

## PARKS CANADA AGENCY

**PROJECT: 056-P-0004134-300**

## **CULVERTS REPLACEMENT ON THE PARKWAY ROAD AT THE MAURICIE NATIONAL PARK**

### **ADDENDA NO 1**

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The following notes are part of the tender document. These notes will be attached to the tender document and shall be sealed by the tenderer and must be provided with signature of an authorized person.

#### **1.0 SECTION A – TECHNICAL SPECIFICATIONS**

##### **Section 01 11 00 – Summary of Work:**

The following point is added:

.9 The work below the high-water mark of the watercourse (with fish habitat) downstream culvert RP\_02010 must be made out of the restriction period which is from October 15<sup>th</sup> to November 15<sup>th</sup>. The Contractor must submit his work method and schedule for approval. It must meet the requirements of Section 01 35 43 "Environmental Procedures." In any case, the issue of sediment into the watercourse will not be allowed.

##### **Section 01 35 43 – Environmental Procedures:**

The following point is added:

##### **1.2 Working Method :**

.1 The Contractor shall submit his working method and sediment control plan one (1) week before the beginning of work for approval by the Representative of Parks Canada.

2 For culvert RP\_02010, working method must take into account the restricted period of work in the river, which is from October 15<sup>th</sup> to November 15<sup>th</sup>.

##### **1.8 Work adjacent to Waterways:**

Point .10 is modified as follow:

.10 Works are not allowed in recognized watercourse as fish habitat. This restricted period goes from October 15<sup>th</sup> to November 15<sup>th</sup> inclusive (watercourse downstream of the culvert RP\_02010)

Point .13 is added:

**.13 Works on culvert located in a wetland must be isolated by using cofferdams. In any case, the water from the wetland should be pumped or drained. Pumping will be done from inside the cofferdam only and the recommendations of this current section**

## **Section 02 41 13 – Selective Site Demolition**

### **1.7 Delivery, Storage and Handling**

Point .4 is modified as follow:

.4 Waste Management and Disposal:

Point 1 is cancelled.

### **3.3 Removal Operations:**

Point .6 is modified as follow:

.6 Removal of fences and guardrails.

.1 Remove and dispose fences;

.2 Remove and dispose existing guardrails (poles, steel cables, underground facilities,...)

## **Section 31 00 00 – Generalities**

### **1.3 Payment**

Points .4, .5 and .8 are modifies as follow:

.4 The lump sum amount includes mass or trenched excavation, when such work is required, stripping of topsoil and humus and stockpile for later use, removal of trees and shrubs, undergrowth, refuse, etc, hand or machine digging, removal, reuse if possible, fragmentation and/or disposal of boulders on existing road embankments, pumping and temporary bracing as required, removal and disposal of existing culverts, specific environmental actions and sedimentation prevents, works on watercourse, including works out of restricted period, excavation and reshaping of scour pools, supply and installation reinforced concrete culverts and precast reinforced concrete headwalls, including cut-off wall, bedding and surround with granular materials, clay barrier if required, backfilling and regulated compaction according to article 11.6.1 CCDG from MTQ, borrow materials, loading, transportation, disposal and, if necessary, spreading of unacceptable or non-reusable materials (loading, transportation and disposal fees) in or out of the work site **to an authorized site by the MDDEFP**, support of services, **facilities** and existing structures, **reshaping and revitalization of ditches and embankment with stockpiled topsoil and biodegradable fences, ditch diversion (if required)**, culverts, sewers and drains, etc., **and any other cost related to winter conditions.**

.5 ...including supply and installation of semi-rigid guardrails on wood posts and with flexible guardrails ends.

.8 Finally, it includes **characterization and sampling of soils to dispose out of the Park, loading**, transportation and disposal of waste materials **to an authorized site by MDDEFP**, protection of existing services, legal and/or geodetic bench marks, existing installations to be preserved, temporary service roads and road signs, **one lane opened to traffic for culvert RP02010 (and for other culverts during works on 2014) including temporary signage and signaler**, dust control agent, grading, cleaning and any necessary work for completion according to good engineering practice.

