



ADDENDUM 3 (revised)
SEDIMENT REMEDIATION PROJECT
AT THE PORT OF GASPÉ – SANDY BEACH

This addendum consists of information to add to the environmental impact assessment report for the sediment remediation project at the port of Gaspé – Sandy Beach, submitted to the *Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs* (MDDEFP) in March 2012.

In addition to the discussion elements of November 28 and December 6, 2013, what follows is additional information to specify the proposed activities among the project's interventions scenarios (Reference: *Transport Canada — Port of Gaspé – Sandy Beach Sediment Remediation Project – Environmental Impact Assessment Report – O/Ref.: 045-P001130-0162-EI-0100-01 – March 2012* and its additions):

A- Rail Transportation

Transport Canada understands that the MDDEFP is in favour of this mode of transportation for the project, as long as the sediment has been minimally dewatered, is shovellable and does not contain any freestanding water. We would like to specify that the physicochemical quality of the material will need to meet the requirements of the final disposal site, which will hold a certificate of authorization. The rail cars used to transport the sediment will be impervious and designed not to allow any of the material to escape during transportation.

Following is the additional information we can provide at this stage:

Status of the Rail Network in Gaspésie

A map of Quebec's rail network has been appended (MTQ, 2012). If rail transportation is selected, the material will first be transported on a track owned by a private company, Chemins de fer de la Gaspésie, and then on a track owned by CN (Canadian National Railway). After checking with the *Ministère des Transports du Québec* (MTQ), it appears that the stretch of railway owned by Chemins de fer de la Gaspésie is operationally limited in several areas. It must undergo considerable repairs that depend on subsidies the MTQ could grant the rail company in 2014.

Given the Gaspésie rail network's limitations, different multimodal transport routes could be selected by the Contractor, after approval by Transport Canada. Solely as an example, the sediment could be transported by truck from the loading site to a



part of the rail network that would allow the safe and compliant transfer and transportation of the material by rail car to a railway terminal near the final management site.

Using rail transportation to move the contaminated sediment from Gaspésie to the final disposal site depends on the completion of repair work on this given stretch of track or specific agreements that could be signed with the Contractor to allow this network to be used under certain conditions.

B- List of Unloading/Transfer Sites and Potential Final Disposal Sites

Allow us to reiterate parts of Section 2.5.2.8, Sediment Transportation and Final Management, from the project's environmental impact assessment (*Transport Canada — Port of Gaspé – Sandy Beach Sediment Remediation Project – Environmental Impact Assessment Report – O/Ref.: 045-P001130-0162-EI-0100-01 – March 2012*) in order to list the potential unloading/transfer sites in accordance with the potential final disposal sites that hold a certificate of authorization (C.A).

If the sediment is to be buried in an existing commercial site, the rail cars will be directed to:

- a) the Jonquière railroad station (Saguenay, for final management at the Parc Environnemental AES);
- b) the Garneau train station (Shawinigan, for final management at Horizon Environnement);
- c) the Bécancour train station (Bécancour, for disposal at Enfouir-Bec);
- d) Montréal (railroad station to be determined, for final management at Cintec);
- e) or any other destination or duly accredited new site that could be added before the start of the project.

Final Management

The dredged sediment must be managed according to the provisions of the MDDEP's Règlement sur le stockage et les centres de transfert de sols contaminés (RSCTAC) and the Politique de protection des sols et de réhabilitation des terrains contaminés (hereinafter "Policy") (MDDEP, 1998). During this study, several final management sites were identified as capable of taking the contaminated sediment from Sandy Beach. No final management site has been officially selected at the time of writing.

Part of the sediment to be dredged has a copper contamination level that exceeds level C of the Policy's criteria and sometimes even the standards in Appendix I of the Règlement sur l'enfouissement des sols contaminés (RESC). The level of PAH contamination is below level C of the Policy's criteria. If not treated to reduce its level of contamination, the sediment's final management will only be possible in commercial disposal sites authorized to receive it. In 2010, a minimum of four sites were identified as



authorized to receive soil contaminated above level C of the Policy's criteria. They are:

- Services Environnementaux AES (Larouche, Saguenay);*
- Enfouibec (Bécancour, Centre-du-Québec);*
- Horizon (Grandes-Piles, Mauricie);*
- Cintec (Montréal);*
- Any other fully accredited site that could be added before the start of the project.*

