

TENDER CLOSING DATE IS 11:00:00 A.M. LOCAL (TORONTO) TIME May 13, 2021

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**TENDER** FOR **Structure Rehabilitation**

- (A) **NECESSARY AVAILABLE FINANCIAL RATING IS \$2,500,000 IN (GR)**  
**NECESSARY AVAILABLE MAXIMUM WORKLOAD RATING IS \$2,500,000**

AT HWY. 401

Palace Road Overpass EBL (Site No. 17X-0063/B1) and Palace Road Overpass WBL (Site No. 17X-0063/B2), located at Palace Road Interchange 582 - 0.7 km

0.7 km

Eastern Region

**UNDER CONTRACT NO. 2020-4090**

- (B) **THIS CONTRACT IS APPLICABLE TO QUALIFIED CONTRACTORS ONLY**

BY

---

NAME OF FIRM OR INDIVIDUAL (HEREAFTER REFERRED TO AS "CONTRACT CONTRACTOR")

---

ADDRESS

---

NAME OF PERSON SIGNING FOR FIRM

---

OFFICE OF PERSON SIGNING FOR FIRM

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**TENDER ITEM LIST****Grading**

Item	Spec. Code	Item Description	Unit	Quantity	Unit Price	Total
1	0206-0010 SP	Earth Excavation, Grading	m3 (P)	417		
2	0308-0010	Tack Coat	m2 (P)	6,393		
3	0313-1392	Superpave 12.5FC 2 - Warm Mix	t	843		
4	0314-0071	Granular A	t	464		
5	0342-0140	Shoulder Rumble Strips - Asphalt	m (P)	374		
6	0353-0011 SP	Concrete Curb and Gutter	m (P)	61		
7	0353-0020	Concrete Gutter Outlets	each (P)	1		
8	0510-3133	Removal of Asphalt Pavement	m2 (P)	1,923		
9	0510-3137	Removal of Asphalt Pavement, Partial-Depth	m2 (P)	608		
10	0510-3139 SP	Removal of Asphalt Pavement from Concrete Surfaces on Structures	m2 (P)	928		
11	0510-3532	Removal of Concrete Curb and Gutter	m (P)	61		
12	0599-0100 SP	Performance Bond	lump sum	100 %		
13	0599-0110 SP	Labour and Material Payment Bond	lump sum	100 %		
14	0703-0021	Small Signs, Relocation	each (P)	2		
15	0706-0015 SP	Temporary Traffic Control Signs	lump sum	100 %		
16	0706-0045	Road Closing/Restriction Notice Signs (TC-64)	each (P)	3		
17	0710-0030 SP	Pavement Marking, Durable	m (P)	2,655		
18	0723-4105 SP	Energy Attenuator - Temporary, Narrow	each (P)	8		
19	0741-0023 SP	Temporary Construction Barrier, Freestanding, Category III	m (P)	1,240		
20	0799-5505 SP	Temporary Transition Connection	each (P)	2		
21	9999-5528 SP	Roadway Weather Information System (RWIS) Pavement Sensors	lump sum	100 %		
22	9999-6226 SP	Portable Queue Detection and Warning System Service	lump sum	100 %		

**Palace Road O/P EBL (17X-0063/B1)**

Item	Spec. Code	Item Description	Unit	Quantity	Unit Price	Total
23	0928-0060 SP	Concrete Removal - Partial Depth - Type A	m3	10.6		
24	0928-0075 SP	Concrete Removal - Full Depth	m3	0.5		
25	0929-0030	Abrasive Blast Cleaning of Reinforcing Steel	m2	105		
26	9999-0032 SP	Concrete Patches, Proprietary Products	m3	11.20		

**Palace Road O/P WBL (17X-0063/B2)**

Item	Spec. Code	Item Description	Unit	Quantity	Unit Price	Total
27	0928-0060 SP	Concrete Removal - Partial Depth - Type A	m3	8.8		
28	0928-0075 SP	Concrete Removal - Full Depth	m3	0.5		
29	0929-0030	Abrasive Blast Cleaning of Reinforcing Steel	m2	88		
30	9999-0032 SP	Concrete Patches, Proprietary Products	m3	9.40		
		<b>Grand Total:</b>				

## INSTRUCTIONS TO BIDDERS

### 1.0 DEFINITIONS

**Bidder** means a person, sole proprietorship, firm, partnership, corporation, or any other business venture that submits a Bid to the Ministry.

**Bonds** means both the Contract Bonds and the Statutory Bonds prescribed in the Tender Documents.

**Business Day** means any Day which is not: a) A Saturday or a Sunday or b) A Day observed as a holiday under the laws of the Province of Ontario or the federal laws of Canada applicable to the Province of Ontario.

**Contract Bonds** means the surety bonds executed by the Contactor and its Surety prescribed in the Tender Documents, but does not include Statutory Bonds.

**Contractor Registration Form or CRF** means the Ministry approved form supplied by the Ministry and completed by the Bidder to submit information in support of a contractor's basic financial rating.

**Contract Tender Form or CTF** means the Ministry approved form detailing the contract tender information for an advertised contract.

**Day** means a calendar day.

**Itemized Bid Form** means the Ministry approved form that the Bidder is to use to price the items specified in the tender documents to perform the Work.

**Late Bid** means a Bid received by the Ministry's Service Provider after the Tender Closing.

**Late Bid Notification** is a statement sent by the Ministry's Service Provider to a Bidder notifying the Bidder that their Bid is a Late Bid and will not be considered and is rejected.

**MERX** means the company engaged by the Ministry to provide electronic tendering services in respect of this Bid, which is a subsidiary of Mediagrif Interactive Technologies Inc.

**No Bid Statement** means a 'No Bid' selection on a Summary Bid Submission Form submitted to the Ministry's Service Provider from a Bidder who has an approved Tender Registration Form, but who does not intend on submitting a Summary Bid Submission Form containing a summary Bid prior to the Tender Closing, or intends to withdraw a summary Bid submitted on a Summary Bid Submission Form submitted to the Ministry prior to Tender Opening.

**Non-Rated Contractor** means a Contractor who does not have a basic financial rating or maximum workload rating in accordance with the Ministry's Qualification Procedures for Contractors.

**Non-Resident Contractor** means any Contractor residing outside of the Province of Ontario and with respect to a corporate contractor, not being incorporated pursuant to the laws of Ontario and who has not maintained a permanent place of business in Ontario continuously for twelve months prior to Tender Closing.

**Non-Qualified Tender Registration Form (NQ-TRF)** means the Ministry approved form supplied by the Ministry completed by the Bidder to notify the Ministry of its intention to submit a Bid on a contract in accordance with the Instructions to Bidders.

**Qualified Contract** means a contract that is tendered in accordance with the Ministry's Qualification Procedures for Contractors.

**Qualification Procedures for Contractors** means the administrative routine established by the Ministry to determine that contractors have the financial, managerial, and technical capability to perform the work in accordance with the contract.

**RAQS** is an abbreviation for Registry Appraisal and Qualification System.

**RAQS/MERX** is an abbreviation for the Ministry's tendering system replacing RAQS.

**Rated Contractor** means a contractor who has been granted a basic financial rating or maximum workload rating in accordance with the Ministry's Qualification Procedures for Contractors.

**Service Provider** means the person appointed by the Ministry to provide electronic tendering services on behalf of the Ministry.

**Statutory Bonds** means the surety bonds executed by the Contactor and its Surety and required to be furnished by Part XI.1 of the Construction Act, R.S.O. 1990, c.30, as amended.

**Summary Bid Submission Form** means the electronic form obtained from the Ministry's Service Provider prior to Tender Closing that the Bidder is to use to summarize the lump sum offer to perform the Work.

**Tender or Bid** can be used interchangeably and means the offer submitted by a Bidder to perform the work required of the Tender Documents at the prices set out in the offer, which offer shall be set out in the forms approved by the Ministry and in accordance with the procedures more particularly described in these Instructions to Bidders. More particularly, the forms shall include, among other things, the Summary Bid Submission Form and the Itemized Bid Form.

**Tender Closing** or **Tender Opening** can be used interchangeably and mean the last date and time that the Ministry will receive Bids.

**Tender Documents** means the Tender, MTO General Conditions of Contract, Standard Specifications and Drawings, Special Provisions, Contract Drawings, Addenda incorporated into any aforementioned document, and documents referenced in the aforementioned documents, but excludes the Qualification Procedures for Contractors.

**Tender Registration Form (TRF)** means the Ministry approved form supplied by the Ministry completed by Bidders to pre-qualify for Qualified Contracts in accordance with the procedures set out in the Qualification Procedures for Contractors.

**Unbalanced Bid** means a Bid containing a lump sum or unit prices, which does not reflect reasonable actual costs to do the work as described in the Tender Documents, plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs, and other indirect costs which are anticipated for the performance of the work.

## **2.0 COMPLIANCE WITH INSTRUCTIONS**

- 2.1 Bidders must comply with these Instructions to Bidders and those failing to do so may have their Bid rejected, unless otherwise stated.

## **3.0 ENQUIRIES DURING TENDERING PERIOD**

- 3.1 Enquiries are to be submitted electronically through the RAQS/MERX website. All public enquiries and responses to enquiries will be posted through the RAQS/MERX website.
- 3.2 Unless addressed through an addendum to the Tender Documents issued by the Ministry, all responses to Bid enquiries shall not be incorporated as part of the Contract or in any way change the Contract.

## **4.0 JOINT VENTURES**

- 4.1 Rated Contractors are permitted to Bid on tenders as a joint venture. Joint ventures are defined as persons or corporations not associated or related by common ownership. All joint ventures must, on a joint and several bases, absolutely, unconditionally and irrevocably be responsible for all obligations described in the Tender Documents. If the joint venture does not form a corporation, all the joint venture entities must sign the contract upon award of the Tender.
- 4.2 Rated Contractors shall in accordance with the Ministry's Qualification Procedures for Contractors notify the Ministry of their intent to form a joint venture. Upon approval by the ministry, the lead contractor must submit the TRF on behalf of the joint venture.

## **5.0 TENDER REGISTRATION**

- 5.1 An approved Non-Qualified Tender Registration Form (NQ-TRF) or Tender Registration Form (TRF) is required for the submission of a Bid in respect of the work anticipated by the Tender Documents.
- 5.2 A Non-Rated Contractor must have a Ministry approved NQ-TRF for the submission of a Bid.
- 5.3 A Rated Contractor must have either a Ministry approved NQ-TRF or a TRF in the case of a Qualified Contract for the submission of a Bid.
- 5.4 Qualified Contracts are applicable to Rated Contractors only and require an approved TRF for the submission of a Bid.

## **6.0 STATUTORY BONDS**

- 6.1 If the Total Bid Price is **\$500,000.00 or more** the Contractor shall furnish the Ministry with the Statutory Bonds in the prescribed form that satisfies the requirements of the Construction Act, R.S.O. 1990, c.C.30, as amended. In this regard, the Contractor shall deliver and maintain a labour and material payment bond using Form 31 and a performance bond using Form 32 prescribed by the Construction Act from a surety company that is an insurer licensed under the Insurance Act to write



surety and fidelity insurance. Such bonds shall name Her Majesty the Queen in right of the Province of Ontario as represented by the Minister of Transportation as an obligee. Each such bond shall have a coverage limit of at least 50 per cent of the tender price.

## **7.0 ELECTRONIC BID SUBMISSION PROCEDURES**

- 7.1 All Bidders must have a valid user ID and password to access the RAQS/MERX website and must have a Ministry approved CRF and a Ministry approved TRF for Qualified Contracts or Ministry approved NQ-TRF for all other contracts for the submission of a Bid in respect of this Tender. Failure to obtain either an approved TRF or NQ-TRF will disallow the Bidder from submitting a Bid on the basis of failing to comply with the Instructions to Bidders without any consideration by the Ministry.
- 7.2 The Bidder's TRF or NQ-TRF must be completed as of the date specified on the contract tender form. The Ministry will not approve any TRF's or NQ-TRF's received after 12:00 noon of the last Business day of the preceding week prior to the Tender Closing (generally, the Friday before Tender Closing).
- 7.3 Bidders must complete an on-line Summary Bid Submission Form. Only a Bidder with an approved TRF or NQ-TRF for the advertised Tender is able to complete and submit a Summary Bid Submission Form to the Ministry.
- 7.4 All Bids must be received by the Ministry before the Tender Closing date and time specified in the Tender Documents.
- 7.5 Bidders may submit a revised on-line Summary Bid Submission Form up until Tender Closing. The Ministry will only consider the last Summary Bid Submission Form received by the Ministry prior to Tender Closing. A No Bid Statement may be received from any Bidder on-line up until Tender Closing.
- 7.6 Upon successfully submitting an on-line Summary Bid Submission Form, Bidders will receive an on-line notification for information purposes that the Ministry has received their Summary Bid Submission Form.
- 7.7 The Itemized Bid Form will be available to pre-qualified Bidders for on-line data entry 24 hours prior to Tender Closing.
- 7.8 After Tender Closing, Bidders will receive an electronic notification from the Ministry's Service Provider, advising them that Tender Opening has occurred.
- 7.9 The Ministry's Service Provider will notify all Bidders electronically and will publish a Bidders list showing tender results on the RAQS/MERX website.
- 7.10 The three lowest Bidders will be advised to submit the Itemized Bid Form within 24 hours after the Bids are published. Failure to submit the Itemized Bid Form within the specified time may result in rejection of the Bid and/or may be referred to the Qualification Committee. The Itemized Bid Form shall not be changed once submitted.

## **8.0 COMPUTER SYSTEM FAILURE**

- 8.1 The Ministry will only accept Bids submitted electronically through RAQS/MERX. Any Bid received through any other format will not be considered and is deemed rejected without consideration.
- 8.2 The Ministry accepts no responsibility for any reason whatsoever, including computer system failures of either the Bidder or the Ministry Service Provider, if the Bidder is unable to submit its Bid before Tender Closing and the Bidder agrees that the Ministry shall have no liability for delays caused by internet/network traffic, degraded operation or failure of any computer system element, including, but not limited to: any computer system, power supply, telephone or data connection or system or software or browser of any type whatsoever.
- 8.3 It is the sole responsibility of the Bidder to ensure that it can access and exchange data with the Ministry Service Provider's computer systems electronically and that it allows sufficient time to successfully access and share data with the Ministry Service Provider's computer systems, having regard to the possibility of delays caused by internet/network traffic. Bidders are solely responsible to ensure that they plan their access to the Ministry Service Provider's computer/servers, so that the Bidders can reach the Ministry Service Provider's computers/servers before Tender Closing.

## **9.0 UNBALANCED TENDERS AND DISCREPANCIES**

- 9.1 Bidders that submit Tenders that contain a lump sum or unit prices that appear to be an Unbalanced Bid may be referred to the Ministry's Qualification Committee and any Tenders that are so Unbalanced to the potential detriment of the Ministry, may be rejected.
- 9.2 The Ministry will not allow any Bidder to adjust the total Tender amount after Tender Closing.
- 9.3 In the event of a mathematical error or discrepancy in the Itemized Bid Form, the Ministry may request the Bidder to resubmit the Itemized Bid Form without changing the total Tender amount.

## **10.0 ACCEPTANCE OR REJECTIONS OF TENDERS**

- 10.1 The Ministry reserves the right to reject any or all Tenders, and to waive formalities as the interests of the Ministry may require without stating reasons, therefore, the lowest or any Tender may not necessarily be accepted.
- 10.2 The Ministry shall not be liable for any costs, expenses, loss or damage incurred, sustained or suffered by any Bidder prior, or subsequent to, or by reason of the acceptance or the non-acceptance by the Ministry of any Tender, or by reason of any delay in the acceptance of a Tender, except as provided in the Tender Documents.
- 10.3 The Tender shall be irrevocable for a period of 30 days following the date of Tender Opening.

## **11.0 CONTRACT AWARD PROCEDURES**

- 11.1 The Ministry will notify a Bidder that the Tender has been accepted within 30 days of the Tender Opening.

- 11.2 Immediately after the notification, the Ministry will send the standard form contract agreement and other such forms and documents as are necessary to the selected Bidder for execution by the Bidder.
- 11.3 The selected Bidder shall fully execute and return the contract agreement and other such forms and documents, including the required bonds, if applicable, required certificates and declarations as directed in the notification of acceptance of Tender within seven Business days of the date the documents are received.
- 11.4 Following receipt of all properly executed forms and documentation, the Bidder will receive written authority to proceed with the work.

**12.0 FAILURE TO PROVIDE DOCUMENTS OR ENTER INTO CONTRACT**

- 12.1 If the Bidder is a Rated Contractor and fails to return the applicable documents as directed in the notification of acceptance of Tender, within seven Business days of receipt of such notification, the Ministry may reject the Bid on written notice to the Bidder and refer the matter to the Ministry's Qualification Committee without prejudice to any right or remedy the Ministry may have in law.
- 12.2 If the Bidder is a Rated Contractor and fails for any reason to enter into the contract within the specified time, then it shall not be allowed to work on the contract as a subcontractor or be allowed to supply any material, equipment or labour to the contract and the matter shall be referred to the Ministry's Qualification Committee without prejudice to any right or remedy the Ministry may have in law.
- 12.3 If the Bidder is a Non-Rated Contractor and fails to return the applicable documents as directed in the notification of acceptance of Tender, within seven Business days of receipt, the Ministry may reject the Bid, on written notice to the Bidder without prejudice to any right or remedy the Ministry may have in law, and the Ministry may revoke the Bidder's bidding privileges with the Ministry on future Ministry contracts for a period of up to 2 years.
- 12.4 If the Bidder is a Non-Rated Contractor and fails for any reason to enter into the contract within the specified time, then it shall not be allowed to work on the contract as a subcontractor or be allowed to supply any material, equipment or labour to the contract and the Ministry may revoke the Bidder's bidding privileges on future Ministry contracts for a period of up to 2 years without prejudice to any right or remedy the Ministry may have in law.

**13.0 NON-RESIDENT CONTRACTORS REQUIREMENTS**

- 13.1 Non-resident Contractors must provide a retail sales tax "Letter of Compliance" from the Ministry of Finance, failing which the non-resident Contractor shall satisfy the Retail Sales Tax Act and its regulations (as amended from time to time) in lieu therefore.
- 13.2 Non-resident Contractors must provide a copy of their approved Workplace Safety and Insurance Board registration form titled "Registration of Constructors and Employers Engaged in Construction" with their executed documents.

**CONFLICT OF INTEREST**

1. Each bidder must include in its bid submissions confirmation of the following:
  - 1.1 That the bidder does not and will not have any conflict of interest (actual or potential) in submitting its bid or, if selected, with the contractual obligations of the bidder as supplier/consultant under the Contract. Where applicable, a Bidder must declare in its bid any situation that may be a conflict of interest in submitting its bid or, if selected, with the contractual obligations of the bidder as supplier/consultant under the Contract; and
  - 1.2 That the bidder neither has nor has had, access to any Confidential Information as defined below;  
  
"Confidential Information" refers to the confidential information of the Crown (other than confidential information which is disclosed to the bidders in the normal course of the Tender); the Confidential Information is relevant to the Services required by the Tender, or their pricing and the disclosure for which could result in prejudice to the Crown or an unfair advantage to the Bidder.
2. In addition, each Bid shall include the following information:
  - 2.1 A list of the names, addresses and telephone number of the persons who participated in the development of the bid; and
  - 2.2 A list of the names of any former employees of the Ontario Public Service, their job classifications and the particular ministries where these individuals were working immediately prior to their leaving the Crown that the bidder has either appointed to its Board of Directors or employed since April 23, 1997.

The submission of any bidder may be disqualified where the bidder fails to provide confirmation of the foregoing or makes misrepresentations regarding any of the above. Further, the Minister shall have the right to rescind any contract with the selected bidder in the event that the Minister at his/her sole discretion determines that the selected bidder has made a misrepresentation regarding any of the above, in addition to or in lieu of any other remedies that the Minister has in law or in equity.

**PART 1(a)**

**CERTIFICATION - CONFLICT OF INTEREST  
(Complete Part 1(a) or 1(b) - Do Not Complete Both)**

I/we hereby certify that there is not nor was there any actual or potential conflict of interest or unfair advantage in our submitting the Bid or performing the Work/Services required by the Contract.