## 1.4 Bitumen price :

Point .1 is modified as follow:

.1 The price of the paving layer to install in 2014 is revised downward or upward from the reference price of bitumen in October 2013. The reference price used for the calculation and adjustment, it is the minimum price of bitumen Performance Class PG 58-34 established in standing offers selected for bitumen supply the Ministry of Transport of Quebec.

Calculating the price adjustment paving is made only if a variation of  $\pm 5\%$  was recorded compared to the reference price of bitumen in October 2013. Thus, in the case where the variation was less than  $5\%$ , the price of paving is that indicated in the price list, without adjustment.

The adjustment is calculated as follows:

.1 If the reference price of bitumen of the month in which the work is performed is greater than  $5\%$  or more compared to the reference price, the price of paving is adjusted upward as follows:

$$PU_{aj} = PU + (PR_e - 1,05 PR_s) \cdot B \cdot D \cdot E$$

<u>Definitions</u>	PU <sub>aj</sub> : Price adjusted in raison of price bitumen increase (\$ / m.ca.);
	PU: Paving Price du as filled in tender documents (\$ / m.ca.);
PR <sub>s</sub> :	Bitumen reference price in October 2013 (\$ / t);
PR <sub>e</sub> :	Bitumen reference price du while paving works (\$ / t)
B:	Percentage of bitumen used for the pavement layer mix (%);
D:	Density of the pavement layer (t / m.cu.);
E:	Thickness of the pavement layer shown on plans.

.2 If the reference price of bitumen of the month in which the work is performed is lower than 5% or more compared to the reference price, the price of paving is adjusted downward as follows:

$$PU_{aj} = PU + (PRe - 0,95 PRs) \cdot B \cdot D \cdot E$$

<u>Definitions</u>	PUaj: Price adjusted in raison of price bitumen decrease (\$ / m.ca.);
	PU: Paving Price du as filled in tender documents (\$ / m.ca.);
PRs:	Bitumen reference price in October 2013 (\$ / t);
	PRe: Bitumen reference price du while paving works (\$ / t)
B:	Percentage of bitumen used for the pavement layer mix (%);
D:	Density of the pavement layer (t / m.cu.);
E:	Thickness of the pavement layer shown on plans.

In both cases, the percentage of bitumen and density of asphalt are determined from the final formula of the bituminous mixture accepted by the laboratory of Parks Canada.

For verification purposes, the Representative of Parks Canada reserves the right to require the delivery bill of asphalt to the site.

Point .2 is added:

The paving work will be executed in spring 2014, except for temporary paving on culvert RP\_02010 will be achieved in 2013.

Point 1.4 b is added:

#### **1.4 Unit price for some articles:**

.1 The 1st class Excavation by mechanical fragmentation is paid per cubic meter

This compensation constitutes full compensation for machinery and labor required for breaking the rock mechanically or using equipment such as «Tramac " or " router», excavation, loading, transportation, reuse or disposal off-site to a site which meets the requirements of MDDEFP, as well as all other elements required by the «tender Documents».

Any volume of excavation materials first class payable to the Contractor shall be assessed according to the theoretical lines in Figure 32 BNQ 1809-300 (latest version in force and its amendments) and according to the levels measured rock in place before excavation. It will be measured by multiplying the average of the areas of two (2) consecutive cross sections by the distance that separates them.

Any excavation beyond the theoretical lines of the standard trench will be at the expense of the Contractor.

The Contractor shall take all necessary measures to protect the pipes and surrounding existing structures.

.2 The snow clearing of culverts RP\_42650, and RP\_44681 RP\_45187 price is paid by each snowfall whose thickness accumulated on the road is greater than 5 cm. The price includes the necessary machinery for snow removal, mobilization and demobilization of equipment, sanding including a maximum of 5% salt and all activities necessary for snow removal. Snow removal is the responsibility of the Contractor and will be based in the western sector (Saint-Mathieu access) for an approximately length of 20 km. Parks Canada will not pay for snow removal from the above mentioned and culverts RP\_06624 and RP\_02010. Parks Canada is responsible for snow removal of culverts RP\_02010 RP\_06624.