Treating the sediment could reduce the level of contamination. For part of the sediment, the contamination level could be reduced below level C of the Policy's criteria. Under the Government of Quebec's Règlement sur l'enfouissement et l'incinération des matières résiduelles (REIMR), engineered landfill sites (lieux d'enfouissement technique or LET) are authorized to receive soil whose contamination level falls below the standards of Appendix I of the Règlement sur la protection et la réhabilitation des terrains (RPRT) (level B of the Policy's criteria) for volatile organic compounds, and the standards of Appendix II of the RPRT (level C of the Policy's criteria) for other contaminants. However, the REIMR stipulates that, to be used as capping material, the soil must have permanent hydraulic conductivity that is at minimum 1×10^{-4} cm/s and have at maximum 20% of the weight of the particles at a particle diameter equal to or less than 0.08 mm. Since the sediment to be dredged does not meet this second requirement, the dewatered or treated sediment (thereafter considered soil) can only be sent to an engineered landfill site if it is buried directly and not used as a daily capping material. The engineered landfill site closest to the Port of Gaspé – Sandy Beach with the capacity to receive the sediment, once treated, is the Saint-Alphonse landfill, located north of the municipality of Caplan (approximately 200 km from the Port of Gaspé – Sandy Beach).

Treated sediment whose contamination level is below level A of the Policy's criteria, subject to the latter, can be reused (valorized) without restriction on any type of property. However, in order to protect the receiving environment, the treated sediment will be tested for chloride prior to its valorization.



In addition to the above, a loading plan is appended to the present document. Its characteristics are the same as in the unloading diagram Transport Canada presented to the MDDEFP in September 2013. These diagrams summarize how the loading/unloading process could be carried out on the Sandy Beach wharf if rail transportation is selected.

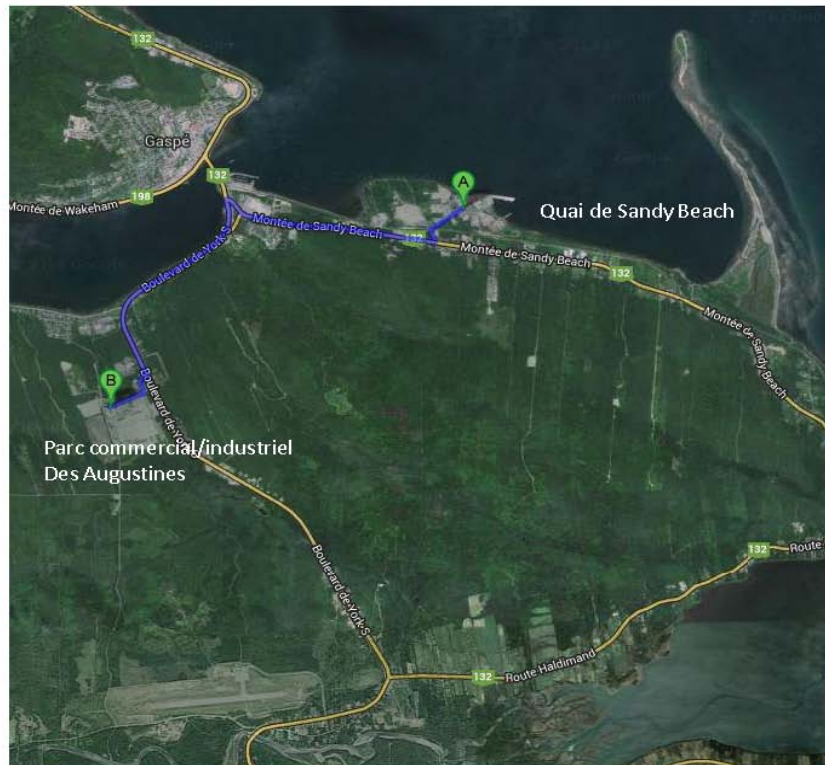
C- Dewatering Site and Methods

Location of the Dewatering Sites and Road Transportation

While Transport Canada prioritizes dewatering or temporary storage areas located in the industrial port zone, we could consider, as a last resort, properties located in the industrial sector (Parc des Augustines) in the City of Gaspé, as long as the municipality's zoning bylaw allows. Below is a map that indicates the sector within which there are properties that could also be conducive to dewatering the sediment. As for the route that could be used to transport the sediment to a dewatering/storage area, Route 132 would probably be the first common road but then all secondary roads that are safe and appropriate for this type of transportation could be used, depending on which dewatering/storage sites are selected.



Trajet routier – Secteur des travaux de dragage et
Lieu d'assèchement et entreposage temporaire – Parc des Augustines



Dewatering Method

We understand that the MDDEFP will accept passive dewatering as long as the material is covered with a geotextile tarp or other covering method. To complement the information points explained on this subject in Addendum no. 2, filed by Transport Canada, the Department will ensure that measures are implemented to keep the material from becoming airborne during the dewatering process. To the extent that these measures are technically feasible and operational, they could involve covering the sediment with a tarp (of various materials) or applying a dust control product or any other means of preventing the particles from becoming airborne. If a specific product is to be used, it will be presented in a request for a certificate of authorization for this project and must therefore receive your approval.