In submitting the Bid, our company has no knowledge of or the ability to avail ourselves of confidential information of the Crown (other than confidential information which may be been disclosed by the Minister to the Bidders in the normal course of the Tender) where the confidential information would be relevant to the Work/Services, their pricing or the Tender evaluation process.

\_\_\_\_\_  
**Name**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Position**

\_\_\_\_\_  
**Date**

The person who signs this declaration must be an authorised representative of the Tenderer and must have authority to bind the Tenderer.

**PART 1(b)**

**CERTIFICATION - CONFLICT OF INTEREST  
(Complete Part 1(a) or 1(b) - Do Not Complete Both)**

In submitting our Bid, the Bidder declares that the attached is a list of situations, each of which may be a conflict of interest, or appears as potentially a conflict of interest in our company submitting the Bid or performing the contractual obligations of the Supplier/Consultant under the Contract. **(Strike out Paragraph if not Applicable)**

In submitting the Bid, our company has/has no **(Strike out the inapplicable portion)** knowledge of or the ability to avail ourselves of confidential information of the Crown (other than confidential information which may have been disclosed by the Minister to the Bidders in the normal course of the Tender) where the confidential information would be relevant to the Work/Services, their pricing, or the Tender evaluation process and where access to such additional information may prejudice the Crown or be an unfair advantage to the Bidder.

*(If declaring that the Bidder has access to additional information that may be confidential, other than confidential information which may be disclosed by the Minister to the Bidders in the normal course of the Tender, please attach an explanation describing the additional information and how you access to it.)*

With the exception of those situations and/or access to additional information disclosed on the list attached, I/we hereby certify that there is not nor was there any other actual or potential conflict of interest or unfair advantage in our submitting the Bid or performing the Work/Services required by the Contract.

I/We hereby acknowledge that the Minister at his/her sole discretion shall have the right to determine whether or not the declared situations do constitute an actual or potential conflict of interest or whether access to additional confidential information does constitute an unfair advantage over other bidders.

I/We acknowledge that in the event that the Minister finds the situations to be a conflict of interest or access to the additional confidential information to be an unfair advantage that our Bid may be rejected.

\_\_\_\_\_

**Name**

\_\_\_\_\_

**Signature**

\_\_\_\_\_

**Position**

\_\_\_\_\_

**Date**

The person who signs this declaration must be an authorised representative of the Tenderer and must have authority to bind the Tenderer.

**PART 2**

**DISCLOSURE - CONFLICT OF INTEREST**

<b>PERSONS WHO PARTICIPATED IN THE PREPARATION OF THE TENDER</b>			
<b>NAME:</b>	<b>ADDRESS:</b>	<b>TELEPHONE NUMBER:</b>	<b>CONTRIBUTION OR % OF WORK:</b>

The work specified in the Contract shall be performed in strict accordance with the following Provisions, Contract Plans, Specifications and Conditions for **CONTRACT NO. 2020-4090**

**SCHEDULE OF PROVISIONS, CONTRACT PLANS, STANDARD DRAWINGS, SPECIFICATIONS AND GENERAL CONDITIONS**

**A. SPECIAL PROVISIONS**

- a) SPECIAL PROVISIONS FOR CONTRACT NO. 2020-4090 ATTACHED
- b) SPECIAL PROVISIONS FOR LABOUR CONDITIONS ATTACHED
- c) LIQUIDATED DAMAGES FOR CONTRACT NO. 2020-4090 ATTACHED

**B. PLANS**

Contract Drawing Book(s).

**C. STANDARD DRAWINGS**

**OPSD**

Dwg No.	Issue Date	Dwg No.	Issue Date	Dwg No.	Issue Date	Dwg No.	Issue Date
0100.0100	Nov 2009	0100.0110	Nov 2006	0100.0120	Nov 2009	0100.0130	Nov 2009
0100.0140	Nov 2002	0100.0500	Nov 2006	0100.0600	Nov 2006	0101.0100	Nov 2006
0101.0110	Nov 2006	0101.0120	Nov 2006	0101.0130	Nov 2006	0101.0140	Nov 2006
0101.0150	Nov 2006	0101.0160	Nov 2006	0101.0170	Nov 2007	0102.0100	Nov 2006
0103.0100	Nov 2006	0103.0110	Nov 2006	0104.0100	Nov 2007	0210.0100	Nov 2010
0210.0200	Nov 2010	0600.0200	Nov 2012	0600.0400	Nov 2012	0605.0300	Nov 2012
0608.0100	Nov 2012	0911.1600	Nov 2013	0911.1610	Nov 2013	0911.1800	Nov 2013
0911.1810	Nov 2013	0911.3400	Nov 2013	0923.0020	Nov 2005	0923.4800	Nov 2017
0924.1310	Nov 2016	0924.1350	Nov 2016	0924.1410	Nov 2016	0984.2030	Nov 2010
3390.1500	Nov 2005						

**MTOD**

Dwg No.	Issue Date	Dwg No.	Issue Date	Dwg No.	Issue Date	Dwg No.	Issue Date
0101.0700	Apr 1994	0219.1100	Jan 2021	0503.0200	Jan 2000	0503.0210	Sep 1999
0911.1900	Feb 2018	0911.1910	Feb 2018	0911.1920	Feb 2018	0911.1930	Dec 2017
0911.1940	Apr 2018	0911.1950	Feb 2018	0911.1960	Feb 2018	0911.1970	Jul 2018
0911.1980	Feb 2018	0911.1990	Jul 2018	0911.2330	Jan 2018	0911.2350	May 2019
0911.3500	Jul 2018	0911.5100	May 2019	0911.5110	May 2019	0911.5120	May 2019
0911.5200	May 2019	0911.5210	May 2019	0911.5300	May 2019	0911.5310	May 2019
0911.5320	May 2019	0911.5400	May 2019	0911.5410	May 2019	0911.5500	Aug 2019
0911.5510	May 2019	0911.5520	May 2019	0911.5530	May 2019	0911.5600	Jun 2019
0923.1960	Apr 2019	0923.3960	Apr 2019	0924.1330	Oct 2019		



**SSD**

Dwg No.	Issue Date	Dwg No.	Issue Date	Dwg No.	Issue Date	Dwg No.	Issue Date
0012.0001	Sep 2016						

The notes referring to the Standard Drawing numbers in Section C are deleted in their entirety and replaced by the following:

1. OPSDs are available for viewing and download from the Technical Publications website at <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx>

OPSDs that do not coincide with the most recent version published by OPS can be found in the archives section by selecting the “Archived Documents” tab.

2. MTODs are available for viewing and download from the Technical Publications website at <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx>

MTODs that do not coincide with the most recent version published by MTO can be found by selecting the “Archived” tab.

3. Copies of all applicable Structural Standard Drawings (SSDs) are contained within the Contract Documents.

**D. GENERAL SPECIAL PROVISIONS**

Special No.	Issue Date	Special No.	Issue Date	Special No.	Issue Date
100S02	Jan 2021	100S15	May 2017	100S17	Mar 2018
100S19	Jan 2020	100S55	Jan 2020	100S59	Nov 2016
100F68	Aug 2019	100S69	Aug 2019	101S04	Jan 2017
101S18	Apr 1994	101F21	Nov 2014	101F23	Jun 2020
102S05	May 2017	103F03M	Aug 2019	103S05	Aug 2019
103S08	Jan 2020	105S22	Jun 2016	107S02	Feb 2017
107S04	Feb 2013	107S05	Apr 2017	107S06	Oct 2020
109S32	Mar 2018	110S06	Jun 2020	110F10	Sep 2001
110S17	Jan 2020	110S18	Jan 2020	111F06	Aug 2019
113S03	Dec 2004	113S09	Feb 2013	199F01	Aug 2019
199F14	Oct 2020	199F33	Jan 2020	199S38	Mar 2017
199F43	Mar 2018	199S54	Feb 2018	199S55	May 2004
199S56	Sep 2005	199F57	Dec 2017	199F59	Dec 2017
199S60	Oct 2009	199S64	Oct 2020	199S65	Dec 2016
199S66	Aug 2019				

**E. ITEM SPECIFIC SPECIAL PROVISIONS**

Special No.	Date	Item No.
206F06	Sep 2017	1
353S02	Jul 2007	6

Special No.	Date	Item No.
599S05	Oct 2020	12, 13
710S01	Sep 2011	17
710F07	Sep 2011	17
723S03	May 2019	18
741S03	Oct 2020	19
799S05	Oct 2020	18
799S18	May 2019	20

The notes referring to Standard Special Provision (SSP) numbers in Sections D and E are deleted in their entirety and replaced by the following:

1. Special Provisions with an “S” identifier are available for viewing and download from the Technical Publications website at <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx> under the applicable tab.
2. Special Provisions with an “S” identifier, that do not coincide with the most recent version published by MTO can be found in the archives section of the above noted locations by selecting the “Archived Documents” tab.
3. Special Provisions with an “F” identifier signifies that additional fill-in information has been added to the standard published version of the Special Provision. The entire text of fill-in Special Provisions shall be obtained directly from Section “A” of the Contract Documents.
4. Special Provisions with an “M” identifier signifies that the standard published version of the Special Provision has been modified. The entire text of modified Special Provisions shall be obtained directly from Section “A” of the Contract Documents.

**F. STANDARD SPECIFICATIONS**

**OPSS**

No.	Date	No.	Date	No.	Date	No.	Date
0102	Oct 1992	0353	Sep 1996	0710	Nov 2010	0741	Nov 2014

**OPSS - Provincial**

No.	Date	No.	Date	No.	Date	No.	Date
0100	Nov 2016	0106	Nov 2019	0120	Nov 2014	0127	Jan 2021
0180	Nov 2016	0182	Apr 2020	0206	Nov 2014	0308	Apr 2012
0313	Nov 2016	0314	Nov 2015	0342	Nov 2015	0510	Nov 2014
0703	Nov 2019	0706	Nov 2016	0723	Nov 2015	0928	Apr 2012
0929	Nov 2017						

**G. REFERENCED STANDARD SPECIFICATIONS**

The standard OPS specifications in the following list are applicable to the Contract when referenced by the Contract Documents.

No.	Type	Date	No.	Type	Date	No.	Type	Date
0100	Prov	Nov 2016	0102	Comm	Oct 1992	0106	Prov	Nov 2019
0120	Prov	Nov 2014	0127	Prov	Jan 2021	0180	Prov	Nov 2016
0182	Prov	Apr 2020	0201	Prov	Apr 2019	0202	Prov	Nov 2013
0203	Prov	Nov 2014	0206	Prov	Nov 2014	0209	Prov	Nov 2014
0212	Prov	Nov 2013	0220	Prov	Nov 2014	0301	Prov	Nov 2018
0304	Comm	Nov 2006	0305	Prov	Nov 2016	0307	Prov	Nov 2017
0308	Prov	Apr 2012	0311	Comm	Sep 1988	0312	Prov	Apr 2018
0313	Prov	Nov 2016	0314	Prov	Nov 2015	0316	Prov	Nov 2018
0320	Prov	Nov 2020	0330	Prov	Nov 2014	0331	Prov	Nov 2015
0332	Prov	Nov 2016	0333	Prov	Nov 2015	0335	Prov	Nov 2015
0336	Prov	Nov 2018	0337	Prov	Nov 2017	0341	Prov	Apr 2018
0342	Prov	Nov 2015	0350	Comm	Mar 1998	0351	Comm	Nov 2015
0353	Comm	Sep 1996	0355	Prov	Nov 2020	0363	Prov	Nov 2014
0365	Prov	Nov 2014	0366	Prov	Apr 2017	0369	Comm	Nov 2008
0401	Prov	Nov 2015	0402	Prov	Apr 2017	0403	Prov	Apr 2017
0404	Prov	Nov 2017	0405	Prov	Nov 2017	0407	MTC	Mar 1984
0409	Prov	Nov 2017	0410	Prov	Nov 2015	0411	Prov	Nov 2020
0415	Comm	Feb 1990	0416	Comm	Feb 1990	0421	Prov	Nov 2015
0422	Comm	Apr 2004	0441	Prov	Apr 2017	0490	Prov	Nov 2018
0491	Prov	Nov 2017	0492	Prov	Nov 2018	0493	Comm	Nov 2009
0501	Prov	Nov 2014	0510	Prov	Nov 2014	0511	Prov	Nov 2018
0512	Prov	Nov 2014	0517	Prov	Nov 2016	0539	Prov	Nov 2014
0578	Prov	Apr 2017	0602	Prov	Nov 2017	0603	Prov	Nov 2017
0604	Prov	Nov 2017	0609	Prov	Nov 2019	0610	Prov	Nov 2016
0611	Prov	Nov 2019	0614	Prov	Nov 2019	0615	Prov	Apr 2017
0616	Prov	Apr 2018	0617	Prov	Nov 2019	0620	Prov	Apr 2017
0621	Prov	Nov 2018	0622	Prov	Apr 2017	0623	Prov	Nov 2018
0630	Prov	Nov 2016	0631	Prov	Nov 2019	0703	Prov	Nov 2019
0704	Comm	Nov 2014	0705	Comm	Nov 2014	0706	Prov	Nov 2016
0707	Comm	Nov 2015	0708	Prov	Nov 2016	0709	Prov	Nov 2018
0710	Comm	Nov 2010	0721	Prov	Nov 2015	0723	Prov	Nov 2015
0732	Prov	Apr 2016	0733	Prov	Nov 2017	0740	Comm	Nov 2010
0741	Comm	Nov 2014	0753	Comm	Nov 2013	0760	Comm	Nov 2014
0771	Prov	Nov 2017	0772	Prov	Nov 2017	0791	Comm	Nov 2014
0801	Comm	Nov 2010	0802	Comm	Nov 2010	0803	Prov	Nov 2020
0804	Prov	Nov 2020	0805	Prov	Nov 2020	0810	Prov	Apr 2017
0811	Prov	Apr 2017	0812	Prov	Apr 2020	0820	Prov	Apr 2020
0821	Prov	Apr 2020	0822	Prov	Apr 2020	0823	Prov	Apr 2020

No.	Type	Date	No.	Type	Date	No.	Type	Date
0824	Prov	Apr 2020	0825	Prov	Nov 2019	0832	Prov	Apr 2019
0902	Prov	Nov 2019	0903	Prov	Apr 2016	0904	Prov	Nov 2019
0905	Prov	Apr 2020	0906	Prov	Nov 2020	0907	Comm	Apr 2011
0908	Prov	Nov 2014	0909	Prov	Nov 2016	0910	Prov	Apr 2008
0911	Prov	Nov 2014	0912	Prov	Nov 2020	0913	Prov	Nov 2017
0914	Prov	Nov 2014	0915	Prov	Nov 2014	0918	Prov	Apr 2017
0919	Comm	Nov 2011	0920	Prov	Nov 2020	0921	Prov	Nov 2020
0922	Prov	Nov 2020	0928	Prov	Apr 2012	0929	Prov	Nov 2017
0930	Prov	Nov 2014	0931	Prov	Apr 2020	0932	Prov	Nov 2020
0935	Prov	Nov 2014	0942	Prov	Apr 2020	1001	Prov	Nov 2018
1002	Prov	Apr 2018	1003	Prov	Nov 2017	1004	Prov	Nov 2012
1005	Prov	Nov 2019	1006	Prov	Apr 2017	1010	Prov	Apr 2013
1101	Prov	Nov 2020	1102	Prov	Apr 2017	1103	Prov	Nov 2016
1151	Prov	Nov 2016	1152	Prov	Nov 2016	1153	Prov	Nov 2016
1202	Prov	Nov 2020	1203	Prov	Nov 2020	1204	Comm	Nov 2003
1205	Prov	Apr 2015	1210	Prov	Nov 2020	1212	Comm	Nov 2003
1213	Comm	Mar 1998	1215	Comm	Mar 1998	1301	Comm	Sep 1996
1302	Comm	Sep 1996	1303	Prov	Nov 2014	1305	Prov	Apr 2019
1306	Prov	Apr 2019	1308	Comm	Nov 2003	1315	Comm	Sep 1996
1350	Prov	Nov 2019	1351	Comm	Nov 2004	1352	Comm	Nov 1989
1430	Prov	Nov 2017	1440	Prov	Apr 2020	1441	Prov	Nov 2017
1442	Comm	May 1994	1443	Comm	May 1994	1503	Comm	Nov 2010
1504	Prov	Apr 2017	1505	Prov	Apr 2017	1540	Prov	Nov 2017
1541	Prov	Nov 2017	1601	Prov	Nov 2014	1605	Prov	Nov 2018
1704	Prov	Nov 2014	1712	Comm	Feb 1991	1713	Comm	Feb 1991
1714	Comm	Feb 1991	1715	Comm	Feb 1991	1716	Comm	Feb 1991
1750	Comm	Dec 1983	1801	Prov	Apr 2018	1802	Prov	Apr 2018
1820	Prov	Nov 2014	1821	Comm	May 1993	1840	Prov	Nov 2018
1841	Prov	Nov 2018	1842	Prov	Nov 2018	1843	Prov	Apr 2018
1850	Prov	Apr 2018	1854	Prov	Apr 2018	1860	Prov	Nov 2019
2001	Comm	Nov 2014	2301	Prov	Nov 2014	2401	Prov	Nov 2018
2409	Prov	Nov 2018	2410	Prov	Nov 2017	2414	Prov	Nov 2019
2420	Prov	Nov 2018	2421	Prov	Nov 2017	2422	Prov	Nov 2016
2423	Prov	Apr 2017	2426	Prov	Nov 2017	2428	Prov	Nov 2017
2432	Prov	Nov 2017	2434	Prov	Nov 2016	2452	Prov	Nov 2018
2453	Prov	Nov 2019	2460	Prov	Nov 2018	2461	Prov	Apr 2017
2471	Prov	Nov 2016	2474	Prov	Nov 2016	2475	Prov	Apr 2017
2476	Prov	Apr 2019	2479	Prov	Nov 2017	2485	Prov	Nov 2017
2502	Prov	Apr 2017	2510	Prov	Nov 2017			

**The following notes refer to Ontario Provincial Standard Specification (OPSS) numbers in Sections F and G above.**

1. OPSSs are available for viewing and download from the Technical Publications website at <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx>.

OPSSs that do not coincide with the most recent version published by OPS can be found in the archives section by selecting the “Go to Archives” tab.

## **H. GENERAL CONDITIONS**

OPSS.PROV 100, MTO General Conditions of Contract, November 2016

This document is available for viewing and download from the Technical Publications website at <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx> under the heading Ontario Provincial Standards – Vol 5 OPSS.PROV – MTO General Conditions of Contract.

**SIGNED STATEMENT BY BIDDER THAT THE BID IS PREPARED AND SUBMITTED WITHOUT COLLUSION OR DECEIT**

The Bidder expressly warrants that the prices contained in his tender whether as unit prices or lump sums, and whether for transportation or supply of materials or for services, are quoted in utmost good faith on his part, without any collusive arrangement or agreement with any other person or partnership or corporation.

The Bidder expressly represents that he is not party or privy to any deceit tending to mislead the Ministry into accepting his tender as a truly competitive tender whether to the prejudice, injury or benefit of the Ministry.

**THE CONTRACTOR BY THIS TENDER OFFERS TO COMPLETE THIS CONTRACT IN ACCORDANCE WITH THE PRICES QUOTED AND TERMS CONTAINED HERE IN.**

**Tax Compliance Declaration**

The Ontario Government expects all suppliers to pay their provincial taxes on a timely basis. In this regard, bidders are advised that any contract with the Ontario Government will require a declaration from the successful bidder that his/her company's provincial taxes are in good standing.

In order for a company to be considered for a contract award, the bidder must submit the following statement of the company's tax compliance status:

I/we hereby certify that \_\_\_\_\_ at the time of  
(legal name of company)

submitting this bid, is in full compliance with all tax status administered by the Ministry of Finance for Ontario and that, in particular, all returns required to be filed under all provincial tax statutes have been filed and all taxes due and payable under those statutes have been paid or satisfactory arrangements for their payment have been made and maintained.

Dated at \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_

\_\_\_\_\_  
(An authorized signing officer)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Phone Number)

**SECTION A  
SPECIAL PROVISIONS  
FOR**

**CONTRACT NO. 2020-4090**

**NOTICE TO CONTRACTOR - Fairness in Procurement**

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Special Provision No. CMOB0007

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Contractors shall adhere to the Fairness in Procurement Act, 2018 and Suppliers from New York Regulation which set out specific mandatory requirements related to the Fairness in Procurement regulation.

