that the hydrological model developed for the design of drainage structures did not account for the volume of water from excavations or the loss of wetlands and forests. As a result, UDA identifies potential effects on land use, infrastructure along waterways, and safety risks for residents in flood-prone areas.
- Although UDA acknowledges that data are lacking, it presents an analysis of direct and indirect effects by hydrogeological unit that conveys an impression of certainty, although it appears based on numerous assumptions and a hypothetical cascade of effects. WSP has not conducted such an analysis and cannot comment on UDA's conclusions.
- The opinion regarding changes in soil saturation is general and does not account for distances to wetlands or soil type, both of which control the magnitude of the impact. The estimated radius of influence associated with groundwater drawdown (as presented by Englobe) could be applied to assess these impacts.

The following are the comments of Transport Canada:

Transport Canada (Proponent) Comments

After a review of the UDA Report by Transport Canada (including the Crown engineer), Transport Canada is of the opinion that modifications would be required in the "executive summary" section to better represent the obligations related to the implementation of the expert's recommendations.

Indeed, the summary proposes a list of improvements but mentions in conclusion that these are necessary for proactive implementation making it possible to strengthen the resilience of the territory in the face of change. This contradictory language between "proposal" and "necessity" raises questions as to the consistency in the importance to be given to the various recommendations to ensure optimal implementation.

Furthermore, the proponent questions the consideration of the 2025 technical opinions from the Geological Survey of Canada and the Crown engineer (CIMA+). The hydrogeological analysis report does not mention these technical opinions anywhere other than in section 2.1 – Data Sources – CTA Inputs.

Important nuances should be considered regarding the clear conclusion of these two opinions stating that obtaining more data, costly in time and resources, would not necessarily increase representativeness and would not necessarily reduce uncertainty in this type of environment. It is therefore impossible to conclude beyond any doubt that more data would lead to better risk management.

The Crown engineer wishes to emphasize that several monitoring and follow-up activities are already planned and underway as part of the project and that they specifically aim to document the initial state of the receiving environment as well as its evolution during and after construction works.

Transport Canada actions taken since the application

Transport Canada has taken several steps regarding the implementation of mitigation measures and data gathering since the Application filing in September 2025. Of note, Transport Canada has developed and gathered data on the following:

Surface Water Monitoring Plan (“SWMP”) (under development, CIMA+):

- The SWMP has been developed as a Transport Canada mitigation measure and aims to characterize baseline conditions and monitor changes in the quality and quantity of surface water (lakes and watercourses) before, during, and for up to 10 years after construction.
- The plan is based on a structured monitoring approach over time (pre-construction, construction, post-construction), combining continuous water level measurements with water quality sampling campaigns (physicochemical parameters and bioindicators).
- Comparing data across time periods, between upstream and downstream stations, and with a reference station makes it possible to observe variations, distinguish project-related effects from natural variability, and establish action trigger thresholds based on statistical analyses.

Baseline Report on Wetlands Prior to Construction (March 2026, CIMA+)

- This report establishes an ecological and hydrological baseline (vegetation, soils, water levels) for wetlands adjacent to the railway right-of-way, as part of the Wetland Monitoring Plan (WMP).
- A comprehensive and structured database was developed, including: inventories from 51 sampling plots, water level measurements from 18 piezometers equipped with automatic data loggers (continuous and manual), GPS surveys, and drone imagery.
- This data helps track water fluctuations (e.g., seasonal variations, response to precipitation and evapotranspiration) and to characterize wetland dynamics over time. It provides a reference for quickly identifying abnormal trends (persistent increases in water levels, instability, excessive drainage, or saturation).

2025 Surface Water Monitoring Plan Report (April 2026, CIMA+)

- This report establishes a hydrological and physicochemical baseline for watercourses and lakes that may be affected by the construction of the future railway bypass, as part of the SWMP.
- A structured database was developed based on 15 water quality stations and 12 water level stations covered by the SWMP, including continuous automatic probes and seasonal sampling campaigns with physicochemical measurements and bioindicators (diatoms).

- This data helps track water level fluctuations (seasonal variations, response to precipitation, watershed influence) as well as changes in water quality over time.