D- Monitoring Water Quality During the Dredging Work (suspended particulate matter)



This document reflects the essence of the matters discussed on December 6, 2013. Moreover, Transport Canada commits to monitoring the concentrations of the main contaminants in the framework of the two filed protocols: the protocol for monitoring water quality and the protocol for the biological monitoring of molluscs, and to report to the MDDEFP within the 7 first days of the dredging work. Subsequently, the results will be sent to the different competent authorities, including the MDDEFP, on a weekly basis. At the same time, the MDDEFP will be kept informed of changes to the sampling effort in the protocol for monitoring water quality.

Station no. 5 of the protocol for the biological monitoring of molluscs will monitor the contaminants' toxic effects on aquatic life. The results will be compared to the criteria for the protection of aquatic life (acute criteria) provided that the update of the modelling of the currents by the LaSalle Consulting Group shows that this criterion's application is realistic. Transport Canada would like Station 5 to serve as a forward position. This way, if the acute effect criterion is exceeded over an ongoing period, preventive (or corrective) measures could be taken with regard to the Contractor's operations. DOC (dissolved organic carbon) analyses for station 5 will be added to the protocol for the biological monitoring of molluscs to properly assess copper's toxic effects.

E- Use of a Turbidity Curtain During the Work

We understand that the MDDEFP is requiring a turbidity curtain to be in place at all times during the dredging of polygon A and that it would like the curtain to also be in place during the dredging of the other polygons where technically feasible, depending on the selected dredging method. The curtain's technical specifications will be at the Contractor's discretion, as long as its application meets this mitigation measure's objectives and is operationally feasible.

F- Application of the Non-Dilution Principle

In 2012, Transport Canada filed an environmental impact assessment for a sediment remediation project whose objective is to dredge a volume of approximately 27 000 m³ of sediment (volume in place, excluding overdredging). The environmental quality of this sediment exceeds 2 400 mg/kg for copper and exceeds 5 mg/kg for PAH; numerical values that comprise the thresholds according to which it was determined that an intervention is required. Moreover, Section 1.3 of Addendum No. 2 (December 2012) sets out the prioritization strategy for the remediation activities. A little later in this same document, Section 2 (answer to QC-24) explains that Transport Canada used the results of the Mission HGE study (2012) to define the dredging area whose contaminant levels require an intervention, given the IEL and in



comparison with the marine sediment quality criteria. This same addendum also illustrates the dredging polygons (A to L) in the appendices (3 and 3.1).

Transport Canada will ensure that all of the operations are carried out in accordance with the applicable acts and regulations pertaining to environmental protection. Following is an overview of the regulations cited in our specifications regarding the contamination management requirements to be respected:

- *Règlement sur l'enfouissement des sols contaminés;*
- *Règlement sur les matières dangereuses;*
- *Règlement sur la protection et la réhabilitation des terrains;*
- *Règlement sur le stockage et les centres de transfert de sols contaminés;*
- *Règlement sur le transport des matières dangereuses;*
- *Politique de protection des sols et de réhabilitation des sols contaminés;*
- All other applicable acts or regulations.



Transport
Canada

Transports
Canada

APPENDICES

RÉSEAU FERROVIAIRE QUÉBÉCOIS

Grandes compagnies de chemin de fer

- CFQP COMPAGNIE DE CHEMIN DE FER CANADIEN PACIFIQUE**
- CN COMPAGNIE DES CHEMINS DE FER NATIONAUX DU CANADA (CANADIEN NATIONAL)**
- CN (CFILNO) CHEMIN DE FER D'INTÉRÊT LOCAL INTERNE DU NORD DU QUÉBEC**
- CSX7 TRANSPORT CSX INC.**
- VIA VIA RAIL CANADA INC.**

Chemins de fer d'entreprises

- AMMC ARCELOMITTAL MINES CANADA INC.**
- CFA COMPAGNIE DE CHEMIN DE FER ARNAUD**
- CFRR COMPAGNIE DE CHEMIN DE FER DE LA RIVIÈRE ROMAINE*
- QNSL LA COMPAGNIE DU CHEMIN DE FER ROBERVAL-SAGUENAY**
- ET DU LABRADOR INC.**