Any structural iron used or supplied in the performance of this Contract and permanently incorporated in the surface road or bridge shall be fabricated in a jurisdiction other than New York.

**Structural Iron** means a product that is made of either wrought iron or cast iron or both and that is designed to carry a load, but does not include a product that contains any form of steel.

**NOTICE TO CONTRACTOR - Address Change**

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Special Provision No. CONS0002

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On February 15, 2021, materials delivered in the past to the Ministry's testing laboratory at 145 Sir William Hearst Avenue (previously, 1201 Wilson Avenue), shall be delivered to the updated address.

Any advance notifications or other requirements in conjunction with the material delivery shall be according to the Contract Documents.

Past Address	Updated Address
Room 15, 145 Sir William Hearst Avenue Downsview, Ontario, M3M 0B6	95 Arrow Road, Shipping Entrance Toronto, Ontario, M9M 2L4 Phone: (416) 235-3698 Email: <a href="mailto:Shipping.EMO@ontario.ca">Shipping.EMO@ontario.ca</a>
Room 15, Building C, 1201 Wilson Avenue Downsview, ON M3M 1J8	
Materials Engineering and Research Office, Ministry of Transportation of Ontario, Room 233, 145 Sir William Hearst Avenue Downsview, Ontario, M3M 0B6	Engineering Materials Office Ministry of Transportation 95 Arrow Road Toronto, Ontario, M9M 2L4
Ministry's Material Engineering and Research Office, 1201 Wilson Avenue, Downsview, Ontario, M3M 1J8	
Concrete Section, Ministry of Transportation of Ontario, Room 235, 145 Sir William Hearst Avenue Downsview, Ontario, M3M 0B6	Concrete Section, Engineering Materials Office Ministry of Transportation 95 Arrow Road Toronto, Ontario, M9M 2L4
Concrete Section Ministry of Transportation of Ontario 1201 Wilson Avenue Downsview, Ontario, M3M 1J8	
Purchasing and Supply Office Ministry of Transportation, 1201 Wilson Avenue, Downsview, Ontario, M3M 1J8	
Bituminous Section Ontario Ministry of Transportation Room 15, 145 Sir William Hearst Avenue Downsview, Ontario M3M 0B6	Bituminous Section, Engineering Materials Office Ministry of Transportation 95 Arrow Road Toronto, Ontario, M9M 2L4

**NOTICE TO CONTRACTOR – Notification of Night Work**

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Special Provision

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The Contractor shall provide notification of night work to the following property owners, as a minimum, prior to commencing any construction activities between 7pm and 7am in proximity to these locations.

All Properties including:

- 776 Palace Road
- 777 Palace Road
- 784 Palace Road
- 788 Palace Road
- 798 Palace Road
- 802 Palace Road



804 Palace Road  
810 Palace Road  
812 Palace Road  
824 Palace Road  
931 County Road 5  
959 County Road 5  
974 County Road 5

There are thirteen (13) properties requiring notification.

The Contractor shall notify the owners at least forty-eight (48) hours in advance of any night work.

The notification shall be in writing and shall be submitted to the Contract Administrator at least two (2) days prior to circulation for review.

**NOTICE TO CONTRACTOR – Bridge Deck Waterproofing**

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Special Provision

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The Contractor is advised that Bridge Deck Waterproofing is not included in the structure rehabilitations.

**OPERATIONAL CONSTRAINT – Stakeholder Notification**

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Special Provision

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**Agency Notices**

The Contractor shall notify all Affected Agencies at least 2 weeks in advance of construction start regarding the construction schedule, and if any changes to traffic flow are anticipated.

The Contractor shall provide updated notification to all Affected Agencies at least 2 days in advance of any ramp, road and/or lane closures.

Affected Agencies Contact Information is provided below:

**EMS and Fire:**

General Manager and Fire Chief, Greater Napanee Emergency Services  
Town of Greater Napanee  
66 Advance Avenue  
Napanee, ON K7R 3Y6  
613-354-3415 ext. 2233  
Deputy Fire Chief: 613-354-3415 ext. 2231  
Administrative Assistant: 613-354-3415 ext. 2223

Chief of Emergency Services, County of Lennox & Addington  
98 Advance Avenue  
Napanee, ON K7R 3Y6  
613-354-4883 ext. 6006

Kingston Central Ambulance Dispatch  
Director  
1473 John Counter Boulevard  
Kingston, ON, K7M 8Z6  
613-542-0221

**School Board and School Bus:**

Algonquin & Lakeshore Catholic District School Board  
151 Dairy Avenue  
Napanee, ON K1G 6C3  
613-354-2255

Consiel des ecoles publiques de l'Est de l'Ontario  
2445, boulevard St-Laurent  
Ottawa, ON K1G 6C3  
613 742-8960

Hastings and Prince Edward District School Board  
156 Ann Street  
Belleville, ON K8N 3L3  
613-966-1170

Limestone District School Board  
220 Portsmouth Avenue  
Kingston, ON K7M 0G2  
613-544-6925 ext. 235

Tri-board Student Transportation Services  
81 Dairy Avenue  
Napanee, ON, K7R 1M5  
613-354-1981

**Local Police:**

Ontario Provincial Police  
General Headquarters  
777 Memorial Avenue  
Orillia, ON L3V 7V3  
705-329-6111

Ontario Provincial Police  
Napaneer Detachment  
86 Advance Avenue  
Napaneer, ON K7R 3Y6  
613-354-3369

**Municipality:**

Town of Greater Napaneer  
Clerk  
45 Commercial Court  
Napaneer, ON, K7R 4A2  
613-354-3351 ext. 2014

Town of Greater Napaneer  
Public Works Manager  
45 Commercial Court  
Napaneer, ON, K7R 4A2  
613-354-5931 ext. 2107

**County:**

County of Lennox & Addington  
Clerk  
97 Thomas Street East  
Napaneer, ON, K7R 4B9  
613-354-4883

County of Lennox & Addington  
Jim Klaver - Public Works  
97 Thomas Street East  
Napaneer, ON, K7R 4B9  
613-354-4883 ext. 3226

**Local Business and Transport Groups:**

Ontario Trucking Association  
555 Dixon Road  
Etobicoke, ON, M9W 1H8  
416-249-7401

Millen Trucking  
1097 County Road 1  
Napaneer, ON, K7R 3L2  
613 -378-6655

Palace Village  
Box 14, 824 Palace Road  
Napaneer, ON, K7R 3K9  
613-877-3652

Strathcona Paper  
77 County Road 16, R.R. #7, P.O. Box 130  
Napane, ON, K7R 3L6  
613-378-6672

Flying J  
628 County Road #41, RR 6  
Napane, ON, K7R 3L2  
613-354-7044

**OPERATIONAL CONSTRAINT – Timing Constraints**

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Special Provision

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The Contractor must complete all work between October 12<sup>th</sup> and November 12<sup>th</sup>, 2021.

Operations requiring lane closures must be completed between Sunday at 22:00 and Friday at 05:00.

The concrete curb and gutter must be removed prior to implementation of staging and reinstated after all work is completed.

The Contractor shall schedule and carry out his operations to meet all timing constraints using additional crews and/or night work, as required. Compensation for all such work shall be deemed to be included in the Contract price for the appropriate tender items and no additional payment shall be made.

**OPERATIONAL CONSTRAINT - Maintenance of Traffic**

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Special Provision

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Construction operations shall be carried out in such a manner as to maximize safety and minimize disruption to highway traffic.

Lane widths of no less than 3.75 metres and offsets between traffic and temporary concrete barrier of no less than 0.50 metres must be maintained at all times during construction staging.

**OPERATIONAL CONSTRAINT – Construction Ingress, Egress and/or Access Locations**

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Special Provision

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Construction ingress, egress and/or access locations (hereinafter referred to as “Access” or “Accesses”) shall be at the locations identified in the Contract Drawings or as approved by the Contract Administrators. Restrictions on the use of construction accesses will be as per "Restrictions on Construction Operations" specified elsewhere in the contract.

Construction vehicle egress signs shall be used at egress locations. These signs shall be supplied, installed, relocated and maintained by the Contractor as shown on the Contract Drawings in such a location as to provide sufficient warning to motorists that a construction vehicle is merging with traffic. The Contractor shall be responsible for removal of the signs upon completion of construction.

Where possible, these Accesses have been located in areas that directly accommodate vehicular movement; in some locations, however, it may be necessary for the Contractor to undertake temporary construction works to accommodate vehicular movement through the Accesses.

To accommodate the construction ingress and egress to/from the work areas, it may be convenient for the Contractor to cross existing ditches (which may have standing or flowing water present). The Contractor shall provide/construct (and ultimately remove) a temporary crossing of the ditch which is suitable for his construction activities and equipment and which clear spans the ditch.

Any temporary construction works undertaken by the Contractor to gain access to any work area shall be undertaken behind appropriate erosion and sedimentation control measures (e.g. Light Duty Silt Fence Barriers and/or Straw Bale Flow Check Dams), shall be treated in some manner to minimize or control erosion and sedimentation (e.g. Topsoil and Seed and Mulch, or Seed and Bonded Fibre Matrix) and shall be completely removed upon completion of the work, with the area reinstated to original or better conditions (including the use of 50 mm minimum topsoil and seed and mulch).

All material, labour and equipment required to facilitate the use of the Accesses shall be paid under respective tender items. No additional payment shall be made for the construction, removal or reinstatement of these temporary Accesses.

**OPERATIONAL CONSTRAINT – Roadway Drainage**

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Special Provision

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The Contractor shall ensure that positive roadway surface drainage is provided for when the pavement removal operation leaves the surface pavement below the adjacent existing lanes, shoulders or curb and gutter.

The Contractor shall ensure that all existing drainage facilities remain operational and free of construction debris during the progress of the work until the completion of construction.

All costs associated with roadway drainage shall be borne by the Contractor, at no additional cost to the Owner.

**OPERATIONAL CONSTRAINT – Traffic Staging and Detour Setup**

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Special Provision

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All traffic staging detour setup shall be according to the requirements of OTM Book 7 unless otherwise specified elsewhere in the Contract Documents.

The traffic staging and detour setup including construction signing and pavement markings, and removals as detailed and/or specified elsewhere in the Contract Documents for any given section of highway shall be undertaken during short duration lane closures according to the requirements of OTM Book 7. The Contractor may use OPP assistance during short duration lane closures for the staging and detour setup at no extra cost to the Ministry.

The Contractor shall ensure that all necessary safety elements, construction signing and pavement markings are in place for any given section of highway before it is opened to traffic.

**OPERATIONAL CONSTRAINT – Regulatory Speed**

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Special Provision

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The Contractor shall cover the existing 100 km/hour regulatory speed signs, install the 80 km/h regulatory speed signs and the 80 km/h ahead regulatory speed signs during single lane closures. The normal highway speed shall be restored when the single lane closures are removed.

All costs associated with the above operations shall be completed by the Contractor, at no additional cost to the Owner.

**OPERATIONAL CONSTRAINT – Temporary Construction Barrier**

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Special Provision

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Pinning/strapping temporary construction barrier (TCB) to the concrete deck or approach slabs is not permitted. The category of TCB required shall be as detailed elsewhere in the Contract Documents.

**OPERATIONAL CONSTRAINT – Notification to Utilities Companies and Working around Utilities**

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Special Provision

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The Contractor shall determine the location of existing Utilities throughout the Contract Limits by contacting all applicable Utilities companies. The Contractor shall notify all Utilities companies in writing two (2) weeks prior to the commencement of any construction activities to obtain the location of the Utilities plant.

The Contractor shall prove the location of the existing Utilities and shall be responsible for providing adequate protection from damage. The Contractor shall exercise extreme caution when working around existing Utilities, including any and all unidentified pipes/conduits within the limits of construction activities. Any damage to the existing Utilities plant as a result of the Contractor's construction activities shall be the sole responsibility of the Contractor with no additional cost to the Ministry.

The Contractor shall provide the Contract Administrator with staked layouts for inspection prior to installing any equipment.

**OPERATIONAL CONSTRAINT (ENVIRONMENTAL) - Protection of Species at Risk**

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Special Provision

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Species at Risk (SAR) listed as endangered or threatened under the provincial Endangered Species Act, 2007 shall be protected by implementing the required mitigation measures as specified in Table A.

**Table A**

<b>SAR</b>	<b>Mitigation Measures</b>	<b>Related OPSS/SP/ Tender Item Code</b>	<b>Location of Mitigation Measures</b>
All SAR (Eastern Meadowlark, and Snapping Turtle)	<p>The Contractor shall provide fact sheets and identification training to all onsite personnel for the identification of species at risk which may be encountered within or directly adjacent to the work area.</p> <p>Eastern Meadowlark  <a href="https://www.ontario.ca/page/eastern-meadowlark">https://www.ontario.ca/page/eastern-meadowlark</a></p> <p>Snapping Turtle  <a href="https://www.ontario.ca/page/snapping-turtle">https://www.ontario.ca/page/snapping-turtle</a></p>	Operational Constraint (Environmental) – Prevention of Wildlife Harassment	Throughout project limits
	<p>Daily site inspections/sweeps are required prior to commencing work activities to ensure no species at risk have entered or nested in the construction area.</p>	Operational Constraint (Environmental) – Prevention of Wildlife Harassment	Throughout project limits
	<p>If a species at risk is encountered, avoid the area, temporarily suspend all work in the area and contact the Contract Administrator.</p> <p>All SAR observations shall be documented and reported to the Contract Administrator in writing.</p>	Operational Constraint (Environmental) – Prevention of Wildlife Harassment	Throughout project limits



SAR	Mitigation Measures	Related OPSS/SP/Tender Item Code	Location of Mitigation Measures
Eastern Meadowlark	<p>The Contractor will complete all work outside the Eastern Meadowlark nesting period of April 15 to July 31 of any year to avoid impacts to these species.</p> <p>If damage to Eastern Meadowlark habitat does occur (e.g. erosion, disturbance of soil etc.) in association with staging or other similar activities, these areas must be re-seeded with a suitable native grassland seed mix. Examples of suitable seed mixes include (similar seed mixes may be substituted based on consultation with Avian Specialist):</p> <p>OSC Rural Ontario Roadside Native Seed Mixture 8145:  <a href="https://www.oscseeds.com/product/rural-ontario-roadside-native-mixture-8145/">https://www.oscseeds.com/product/rural-ontario-roadside-native-mixture-8145/</a></p> <p>OSC Native Upland Forage &amp; Meadow Seed Mixture 8140:  <a href="https://www.oscseeds.com/product/native-upland-forage-meadow-native-mixture-8140/">https://www.oscseeds.com/product/native-upland-forage-meadow-native-mixture-8140/</a></p> <p>Vegetation protection and rehabilitation shall be in accordance with OPSS 182 and OPSS 804.</p>	Operational Constraint (Environmental) – Prevention of Wildlife Harassment	See Contract Drawings for general habitat locations throughout project limits
Snapping Turtle	All stockpiled topsoil, sand gravel and all constructed access routes must be covered with geotextile/tarps or encircled with light duty silt fence to prevent turtles from nesting in the materials from May 15 to July 15 of any year. All silt fence or geotextile must be maintained until July 15 and removed and properly disposed of after the work has been completed.	N/A	Throughout project limits.

SAR	Mitigation Measures	Related OPSS/SP/ Tender Item Code	Location of Mitigation Measures
	<p>If turtle eggs are encountered or unearthed during the bridge rehabilitation activities all operations must immediately stop within 5 m of the turtle eggs;</p> <p>If a turtle is encountered that has already begun to nest, (i.e., digging and/or sitting in a nest pit), construction activities should stop within 10 m of the turtle, and the turtle be allowed to finish nesting and leave the area of its own accord; and</p> <p>The Contract Administrator shall also be notified immediately if turtle eggs or nests are encountered during construction.</p>		

Where Table A specifies that a Qualified Person is required, the name of the person shall be provided to the Contract Administrator a minimum of 10 Business Days prior to the commencement of work.

Unless specified elsewhere in the Contract Documents, a record shall be kept of all encounters with SAR that includes the date, location (GPS coordinates preferred), species, a photo of the species encountered, if possible, and any actions taken to protect SAR including but not limited to measures identified in Table A. A copy of the record shall be provided to the Contract Administrator upon contract completion.

**OPERATIONAL CONSTRAINT ENVIRONMENTAL – Erosion and Sedimentation Control**

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Special Provision

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Unless otherwise specified in Table M, the time interval between commencement and completion of any work that disturbs earth surfaces shall be a maximum of 45 calendar days. Commencement of such work shall be considered to have occurred when the original stabilizing ground cover has been removed, including grubbing, or has been covered with fill material. Completion of such work shall be considered to have occurred when the specified cover material (seed and mulch, seed and erosion control blanket, sod, riprap, etc.) has been applied.

Unless otherwise specified in Table M, the period in which the time interval is permitted shall be determined by the Contract Administrator. In addition, this period shall be in compliance with any timing constraints specified elsewhere in the Contract for the application of the specified cover.

Table M

AREA #	AREA BOUNDED BY			TIMING CONSTRAINTS	
	STATION	OFFSET LEFT	OFFSET RIGHT	TIME INTERVAL IN CALENDAR DAYS FROM COMMENCEMENT TO COMPLETION	PERMITTED PERIOD FOR TIME INTERVAL BETWEEN COMMENCEMENT & COMPLETION
<b>No Exceptions For This Contract</b>					

These timing constraints apply regardless of timing of Contract award.

Where interceptor ditches or subsurface drains are specified in the Contract, they shall be constructed before commencement of any related cut or fill.

Run-off from construction materials and any stockpiles shall be contained and discharged so as to prevent entry of sediment to watercourses.

Where dewatering is required, and where culverts are cleaned by hydraulic means, effluent shall be discharged so as to prevent entry of sediment to watercourses.

Erosion and sedimentation control measures shall not be placed in watercourses unless otherwise specified in the Contract, or directed by the Contract Administrator.

A 200 m stand-by supply of prefabricated silt fence barrier, in addition to silt fence barrier which may be specified elsewhere in the Contract, shall be maintained at the Contract site prior to commencement of grading operations and throughout the duration of the Contract.

Silt fence geotextile shall be a woven, Class I geotextile, having a width of 1 m minimum. It shall have a filtration opening size (FOS) of 840 micrometres maximum, meeting CAN/CGSB 148.1, Method 10.2.

**OPERATIONAL CONSTRAINT (ENVIRONMENTAL) - General Environmental Protection Requirements**

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Special Provision

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The Contractor is responsible for protection of people, property and the natural environment from environmental impacts and damage that may result from this contract.

Environmental protection during construction shall:

comply with commitments and conditions of environmental approvals, permits, exemptions, agreements, reports, and clearances provided by the owner;

comply with any other formal environmental approvals, permits, exemptions, agreements, reports and clearances that must be procured by the contractor in order to perform the work; and,

be integrated with environmental and other requirements specified in the contract.

Environmental protection shall include, but not be restricted to the control of materials, equipment and construction operations in order to avoid and minimize:

- a) direct physical damage;
- b) sediment, noise, vibration, dust, chemical, and other emissions; and,
- c) interference with local use, access and passage.

Such control shall include but not be restricted to selection and management of:

- d) materials, including the management of excess and contaminated materials;
- e) equipment, including maintenance of refuelling;
- f) method of construction;
- g) construction site disturbance limits; construction site access, detours and haul roads earth aggregate and rock borrow areas; material storage and disposal areas; equipment storage areas; construction yards; and,
- h) timing, duration and staging of work

All materials used in the construction of temporary physical environmental protection measures shall remain the property of the Contractor.

**OPERATIONAL CONSTRAINT (ENVIRONMENTAL) – Equipment Refueling, Maintenance and Washing**

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Special Provision

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All activities, including equipment maintenance, refueling and concrete truck washing shall be controlled to prevent entry of petroleum products (e.g. gasoline, oils, lubricants), primers, grout, bonding adhesives or other hazardous or deleterious substances including any debris, waste, rubble or concrete materials in all water courses and water bodies within the project limits unless otherwise specified in the contract. Substances are to be stored and mixed on protected surfaces away from the water courses and water bodies within the project limits in order to prevent contamination of soils and waters. Any such material which advertently enters the water courses or water bodies within the project limits shall be removed by the Contractor, at his own expense, in a manner satisfactory to the Contract Administrator.

For mobile equipment and vehicles, maintenance, refueling and truck washing shall be conducted no closer than 30 metres from the water courses and water bodies within the project limits in order to prevent water contamination due to accidental spills.