Transport Canada’s Table of Analysis

# measure and level of effort	Measures	Deployment phase	Actions proposed by Transport Canada
M1 LOW	Provide for the deployment conditions of intervention measures in case of potable water shortage	Before construction	<p>To ensure that all citizens have access to potable water within 24 hours, Transport Canada could consider proactively providing water to citizens who have a well at high risk of contamination and/or drying up to ensure a water supply and to enable an effective response within a 24-hour period. The quantity of water provided will ensure a minimum of 2 L of water per person, per day, for 3 days.</p> <p>Transport Canada will specify the procedure to be followed if a user reports a loss of access to water or a deterioration in water quality in the GPWWMP.</p>
M2 LOW	Extend water monitoring for a minimum duration of 25 years following the completion of the LMRBP construction.	Operation	<p>Transport Canada is of the opinion that extending, at this time, the monitoring of potable water wells to a minimum duration of 25 years is not grounded by data and exceeds industry standards observed in other large-scale projects.</p> <p>It is nonetheless proposed to extend the minimum duration of monitoring of potable water wells to a period of 5 years (instead of 2 years). Should the hydrogeology expert mandated for the implementation of the GPWWMP be unable to confirm the stabilization of the groundwater table within this 5-year period, implementation of the Plan will continue until such stabilization is confirmed.</p> <p>In summary, and as noted by the Crown engineer during their review, the GPWWMP is based on an adaptive approach that already provides for the possibility of adjusting the duration of monitoring based on observed results and the evolution of hydrogeological conditions. In this regard, the duration of the program should not be determined based on a predefined time horizon, but rather based on trends actually observed in the environment.</p>
M3 MODERATE	Enhance the characterization of wetlands from the point of	Before construction	Combined response with M5 and M7

	view of their links with groundwater and surface water		<p>Transport Canada is of the opinion that enhancing the characterization of wetlands is not necessary.</p> <p>In accordance with the commitments and the requirements of the various monitoring and follow-up plans identified in the application, a characterization of the initial state of wetlands adjacent to the right-of-way and of surface water began in 2024 and is still ongoing. Reports on the baseline conditions of areas outside the right-of-way also address certain concerns raised in the hydrogeological expert report prepared by UDA.</p> <p>Furthermore, Transport Canada wishes to emphasize the importance of considering the information contained in the proponent’s technical opinions received in 2025 (CIMA+ and GSC), namely that “the acquisition of new data, which is costly in terms of time and resources, will not necessarily result in better risk management. In this regard, the implementation of a monitoring and follow-up plan, including critical thresholds and corrective measures (if necessary), constitutes a solution for decision-making that is more appropriate and proportionate to the context.”</p>
M4 MODERATE	Enhance the WMP based on the results of measure 3 and extend its duration up to 25 years after the completion of the LMRBP construction	Before construction	<p>Transport Canada is of the opinion that extending monitoring for a duration of 25 years is not grounded by data and exceeds industry standards and the approaches observed in other large-scale projects. It is proposed to maintain monitoring over 10 years as stipulated in the current plan. In addition, the Crown engineer wishes to recall that the WMP is based on an adaptive management approach allowing monitoring needs to be reassessed in light of the results obtained. If the data acquired under the program demonstrate that an extension of monitoring is required to better document certain observed effects, this possibility may be assessed based on concrete elements rather than on a non-documented, predefined time horizon.</p> <p>As stipulated under M3, Transport Canada has carried out data collection activities covering the pre-construction period since 2024. In accordance with what is stated in the application, TC will make these reports available upon their completion. It is not planned to enhance the WMP, which was designed as an environmental monitoring tool intended to document the evolution of wetlands.</p>
M5 MODERATE	Provide for the protection of vulnerable wetlands and those of conservation	Before construction	<p>Combined response with M3 and M7</p> <p>Transport Canada is of the opinion that this aspect is already covered, and that this point is closely linked to the planned drainage infrastructure and to the design of the Project itself. The proponent specifies that it is the responsibility of the general</p>

	<p>interest before the start of construction works.</p>		<p>contractor to manage construction activities and their potential impacts, including the integration of any drainage structures or structures intended to prevent flooding situations in relation to construction activities. Should additional protection measures prove necessary considering the results of design analyses or the results obtained through monitoring programs, these will be integrated as required and determined by the applicant.</p> <p>Transport Canada would like to draw the attention of the Agency to the fact that, as currently planned for the Project, all wetlands adjacent to the future right-of-way and at risk of being impacted by construction activities are included in the WMP, regardless of their level of vulnerability and/or interest. The Crown engineer wishes to recall that the monitoring plan deliberately adopts an inclusive approach targeting all wetlands, as it allows the evolution of environments that may be influenced by the project to be documented and, using data acquired through monitoring, to verify the validity of the assumptions made during the environmental assessment.</p> <p>It is also important to understand that wetlands adjacent to the future railway right-of-way are located on private properties, and Transport Canada, subject to the approval of landowners, will carry out the monitoring provided for in the WMP. Despite all efforts made to date, not all landowners have agreed to have their wetlands monitored or to allow site visits to be carried out twice a year.</p>
<p>M6 MODERATE TO HIGH</p>	<p>Numerical modelling aimed at assessing the impacts of the Project on the components of the hydrological balance and the associated risks for communities.</p>	<p>Before construction</p>	<p>Transport Canada is of the opinion that this recommendation concerning numerical modelling continues not to be required based on the expert advice received in 2025 and found in the application.</p> <p>As stated in Appendix 3-2 of the application (Correspondence relating to potential additional studies), two technical notes prepared by the proponent’s experts (CIMA+ and the GSC) demonstrate that the heterogeneous environment inherent to the Lac-Mégantic region greatly limits the usefulness of numerical models. The GSC note states that numerical modelling is not sufficiently accurate to assess impacts. In addition, the effort required to collect additional data exceeds the benefits. Obtaining more data would not necessarily increase representativeness and would not necessarily reduce uncertainty in this type of environment.</p>
<p>M7 MODERATE</p>	<p>Provide for the functional compensation of wetlands of interest for their lost or</p>	<p>Before construction</p>	<p>Combined response with M3 and M5</p> <p>Transport Canada wishes to specify that financial compensation for permanent losses of wetlands within the project right-of-way is governed by the applicable</p>