Autres compagnies

- CFQ CHEMIN DE FER CHARLEVOIX INC.*
- CFB SOCIÉTÉ DU CHEMIN DE FER DE LA GASPÉSIE*
- CFI COMPAGNIE DU CHEMIN DE FER DE LA GASPÉSIE INC.*
- CFD COMPAGNIE DU CHEMIN DE FER DE LA GASPÉSIE INC.*
- CFQ(CMTQ) CHEMIN DE FER DE QUÉBEC CENTRAL (propriété du MTO)*
- CFQG CHEMINS DE FER QUÉBEC-GATIÉAUX INC.*
- MMMA CHEMIN DE FER MONTREAL - MAINE & ATLANTIQUE**
- DVR MONTREAL - MAINE & ATLANTIQUE CANADA CIE**
- SLO OTTAWA VALLEY RAILWAY**
- CHEMIN DE FER ST-LAURENT & ATLANTIQUE (QUÉBEC) INC.**

- AMT AGENCE MÉTROPOLITAINE DE TRANSPORT*
- APM ADMINISTRATION PORTUAIRE DE MONTRÉAL**
- BLRC BLOOM LAKE RAILWAY COMPANY*** (Terre-Neuve-et-Labrador)
- NLC NORTHERN LAND COMPANY LIMITED (Terre-Neuve-et-Labrador)
- ON ONTARIO NORTHLAND RAILWAY (NIPSSING CENTRAL RAILWAY COMPANY)**
- STO SOCIÉTÉ DE TRANSPORT DE L'OUTAOUAIS*
- TFT TRANSPORT FERROVIAIRE TSHUETIN INC.**
- WLR WABUSH LAKE RAILWAY COMPANY, LIMITED** (Terre-Neuve-et-Labrador)

* Compétence québécoise ** Compétence fédérale *** Compétence Terre-Neuve-et-Labrador

LÉGENDE

Chemin de fer d'intérêt local (CFIL)