**1.5 Allocated amount for contingency is replaced by:**

**1.5 Provisional quantities:**

.1 The quantities shown in items "sub-base and paving", "Riprap 100-200 mm, ...", "Riprap 200-300 mm, ... "And" excavation 1st class ... " from the tender form is only provisional for unexpected work and It is not a agreement to pay in whole or in part to the Contractor

.2 Any payment carried out under the terms of this item must correspond to work having been recognized as being additional work unforeseen in this mandate and approved by the Representative of Parks, who will judge the relevance of using this item. The Contractor will be paid according to the prices of the tender form.

**1.8 Access to Worksites and Employees Access**

Point .4 is added:

.2 The snow clearing of culverts RP\_42650, and RP\_44681 RP\_45187 and spread sand including a maximum of 5% of salt is the responsibility of the Contractor. Only the snowfalls whose thickness accumulated on the road are greater than 5 cm will be paid. The snow will be from the western sector (Saint-Mathieu access) for a length of approximately 20 km Parks Canada is responsible for snow removal of culverts RP\_02010 RP\_06624.

**1.17 Excavation materials:**

Point .1 is modified as follow:

.1 The Contractor must use the excavated material for backfilling, if they are compactable and if they meet the requirements of article 11.6.1 of the CCDG MTQ, if they are free from organic soil, frozen soil, shale or pyritic shale and are approved by

the Representative of Parks Canada. The boulders of 500 mm or less could be reusable and placed on the side of the road embankment, outside of the area between the slopes of 1V: 1H drawn from outside shoulders.

## **1.18 Geotechnical Advice:**

This article is replaced by: **Geotechnical Advice and Environmental characterization of soils.**

.1 **Geotechnical Advice and Environmental characterization of soil for culverts RP\_02010 and RP\_45187 are attached to tender documents.**

## **1.28 Work on watercourse – restricted period:**

The following article is added:

.1 **No work can be done in a watercourse recognized as fish habitat (below the high-water mark) between the period of October 15<sup>th</sup> to November 15<sup>th</sup> inclusive. The schedule and method of work of the Contractor shall take in account this requirement (culvert RP\_02010) and also must be approved by the Representative of Parks Canada. In addition, sediments must not be released to a watercourse with fish habitat.**

## **Section 31 23 11 – Excavation and backfilling**

### **1.1 Related sections**

Point .6 is added:

**.6 Environmental Procedures**

**Section 01 35 43**

### **1.2 Scope of Work:**

Point .5 is added:

**.5 Excavation and Backfilling in a watercourse with fish habitat must take into account requirements and mitigation measures of section 01 35 43 «Environmental Procedures».**

### **1.7 Condition of the Worksite:**

Article .3 is completed as follow:

**...Management of contaminated soil is according to section 31 23 13 – « Environmental Management of Excavation Surplus ».**

## 1.13 Storm water management end erosion and sediments control

It is modified as follow:

### 1.13 Storm water management, *work in a watercourse*, and sediments control

Point.3 is modified as follow:

.3 During work, **mitigation measures must meet requirements of section 01 35 43 - «Environmental Procedures»**. Specifically, storm water and sediments will be controlled by methods described in section 01 35 43 - «Environmental Procedures». Moreover, the work in watercourse should also be made according to section 01 35 43 «Environmental Procedures» and must comply with the restricted period of watercourse with fish habitat.

## 2.4 Backfill materials

Point 2 is modified by:

.2 All compactable materials and comply with the 1101 standard MTQ can be used if they meet the requirements of Article 11.6.1 of the CCGD MTQ except organic soils , contaminated soil and frozen soil and shale or slate pyritic and if they are approved by the Representative of Parks Canada. The boulder with maximum dimensions of 500 mm can be reuse and placed to the side of the road embankment, outside of the area between the slopes of 1V: 1H drawn from outside shoulders.

Soil components must be of the mineral kingdom. The use of these materials is based on their condition, the height of the embankment construction and climatic conditions. If required the plans and specifications, the condition of the materials must be improved by an appropriate treatment. A board of reference or size analysis may be requested on the excavated materials stack, and, as mentioned in the geotechnical recommendations.