All large equipment working in or near the water courses and water bodies within the project limits shall be well maintained to avoid contaminant leakage, shall be free of excess surface oil or grease and shall be equipped with spill kits deemed acceptable by the Contract Administrator.

**OPERATIONAL CONSTRAINT (ENVIRONMENTAL) - Prevention of Wildlife Harassment**

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Special Provision

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The Contractor shall not harass or kill any wildlife encountered during construction.

The Contractor shall not block or prohibit wildlife access to culverts. Passage for wildlife through culverts must be maintained throughout construction.

No Additional compensation shall be made for work delays as a result of encounters with wildlife.

**OPERATIONAL CONSTRAINT ENVIRONMENTAL - Migratory Bird Protection – General**

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Special Provision

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The Contractor shall not destroy the active nests (nests with eggs or young birds), or wound or kill birds, of species protected under the Migratory Birds Convention Act, 1994 and/or Regulations under that Act. When active nests are encountered, the ministry’s Contract Administrator must be contacted.

Vegetation removal (trees, shrubs and herbaceous vegetation) operations shall be prohibited between April 15 to July 31 in any calendar year.

In the event that vegetation removal must occur within the window above, the Contractor must retain a qualified avian specialist to conduct a nesting survey prior to vegetation clearing. If migratory birds or their nests are encountered at any time of the year at any of the locations included in this Contract, works should not continue in the location of the nest until:

- After it has been determined by an avian specialist that the young have fledged and vacated the nest and work area;

**OR**

- An avian specialist determines a suitable buffer distance at which work may continue to prevent disturbance of the bird(s);

**AND**

- Where a buffer distance has been implemented, an avian specialist must undertake monitoring during construction to ensure migratory birds and their eggs are not disturbed, destroyed or taken

**OPERATIONAL CONSTRAINT (ENVIRONMENTAL) - Spill Prevention and Response Contingency Plan**

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Special Provision

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General

The Contractor shall have a Spill Prevention and Response Contingency Plan.

Submission

This plan will address procedures for preventing and responding to spills, and equipment and resources that will be available to prevent and/or respond to all potential discharges resulting from the Contractor's operations in this contract.

Emergency spill kit requirements shall be detailed as part of this plan.

The plan shall be submitted to the Contract Administrator no less than seven (7) days in advance of start of construction activities.

**OPERATIONAL CONSTRAINT (ENVIRONMENTAL)**

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Special Provision

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**Management of Effluent from Concrete Cutting/Grinding**

The Contractor shall note that excess earth from highway construction projects may contain elevated concentrations of chloride and sodium and may have elevated values for

**1.0 SCOPE**

This special provision describes the requirements for management of effluent resulting from concrete cutting/grinding, that does not dry without run-off from the concrete surfaces that are cut/ground.

These requirements are in addition to those specified elsewhere in the Contract and do not relieve the Contractor of obligations imposed by the Contractor's Certificate of Approval for a Waste Management System.

**2.0 DEFINITIONS**

Construction Area: means the road allowance/right-of-way and property with a boundary common to that of the road allowance/right-of way within the contract limits.

Effluent: means liquid, that is a direct result of concrete cutting or grinding. Effluent includes any stormwater, or surface drainage that becomes mixed with this material. Effluent is classified as liquid industrial waste Class 146(L).

Manifest: means a Regulation 309 Form 1 manifest.

Receiving Site: means certified waste processing facility, and certified waste disposal site.

**3.0 SUBMISSION AND DESIGN REQUIREMENTS**

Where the Contractors operations will result in effluent from concrete cutting or grinding, that does not dry without run-off from the concrete surfaces that are cut/ground, written agreement of the operator of the receiving site to accept the effluent, shall be submitted to the Contract Administrator a minimum of two weeks prior to commencement of the work.

At the completion of the work, a copy of a release signed by the same receiving site operator or property owner shall be provided to the Contract Administrator.

A copy of the contractor's Certificate of Approval for a Waste Management System shall be provided to the Contract Administrator prior to the commencement of the work.

#### **4.0 CONSTRUCTION**

##### **4.1 General**

Effluent from concrete cutting and grinding operations, that does not dry without run-off from the concrete surfaces that are cut/ground, shall be captured and contained for management in compliance with this special provision.

It is the Contractor's responsibility to obtain any approvals, releases, and agreements, and conditions of same, that are required to implement the Contractor's strategy for the management of effluent.

Effluent resulting from concrete cutting and grinding operations shall be transported to one of the following receiving sites:

- a) a waste disposal site with a Certificate of Approval for a Waste Disposal Site valid for liquid industrial waste Class 146(L);
- b) a waste processing facility with Certificate of Approval for a Waste Disposal Site (Processing) valid for liquid industrial waste Class 146(L).

For each shipment of effluent from the construction area to any certified receiving site:

- a) the carrier shall have a Certificate of Approval for a Waste Management System valid for liquid industrial waste Class 146(L), and shall comply with Sections 4.2 and 4.3 of this special provision; and
- b) the shipment shall be manifested as specified in Section 4.4 of this special provision.

##### **4.2 Carrier Certification**

The carrier shall have a Certificate of Approval as specified in Sections 4.1 of this special provision. Responsibilities of certified carriers shall include, but not be limited to, the following:

- a) transportation of waste materials produced by the work in accordance with the Certificate of Approval;
- b) carrier responsibilities for waste materials including, but not restricted to, manifesting of liquid industrial waste.

##### **4.3 Certificates of Approval**

The contractor's Certificate of Approval for a Waste Management System and the receivers Certificate of Approval for a Waste Disposal Site shall be valid for all of the following:

- a) the entire period of the work;

- b) the entire area within the limits of the work and the entire haul route; and
- c) the equipment to be utilized; and
- d) waste classification 146(L).

#### **4.4 Manifesting**

Manifesting shall be as specified in Section 4.1 of this special provision. The carrier shall present a Regulation 309 Form 1 manifest for "PartA" completion by the Contract Administrator. The Contract Administrator shall be notified a minimum of two weeks prior to the first shipment requiring manifesting, and a minimum of 24 hours notice prior to each subsequent shipment requiring manifesting.

### **OPERATIONAL CONSTRAINT (ENVIRONMENTAL)**

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#### **Special Provision**

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#### **Control Measures During Removal of Concrete/Structure and Structure Repair/Construction**

This special provision describes the requirements for control measures during removal of concrete/structure and structure repair/construction.

The requirements of this special provision are in addition to those which may be specified elsewhere in the Contract.

The Contractor shall take such measures and provide such protection system or systems to prevent entry of the following materials to watercourse(s):

- a) materials resulting from concrete/structure removal;
- b) materials resulting from structure repair/construction; and
- c) effluent from concrete sawcutting.

The following work shall not commence until the Contract Administrator has given permission to proceed in writing.

- a) removal of concrete/structure and imposition of construction loading on existing structure;
- b) structure repair/construction; and
- c) concrete sawcutting

The Contractor shall give the Contract Administrator written notice a minimum of 21 calendar days prior to the date that permission is required to proceed with either of the above work operations. The notice shall include six copies of written descriptions, working drawings and schedules that provide the following:

- a) the sequence and method of control measures during:
  - i) removal of concrete/structure;
  - ii) structure repair/construction; and
  - iii) concrete sawcutting.
- b) the details of any construction loads imposed on the existing structure by the control measures.



Permission to proceed with the above will be provided if the Contract Administrator determines that the details of the notice meet the requirements of this special provision.

Where loads are imposed on the existing structure, the drawings will be stamped by the Authority with the words: "Checked only for loads imposed on the bridge, not checked for design of scaffolds and work platforms".

Excess materials resulting from concrete/structure removal and structure repair/construction, and effluent from concrete cutting shall be managed as specified elsewhere in the Contract.

At the conclusion of the work, the control measures shall be removed from the right-of-way.

**OPERATIONAL CONSTRAINT (ENVIRONMENTAL)**

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Special Provision No. ENVR0001

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**Management of Excess Earth with Salt Impacts**

The Contractor shall note that excess earth from highway construction projects may contain elevated concentrations of chloride and sodium and may have elevated values for Electrical Conductivity and Sodium Adsorption Ratio. For the purpose of this Contract, excess earth with salt impacts is not considered to be "contaminated" within the meaning of Table 1 in OPSS 180.

Where the Contractor manages excess earth as disposable fill, the Contractor shall take into account the possibility of salt impacts and ensure that the material is managed responsibly and in an environmentally appropriate manner. Where the Contractor intends to manage the excess earth that may be salt impacted on private property, the Contractor shall make the Property Owner aware that it may be salt impacted by using the attached Property Owner's Release in place of MTO form PH-CC-183.

The Contractor is responsible for conducting such sampling and testing as may be necessary to comply with any requirements imposed by the Property Owner as a condition of accepting the excess earth.

**AMENDMENT TO MTO GENERAL CONDITIONS OF CONTRACT, NOVEMBER 2016 - Payment for Equipment**

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Special Provision No. CONS0001

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**GC 8.03.06                      Payment for Equipment**

**GC 8.03.06.01                Working Time**

Paragraph GC 8.03.06.01.01 of the MTO General Conditions of Contract is deleted in its entirety and replaced with the following:

- .01     The Owner shall pay the Contractor for the Working Time of all Equipment other than Rented Equipment and Operated Rented Equipment used on the Work on a Time and Material Basis at The 127 Rate.

Paragraph GC 8.03.06.01.02 of the MTO General Conditions of Contract is deleted in its entirety and replaced with the following:

- .02 The Owner shall pay the Contractor for the Working Time of Rented Equipment used on the Work on a Time and Material Basis at 110% of the Rented Equipment invoice price. A Contractor shall obtain approval from the Contract Administrator prior to the use of the Rented Equipment, if 110% of the invoice price is greater than The 127 Rate.

Paragraph GC 8.03.06.01.03 of the MTO General Conditions of Contract is deleted in its entirety and replaced with the following:

- .03 The Owner shall pay the Contractor for the Working Time of Operated Rented Equipment used on the Work on a Time and Material Basis at 110% of the Operated Rented Equipment invoice price. A Contractor shall obtain approval from the Contract Administrator prior to the use of the Operated Rented Equipment, if 110% of the invoice price is greater than The 127 Rate.

**GC 8.03.06.04 Mark-Up on Work on a Time and Material Basis**

Clause GC 8.03.06.04 of the MTO General Conditions of Contract is deleted in its entirety and replaced with the following:

- .01 Payment for Mark-Up on Work on a Time and Material Basis shall be made at the following rates:
  - a) Contractor Mark-Up
    - 15% applied to the total payment for labour, Rented Equipment, Operated Rented Equipment, and Material when the Work on a Time and Material Basis was completed by the Contractor.
  - b) Subcontractor Mark-Up
    - 15% applied to the total payment for labour, Rented Equipment, Operated Rented Equipment and Material when the Work on a Time and Material Basis was completed by the Subcontractor.
  - c) Contractor Mark-Up on Subcontractors Work on a Time and Material Basis:
    - 10% mark-up allowed on Subcontractor’s total labour, Equipment, and Material after Subcontractor Mark-Up is applied. If Work on a Time and Material Basis is assigned or sublet to an associate, as defined by the *Securities Act*, R.S.O. 1990, c. S.5, as amended, no Contractor Mark-Up is permitted.

**AMENDMENT TO MTO GENERAL CONDITIONS OF CONTRACT, NOVEMBER 2016 - Conditions of the Working Area, and Maintaining Roadways and Detours**

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Special Provision No. 100F68

August 2019

**GC 7.07 Condition of the Working Area**

Clause GC 7.07 of the MTO General Conditions of Contract is amended by the addition of the following:

.04 Materials or Equipment shall not be stored adjacent to the edge of lanes carrying traffic within:

- a) 10 m, on roadways with a posted speed equal to or greater than 70 km/h, or within
- b) 4 m, on roadways with a posted speed of less than 70 km/h.

Upon permission from the Contract Administrator, the distances specified above may be reduced to a minimum of 2.5 m in medians only, and 4 m in all other areas.

.05 The Contractor shall at no additional cost to the Owner, remove any vehicle, equipment or material which, in the opinion of the Contract Administrator, constitutes a traffic hazard or obstruction to maintenance operations.

**GC 7.08 Maintaining Roadways and Detours**

Clause GC 7.08 of the MTO General Conditions of Contract is amended by the addition of the following:

.08 The Contractor shall schedule the Work so that there will be no open excavation adjacent to a lane carrying traffic overnight and/or on non-Working Days, except where a traffic barrier designed to restrain errant vehicles is located between the traffic and the excavation.

Open excavations adjacent to the edge of lanes carrying traffic within:

- a) 10 m, on roadways with a posted speed equal to or greater than 70 km/h, or within
- b) 4 m, on roadways with a posted speed of less than 70 km/h,

shall be backfilled and compacted as specified to provide a continuous surface from the travelled way, prior to closing down operations each day.

**OCCUPATIONAL HEALTH AND SAFETY ACT COMPLIANCE**

Special Provision No. 101F21

November 2014

**List of Designated Substances**

In accordance with the *Occupational Health and Safety Act, R.S.O. 1990, c. 0.1*, the Contractor is advised of the presence of the following Designated Substance(s):

Substance	Location
Arsenic	Assumed present throughout the working area in the pressure treated guiderail posts. Not detected in the protective coating on the steel girders.
Asbestos on Construction Projects and in Buildings and Repair Operations (O. Reg. 278/05)	Not Detected

Substance	Location
Lead	Detected in the protective coating on the steel girders. Refer to report “Designated Substance Survey, Rehabilitation of the Palace Road Overpass, Agreement No. 4016-E-0014, GWP: 4013-19-00” dated January 24, 2020 and included elsewhere in the Contract Documents
Silica	Present throughout the working area including, but not limited to, asphalt, concrete and granular materials
Benzene	None Identified
Vinyl Chloride, Coke Oven Emissions, Ethylene Oxide, Acrylonitrile and Isocyanates	None Identified
Mercury	None Identified

**AMENDMENT TO OPSS 182, APRIL 2020**

Special Provision No. 101F23

June 2020

**Timing of In-Water Works, Oversight Requirements, and Measures to Avoid Harm to Fish**

**182.07.08.01 Timing of In-Water Works**

Clause 182.07.08.01 of OPSS 182 is amended by the addition of the following:

In-water work where fish and/or fish habitat are present is permitted during times specified in Table A for each waterbody and station listed.

**Table A  
Timing of In-Water Work**

Waterbody	Station	Timing Window for When In-Water Work Can Occur
Unnamed tributaries of the Napanee River	See Contract Drawings	No in-water work is permitted as part of this Contract. Fish habitat is identified in the Contract Documents

**AMENDMENT TO OPSS 313, NOVEMBER 2016**

Special Provision No. 103F03M (December 2020)

August 2019

OPSS 313, November 2016, Construction Specification for Hot Mix Asphalt - End Result, is deleted in its entirety and replaced with the following:

**313.01 SCOPE**

This specification covers the requirements for the placement, compaction, and acceptance of hot mix asphalt (HMA).

This specification also covers the requirements for the placement, compaction, and acceptance of HMA produced using warm mix asphalt (WMA) technology when the tender item title includes “Warm Mix”.

### **313.02 REFERENCES**

This specification refers to the following standards, specifications, or publications:

#### **Ontario Provincial Standard Specifications, Construction**

OPSS 308 Tack Coat

#### **Ontario Provincial Standard Specifications, Material**

OPSS 1101 Performance Graded Asphalt Cement  
OPSS 1151 Superpave and Stone Mastic Asphalt Mixtures

#### **Ontario Ministry of Transportation Publications**

MTO Laboratory Testing Manual

LS-100 Rounding-Off of Test Data and Other Numbers  
LS-101 Calculation of Per Cent within Limits  
LS-262 Bulk Relative Density of Compacted Bituminous Mixtures  
LS-264 Theoretical Maximum Relative Density of Bituminous Paving Mixtures  
LS-265 Determination of Percent Air Voids in Compacted Dense Bituminous Pavement Mixtures  
LS-266 Determination of VMA in Compacted Bituminous Mixtures  
LS-282 Quantitative Extraction of Asphalt Cement and Analysis of Extracted Aggregate from Bituminous Paving Mixtures  
LS-292 Quantitative Determination of Asphalt Cement Content by Ignition and Analysis of Remaining Aggregate from Bituminous Paving Mixtures  
LS-294 Measuring Pavement Lift Thickness  
LS-306 Bulk Relative Density of Compacted Bituminous Mixtures Using Paraffin Coated Specimens  
LS-317 Determination of the Severity of a Segregated Asphalt Pavement Surface  
LS-604 Relative Density and Absorption of Coarse Aggregate  
LS-605 Relative Density and Absorption of Fine Aggregate

#### **ASTM International**

D 6752-11 Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method  
E 178-16 Standard Practice for Dealing with Outlying Observations

#### **American Association of State Highway and Transportation Officials (AASHTO)**

M 320-17 Standard Specification for Performance Graded Asphalt Binder  
R 35-17 Superpave Volumetric Design for Hot - Mix Asphalt  
T 166-16 Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens  
T 283-14 Standard Method of Test for Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage  
T 305-14 Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures

T 312-15 Standard Method of Test for Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor

### 313.03 DEFINITIONS

For the purpose of this specification, the following definitions apply:

**Ambient Air Temperature** means the air temperature measured in the shade and away from the paving operations.

**Anti-Stripping Treatment (AST)** means a treatment used to minimize stripping of asphalt cement from HMA aggregates as defined in OPSS 1151.

**Asphalt Cement (AC)** means asphalt binder as defined in OPSS 1101.

**Attribute** means one of the following properties: designated large sieve (DLS), 4.75 mm sieve, 75 µm sieve, AC content, air voids, lift thickness, VMA, draindown, or compaction.

**Binder Course** means a HMA course between a surface course and either a granular base course or stabilized base course, an existing pavement, or another HMA binder course.

**Crack** means a break in the pavement surface, a separation of the pavement or aggregates at the surface of the pavement, and separation of pavement joints, and includes breaks and separations previously repaired by sealing.

**Design Lift Thickness ( $T_D$ )** means the thickness in millimetres as specified in the Contract Documents of:

- A specified lift of asphalt mix measured by square metres, or
- For multiple binder course lifts of the same tender item, it means the combined specified thicknesses in millimetres of the successive binder course lifts of the same tender item, at the same location measured by square metres.

**Designated Large Sieve (DLS)** means a sieve size specifically designated for each mix type for gradation testing. The designated sieve for the following mix types is:

- 25.0 mm for Superpave 37.5;
- 19.0 mm for Superpave 25.0;
- 12.5 mm for SMA 19.0 and Superpave 19.0;
- 9.5 mm for SMA 12.5 and Superpave 12.5, 12.5FC 1 and 12.5FC 2; and
- 4.75 mm for SMA 9.5 and Superpave 9.5.

**Draindown** means that portion of SMA mixture, fines and AC, that separates and flows downwards through the mixture.

**Fat Spot** means an area of pavement where asphalt mastic has migrated to the surface creating a substantially blacker area than the surrounding pavement.

**Field Adjustment to the JMF** means a change in the target gradation, AC content, or both of a mix, within limits as specified in the Contract Documents without a redesign of the HMA, resulting in an adjusted JMF.

**Hot Mix Asphalt (HMA)** means hot mixed, hot laid asphaltic concrete and includes mix produced using WMA technologies. HMA may include recycled or specialty mixes.

**Hot Mix Asphalt Miscellaneous** means HMA that is placed in areas other than the roadway as specified in the Contract Documents.

**Job Mix Formula (JMF)** means the percentage passing on each designated sieve of the total mass of aggregate and the amount of AC as a percentage by mass of the mixture that are based on mix design procedures as specified in the Contract Documents.

**Joint** means a vertical contact between a HMA pavement course and any HMA pavement or any rigid object that exists at the time the HMA is laid.

**Levelling Course** means a HMA course of variable thickness used for correcting crossfall and profile deficiencies in the existing pavement prior to placing an HMA binder or surface course. Levelling course may also be referred to as a padding course.

**Lift Thickness** means the thickness in millimetres, measured according to LS-294, of:

- a) A single lift of asphalt mix measured by square metres, or
- b) For multiple binder course lifts of the same tender item, it means the combined thickness of all placed and compacted successive binder course lifts of the same tender item, at the same location measured by square metres.