Compétence fédérale voie principale voie locale/vicariale

Autres compagnies ferroviaires

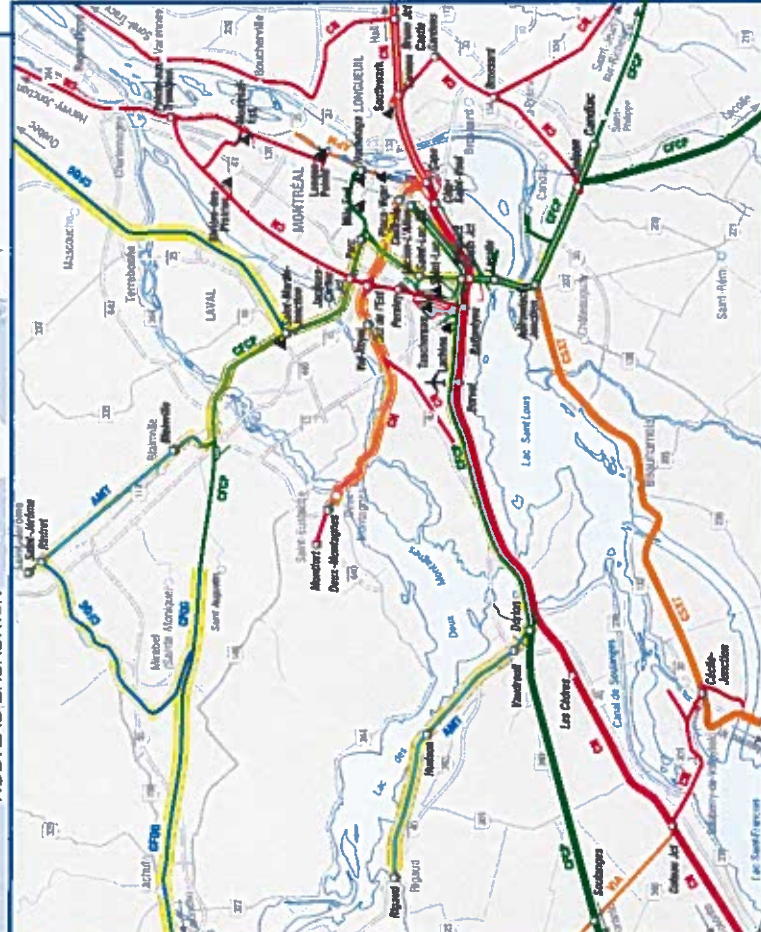
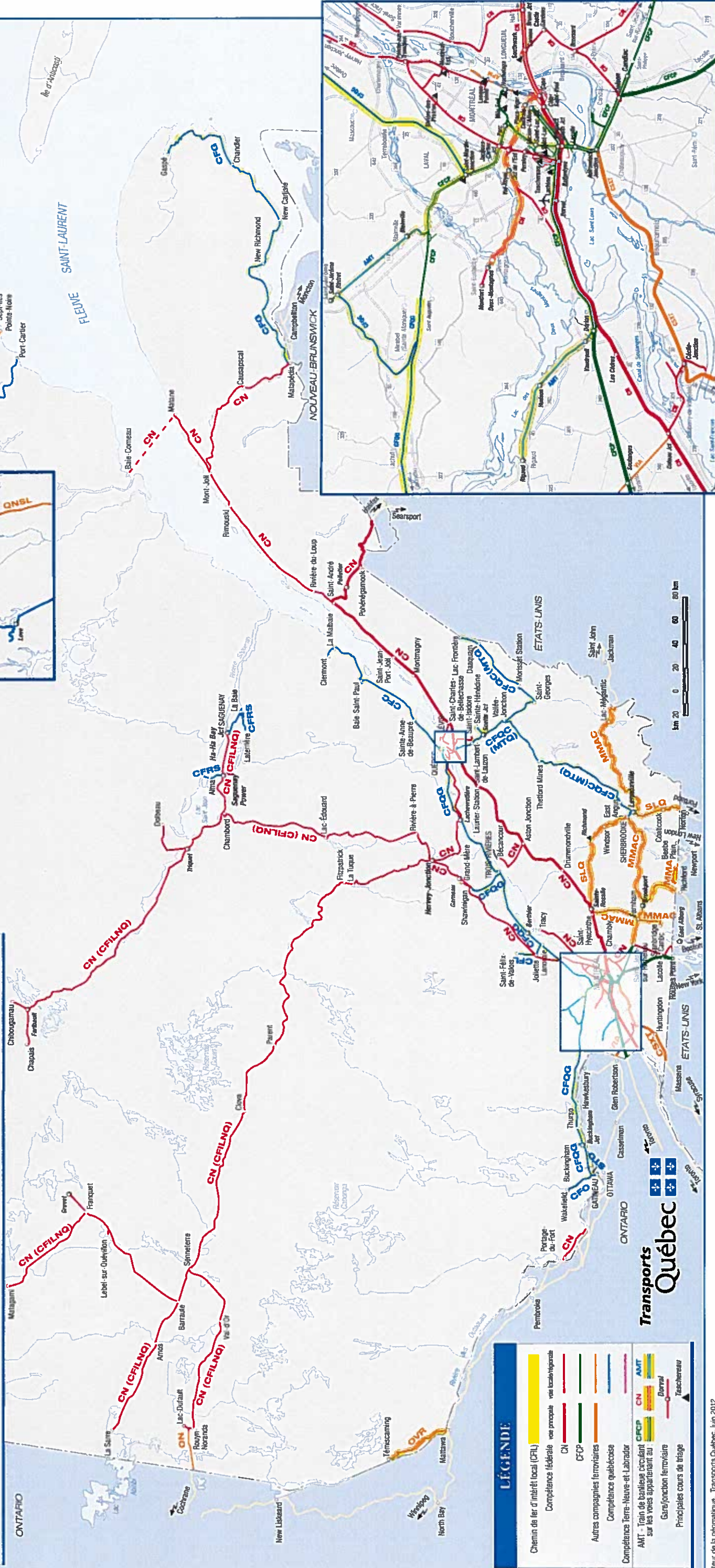
Compétence québécoise