	altered hydrological functions from the Project design stage.		Québec regulatory framework, which establishes the rules for compensating impacts to wetland and aquatic environments during project implementation. Through the implementation of the WMP, the proponent will ensure that impacts on the receiving environment are minimized by comparing observations made before the start of construction, during construction, and after completion of the work.
M8 MODERATE TO HIGH	Develop forest monitoring plan	Before construction	Transport Canada is of the opinion that a completely new forest monitoring plan is not necessary. However, following this recommendation, a monitoring measure will be added to the FCMP by the proponent in order to help track the condition of forest environments. Various methods are currently being considered, for example conducting drone overflights over a strip of land outside the right-of-way (dimension to be defined) to document the evolution of forest stands. In the event of observed changes, corrective measures may be proposed to the owners of lands adjacent to the right-of-way.
M9 MODERATE	Carry out the inspection of buildings located within the construction influence areas where soils susceptible to settlement will be dewatered.	Before construction	A measure already provides for the inspection of buildings in six key sectors of the Project. Transport Canada is of the opinion that this measure is not considered essential, given the building monitoring already planned as set out in the Construction Vibration Monitoring and Building Survey Plan (see Appendix 5-2 of the application).

Acronyms used:

CTA: Canadian Transportation Agency

FCMP: Forest Compensation Monitoring Plan

GSC: Geological Survey of Canada / Natural Resources Canada

GPWWMP: Groundwater and Potable Water Well Monitoring Plan

LMRBP: Lac-Mégantic Rail Bypass Project

MELCCFP: ministère de l'Environnement et de la Lutte contre les changements climatiques, de la Faune et des Parcs du Québec

SWMP: Surface Water Monitoring Plan

TC: Transport Canada

WMP: Wetlands Monitoring Plan

ADDENDUM TO VOLUME 5 OF THE APPLICATION

Following the review of the recommendations listed in the preliminary report on the hydrogeological analysis by Groupe Conseil UDA, Transport Canada, the proponent, wishes to propose the following enhancements to the monitoring and follow-up plans developed as part of the application to the Canadian Transportation Agency (CTA) submitted in September 2025.

Groundwater and Potable Water Well Monitoring Plan (GPWWMP)

- Transport Canada could consider providing a three-day water reserve (2 L of water / person / day for 3 days) for wells identified as being at high risk, whether in terms of quantity or quality of potable water.
- Transport Canada could consider increasing the minimum monitoring duration to 5 years (currently 2 years), while maintaining the Plan's adaptive approach, which already provides for the possibility of adjusting the duration of monitoring based on observed results and the evolution of hydrogeological conditions.

Wetlands Monitoring Plan (WMP)

- As planned within the framework of the application, Transport Canada will make public the initial characterization of wetlands adjacent to the future right-of-way based on data collected in 2024–2025 in the coming weeks. Data collection to continue the characterization of the initial (pre-construction) state of wetlands during 2025–2026 is ongoing, and an update of the baseline conditions will be produced in spring 2027.
- Similarly, all monitoring reports during the construction and post-construction phases will be made public according to the schedule set out in the WMP.

Surface Water Monitoring Plan (SWMP)

- Transport Canada will make public the SWMP, the associated monitoring reports, and the data obtained from the beginning of monitoring as they become available, in accordance with the schedule set out in the Plan.

Forest Compensation Monitoring Plan (FCMP)

- Transport Canada could consider adding to the FCMP a drone-based monitoring component to document the evolution of forest stands over a strip of land located outside the right-of-way (dimensions to be determined with subject-matter experts) for a duration of 5 years. Should changes be observed, corrective measures may be proposed to the owners of lands adjacent to the right-of-way to mitigate negative impacts. Such corrective measures will be proposed by subject-matter experts and may be implemented subject to approval by private landowners.