**Loose Mix** means a representative sample of uncompacted HMA for testing mix properties.

**Lot** means a specific quantity of Material or a specific amount of construction.

**Mean** means the arithmetic average of the test results within a lot.

**Mid-Lane Segregation** means a continuous or discontinuous longitudinal “streak” of segregation, typically no greater than 300 mm in width located anywhere across the width of the lane.

**Mix Properties** means the AC content, gradation, air voids, and VMA.

**Other Segregation** means discrete areas or patches of regular, irregular, or chevron shape segregation.

**Outlier** means a test result that for a specific significance level is determined by statistical analysis not to be part of the test result population.

**Padding** means a HMA layer used to eliminate transverse and longitudinal irregularities on an existing surface before placing the binder or surface course.

**Paving in Echelon** means two or more pavers are used to pave multiple adjacent lanes simultaneously.

**Payment Adjustment Sieves** means the DLS, 4.75 mm, and 75 µm gradation sieves.

**Per Cent within Limits (PWL)** means an estimate of the percentage of the lot that is within specification limits, determined by using the mean and standard deviation of the lot.

**Performance Graded Asphalt Cement (PGAC)** means an asphalt binder that is produced from petroleum residue, either with or without the addition of non-particulate modifiers, according to AASHTO M 320.

**Quality Assurance (QA)** means a system or series of activities carried out by the Owner to ensure that Materials received from the Contractor meet the requirements as specified in the Contract Documents.

**Quality Control (QC)** means a system or series of activities carried out by the Contractor to ensure that Materials supplied to the Owner meet the requirements as specified in the Contract Documents.

**Random Sample** means a sample from a location chosen by the Contract Administrator based on random numbers such that any portion of a lot or subplot has an equal probability of being selected.

**Reclaimed Asphalt Pavement (RAP)** means the processed HMA material that is recovered by partial or full depth removal.

**Roof Shingle Tabs (RST)** means ground roof shingle scrap generated when new shingles are trimmed during production.

**Segregation** means a condition of the pavement characterized by areas with comparatively coarser or finer texture than that of the surrounding pavement, with severity levels:

- a) Slight Segregation - a pavement matrix is in place between the coarse aggregate particles; however, there are slightly more, coarse aggregate particles in comparison with the surrounding acceptable mix.
- b) Medium Segregation - the pavement has significantly more, coarse aggregate particles than the surrounding acceptable mat and usually exhibits some lack of surface matrix.
- c) Severe Segregation - the pavement appears very coarse, with coarse aggregate particle against coarse aggregate particle and the pavement has little or no matrix.

**Standard Deviation** means the square root of the value determined by summing the squares of the difference between each test result and the mean of the test results divided by the number of test results minus one.

**Stone Mastic Asphalt (SMA)** means HMA consisting of a gap graded, stone-on-stone coarse aggregate skeleton with an asphalt cement-rich mortar.

**SMA Mixes** means SMA 9.5, SMA 12.5, and SMA 19.0.

**Straight Edge** means a straight edge made of metal with a level recessed in its upper surface parallel to the lower edge.

**Superpave** means a system for specifying material components and asphalt mix design using the Superpave gyratory compactor. It is an acronym for Superior Performing Asphalt Pavements.

**Surface Course** means the HMA wearing course of any flexible or composite pavement.

**Through Lane** means a traffic lane not intended for entering or exiting the roadway and does not include shoulders. Where there is more than one roadway, through lane refers to the traffic lane for the higher-class roadway.

**Vertical Surface** means all edges of concrete curbs, catch basins, appurtenances, longitudinal joints, and transverse joints for application of joint painting material.

**Voids** means air voids and voids in mineral aggregate (VMA).

**Warm Mix Asphalt (WMA)** means warm mixed, warm laid asphaltic concrete produced using technologies that allow for the mixing, handling and compaction of the asphaltic concrete mixture at a temperature typically 20 to 50 °C lower than conventional HMA.



**313.04 DESIGN AND SUBMISSION REQUIREMENTS**

**313.04.01 Submission Requirements**

Prior to the start of paving, the purchase price of the AC, in the form of a purchase order or other document signed by the Contractor's senior financial officer, shall be submitted to the Contract Administrator.

If the Contractor intends to store hot mix production in a silo, the planned times of hot mix production shall be submitted to the Contract Administrator with 1 Business Day advance notice.

Prior to the start of paving on bridge decks, the mass of the rollers, except for Class V rollers, to be used on bridge decks, shall be submitted to the Contract Administrator in writing. The minimum compaction temperature for HMA or WMA recommended by the AC supplier shall also be submitted to the Contract Administrator in writing.

A copy of the Technical Data Sheet and Safety Data Sheet of the release agent(s) shall be submitted to the Contract Administrator.

**313.05 MATERIALS**

**313.05.01 Hot Mix Asphalt**

HMA shall be according to OPSS 1151. Asphalt cement, tack coat, anti-stripping treatments, release agents, and other additives shall be compatible with the other components of the hot mix asphalt.

**313.05.02 Tack Coat**

Tack coat shall be according to OPSS 308.

**313.05.03 Release Agents**

No release agents shall be used that may adversely affect the quality or performance of the HMA. Release agents shall be used according to the proprietary requirements.

Petroleum based release agents, excess water, or excess release agents shall not be used.

**313.05.04 Warm Mix Asphalt**

WMA shall be according to OPSS 1151 and the following:

The mix shall be produced at a facility capable of producing the mix according to the WMA technology supplier's instructions for the use of their WMA technology. All information required for the proper preparation, handling, storage, and use of the WMA materials shall be obtained from the WMA technology supplier.

**313.05.05 Grit for Stone Mastic Asphalt**

Grit for SMA shall be as specified in the Contract Documents.

**313.06 EQUIPMENT**

**313.06.01 Rollers**

A Class R Roller is a self-propelled pneumatic-tired roller.

A Class S Roller is self-propelled steel-drum, tandem, or three-wheel roller.

A Class V Roller is a self-propelled vibratory roller specifically designed for HMA compaction having either dual vibratory rolls or a combination of vibratory roll and pneumatic tires with a contact area equal to or greater than 70% of the roll width.

**313.06.01.01 Rollers for Granular Grade Preparation**

Finish rolling for granular grade shall be accomplished using, as a minimum:

- a) A Class S roller with a minimum mass of 7 tonnes and minimum mass of 3.5 kg per mm total roll width,  
or
- b) A Class V roller with a drum width of at least 1.2 m.

**313.06.01.02 Rollers on Bridge Decks**

Compaction shall be accomplished using, as a minimum:

- a) A Class S roller with a minimum mass of 9 tonnes and minimum mass of 4.5 kg per mm total roll width,  
and
- b) A Class R roller with a minimum mass of 18 tonnes and minimum mass of 2,500 kg per tire.

If Class V rollers are used, they shall be used in static mode.

At the Contract Administrator's request, rollers shall be weighed in the presence of the Contract Administrator or a representative.

**313.06.02 Diamond Grinding**

A diamond grinder shall be power-driven, self-propelled, and designed for grinding HMA. It shall be equipped with a grinding head with at least 50 diamond blades per 300 mm of shaft. The grinding head shall be at least 1.2 m wide. The grinder shall be equipped with the capability to adjust the depth, slope, and crossfall to remove HMA to the required profile and shall also include a slurry pick-up system.

**313.07 CONSTRUCTION**

**313.07.01 Quality Control**

QC procedures shall be conducted to ensure HMA meets the requirements of the Contract Documents. Interpretation of QC inspections, test results, and measurements and the determination of any action to be taken shall be carried out to ensure that the work is according to the requirements of the Contract Documents.

A single sample for QC purposes may be obtained at the same time and location as QA acceptance samples. No additional loose mix samples shall be taken from the placed mix.

If the Contractor wishes to obtain additional samples for QC purposes, up to three cores may be taken in each surface lot. For binder courses, the Contractor shall be permitted to obtain one thickness core for their use from each subplot for each binder lift, prior to placement of the surface course. Cores shall not be spaced closer than 1 m from any other core. If further additional samples are required, a written request shall be made to the Contract Administrator, and samples shall only be taken upon written approval of the Contract Administrator. All sample locations shall be restored as specified in the Contract Documents.

**313.07.02                      Laboratory Correlations**

On request, the Contract Administrator shall provide the opportunity to conduct a correlation of mix properties or compaction or both between the QA and QC laboratories prior to placement of HMA. The correlation may occur once for each mix type and shall be a maximum of 3 samples per mix type.

The Contract Administrator shall be provided with the samples and all information required to conduct the correlation testing. The Contract Administrator shall submit the QA test results on completion of the correlation testing.

**313.07.03                      Preparation of Foundation and Existing Pavement**

Prior to placing any course of HMA on:

- a) A granular grade, a Class S roller or an equivalent Class V roller shall be used to finish roll the grade ahead of the paver. The granular grade after rolling shall be a compacted, smooth, float-free surface, free from contamination of foreign materials. Any distortion that will impact the specified thickness of the pavement to be placed shall be repaired.
- b) HMA or concrete surfaces, the HMA and concrete surfaces shall be clean and free of all loose, broken, and foreign materials.
- c) Milled surfaces, the milled surface shall be clean of all loose, broken, and foreign materials and shall be swept with a power broom.

The Contractor shall be responsible for preparing the existing surface to be paved by milling or padding or a combination, as the Contractor deems necessary, to place and compact each lift to the thickness as specified in the Contract Documents, provided such corrections do not reduce the thickness of existing pavement materials or underlying materials by more than 5 mm below the general profile of the surrounding existing unground or unmilled pavement surface.

**313.07.04                      Correction of Pavement Beneath Surface Courses**

Unless otherwise specified in the Contract Documents, the Contractor may correct any pavement course underlying the surface course by padding, milling, grinding or a combination, in order to meet the surface smoothness requirements. Padding shall be completed using a mix type acceptable to the Owner. The thickness of those pavements after milling or grinding shall not be reduced by more than 5 mm below the general profile of the surrounding unground or unmilled pavement surface. The milled surface shall not exceed 25 mm from ridge to ridge, and the ridge to valley depth of the milled surface shall not exceed 10 mm.

**313.07.05                      Tack Coat**

Tack coat shall be applied to surfaces according to OPSS 308 prior to placing HMA.

**313.07.06                      Transportation of Hot Mix Asphalt**

Truck boxes used to transport HMA shall be clean and, if required, lightly coated with a uniform application of a release agent. Truck boxes shall be drained after each application and before loading.

**313.07.07                      Placing Hot Mix Asphalt**

**313.07.07.01                    Operational Constraints**

Paving shall not be carried out if the roadbed is frozen. When placing the mixture on a granular grade, the granular grade shall not be saturated and shall be free of standing water. The surface of a pavement upon which HMA is to be placed shall be clean and dry at the time of HMA placement.

Public traffic shall not be permitted on freshly laid HMA until the temperature of the mat is 50 °C or less.

A lot shall be closed before paving begins on a different lot using the same tender item, the same mix design or both; unless otherwise allowed by the Contract Administrator.

**313.07.07.02                    Paving**

**313.07.07.02.01                General**

Levelling, binder, and surface courses shall be laid by means of mechanical self-propelled pavers. Prior to roller compaction, obvious defects in the HMA placed shall be corrected. Irregularities in the alignment and grade along the outside edges shall be corrected. Excess HMA shall not be cast onto the surface of the freshly laid mat. After final compaction of each course the surface shall be smooth and true to the established crown and grade, uniform in texture and shall be free of any defects, including but not limited to, cracks, segregation, fat spots, oil spills, chatter, and roller marks.

If the Contractor's actions fail to prevent continued medium or severe segregation regardless of cause, the Contract Administrator may instruct the Contractor to cease paving until the problem has been corrected.

All through lane paving courses shall be completed prior to the placement of adjacent sideroads, speed change lanes, and other paved areas.

HMA shall be placed and compacted to the thickness as specified in the Contract Documents for each lift.

At the end of each completed portion of the lanes and prior to opening them to traffic, the ends of completed sections of HMA course shall be temporarily ramped down to the existing pavement according to the Temporary Ramp Downs clause.

If paving is being carried out under lane closures, paving shall be completed to the same station for the full pavement width, including paved shoulders, prior to the roadway being reopened to traffic except as noted in the Partial Paving of Full Pavement Width clause.

**313.07.07.02.02                Paving in Echelon**

For the purpose of laying levelling, binder and surface courses as required under this Contract, paving in echelon shall not be used for the whole Contract.

When paving in echelon, the pavers shall be operated at the same time within 60 m of the next paver so that a hot joint is obtained between the lanes of HMA being placed. Should one paver break down while placing levelling, binder, or surface course, the Contract Administrator may permit the day's work to be completed with the remaining paver only.

**313.07.07.02.03 Paving on Bridge Decks**

The temperature of the HMA immediately after spreading shall be equal to or greater than the minimum temperature recommended by the AC supplier. When the HMA is produced using WMA technology, the temperature of the WMA immediately after spreading shall be equal to or greater than the minimum temperature recommended by the WMA technology supplier. Breakdown rolling shall commence immediately after spreading.

**313.07.07.02.04 Paving Widening and Irregular Sections**

The HMA shall be placed in widenings such that the top of the compacted HMA is placed to the top of the existing pavement. When stepped joints are specified in the Contract Documents, the layers placed in the widening shall be placed to the top of each step in separate operations. HMA shall be placed in the widening using equipment specially designed for this purpose.

In turnouts, driveways, and other irregular sections, other methods may be used to spread and finish the HMA.

**313.07.07.02.05 Partial Paving of Full Pavement Width**

Partial paving of the full pavement width is not permitted.

**313.07.07.02.06 Temporary Ramp Downs**

HMA courses shall be temporarily ramped down to the existing pavement at a slope of 120H:1V transversely. Transverse ramp downs shall not form part of the permanent pavement and shall be removed prior to paving of the adjacent section.

Where longitudinal ramp downs are permitted or if, due to unforeseen circumstances such as equipment breakdown occurring during paving, paving cannot be completed to the same station across the full pavement width, the HMA course shall be temporarily ramped down to the existing pavement at a slope of 10H:1V. Only one temporary longitudinal ramp down shall be in place across the width of the pavement at any time. The temporary longitudinal ramp down shall not form part of the permanent pavement and shall be removed prior to paving the adjacent section. The adjacent paving shall be completed such that the ramping is not in place more than 5 Days.

Loose particles generated during construction of the longitudinal or transverse ramp downs or both shall be removed from the roadway surface prior to re-opening the roadway to traffic. Temporary ramp downs shall remain intact and in place until they are removed prior to paving the adjacent section.

Temporary ramp downs shall be removed to produce a straight clean vertical surface for the full depth of the course prior to paving the adjacent lane or shoulder. After removal of the temporary longitudinal ramp down, traffic shall not be permitted to cross over the vertical surface at the longitudinal edge before the adjacent paving is completed.

**313.07.07.03 Longitudinal and Transverse Joints**

**313.07.07.03.01 General**

All joints shall be made to obtain a complete bond between the two pavement edges and a smooth riding surface. The existing or previously placed pavement edge shall be a straight clean vertical surface for the full depth of the course. Where ramping or damage has occurred, trimming shall be required. All dirt or other foreign material and all loose material shall be removed from all vertical surfaces.

**313.07.07.03.02 Longitudinal Joints**

The longitudinal joints shall be parallel to the lane and visually uniform longitudinally. The width of subsequent courses shall be staggered to an offset of 150 to 300 mm so that longitudinal joints do not coincide. The longitudinal joints in the surface course shall be offset 50 mm from the edge of the demarcation between the lanes as specified in the Contract Documents.

**313.07.07.03.03 Transverse Joints at Limits of Paving**

Joints between HMA pavement laid under this Contract and existing HMA courses not laid under the Contract shall be constructed as follows:

- a) Where a binder course is placed flush against an existing HMA pavement and a butt joint is to be made, the existing pavement shall be trimmed back to form a straight vertical surface.
- b) Where a surface course is placed flush against an existing HMA pavement, a butt joint shall be prepared by removing the existing pavement to the full depth of the existing surface course, to form a straight vertical surface, and for a longitudinal distance not less than 5 m so that the surface course placed has a thickness equal to the full depth of the existing surface course over the 5 m section.
- c) Where a binder course and surface course are not placed flush against an existing HMA pavement, the binder course shall be feathered out removing the existing surface course to a minimum depth of not less than 40 mm, to form a straight vertical surface, and for a longitudinal distance not less than 5 m so that the surface course placed has a minimum thickness of 40 mm over the 5 m section.
- d) Where multiple courses are placed flush against an existing HMA pavement, the joint for each course shall be offset at least 150 mm from the joint on the course below.

**313.07.07.04 Compaction**

Compaction of the HMA shall be conducted using appropriate methods and equipment to provide a uniformly compacted mat according to the requirements of this Contract. Class R rollers shall not be used to compact SMA.

At all places not accessible to rollers, the HMA shall be compacted by mechanical self-powered gas-, electric-, or air-powered equipment.

**313.07.07.05 Gritting of Stone Mastic Asphalt**

Hot grit shall be embedded in the SMA surface as specified in the Contract Documents.

**313.07.08 Field Adjustments to the Job Mix Formula**

The Contractor shall be permitted to adjust the JMF to more closely reflect the mix being produced. The number of field adjustments to the JMF shall be limited to three for each mix design submitted, one prior to

the start of production and a maximum of two during production. Field adjustments to the JMF shall be limited in scope such that the net impact of all field adjustments to the JMF does not exceed any of the maximum field adjustments to the JMF in Table 1 in comparison to the original JMF submitted under the current mix design.

JMF adjustments shall not be accepted once placement of the specific mix type has been completed. The adjusted JMF shall be submitted in writing on a form supplied by the Contract Administrator. Upon receipt of the JMF adjustment submission, the Contract Administrator shall give a written confirmation of receipt of the adjusted JMF. Within 1 Business Day of receipt of the JMF adjustment, the Contract Administrator shall give written notice confirming conformance to the Contract requirements or advising of any non-conformance. The revised JMF may be applied to the lot being placed at the time the confirmation of receipt of the revised JMF is issued and the previous lot, if requested by the Contractor as part of the written submission for a JMF change. If this request is not made, the revised JMF shall only apply to mix placed subsequent to the receipt of the revised JMF.

**313.07.09                      Sampling**

**313.07.09.01                  Asphalt Cement**

Samples of the AC shall be taken according to OPSS 1101.

When the selected WMA technology requires that additives be added to the AC, the samples for acceptance of the AC shall be taken after the additive has been added to the AC.

**313.07.09.02                  Hot Mix Asphalt Aggregates for Density Testing**

The Contractor shall procure samples for RAP and the aggregates identified in the mix design for each mix type using methods as specified in the Contract Documents. The first set of samples shall be taken no later than 10 Days prior to the start of production of the first lot of HMA. Subsequent samples shall be taken immediately following the completion of 15,000 tonnes  $\pm$  1,000 tonnes of mix production, and thereafter at further intervals of 20,000 tonnes as required. The aggregate and RAP sampling program shall be established in consultation with the Contract Administrator prior to paving. If the Contractor determines that a sampling interval needs to be reduced to reflect changes in the aggregate properties, the Contract Administrator shall be notified, and samples shall be taken as warranted only when directed by the Contract Administrator.

A set of two samples shall be taken. One of these samples shall be for QA testing and the other shall be for referee testing. Samples for QA and referee testing shall be obtained concurrently.

Each sample shall be clearly identified as to the date of sampling, the lot number, and the tender item hot mix tonnage being produced when the sample was taken.

**313.07.09.03                  Hot Mix Asphalt Mix Properties**

Samples shall be appropriately labelled with the Contract number, highway number, Region, lot number, subplot number, mix type, lift number, station, and date and time of sampling.

The Contract Administrator shall advise the Contractor of each random sample location or the tonnage from which the sample is to be taken. A set of two samples shall be taken as per Table 2. One of these samples shall be for QA testing and the other shall be for referee testing. Samples for QA and referee testing shall be obtained concurrently.

When the mass of the sample does not meet the requirements of Table 2, the sample shall be discarded and a new one taken immediately.

The SMA sample for draindown testing shall coincide with one of the other subplot samples as designated by the Contract Administrator. The samples shall be transferred to a clean stainless steel bowl or pan of suitable size, immediately after splitting, for delivery to the QA laboratory.