## 2.7 Filter fence or sediment barrier

The article 2.7 is replaced as follow:

### 2.9 Pollution prevention of soils and water

.1 **The Contractor must improve temporary measures to protect from runoff, control of erosion and from sediments. The methods are shown in section 01 35 43 - «Environmental Procedures».**

## 3.10 Unstable sub-base

Point .4 is modified as follow:



**.4 The installation of culvert RP\_02010 must follow the Geotechnical advice in section B of technical specifications and according to requirements of section 31 23 11 – « Excavation and Backfilling ».**

### **3.15 Backfilling of Pipes and excavations**

Point .16 is added:

**.1 Places where excavations for culverts are performed in silt-clay deposits, granular materials for the bedding and surround of pipes and filling the trenches are potentially a drain which may cause a preferential flow. Consequently, the Contractor shall install a 1000 mm blockage of silty clay materials (excluding soft materials) upstream of the culvert over the entire width of the trench to prevent water to flow freely. This blockage must be high enough to reach the surround of the pipe of 300 mm above the culvert. The costs are at Contractor expense.**

### **3.18 Disposal of excavation surplus**

Point .1 is replaced as follow:

**.1 The excavated materials which are rejected by the Representative of Parks Canada and excavation surplus to dispose for the current project, must be loaded, transported and disposed outside the park in an authorized MDDEFP site. The Contractor shall prior to analyze soil surpluses. Soils which contamination range is A or less, must to be disposed outside the Mauricie National Park. Costs characterization, loading, transportation and disposal off- site in authorized site by the MDDEFP, is at the Contractor expense. The Contractor shall assume that some of the soil could have reach concentrations in the range AB criteria of MDDEFP's Soil Protection and Contaminated Sites Rehabilitation Policy.**

### **3.21 Restoration work**

Point .3 is modified as follow:

**.3 The road embankment slopes shall be shaped as shown on plans for each culvert and slopes should not be less than 1V:1.5H ratio. The road embankment slopes between 1V: 2H and 1V: 1.5 H will be protected with riprap while upper slopes than 1V: 2H will be vegetated with recovered topsoil and humus of the site and with a biodegradable net. In all cases, even where there is the riprap protection, the upper third of the slope must be vegetated, even where there is the riprap protection.**



## **Section 31 23 13 – Environmental Management of Excavation Surpluses**

### **1.2 Scope of Work**

Point .1 is modified as follow:

The work shall include, but not be limited to, supplying the materials and manpower required for the execution, according to good engineering practices, of the environmental management and disposal of excavation surplus and **disposal of contaminated in compliance with Canadian Guidelines for soil quality of the Canadian Council of Environment Ministers (CCEM)**, in compliance with the directives of the MDDEFP's Soil Protection and Contaminated Sites Rehabilitation Policy and prevailing municipal by-laws. Also included:

Points .3 and .4 are cancelled and replaced as follow:

#### **.3 The Sampling of each pile of debris to be disposed out of the Park**

### **2.1 Title Management of contaminated soil is replaced by:**

#### **2.1 Sampling**

Point .2 is replaced as follow:

.2 Soils around the area of the proposed works were characterized for culverts and RP\_02010 RP\_45187 and the results are presented in an informative environmental study report attached to Section B of the tender documents

Point .5 is completed by:

**..., if soils are to be disposed off the Park.**

Point .10 is modified as follow:

.10 The Contactor shall carry out sampling and analyses **while work and sampling materials to be disposed off the Mauricie National Park.**

### **3.1 Disposal of contaminated excavation materials**

Point 2 is added:

.2 The material low in contamination compatible with the current use of federal park will be reused primarily on the work site while the material at concentrations equal to or below the range "A" will be loaded, transported and disposed off site.