Compétence Terre-Neuve-et-Labrador

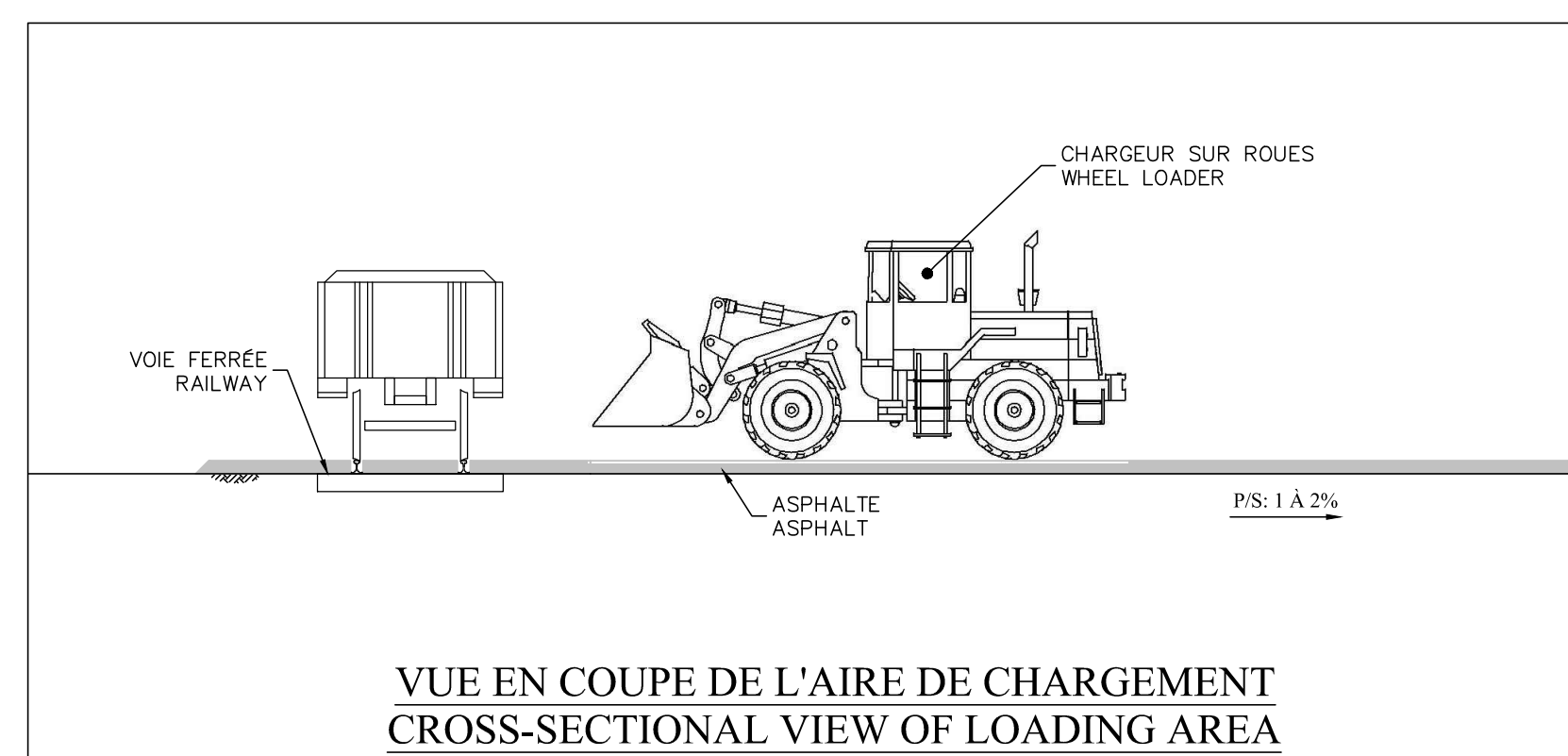
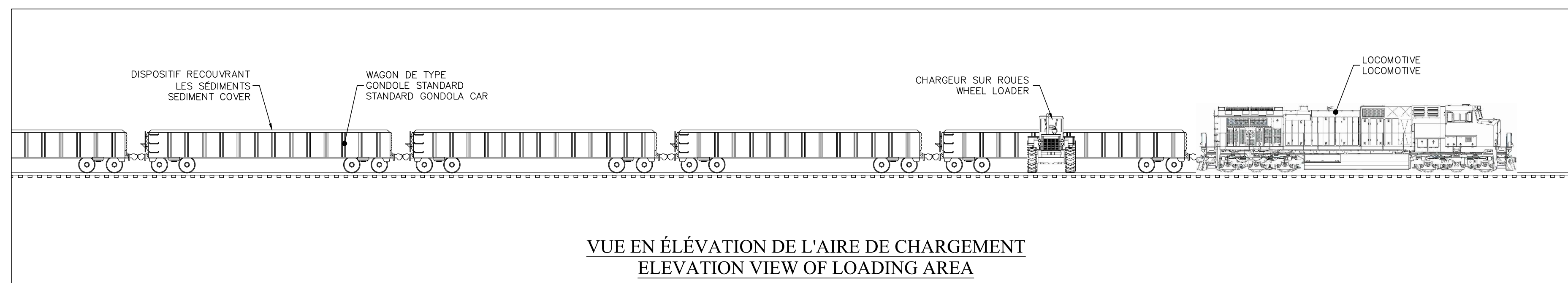
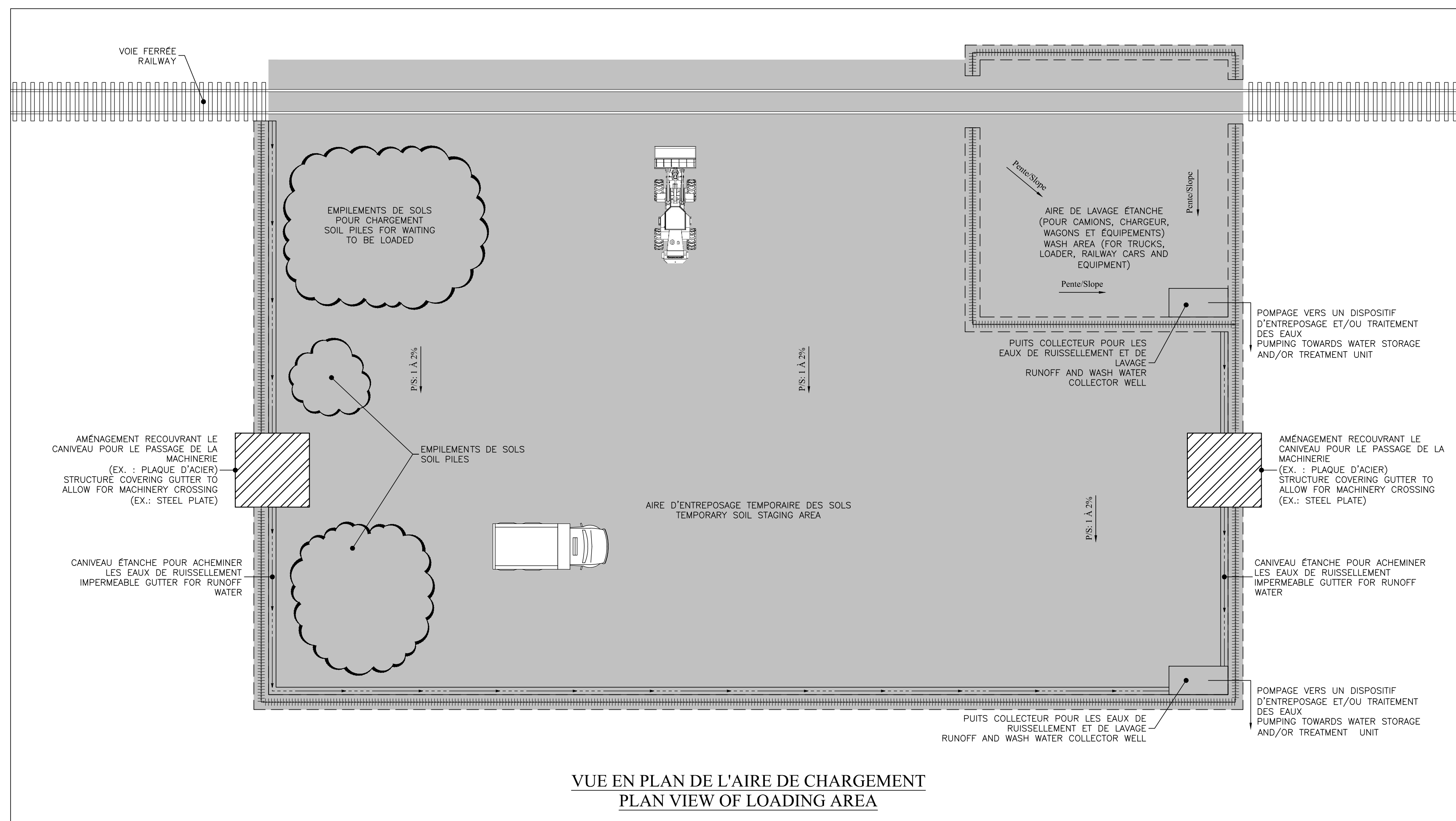
AMT - Train de banlieue circulant sur les voies appartenant au