If the Owner's QA laboratory chooses LS-292, the Contractor shall provide, for each mix design, two sets of samples consisting of:

- a) 2 one-litre cans of AC,
- b) 25 kilograms of each aggregate type, and
- c) 1 kilogram of baghouse fines, if used in the mix design.

One sample is for Owner's QA testing and the other for referee testing for the purpose of ignition oven calibration, including aggregate correction factors. The samples shall be submitted to the Owner's QA laboratory at least 5 Business Days prior to the start of paving with the applicable HMA type. If materials have changed from the mix design, an additional two sets of samples, as detailed above shall be provided.

#### **313.07.09.04                    Compaction**

Upon completion of each subplot, the Contract Administrator shall submit in writing, notification of each random sample location. Pavement core samples shall be obtained in duplicate, from each subplot no later than the next Business Day after the completion of the subplot. Each core shall meet the following requirements:

- a) Have a minimum nominal diameter of 150 mm and a maximum nominal diameter of 200 mm, and
- b) Consist of the full layer being sampled and at least one underlying layer, if one is present.

Cores shall not be taken within 250 mm of a longitudinal or transverse joint or the edge of pavement. Cores for compaction shall not be taken on bridge decks.

Each set of samples shall be taken from the same lane, same transverse offset, and at a spacing of 1.0 m ± 0.1 m between each individual core edge.

Care shall be taken to ensure that cores are not damaged during coring operations or in transit. If a core is damaged, a replacement core shall be extracted at a location adjacent to the original core.

Core samples shall also include design lift thickness on the label. The lot and subplot numbers shall be clearly marked with a permanent marker on all compaction cores.

HMA and compaction requirements for filling the sample holes shall be the same as the adjacent undisturbed pavement. Sample holes shall be cleaned, dried, and filled and then compacted using a mechanical self-powered gas-, electric-, or air-powered compactor immediately after sampling.

A 1 litre sample of the release agent(s) shall be delivered to the Contract Administrator upon request.

#### **313.07.09.05                    Warm Mix Asphalt**

Samples of WMA shall be obtained at the paver from sublots according to Table 2 for moisture sensitivity testing. The sublots are to be selected randomly from the sublots identified for mix properties by the Contract



Administrator. These samples shall be designated for QA testing for moisture sensitivity as per AASHTO T 283. A complete sample data sheet shall accompany the samples. The data sheet shall also identify corresponding mix properties lot/sublot number and that the samples are for moisture sensitivity testing. Moisture sensitivity testing is required for information only.

**313.07.09.06 Lift Thickness**

For HMA tender items measured by square metres, single cores consisting of all lifts placed shall be used to evaluate the lift thickness of all lifts. Sample locations shall be determined based on the surface area of the upper most lift placed on the Contract.

All areas of hot mix paving within the Contract limits, including paved shoulders, shall be sampled for lift thickness with the following exceptions:

- a) Detours and other temporary pavement.
- b) Miscellaneous hot mix.
- c) Bridge decks.

Partial paving of the full pavement width is not permitted.

Upon completion of each subplot of the upper most lift specified, the Contract Administrator shall submit in writing, notification of the location to be used for sampling. One pavement core sample shall be obtained from each subplot not later than the next Day after the completion of the subplot of the upper most lift specified. This one core shall be used for both QA and referee testing.

Each core shall have a nominal diameter of 50 mm and shall consist of all the specified hot mix lifts placed in the subplot and at least one underlying hot mix layer if one exists. Each core shall have its vertical side cored perpendicular to the upper surface of the core. Each sample shall be placed in a suitable container to protect the sample integrity during transport and until testing. The subplot number shall be clearly marked with a permanent marker on each core. In addition, the sample documentation as specified elsewhere in the Contract Documents shall also note the number of lifts for which the thickness measurements are required and mix type for each.

No replacement thickness cores shall be obtained for QA or referee testing. When a core thickness is reported as “indeterminate”, a new 150 mm core shall be taken centred over the subplot’s previously taken 50 mm core.

Holes resulting from the removal of thickness core samples shall be cleaned, dried and filled with a material acceptable to the Contract Administrator immediately after sampling.

**313.07.10 Identification of Warm Mix Asphalt Paving Limits**

When WMA is used, GPS coordinates for the WMA paving limits shall be submitted to the Contract Administrator no later than 7 Days after completion of WMA paving.

**313.07.11 Management of Excess Material**

Management of excess material shall be according to the Contract Documents.

**313.08 QUALITY ASSURANCE**

**313.08.01 Acceptance Criteria**

Acceptance of HMA shall be based on the following criteria:

- a) AC Physical Requirements
- b) Mix Properties and Compaction
- c) Surface Tolerance
- d) Surface Appearance
- e) Surface Smoothness
- f) Lift Thickness
- g) Geometrics and Longitudinal Joint Location

**313.08.01.01 Asphalt Cement Physical Requirements**

The Contract Administrator shall determine the acceptability of the AC according to OPSS 1101 and requirements specified elsewhere in the Contract Documents.

When the selected WMA technology requires that additives be added to the AC, acceptance of the AC shall be based on the samples that contain the WMA additive subject to the conditions as specified in the Contract Documents. The Contractor may request that an allowance be made for the impact of the WMA and AST on a PGAC grade for QA or referee purposes provided that when production begins the Contractor submits to the Contract Administrator complete AASHTO M 320 test results for the following:

- a) AC with WMA and AST at the percentage identified in the mix design.
- b) AC without the additives.

The combined allowance shall be limited to maximum 2 °C colder than the high temperature grade or maximum 2 °C warmer than the low temperature grade.

**313.08.01.02 Mix Properties and Compaction**

**313.08.01.02.01 Lot Size**

**313.08.01.02.01.01 General**

The Contract Administrator shall determine the size and location of the lots and sublots, after discussion with the Contractor and before HMA production for the tender item starts. Guidelines for the breakdown of the tender item quantity into lots are as listed in Table 3.

When only one or two sublots are completed at the end of paving for the tender item due to a change in the JMF or when a delay of more than 20 Business Days occurs in placing the complete lot, the test results obtained shall be considered as part of the previous lot and the previous lot shall then have 11 or 12 sublots. When only 3 to 9 sublots are completed due to the above circumstances, then the 3 to 9 sublots shall be considered as a lot.

When a delay of more than 20 Business Days occurs in placing the complete lot and this lot shall be completed during the same calendar year, the Contractor may, prior to the end of the 20 Business Days, request in writing to the Contract Administrator that the lot be continued upon the resumption of paving for

that tender item. If the request is not made or is not accepted by the Contract Administrator, the lot shall be terminated and evaluated for acceptance.

**313.08.01.02.01.02 Optional Surface Trial**

When the surface hot mix tender item is 5,000 tonnes or more, an optional trial of one lot, not exceeding 500 tonnes, with one subplot shall be permitted. The trial shall be placed in a binder course, and the lift thickness shall not be greater than 60 mm. If the Contractor elects to place this optional trial, the Contract Administrator shall be advised in writing prior to placing the trial lot. The optional trial shall not be placed in a critical location such as bridge decks. The optional trial lot will be treated as a small quantity lot for basis of acceptance and payment.

**313.08.01.02.01.03 Lot Size for Bridge Decks**

Hot mix placed on a bridge deck should be treated as a separate lot. Where hot mix is placed in multiple stages, each stage shall be treated as a separate lot.

The lot shall be either a single subplot or divided into 3 approximately equal sublots as determined by the Contract Administrator, in consultation with the Contractor.

**313.08.01.02.01.04 Lot Size for Tonnage Tender Items**

Lot size is generally 5,000 tonnes. Sublots are generally 500 tonnes, however, subplot sizes may be adjusted to ensure a minimum of 3 sublots per lot.

When the tender item quantity is less than 1,000 tonnes, the sublots shall be determined by the Contract Administrator based upon such testing as is deemed necessary by the Contract Administrator to determine substantial conformance with the Contract.

**313.08.01.02.01.05 Lot Size for Square Metre Tender Items**

For lift thicknesses in the order of 40 to 50 mm, lot size is generally 40,000 m<sup>2</sup> with sublots of 4,000 m<sup>2</sup>, however, subplot sizes may be adjusted to ensure a minimum of 3 sublots per lot. For lift thicknesses in the order of 60 to 80 mm, the lot size would generally be adjusted to 25,000 m<sup>2</sup> with sublots of 2,500 m<sup>2</sup>.

When the tender item quantity is less than 4,000 m<sup>2</sup>, the sublots shall be determined by the Contract Administrator based upon such testing as is deemed necessary by the Contract Administrator to determine substantial conformance with the Contract.

**313.08.01.02.02 Acceptance Testing**

The Owner shall conduct tests, carry out calculations and provide values according to Table 4. The Contractor shall be provided with results from the completed tests.

The QA laboratory shall conduct density tests for RAP and aggregates identified in the mix design for each mix type using methods as specified in the Contract Documents.

When new aggregate samples are received, QA density testing on the new aggregate samples shall be conducted and the calculation of VMA for the subsequent lot(s) shall be based on the densities of the most recent QA samples submitted. When a change in aggregate density is noted, a request shall be made to the Contract Administrator that new samples be obtained between routine random samples. The Contractor shall

also state in the sample request if the current lot will be closed or, if the lot will be completed and the new density tests results will not be used for calculation of VMA until the next lot.. The submitted request shall meet Contract Administrator's satisfaction prior to changes being made to sampling.

**313.08.01.02.03 Basis of Acceptance**

Acceptance for all mixes for mix properties and compaction is based on the lot PWL for each attribute, excluding VMA. PWL shall be determined using lot test results, LS-101, and lower and upper limits as specified in Table 5. The PWL of the lot for each criterion shall be used to determine the payment adjustment factor from Table 6. If the PWL is less than 50% for AC content, air voids or compaction, or less than 25% for any payment adjustment sieve, the lot is rejectable and shall be subject to repair or payment adjustment. VMA shall meet the minimum mix design requirements according to OPSS 1151 for each lot and payment shall be based on the lot mean as specified in the Payment Factor for Voids clause. If the VMA payment factor is less than 0.500, the lot shall be considered rejectable. SMA lots shall be considered rejectable if the draindown is more than 0.3%.

When the tender item quantity is less than 1,000 tonnes, the HMA may be accepted by the Contract Administrator based upon such testing as is deemed necessary by the Contract Administrator to determine substantial conformance with the Contract. When 3 or more tests have been completed for a lot the Material shall be accepted at the full Contract price, subjected to a payment adjustment or rejected as specified in Contract Documents.

Any lot comprised of one or two sublots, shall not be subject to payment adjustment unless the mix is rejectable. Acceptance for these lots shall be on a subplot by subplot basis. The subplot shall be considered acceptable if the AC content, gradation, air voids, and compaction of each subplot comply with the limits specified in Table 5, and the VMA shall be no more than 0.50% below the design minimum. Mix that does not comply with the requirements shall be considered rejectable.

The Contract Administrator shall determine if a rejectable lot may remain in the work without repairs. When the Contract Administrator has determined that a rejectable lot may remain in the work without repair, the lot shall be subjected to an additional payment adjustment reflecting the extent of the non-conformance as determined by the Contract Administrator. If the Contractor elects to repair the lot in lieu of a payment adjustment, or if the Contract Administrator determines that a rejectable lot requires repair, the lot shall be repaired and re-evaluated as specified in the Repairs for Mix Properties and Compaction clause.

**313.08.01.02.04 Referee Testing**

A single request for referee testing for a given lot can only be invoked by the Contractor within 5 Business Days of the Contractor receiving the Contract Administrator's calculated QA payment factors for that lot. Referee testing for aggregate density can only be invoked by the Contractor within 5 Business Days of the Contractor receiving the test results for aggregate density.

For mix properties and compaction, the Contractor may request testing by a referee laboratory for the entire lot, or a maximum of two sublots from that lot. Referee testing shall fall into one of three categories:

- a) Mix properties only,
- b) Compaction only, or
- c) Mix properties and compaction.

The Contractor may request referee testing for determining the draindown of a SMA sample.

The referee laboratory shall use the same test method as the QA laboratory except that when the QA laboratory chooses LS-292, the referee laboratory shall use that method provided the calibration requirements are met. If they are not met, the referee laboratory shall use LS-282.

When referee testing of mix properties is invoked, the referee laboratory shall conduct all necessary testing, with the exception of the combined aggregate density which shall be supplied by the Contact Administrator.

When referee testing for compaction is invoked, the referee laboratory shall determine the MRD of the loose mix sample for the subplot, and this value shall be used in the calculation of compaction for the referee core.

The results generated by the referee laboratory shall be used to re-evaluate the lot to determine the payment factors for the acceptance of the disputed properties for the disputed lots of HMA. The referee test results are binding on both the Owner and the Contractor.

### **313.08.01.02.05           Outliers in Referee Results**

Where an entire lot of 3 or more sublots has been referee tested, the Contractor may question an individual value for any attribute of a subplot's test result, excluding VMA. The request shall be made within 3 Business Days of the Contractor receiving all of the test results for the lot, and only when the payment factor for the attribute with an outlier is less than 1.0. The validity of the questioned attribute shall be ascertained in accordance with ASTM E 178 using a T test at a 10% significance level.

If the T test procedure shows that the questioned value of the attribute is not an outlier, then the test result shall be used in the calculations. If the T test procedure shows that the questioned value of the attribute is an outlier, then the test result for the subplot shall be checked for mathematical errors. If there are no mathematical errors, the subplot with the outlier is treated as a lot with one subplot and the remaining sublots shall form a separate lot with no further consideration for outliers.

If only two sublots remain, the two sublots shall be treated as two separate lots each with one subplot.

### **313.08.01.03           Surface Tolerance**

The surface tolerances of any pavement surface shall be such that when tested with a 3 m straight edge placed anywhere, including the edge of the pavement, in any direction on the surface, except across the crown or drainage gutters, there shall not be a gap between the bottom of the straight edge and the surface of the pavement:

- a) Greater than 6 mm for all binder courses, levelling courses and padding, or
- b) Greater than 3 mm for all surface courses.

The Contractor shall provide all traffic control, as required, for the Owner to conduct surface tolerance measurements. All tolerance-related repairs shall be carried out according to the Repairs subsection.

Longitudinal joints shall be constructed such that the elevation difference across the longitudinal joints shall not exceed 5 mm, when measured with a straight edge placed on the asphalt surface with the higher elevation and overhanging the joint by not more than 50 mm. All joints which exceed the 5 mm tolerance shall be repaired such that the tolerance is met.

**313.08.01.04 Surface Appearance**

HMA deemed by visual appearance to have flushing, bleeding, segregation, fat spot, surface damage, cracking, chatter, or surface contamination but not limited to these, shall be considered deficient material or work. The Contractor shall provide traffic control, for all surface appearance assessments. Deficient material, mixture, and work shall be removed and replaced or repaired or assessed a payment reduction.

**313.08.01.04.01 Segregation**

HMA exhibiting medium or severe mid-lane segregation shall be assessed a payment reduction or shall be repaired at the discretion of the Contract Administrator.

From the time the Contract Administrator provides notification of mid-lane segregation, a maximum of 500 tonnes of HMA may be placed, to demonstrate the effectiveness of any repairs or adjustments or both made to a defective paver. The repairs or adjustments or both shall be demonstrated to the Contract Administrator. If the repairs or adjustments or both to the paver do not eliminate midlane segregation to the satisfaction of the Contract Administrator within the allowable 500 tonnes of HMA, then the use of that paver shall be discontinued.

Other segregation shall be addressed in accordance with the following:

- a) Slightly segregated mix shall be accepted into the work with no payment reduction.
- b) Medium segregation in levelling courses or padding with a thickness greater than 40 mm, and binder courses shall normally be left in place with no payment reduction. However, any areas of medium segregation that deteriorates prior to being overlaid by another pavement course shall be repaired at no cost to the Owner.
- c) Medium segregation in surface courses shall be assessed a payment reduction or repaired at the discretion of the Contract Administrator.
- d) Severely segregated mix shall be repaired by removal and replacement.

Levelling courses and padding with a total thickness less than 40 mm, bullnoses, and tapers that were not machine-laid and any areas of handwork shall not be assessed on the basis of segregation but on the basis of other workmanship-related problems. However, if they deteriorate prior to being overlaid by another pavement course, the Contract Administrator shall assess the causes of the deterioration before determining responsibility for the cost of repairs.

**313.08.01.04.02 Challenging Severity of Segregation**

The Contractor may challenge, in writing, the severity of any segregated area assessed as either medium or severe, within 5 Business Days of receiving the Owner's first visual assessment. The written challenge shall list the dimensions and the Contractor's assessment of the severity of each disputed area.

For Contracts with up to 30,000 tonnes of HMA, the Contractor shall be allowed a maximum of two separate written challenges for each tender item. However, for Contracts with more than 30,000 tonnes of HMA, the Contractor shall be allowed a maximum of four separate written challenges for each tender item. Each written challenge may involve more than one disputed segregated area.

A representative of the Owner, who did not carry out the original assessment and who is not the Contract Administrator shall make a second visual assessment of the disputed areas. This second visual assessment shall be carried out within 5 Business Days after the Contract Administrator has received the Contractor's

written challenge and the results of that second visual assessment shall be binding on both the Owner and Contractor.

The Contractor may further challenge the Owner's second visual assessment of the segregation severity, if the segregation has occurred in any one of the mixes listed in Table 7. Such a challenge shall be resolved by a representative of the Owner determining the Macrotexture Ratio, according to LS-317. Table 7 shall be used with the Macrotexture Ratio to determine the degree of severity and the disposition of the disputed area of segregation. The results of that testing shall be binding on both the Owner and the Contractor.

**313.08.01.05 Acceptance Criteria for Surface Smoothness**

The acceptability of surface smoothness shall be as specified in the Contract Documents.

**313.08.01.06 Lift Thickness for Square Metre Tender Items**

**313.08.01.06.01 Lot Size**

The Contract Administrator shall determine the size and location of the lots and sublots for thickness before hot mix production for the tender item starts.

There shall be one lot consisting of all square metre tender items when the entire Contract has the same number of lifts and tender items throughout. There shall be a separate lot for areas with:

- a) Different number of lifts,
- b) Different tender items, or
- c) Both.

Each lot shall be divided into sublots, corresponding to the area of the upper most lift, which generally is the surface course. Sublots shall normally be 2,000 m<sup>2</sup> in size. A minimum of 3 sublots are required for each lot.

**313.08.01.06.02 Acceptance Testing**

The Owner shall conduct tests, carry out calculations, and provide values according to Table 4. The Contract Administrator shall provide the Contractor with a copy of each lift thickness measurement for each lift placed at each sample location upon completion of the subplot measurement.

**313.08.01.06.03 Basis of Acceptance**

The acceptance of lift thickness is based on subplot lift thickness measurements and lot mean lift thickness of the tender item. The Contract Administrator shall calculate the thickness payment adjustment for the lot once all measurements for the lot have been completed.

Sublot lift thickness shall be acceptable if they are equal to or greater than the minimum subplot lift thickness as specified in Table 8 for the tender item's  $T_D$ .

The subplot shall be deemed rejectable and shall be repaired if:

- a) The lift thickness measurement is less than the minimum subplot lift thickness as specified in Table 8, or
- b) For successive binder lifts of the same tender item, the combined lift thickness for these successive lifts is less than the minimum subplot lift thickness as specified in Table 8.

When a lift thickness lot contains any subplot that is deemed rejectable, the lot is rejectable until the subplot has been repaired and re-evaluated as acceptable. When the Contract Administrator allows a rejectable subplot to remain in place without repair, the Contractor shall receive a payment reduction for the subplot according to the Payment Adjustment for Lift Thickness clause. A subplot lift thickness measurement for a rejectable subplot that receives a payment reduction shall not be used to assess the lot mean for the tender item.

The Contract Administrator shall calculate the lot mean lift thickness for each tender item to one decimal point and the lot thickness payment adjustment based on all the subplot lift thickness measurements in the lot, according to LS-101 and Table 9. If the lot mean lift thickness for the surface course tender item is less than 85% of the  $T_D$  the lot is rejectable.

The Owner shall determine if a rejectable lot may remain in the work without repairs. When the Owner has determined that a rejectable lot may remain in the work without repair, the lot shall be subjected to a payment reduction as determined by the Owner.