### 3.2 Title Abbreviations and Definitions is modified by:

#### 3.2 Disposal of contaminated excavation materials

Article .1 « Generalities » is modified as follow:

##### .1 Generalities

**.1 In case that contaminated materials is discovered during construction, these excavated materials shall be put in separate stockpiles. The excavation surplus to be disposed off the Mauricie National Park should also be put in separate stockpile.**

**.2 The Contractor shall characterize distinctly these stockpiled materials and according to the analysis parameters provided in the MDDEFP's guide soils characterization**

Article .2 « Abbreviations and definitions »

Le Point .7 is added:

**.7 Soils > CCEM : Refers to soils with contaminant concentrations exceed the recommended values for federal parks**

### 3.4 Legislation

Points .3, .4 and .5 are added as follow:

**.3 Canadian Guidelines for soil quality of the Canadian Council of Environment Ministers (CCEM).**

**.4 Generic criteria for excavated soils.**

**.5 Regulations concerning the storage and transfer to contaminated soil centers of the LQE**

#### **Section 32 11 00 – Roadworks**

##### **1.12 Installation of new guardrails**

Point .2 is modified as follow:

**.2 Supply and installation of post and semi-rigid guardrails on wooden posts (DN-VIII-03-GSR 003, MTQ), including end accessories and any other accessory (DN-VIII-03-GSR-005, MTQ).**

Point .4 is added:

**.5 Supply and installation of materials for flexible guardrail end with steel cables (DN-VIII-03-GF 003, MTQ).**

Point.5 is added:

**.6 The installation of guardrails must comply with Volume VIII and to CCDG from MTQ**

## **2.9 Guardrails**

Article 2.9 is modified as follow:

.1 The existing flexible guardrails must be removed and disposed off the park of the Mauricie

.2 The proposed guardrails are semi-rigid on wooden posts in the format standardized DN- VIII -3- GSR 001 MTQ.

.3 The treatment ends of semi-rigid guardrails, lengths and quantities are shown on the plans.

.4 Extra width of the shoulder of 1.3 m is required for the installation of the guardrail. The posts of the guardrail must be installed at a minimum distance of 500 mm from the top of the slope and a minimum distance of 200 mm behind the shoulder.

.5 The implementation and installation of the semi-rigid guardrail must comply with the requirements of Cahiers Standards , Road Works , Volume VIII " restraint " , latest edition.

.1 The section of the existing guardrail to use is anchored to the ground by an end treatment in accordance with standard drawing (DN -VIII- 3 GF - 003) MTQ. Connecting cables with existing cables should be made with trim such as drawing normalizes DN -VIII- 3 GF - 006 as required by the VOLUME VIII MTQ but without weakening the existing tension in the cables

## **3.3 Connection to the existing roadway**

Point .1 is modified by adding the following article:

**.8 The paving work will be completed in spring 2014. The Contractor shall provide in its costs, maintaining circulation and temporary signage, traffic control people throughout the period of works.**

Point .3 is added:

### **.3 Temporary connections to the existing road**

**.1** The installation of two layers of paving is scheduled for spring 2014. The connection to the existing pavement in 2013 must be using temporary paving ESG-14 with a thickness of 50 mm and with a thickness of 50 mm of MG-20 crushed stone (culvert RP\_02010) and an allowance of 100 mm MG-20 crushed stone (for all other culverts).

**.2** In spring 2014, the temporary pavement and foundation allowance should be removed and disposed off site. The foundation must be leveled, compacted and shaped so as to reach the elevations proposed on plans.

**.3** Proceed to final connection to the existing road as detailed on specifications.

### **3.5 Sub-base**

Article.3.5.5 «Placing » at article .3, the following point is added:

**.3** An allowance sub-base of MG-20 type crushed stone of 50 mm (culvert RP\_02010) and 100 mm (for other culverts) is required in fall 2013 and at spring 2014. Compaction requirements are identical to the other sub-base layers

### **3.6 Paving**

#### **.1 General**

The following article is added:

**.3** Final pavement works are scheduled on spring 2014. The contractor must foresee expenses related to maintaining the traffic and temporary signage and traffic control people.

#### **.3 Asphalt covering**

**.1** The asphalt covering will be composed of:

Articles .1 and .2, pavement are scheduled on **spring 2014**.