Gare/jonction ferroviaire

Principales cours de tirage



Transports Québec



NOTE/NOTE:

1. CONCEPT SCHEMATIC/A TITRE INDICATIF SEULEMENT. LE CONCEPT LES OUVRAGES, LES INFRASTRUCTURES, LES EQUIPEMENTS ET LES DIMENSIONS VARIERONT EN FONCTION DE LA SOLUTION RETENUE POUR UN TRANSPORT FERROVIAIRE, LE CAS ECHÉANT. TOUTEFOIS, LES AGENCES TRANSFERTS DE LA CONCEPTION DES OUVRAGES, LES INFRASTRUCTURES, LES EQUIPEMENTS, DEVONT OBLIGATOIREMENT ETRE ETANCHEESSES. DE PLUS, UN SYSTEME DE RECUPERATION D'ENTREPOSEAGE TEMPORAIRE DES EAUX DE RUISSELLEMENT ET DE LAVAGE DEVRA ETRE PRESENT AFIN D'ASSURER LE RESPECT DES CRITERES DE QUALITE POUR L'EAU AVANT SON REJET A L'ENVIRONNEMENT. LE DETAIL D'AMENAGEMENT DES INSTALLATIONS SERA PRESENT DANS LE DEMANDE LE CERTIFICAT D'AUTORISATION POUR LES TRAVAUX.