**313.08.01.06.04 Referee Testing**

The Contractor may only challenge an individual lift thickness measurement by requesting referee testing within 5 Business Days of the Contractor receiving the subplot lift thickness measurement and shall submit the request in writing to the Contract Administrator. The Contractor shall then have the opportunity to view the re-measurement of the QA designated pavement core for that subplot at an alternative Owner designated QA laboratory together with the Owner's representative. The re-measurement shall include the individual lift thickness that was challenged and shall also include any other lifts or combination of lifts in the core. The re-measured lift thickness measurements shall be considered binding and shall replace the original lift thickness measurements for assessment of all lifts measured for the core.

**313.08.01.07 Geometrics and Longitudinal Joint Location**

**313.08.01.07.01 General**

After final compaction, the HMA shall be smooth and true to the design profile and cross-section and constructed to the design width.

**313.08.01.07.02 Pavement Width**

The Contract Administrator shall conduct random spot checks of the width of each binder and surface course HMA lift for acceptance. The Contractor shall provide and maintain offset stakes on both sides of the roadway, or other identifiers acceptable to the Contract Administrator, for use in checking the pavement width at 25 m maximum intervals until the Contract Administrator advises the Contractor that the stakes or identifiers are no longer required.

The width of each lift shall be accepted provided:

- a) The outside edges of the lanes and the paved shoulders are parallel to the centreline and visually uniform.
- b) The width across all the adjacent lanes from the outside edge to outside edge is not less than the sum of the specified lane widths, and
- c) The width of the paved shoulders is not less than the paved shoulder width as specified in the Contract Documents.



If the width is not acceptable at any location, the Contract Administrator shall notify the Contractor in writing that the pavement is rejectable, and the Contractor shall submit a written proposal for corrective action to the Contract Administrator within 3 Business Days of receiving the notification.

**313.08.01.07.03            Longitudinal Joint Location**

Longitudinal joints not meeting the Contract requirements shall be removed and replaced or assessed a payment reduction.

**313.08.02                    Repairs**

**313.08.02.01                General**

The Contractor shall perform all repairs at no cost to the Owner.

All transverse joints in surface course repairs shall butt up to a full depth vertical surface. Repairs shall consist of the removal and replacement of the full thickness of the hot mix lift or the placement of an overlay when permitted by the Contract Administrator. A paver shall be used in carrying out the repair.

Repairs shall be full lane or full shoulder width except where localized repairs are allowed as specified in the Contract Documents.

The materials and the construction of repairs shall meet the requirements as specified in the Contract Documents.

The limits and type of repairs shall be subject to the approval of the Contract Administrator and shall be approved prior to the repair being carried out.

Repairs of an urgent nature, including moderate to very severe aggregate loss, moderate to very severe flushing, and wheel track rutting 16 mm in depth or greater shall be repaired within 7 Days, unless extended by mutual agreement.

With the exception of urgent repairs, repairs shall be completed within 60 Days or prior to seasonal shutdown each year, whichever is the lesser, unless extended by mutual agreement.

**313.08.02.02                Repairs for Mix Properties and Compaction**

The Contractor may elect to carry out repairs in lieu of accepting a payment adjustment, if the lot is not rejectable and the total payment factor for the lot is less than 0.940. When the Contract Administrator requires a rejectable lot to be repaired or the Contractor elects to carry out repairs in lieu of accepting a payment adjustment, the Contractor shall determine what areas of HMA in a lot are to be repaired subject to the minimum lengths and widths as specified in the Contract Documents. Each repair area shall include at least one of the loose mix or compaction core sample locations or both representing that subplot.

The minimum length of a single-repair to one lane shall be 250 m. The minimum length of a single-repair that extends over more than one lane shall be 250 lane-metres and no portion of the single-repair in a lane shall be less than 125 m in length.

The minimum limits of each repair shall be at least 125 lane-metres from the location of the loose mix or compaction core or both that represents the subplot; otherwise, a repair limit shall coincide with one end of the subplot when the sample location is less than 125 lane-metres from it. If the proposed limit of a single-repair

falls within the proposed limit of another single-repair, the overlap shall count towards the 250 lane-metre minimum for both repairs. Repair areas within a single lane shall be separated by at least 100 m. If the delineation of repair areas results in patches less than 100 m apart, these repair areas shall be re-established to form a continuous repair.

The Contractor shall submit a list and sketch identifying the proposed locations of the repairs to the Contract Administrator for review at least 5 Business Days prior to the intended start of the repair work. Each subplot and single-repair shall be uniquely labelled. Overlapping repair areas and discontinuous portions of a single-repair shall be labelled so that they are readily identified with their single-repair.

Prior to the repair, the Contractor shall take slab samples or cores for testing of mix properties or compaction or both in the unrepaired area within 1 m of the limits of each end of the repair area. The Contractor shall not be permitted to take additional samples or cores beyond these locations until after QA or referee testing demonstrates that the remaining Material in the subplot proposed for repair is deemed to be rejectable. If the proposed repair limit coincides with the beginning of a subplot that is being left unrepaired, samples are not required at this location. Sufficient material shall be obtained for testing by the Owner's QA laboratory and for possible referee testing.

Testing shall demonstrate that the remaining Material in the subplot proposed for repair is not rejectable. To determine if the mix is rejectable, the mix properties and compaction shall comply with the basis of acceptance of lots with one or two sublots. If the Material is deemed to be rejectable, the proposed limit of the repair shall be extended by a minimum of 25 m, and the sampling and testing repeated. The repair area selected by the Contractor shall incorporate the location used for obtaining samples that shall be used to confirm that the remaining mix is not rejectable. If the contractor's repair proposal results in the removal of at least half the subplot tonnage, the Contract Administrator may waive testing demonstrating the suitability of the remainder of that subplot.

The unrepaired sublots combined with the unrepaired areas of any repaired sublots shall comprise one lot and shall be assessed based on the loose mix and core samples representing the unrepaired sublots. When a repaired subplot consists of two or more separate unrepaired areas, the Contract Administrator shall decide whether to combine these unrepaired areas as one subplot or to consider each unrepaired area as a separate subplot. If there are only one or two sublots in a lot that are not repaired, the Contract Administrator shall include those sublots as part of the previous or next lot.

The mix used for the repair shall comprise a separate lot or the Contract Administrator in conjunction with the Contractor may decide to include it as part of the current lot being produced. The repaired area shall be tested for all criteria.

The two reconfigured lots shall be accepted at the full Contract price, subjected to a payment adjustment according to the Payment Adjustment for Mix Properties and Compaction clause, or rejected.

### **313.08.02.03 Repairs for Surface Tolerance**

All areas not meeting the surface tolerance requirements shall be repaired by diamond grinding to a maximum of 5 mm or removed and replaced. Slurry produced from diamond grinding shall be removed from the site by the Contractor and managed as specified in the Contract Documents. The repaired areas shall be re-evaluated for surface tolerance acceptance by means of a 3 m straight edge as specified in Surface Tolerance clause.

**313.08.02.04 Repairs for Segregation**

Repairs for segregation shall meet the requirements of the General Repairs clause. In binder courses, localized repairs for mid-lane segregation less than 300 mm in width are permitted.

**313.08.02.05 Repairs for Thickness**

The Contractor shall not be permitted to make any repairs solely to correct for excess lift thickness.

The minimum length of a repair is the entire length of the subplot being repaired.

Acceptance for lift thickness of the repaired subplot shall be based on the individual subplot lift thickness measurement and the lot thickness payment adjustment shall be calculated based on the re-evaluated subplot measurement.

**313.09 MEASUREMENT FOR PAYMENT**

**313.09.01 Actual Measurement**

- 313.09.01.01 SMA 9.5**
- SMA 9.5 - ... mm Lift Thickness**
- SMA 12.5**
- SMA 12.5 - ... mm Lift Thickness**
- SMA 19.0**
- SMA 19.0 - ... mm Lift Thickness**
- Superpave 4.75**
- Superpave 9.5**
- Superpave 9.5 - ... mm Lift Thickness**
- Superpave 12.5**
- Superpave 12.5 - ... mm Lift Thickness**
- Superpave 12.5 - Warm Mix**
- Superpave 12.5 - Warm Mix - ... mm Lift Thickness**
- Superpave 12.5FC 1**
- Superpave 12.5FC 1 - ... mm Lift Thickness**
- Superpave 12.5FC 1 - Warm Mix**
- Superpave 12.5FC 1 - Warm Mix - ... mm Lift Thickness**
- Superpave 12.5FC 2**
- Superpave 12.5FC 2 - ... mm Lift Thickness**
- Superpave 12.5FC 2 - Warm Mix**
- Superpave 12.5FC 2 - Warm Mix - ... mm Lift Thickness**
- Superpave 19.0**
- Superpave 19.0 - ... mm Lift Thickness**
- Superpave 19.0 - Warm Mix**
- Superpave 19.0 - Warm Mix - ... mm Lift Thickness**
- Superpave 25.0**
- Superpave 25.0 - ... mm Lift Thickness**
- Superpave 25.0 - Warm Mix**
- Superpave 25.0 - Warm Mix - ... mm Lift Thickness**
- Superpave 37.5**
- Hot Mix Asphalt Miscellaneous**

**313.09.01.01.01 By Area**

Measurement of HMA by area shall be the horizontal area in square metres in place.

The quantities of HMA used for temporary ramping shall not be measured for payment. The removal of HMA used for temporary ramping shall not be measured for payment.

**313.09.01.01.02 Tonne to Square Metre Conversion**

When the unit of measure for a HMA tender item is square metres, and the Contract Documents refer to a quantity of mix for that tender item in tonnes and the Contract Documents do not already modify the quantity to relate to square metres, the Contract Administrator shall determine the theoretical HMA quantity in square metres ( $Q_A$ ) that shall replace the non-payment tonnage quantity ( $Q_t$ ) references as follows:

$$Q_A = Q_t / [0.975 \times BRD_{MD} \times (T_D/1000)] \quad \text{(Formula 1)}$$

Where:

$BRD_{MD}$  = the bulk relative density in  $t/m^3$ , provided in the HMA design submitted for mix, the  $Q_A$  is calculated for

$T_D$  = the design thickness, in millimetres, of the mix

$Q_t$  = non-payment tonnage quantity referred to elsewhere in the Contract Documents for the mix under the measurement by square metre tender item

**313.09.01.01.03 By Mass**

Measurement of HMA by mass shall be in tonnes according to the requirements of the Contract Documents.

The quantities of HMA used for temporary ramping shall not be measured for payment. The removal of HMA used for temporary ramping shall not be measured for payment.

**313.09.01.02 Hot Mix Asphalt Miscellaneous**

Measurement of HMA Miscellaneous shall be by area in square metres, regardless of the number of lifts placed.

**313.09.02 Plan Quantity Measurement**

When measurement is by Plan Quantity, such measurement is based on the units shown in the clauses under Actual Measurement. The Plan Quantity shall not be adjusted due to any of the exceptions specified in the Lift Thickness clause under the Sampling clause.

**313.10 BASIS OF PAYMENT**

**313.10.01 Hot Mix**

- 313.10.01.01 SMA 9.5 - Item**
- SMA 9.5 - ... mm Lift Thickness - Item**
- SMA 12.5 - Item**
- SMA 12.5 - ... mm Lift Thickness - Item**
- SMA 19.0 - Item**
- SMA 19.0 - ... mm Lift Thickness - Item**

- Superpave 4.75 - Item
- Superpave 9.5 - Item
- Superpave 9.5 - ... mm Lift Thickness - Item
- Superpave 12.5 - Item
- Superpave 12.5 - ... mm Lift Thickness - Item
- Superpave 12.5 - Warm Mix - Item
- Superpave 12.5 - Warm Mix - ... mm Lift Thickness - Item
- Superpave 12.5FC 1 - Item
- Superpave 12.5FC 1 - ... mm Lift Thickness - Item
- Superpave 12.5FC 1 - Warm Mix - Item
- Superpave 12.5FC 1 - Warm Mix - ... mm Lift Thickness - Item
- Superpave 12.5FC 2 - Item
- Superpave 12.5FC 2 - ... mm Lift Thickness - Item
- Superpave 12.5FC 2 - Warm Mix - Item
- Superpave 12.5FC 2 - Warm Mix - ... mm Lift Thickness - Item
- Superpave 19.0 - Item
- Superpave 19.0 - ... mm Lift Thickness - Item
- Superpave 19.0 - Warm Mix - Item
- Superpave 19.0 - Warm Mix - ... mm Lift Thickness - Item
- Superpave 25.0 - Item
- Superpave 25.0 - ... mm Lift Thickness - Item
- Superpave 25.0 - Warm Mix - Item
- Superpave 25.0 - Warm Mix - ... mm Lift Thickness - Item
- Superpave 37.5 - Item
- Hot Mix Asphalt Miscellaneous - Item

Payment at the Contract price for the above tender items shall include full compensation for all labour, Equipment, and Materials required to do the work (including the HMA quantities used for temporary ramping), the removal of HMA used for temporary ramping, and the applicable payment adjustments.

When repairing HMA, the Contractor shall be responsible for and shall carry out all associated work and replace or restore all associated damage and removals at no cost to the Owner.

When the Contract Administrator instructs the Contractor to cease paving due to continued medium or severe segregation regardless of cause, the Owner shall not be held responsible for any additional costs that the Contractor may incur.

The preparation and correction of existing surfaces and pavement beneath surface courses carried out in order to meet the requirements of the Contract Documents, including milling, padding, and diamond grinding, shall be at no cost to the Owner.

**313.10.01.02 Payment Adjustment for Mix Properties and Compaction**

For all mixes, when the Contractor is not required to or does not elect to repair a lot, the payment adjustment for that lot due to mix properties and compaction requirements shall be:

$$PA_{MC} = \text{lot quantity} \times \text{price} \times [PF_{MC} - 1.000] \quad (\text{Formula 2})$$

Where:

$PA_{MC}$  = payment adjustment for mix properties and compaction

- lot quantity = the quantity of the mix in the lot. For SMA 19.0, SMA 12.5, SMA 9.5, Superpave 12.5FC 1, and Superpave 12.5FC 2 tender items measured by tonnage, the lot quantity is the quantity of the mix in the lot multiplied by the applicable mass multiplier factor (MF) in the Payment Adjustment for Aggregate Density clause.
- price = the Contract price of the hot mix tender item
- PF<sub>MC</sub> = payment factor for mix properties and compaction

For all mixes, when the PF<sub>MC</sub> is:

- a) Less than 1.000, there shall be a reduction in payment, and
- b) Equal to 1.000 there shall be no adjustment.

**313.10.01.02.01 Calculations**

**313.10.01.02.01.01 General**

The PF<sub>MC</sub> shall be based on the individual payment factors obtained from Table 6, based on PWL, determined for gradation, AC content, voids, and compaction using LS-101, Table 5, and the formulae in the Payment Factor for Gradation clause, the Payment Factor for Combined Gradation and Asphalt Cement Content clause, the Payment Factor for Voids clause, the Payment Factor for Combined Mix Properties clause, and the Payment Factor for Combined Mix Properties and Compaction clause. Rounding-off procedures for all calculations shall follow LS-100.

When there is no sampling or testing specified in the Contract Documents for an attribute or when the requirement for sampling or testing for an attribute is waived by the Owner, the payment factor for that attribute shall be equal to the payment factor it is added to in Formulae 5, 10, 11 or 12.

**313.10.01.02.01.02 Payment Factor for Gradation**

The payment factor for gradation shall be calculated using the following formulae:

For Superpave 37.5, Superpave 25.0, Superpave 19.0, Superpave 12.5, Superpave 12.5FC 1, Superpave 12.5FC 2, SMA 19.0, and SMA12.5:

$$PF_G = (PF_{DLS} + PF_{4.75} + PF_{75}) / 3 \tag{Formula 3}$$

For Superpave 9.5, Superpave 4.75, and SMA 9.5:

$$PF_G = (PF_{4.75} + PF_{75}) / 2 \tag{Formula 4}$$

Where:

- PF<sub>G</sub> = payment factor for gradation
- PF<sub>DLS</sub> = payment factor for designated large sieve
- PF<sub>4.75</sub> = payment factor for the 4.75 mm sieve
- PF<sub>75</sub> = payment factor for the 75 μm sieve

**313.10.01.02.01.03 Payment Factor for Combined Gradation and Asphalt Cement Content**

The payment factor for combined gradation and AC content shall be calculated using the following formula:

$$PF_{GAC} = (PF_G + PF_{AC}) / 2 \quad \text{(Formula 5)}$$

Where:

$PF_{AC}$  = payment factor for AC content

$PF_{GAC}$  = payment factor for combined gradation and AC content

**313.10.01.02.01.04 Payment Factor for Voids**

For Superpave mixes, if the lot mean VMA is not more than 0.5 per cent below the minimum VMA as specified in the Contract Documents for mix design purposes, the payment factor for VMA is 1.000. For lot mean VMA results more than 0.5 per cent lower than the minimum specified for mix design purposes, a payment factor for the subject lot shall be calculated in accordance with the following:

$$\text{If } (VMA_{min} - VMA_{mean}) \geq 2.5, \text{ then } PF_{VMA} = 0.0 \quad \text{(Formula 6)}$$

$$\text{If } (VMA_{min} - VMA_{mean}) < 2.5 \text{ then, } PF_{VMA} = 0.8000 - 0.4 \times (VMA_{min} - 0.5 - VMA_{mean}) \quad \text{(Formula 7)}$$

Where:

$PF_{VMA}$  = payment factor for VMA

$VMA_{mean}$  = lot mean VMA

$VMA_{min}$  = minimum VMA specified for mix design

For Superpave mixes, the payment factor for VMA shall be compared to the payment factor for air voids and the lesser of the two is the payment factor for voids ( $PF_{VOIDS}$ ).

For SMA mixes, if the lot mean VMA is not more than 1.0 per cent below the minimum VMA as specified in the Contract Documents for mix design purposes, the payment factor for VMA is 1.000. For lot mean VMA results more than 1.0 per cent lower than the minimum specified for mix design purposes, a payment factor for the subject lot shall be calculated in accordance with the following:

$$\text{If } (VMA_{min} - VMA_{mean}) \geq 3.0, \text{ then } PF_{VMA} = 0.0 \quad \text{(Formula 8)}$$

$$\text{If } (VMA_{min} - VMA_{mean}) < 3.0 \text{ then, } PF_{VMA} = 0.8000 - 0.4 \times (VMA_{min} - 1.0 - VMA_{mean}) \quad \text{(Formula 9)}$$

Where:

$PF_{VMA}$  = payment factor for VMA

$VMA_{mean}$  = lot mean VMA

$VMA_{min}$  = minimum VMA specified for mix design

For SMA mixes, the payment factor for VMA shall be compared to the payment factor for air voids and the lesser of the two is the payment factor for voids ( $PF_{VOIDS}$ ).

**313.10.01.02.01.05 Payment Factor for Combined Mix Properties**

The payment factor for combined mix properties shall be calculated using the following formula:

$$PF_M = (PF_{GAC} + PF_{VOIDS}) / 2 \quad \text{(Formula 10)}$$

Where:

$PF_M$  = payment factor for combined mix properties

**313.10.01.02.01.06 Payment Factor for Combined Mix Properties and Compaction**

The payment factor for combined mix properties and compaction shall be calculated using Formula 11.

$$PF_{MC} = (PF_C + PF_M) / 2 \quad \text{(Formula 11)}$$

Where:

$PF_C$  = payment factor for compaction

The  $PF_{MC}$  shall be rounded and reported to four decimal places.

When the Contract Administrator decides that the unrepaired area of an original lot that has been partially repaired shall not be resampled, the  $PF_{MC}$  for the unrepaired area shall be 1.000.

**313.10.01.02.01.07 Small Quantity Lots**

For any lot comprised of one or two sublots, each subplot shall be assigned a  $PF_{MC}$  of 1.000 if the subplot is not rejectable. If the subplot is determined to be rejectable, it shall be administered as described in the Repairs for Mix Properties and Compaction clause. When the Owner has determined that a rejectable subplot may remain in the work without repair, the lot shall be subjected to a payment adjustment reflecting the extent of the non-conformance as determined by the Owner.

**313.10.01.03 Payment Adjustment for Surface Smoothness**

Payment adjustment for surface smoothness shall be as specified in the Contract Documents.

**313.10.01.04 Payment Adjustment for Segregated HMA**

For all surface courses, where payment reduction for segregation is allowed in lieu of repairs, the payment reduction shall be calculated as follows:

- a) \$2,000 once for each applicable surface course tender item,
- b) An additional payment reduction of \$2.50/m for mid-lane segregation, and
- c) An additional payment reduction of \$5.00/m<sup>2</sup> for other segregation. The area of repair shall be computed by multiplying the full lane width by the length of the repair and rounded to the next whole square metre.