The following article is added:

**.3** A temporary base course layer of 50 mm thick (for culvert RP\_02010 only) of ESG-14 type (PG 58-34 asphalt)

### 3.11 Road Markings

#### .1 General

Article .2 is modified as follow:

#### .2 Pavement markings have the following colour and width:

- .1 Edge line: 120 mm, white;
- .2 Division line, solid and double: 120 mm, yellow.**

Article .3 is modified as follow:

#### .3 Pavement markings must comply with volume I and V of MTQ

### **Section 33 31 00 – Topsoil and Finish Earthwork**

#### 3.2 Spreading of Topsoil

#### .1 Areas to revegetation

The following article is added:

- .7 Install the biodegradable net coconut made, including support to hold installed topsoil.**

### **Section 33 31 00 – Culverts**

#### 1.1 Related sections

Article .4 is added:

- .4 Environmental Procedures** **Section 01 35 43**

#### 1.2 Scope of Work

Article .2 is added:

- .2 All work of culvert replacement and works on watercourse with fish habitat must take into account the requirements and mitigations measures in section 01 35 43 « Environmental Procedures ».**

## 1.4 Definition

Article .3 is added:

**.3 Sedimentation basin:** In this section of the specifications, the sedimentation basin should read «scour pool» which means a bowl and stony ground. The term «sedimentation basin » is rather used in section 01 35 43 «Environmental Procedures» during construction.

## 1.9 work schedule

Article .4 is added:

**.4** For culvert RP\_02010, the Contractor shall provide the work method and schedule taking into account restricted period of works in the watercourse downstream of the culvert (below the high-water mark) which is from October 15<sup>th</sup> to November 15<sup>th</sup> inclusive. In addition, it must be considered that one lane must be open to traffic at all times with traffic control people and temporary signs.

## 2.9 Headwall

The last sentence of article .2 is modified as follow:

The Contractor shall provide a plan signed and sealed by an Engineer member of the OIQ for the headwall for culvert RP\_45187, including precast cutoff wall in reinforced concrete.

## 3.4 Culverts bedding

Point .5 is added:

**.5** For The boulder beneath the existing culvert RP\_44681 and therefore under the bedding of the proposed culvert must be removed to natural ground and either be recovered or disposed off site. The vacuum be filled by a oversize crushed stone bedding of type MG-20b in layers of 150 mm maximum and compacted to 90% of modified Proctor.

## 3.5 Culverts and headwall installation

Point .7 is added:

**.7** Where indicated on the plans and at the request of Representative of Parks Canada. The Contractor shall install a silty clay barrier to prevent preferential flow in the bedding. The barrier will be installed as described in this section.

## 2.0 SECTION B –GÉOTECHNICAL ADVICE AND PRELIMINARY CHARACTERIZATION SITE ASSESSMENT OF SOILS FOR CULVERTS #6 (RP\_02010) ET #137 (RP\_045187).

### 1. Bench mark – Culvert RP\_02010

The Drilling Reports of culvert # 6 (RP\_02010) indicate arbitrary elevations and not geodetic elevations. The bench mark RN -1 (shown in the sketch location of the culvert # 6) and the arbitrary elevation of 100.0 m. At his point the geodetic elevation is 109.99 m.

### 2. The following documents are added to section B of technical specifications :

- «Caractérisation environnementale des sols – Remplacement du ponceau 6, chaînage 2 + 010, Parc national de la Mauricie, 30 septembre 2013» - Preliminary Characterization Assessment, culvert #6 replacement at the Mauricie National Park, September 30<sup>th</sup> 2013.
- «Caractérisation environnementale des sols – Remplacement du ponceau 137, chaînage 45 + 187, Parc national de la Mauricie, 30 septembre 2013 » - Preliminary Characterization Assessment, culvert # 137 replacement at the Mauricie National Park, September 30<sup>th</sup> 2013.

## 3.0 SECTION C – DRAWINGS

P0004134300VRCV3D\_01 (sheet 06 of 07) "Culvert Replacement RP\_45600" is canceled.

P0004134300VRCV3D\_06 (sheet 06/06) "sections and details" revision 01 addenda issued October 18, 2013, is added.

P0004134300VRC3D\_01 (sheet 01/06), P0004134300VRC3D\_02 (sheet 02/06), P0004134300VRC3D\_03 (sheet 03/06), P0004134300VRC3D\_04 (sheet 04/06), P0004134300VRC3D\_05 (sheet 05/06) Revision 00 are replaced by the following Drawings revision 01 issued on addendum no.1, October 18<sup>th</sup>, 2013.

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