1. CONCEPT SCHEMATIC DESIGN PREPARED FOR INFORMATION PURPOSES ONLY. DESIGN, WORKS, INFRASTRUCTURE, EQUIPMENTS AND SIZES MAY VARY ACCORDING TO THE CONCEPT SELECTED FOR RAILWAY TRANSPORT, IF USED. HOWEVER, LOADING AND SOIL STAGING OPERATIONS NEED TO BE PREVENTED. DESIGN OF WORKS, INFRASTRUCTURE, EQUIPMENTS, WATERS COLLECTION AND STORAGE SYSTEM WILL HAVE TO BE IN PLACE IN ORDER TO MAKE SURE THAT WATER COMPLY WITH APPLICABLE CRITERIA BEFORE IT CAN BE DISCHARGED IN THE ENVIRONMENT. DETAILED LAYOUT WILL BE SUBMITTED WITH REQUEST FOR CERTIFICATE OF AUTHORISATION.

CE DOCUMENT D'INGÉNÉRIE EST LA PROPRIÉTÉ DE DESSAU ET EST PROTÉGÉ PAR LA LOI. IL EST DESTINÉ EXCLUSIVEMENT AUX FINS QUI Y SONT MENTIONNÉES. TOUTE REPRODUCTION OU ADAPTATION, PARTIELLE OU TOTALE, EN EST STRICTEMENT PROHIBÉE SANS AVOIR PRÉALABLEMENT OBTENU L'AUTORISATION ÉCRITE DE DESSAU.

THIS ENGINEERING DOCUMENT IS THE PROPERTY OF DESSAU AND, AS SUCH, IS PROTECTED BY LAW. IT IS SOLELY INTENDED FOR THE USE MENTIONED HEREIN. IT IS STRICTLY FORBIDDEN TO DUPLICATE OR ADAPT IT EITHER IN PART OR IN ITS ENTIRETY WITHOUT HAVING FIRST OBTAINED DESSAU'S WRITTEN AUTHORIZATION TO DO SO.

LÉGENDE/LEGEND :

SURFACE ÉTANCHE
(PAR EX. : ASPHALTE, GÉOMEMBRANE)
IMPERMEABLE SURFACE
(FOR EX.: ASPHALT, GEOMEMBRANE)


 DOS D'ÂNE
 (MERLON DE FAIBLE HAUTEUR)
 HUMP
 (LOW DIKE)

P/S	PENTE/SLOPE
-----	-------------

00	14-06-16	FINAL/FINAL	B.V.	P.T.
0B	14-01-10	PRÉLIMINAIRE 2/SECOND DRAFT	B.V.	P.T.
0A	13-12-13	PRÉLIMINAIRE/DRAFT	B.V.	P.T.
REV.	AA-MM-JJ YY-MM-DD	DESCRIPTION	Prépare Prepared	Vérifié Checked
ÉMISSIONS / RÉVISIONS - ISSUES / REVISIONS				

TOUTES LES DIMENSIONS DEVRONT ÊTRE PRISES
ET VÉRIFIÉES AVANT DE COMMENCER LES TRAVAUX

ALL DIMENSIONS MUST BE TAKEN AND
CHECKED BEFORE BEGINNING THE WORKS

Socaux / Scal

Client



Références du client / Client's references

Project / Project **PROJET DE RESTAURATION DES
SÉDIMENTS DU FOND MARIN AU PORT DE
GASPÉ - SANDY BEACH
REMEDIATION OF CONTAMINATED SEDIMENT AT
THE PORT OF GASPÉ (SANDY BEACH) PROJECT,
QUEBEC**

Titre / Title

FIGURE 1

SCHÉMA D'UNE AIRE DE CHARGEMENT DE TRAIN

SKETCH OF A TRAIN LOADING AREA

DESSAU

Dessau inc.
1080, côte du Beaver Hall
Montréal (Québec) H2Z 1S8
Téléphone/Phone : 514.281.1010
Télécopieur/Fax : 514.798.8790

Préparé Prepared	B. Vallée	Discipline	ENVIRONNEMENT
Dessiné Drawn	F. Boudreau	Échelle Scale	AUCUNE/NONE
Vérifié Checked	P. Turgeon	Date	2013-09-05

Chargé de projet / Project Manager B. Turgeon	N° de séquence Sequence No.	de of
---	--------------------------------	----------

Serv. resp. Serv. char.	Projet Project	Otp / Wbs		Disc.	Type	N° Dessin Drawing No.	Rév. Rev.
045	P-0000414	0101	013	EN	D	0101	00