**313.10.01.05 Payment Adjustment for Aggregate Density**

For Superpave 12.5FC 1, Superpave 12.5FC 2, SMA 19.0, SMA 12.5, and SMA 9.5 tender items measured in tonnes, the tender quantity is based on reference densities according to Table 10. A payment adjustment for aggregate density for each lot for these tender items shall be calculated by the following formulae:

$$MF = D_R / (BRD_{mix}) \quad \text{(Formula 12)}$$

$$PA_{AD} = M_{mix} \times \text{Contract Price} \times [MF - 1.000] \quad \text{(Formula 13)}$$

Where:

- $D_R$  = the reference density in t/m<sup>3</sup>, as specified in Table 10
- $BRD_{mix}$  = the lot average bulk relative density in t/m<sup>3</sup>, calculated from values obtained in the testing of bulk samples obtained during production. The values shall be the same as those used in calculating the final air voids payment factor for the lot.
- $PA_{AD}$  = payment adjustment for aggregate density



- $M_{mix}$  = the weighed mass of the mix in the lot incorporated into the work
- MF = the mass multiplier factor calculated to 3 decimal places
- Contract Price = the Contract price of the tender item for the mix

For all mixes, when the mass multiplier factor is:

- a) Less than 1.000 there shall be a reduction in payment,
- b) Equal to 1.000 there shall be no adjustment, and
- c) Greater than 1.000 there shall be an increase in payment for the lot.

There shall be no payment adjustment for aggregate density for HMA tender items measured by square metres.

**313.10.01.06 Payment Adjustment for Asphalt Cement Content and Changes in the Price Index**

**313.10.01.06.01 Hot Mix Asphalt Quantity Calculation**

The quantity of HMA for use in the calculations ( $T_{mix}$ ) shall be the tonnage of HMA accepted into the work.

When the unit of measure is square metres,  $T_{mix}$  shall be determined using the theoretical tonnage. The theoretical tonnage shall be calculated by the Contract Administrator as follows and rounded to one decimal according to LS-100:

$$T_{mix} = [0.975 \times BRD_{mix} \times (T_D/1000) \times A_{mix}] \quad \text{(Formula 14)}$$

Where:

- $BRD_{mix}$  = the lot average bulk relative density in  $t/m^3$ , calculated from values obtained in the testing of bulk samples obtained during production of the first complete lot of at least 3 sublots of HMA placed in the work. The values shall be the same as those used in calculating the final payment factor for air voids for the lot.
- $T_D$  = the design thickness, in millimetres, of the HMA
- $A_{mix}$  = area of hot mix placed in square metres

**313.10.01.06.02 Payment Adjustment for Asphalt Cement Content**

The payment adjustment for AC content shall be calculated using the following formula:

$$PA_{AC} = T_{mix} \times [Price_{AC} \times (AC_{ERS} - AC_{BID})/100] \quad \text{(Formula 15)}$$

Where:

- $PA_{AC}$  = payment adjustment for asphalt cement content
- $T_{mix}$  = the quantity of the HMA accepted into the lot according to the Hot Mix Asphalt Quantity Calculation clause
- $Price_{AC}$  = the purchase price per tonne of the AC used in the mix according to the invoice submitted as per the Submission Requirements subsection
- $AC_{ERS}$  = the average percentage by mass of AC in the lot
- $AC_{BID}$  = the percentage by mass of AC specified for bidding purposes elsewhere in the Contract Documents. For SMA mixes select a minimum AC Content from Table 5 of OPSS 11151 based on combined aggregate bulk relative density from first set of QA samples

For progress payment purposes, payment adjustments are made on the monthly progress payment certificate for the months in which hot mix paving occurs.

**313.10.01.06.03 Payment Adjustment for Changes in the Asphalt Cement Price Index**

A payment adjustment is applied based on changes to the Ministry's PGAC price index unless the Contractor opts out by notifying the Ministry in writing within 5 Business Days of receiving permission to start work. Once the Contractor has opted out of payment adjustments based on the price index, the Contractor shall not be permitted to opt back in. The price index is published monthly in the Contract Bulletin. The price index is used to calculate the amount of the payment adjustment per tonne of new AC accepted into the Work.

The price index is based on the price, excluding taxes, FOB the depots in the Toronto area, of AC grade PG 58-28 or equivalent. One index is used to establish and calculate the payment adjustment for all grades.

A payment adjustment per tonne of new AC is established for each month in which paving occurs when the price index for the month differs by more than 5% from the price index for the month prior to Tender Opening. When the price index differential is less than 5%, there is no payment adjustment established for that month. Payment adjustments due to changes in the price index are independent of any other payment adjustments made to the hot mix tender items.

The payment adjustment for the month is calculated from the formulae in Table 11.

The payment adjustment per tonne applies to the quantity of new AC in the HMA accepted into the Work during the month for which it is established. The quantity of new AC includes all grades of AC supplied by the Contractor with and without polymer modifiers.

For each month in which a payment adjustment has been established, the quantity is calculated using the HMA quantity accepted into the Work and its corresponding AC content as required by the JMF except for mixes which contain reclaimed asphalt pavement.

For mixes which contain reclaimed asphalt pavement the percentage of new AC is determined from the difference between the AC content required by the JMF and the AC content of the reclaimed asphalt pavement incorporated into the HMA, as calculated by the Contract Administrator.

For mixes containing an AST-AC, the percentage of AST-AC is deducted from the percentage of new AC. No other deductions are made for any other additives.

For progress payment purposes, payment adjustments are made on the monthly progress payment certificate for the months in which HMA paving occurs.

**313.10.01.07 Payment Adjustment for Lift Thickness**

The payment adjustment for lift thickness shall apply to all placed and compacted HMA measured by square metre tender items using the horizontal area of the surface course in the lot. When the thickness payment adjustment is determined using a  $T_L$  calculated using a combination of tender items, the thickness payment adjustment shall apply to each binder course tender item included in  $T_L$ . The thickness payment adjustment shall be a reduction in payment. The formulae provided in Table 9 shall be used to calculate the thickness payment adjustment for each tender item. The lot payment adjustment shall be the sum of the payment adjustments calculated for each tender item.

When a rejectable subplot remains in the work without repair, the rejectable lifts in the subplot shall be subject to a payment reduction. The thickness payment adjustment for each rejectable lift shall be:

$$PA_T = 0.5 \times (\text{subplot quantity} \times \text{Contract price}) \quad (\text{Formula 16})$$

Where:

- PA<sub>T</sub> = subplot payment adjustment for each rejectable lift
- subplot quantity = the area of the subplot
- Contract price = the Contract price of the tender item for the lift

**313.10.02 Anti-Stripping Treatments**

When aggregates have been processed from commercial sources for use in hot mix surface course paving, payment at the Contract price for the applicable HMA tender item shall be full compensation for all labour, Equipment, and Materials required to test, supply, and incorporate, the AST.

When aggregates have been processed from MTO/Crown, Wayside, and/or Letter of Approval quarries for use in hot mix surface course paving and the use of an AST was required, payment at the Contract price for the applicable HMA tender item shall be full compensation for all Labour, Equipment, and Materials required to test, supply, and incorporate the AST. When hydrated lime is used as the AST, payment includes full compensation for the amount up to 1.0% by mass of total dry aggregate. When an alternate AST-AGG is used as the AST, payment includes full compensation for the amount up to the listed minimum dosage from the DSM listing for Anti-Stripping Treatments by mass of aggregate. When an AST-AC is used as the AST, payment includes full compensation for the amount up to the listed minimum dosage from the DSM listing for Anti-Stripping Treatments by mass of AC. Payment for additional AST above the listed minimum dosages shall be administered as a Change in the Work.

**313.10.03 Hot Mix Asphalt Miscellaneous**

Payment at the Contract price for the above tender item shall be full compensation for all labour, Equipment, and Materials to do the work except that the HMA Material shall be paid for under the appropriate HMA tender item.

**313.10.04 Tack Coat**

Where there is no separate tender item for tack coat, payment at the Contract price for the applicable HMA tender item to be placed on the tack coat shall be full compensation for all labour, Equipment, and Materials for the tack coating.

**313.10.05 Repair**

No payment shall be made for the:

- a) Quantity of HMA that is removed and replaced, overlaid, or otherwise repaired; or
- b) For additional shouldering, traffic control, and other work such as zone painting or bridge deck waterproofing.

When:

- a) In lieu of a reduction in payment, the Contractor repairs the lot, subplot, or visually defective HMA; or
- b) The Contract Administrator has determined that a rejectable lot or subplot requires repair;

the Contractor shall be charged for all additional testing resulting from a repair to a lot at the rates established by the Owner for the year in which the testing was carried out.

No additional payment shall be made to the Contractor for the cost of tolerance measurements of the repaired areas that are required by the Contract Administrator.

**313.10.06 Referee Testing and Segregation Challenge**

**313.10.06.01 Mix Properties and Compaction**

If the referee test results show that the referee payment factor for compaction or mix properties is higher than the payment factor for compaction or mix properties based on the original QA test results by more than 0.025 and the referee results show that the lot is not rejectable, the Owner shall bear the cost of the referee testing for that attribute.

If the referee test results show that the lot is rejectable or the referee test results show that the referee payment factor for compaction or mix properties is not higher than the payment factor for compaction or mix properties based on the original QA test results by more than 0.025, the Contractor shall be charged the cost of the referee testing.

For density testing of aggregates, if referee testing is invoked, the cost of referee testing is assigned as follows:

- a) If the combined aggregate density as determined by the referee laboratory is within 0.010 of the result determined by the QA laboratory, the cost of referee testing shall be borne by the Contractor.
- b) If the referee result is between 0.011 and 0.020 of the QA result, the cost of referee testing shall be shared equally between the Contractor and Owner.
- c) If the difference in results is equal to or in excess of 0.020, the cost of referee testing shall be borne by the Owner.

When there is an outlier in the referee test results, the Contractor shall be charged 50% of the total cost for referee testing of all sublots in the original lot.

The cost of the referee testing shall be based on the referee testing rates as specified elsewhere in the Contract Documents.

**313.10.06.02 Lift Thickness**

If the referee test result is at least 3 mm greater than the original QA test result, the Owner shall bear the cost of the thickness measurement referee testing. If the referee test result is not 3.0 mm or greater than the original QA test result for the subplot retested, the Contractor shall be charged the cost of the referee testing.

**313.10.06.03 Segregation Challenge**

If, under a challenge, as described in the Challenging Severity of Segregation clause, the Contractor is successful, the Owner shall pay for the cost of the traffic control, if the traffic control was not necessary for any other reason. The Owner shall not be responsible for any other costs associated with the second visual assessment, including the cost of delays.

If the Contractor is not successful, the Contractor shall be responsible for all costs associated with the second visual assessment, including the cost of traffic control and delays.

**TABLE 1**  
**Maximum Field Adjustments for JMF**

<b>JMF Properties</b>	<b>Maximum Field Adjustment % (Notes 1 and 2)</b>
AC content (all mixes except SMA mixes)	± 0.2
AC content (SMA mixes only)	± 0.4
Per cent RAP	- 5.0
Per cent passing 26.5 mm, 25.0 mm, 19.0 mm, and 16.0 mm sieves	± 5.0
Per cent passing 13.2 mm, 12.5 mm, and 9.5 mm sieves	± 4.0
Per cent passing 4.75 mm, 2.36 mm, and 1.18 mm sieves	± 3.0
Per cent passing 300, and 150 µm sieves	No limits
Per cent passing 75 µm sieve (all mixes except SMA mixes)	± 1.0
Per cent passing 75 µm sieve (SMA mixes only)	± 2.0
Notes: 1. The maximum field adjustment is applied against the original JMF submitted with the mix design. 2. The adjusted JMF shall meet the requirements of the Contract, including AC content and gradation on all sieves.	

**TABLE 2  
Sample Size and Frequency**

Material	Sample Size	Frequency of Sampling
SMA mixes, Superpave 9.5, 12.5, 12.5FC 1, 12.5FC 2, and 19.0 (Note 1)	20 to 30 kg or 30 to 40 kg (Note 2)	Every subplot
Superpave 25.0 and 37.5 (Note 1)	25 to 35 kg or 35 to 45 kg (Note 2)	Every subplot
HMA Compaction Cores	150 to 200 mm diameter	Every mix properties subplot
HMA Thickness Cores	50 mm diameter	Every thickness subplot
HMA Aggregates for Density Testing	Coarse aggregate      10 kg Fine aggregate, RAP      5 kg	First sample to be taken at least 10 Days prior to producing first HMA lot; second sample at 15,000 tonnes; thereafter every 20,000 tonnes or when new samples requested
SMA mixes for draindown testing	3 to 5 kg	Once per lot
WMA for moisture sensitivity testing (Note 1)	50 kg	3 sublots per mix type
<p>Notes:</p> <ol style="list-style-type: none"> <li>Each material sample receptacle shall have a maximum mass of 30 kg. For ease of handling, especially when the larger sample size is required, splitting of material at the paving site is permitted such that a sample is contained in a maximum of two receptacles whose total mass does not exceed the maximum specified above. Once delivered to testing laboratories, combining of the material from the two receptacles is only mandatory if a single receptacle contains insufficient material to carry out the full suite of tests required.</li> <li>The larger sample size shall be applicable when samples are designated for testing to the maximum number of gyrations. The frequency of the larger samples shall be one per lot, as designated by the Contract Administrator.</li> </ol>		

**TABLE 3  
Breakdown of the Tender Item Quantity into Lots for Mix Properties and Compaction**

Number of Tonnes	Quantity of Square Metres		Number of Lots
	40 to 50 mm Lift Thickness	60 to 80 mm Lift Thickness	
< 5,000	40,000	25,000	1
5,000 to 10,000	40,000 to 80,000	25,000 to 50,000	2
10,000 to 12,000	80,000 to 100,000	50,000 to 60,000	2 or 3 (Note 1)
> 12,000	> 100,000	> 60,000	3 +
<p>Notes:</p> <ol style="list-style-type: none"> <li>As determined by the Contract Administrator in consultation with the Contractor.</li> </ol>			

**TABLE 4  
Testing Requirements**

Properties and Attributes	Testing Method	Calculations, Values, and Results Required
<b>Mix Properties</b>		
AC Content and Aggregate Gradation for mix samples	LS-282 or LS-292	% AC, % passing DLS sieve, 4.75 mm sieve, 75 µm sieve
<b>Volumetric Properties</b>		
Laboratory Compaction to: i. Design number of gyrations ( $N_{des}$ ) ii. Maximum number of gyrations ( $N_{max}$ )  Maximum Theoretical Specific Gravity ( $G_{mm}$ )	AASHTO T 166 using the same laboratory compaction protocol as was used in mix design. (Note 1) AASHTO T 312, LS-264  Superpave Mixes only: in addition to compacting all samples to the design number of gyrations, one sample from each lot of HMA shall be compacted to the maximum number of gyrations.  Bulk Relative Density for mix samples, $BRD_m$	$BRD_m$ BRD at $N_{des}$ BRD at $N_{ini}$ BRD at $N_{max}$ $G_{mm}$ % $G_{mm}$ @ $N_{ini}$ % $G_{mm}$ @ $N_{des}$ % $G_{mm}$ @ $N_{max}$
Voids in Mineral Aggregate (VMA)	LS-604, LS-605, LS-266 (Note 2) $G_{sb}$ = combined bulk relative density of blended coarse and blended fine aggregates	$G_{sb}$ VMA
Voids Filled with Asphalt (VFA)	AASHTO R 35	VFA
Air voids for mix ( $V_a$ )	LS-265	$V_a$
Dust to Binder Ratio ( $D_p$ ) for Superpave mixes	AASHTO R 35	$D_p$
<b>Compaction</b>		
Compaction and Thickness of Cores	$BRD_c$ = Bulk Relative Density for core samples, LS-262 (Note 1) $MRD_m$ = $G_{mm}$ (Maximum Relative Density for loose mix samples, LS-264) % Compaction = $(100 \times BRD_c / MRD_m)$	Thickness of Core % Compaction
<b>Lift Thickness</b>		
Thickness of Cores	LS-294	Lift Thickness
<b>SMA Mix Properties</b>		
Draindown for mix	AASHTO T 305	% Draindown
<b>WMA Mix Properties</b>		
WMA Moisture Sensitivity	AASHTO T 283 including Table 1	TSR Visual Stripping Rating
Notes:		
<ol style="list-style-type: none"> <li>For all gyratory-compacted specimens and cores of SMA mixes and Superpave mixes, if the per cent water absorbed by the specimen is found to exceed 2% by volume, as described in AASHTO T 166, then the bulk relative density shall be determined using either LS-306 or ASTM D 6752</li> <li>Calculate to two decimal places for each subplot using the <math>BRD_m</math> for the subplot, and the <math>G_{sb}</math> of the most recent QA samples, as specified in the Contract Documents, to provide a lot mean VMA to one decimal place.</li> <li>The rounding-off procedure, for all values, shall be according to LS-100.</li> </ol>		

**TABLE 5**  
**Specification Limits for HMA Acceptance Attributes**

Attributes	HMA Type	Lower Limit (LL) %	Upper Limit (UL) %
AC Content	All HMA types	JMF - 0.40 (Note 1)	JMF + 0.50
Designated Large Sieve	All HMA types	JMF - 5.0	JMF + 5.0
4.75 mm Sieve	All HMA types	JMF - 5.0	JMF + 5.0
75 µm Sieve	All HMA types	JMF - 2.0	JMF + 2.0
Air Voids	All HMA types	2.5	5.5
Pavement Compaction	Superpave 37.5, 25.0, 19.0,12.5, 9.5 and 12.5FC 1	92.0	97.0
	Superpave 12.5FC 2	92.0	98.0
	SMA	93.0	98.0

Notes:

1. When a JMF change results in a decrease in the design AC content, the lower limit (LL) shall be set at the revised JMF minus 0.3% for all lots to which the JMF change applies.

**TABLE 6**  
**Payment Factors Based on Per Cent Within Limits**

PWL	Designated Large Sieve	4.75 mm Sieve	75 µm Sieve	AC Content	Air Voids	Compaction
100	1.000	1.000	1.000	1.000	1.000	1.000
99	1.000	1.000	1.000	1.000	1.000	1.000
98	1.000	1.000	1.000	1.000	1.000	1.000
97	1.000	1.000	1.000	1.000	1.000	1.000
96	1.000	1.000	1.000	1.000	1.000	1.000
95	1.000	1.000	1.000	1.000	1.000	1.000
94	1.000	1.000	1.000	1.000	1.000	1.000
93	1.000	1.000	1.000	1.000	1.000	1.000
92	1.000	1.000	1.000	1.000	1.000	1.000
91	1.000	1.000	1.000	1.000	1.000	1.000
90	1.000	1.000	1.000	1.000	1.000	1.000
89	1.000	1.000	1.000	1.000	1.000	0.991
88	1.000	1.000	1.000	1.000	1.000	0.983
87	1.000	1.000	1.000	1.000	1.000	0.974
86	1.000	1.000	1.000	1.000	1.000	0.965
85	1.000	1.000	1.000	1.000	1.000	0.956
84	0.997	0.997	0.997	0.992	1.000	0.948
83	0.994	0.994	0.994	0.984	1.000	0.939
82	0.992	0.992	0.992	0.976	1.000	0.930
81	0.989	0.989	0.989	0.968	1.000	0.921
80	0.986	0.986	0.986	0.960	1.000	0.913
79	0.983	0.983	0.983	0.952	0.999	0.904



PWL	Designated Large Sieve	4.75 mm Sieve	75 µm Sieve	AC Content	Air Voids	Compaction
78	0.980	0.980	0.980	0.944	0.998	0.895
77	0.977	0.977	0.977	0.936	0.995	0.886
76	0.974	0.974	0.974	0.928	0.991	0.878
75	0.972	0.972	0.972	0.920	0.986	0.869
74	0.969	0.969	0.969	0.912	0.980	0.860
73	0.966	0.966	0.966	0.904	0.973	0.851
72	0.963	0.963	0.963	0.896	0.964	0.843
71	0.960	0.960	0.960	0.888	0.955	0.834
70	0.957	0.957	0.957	0.880	0.944	0.825
69	0.954	0.954	0.954	0.872	0.933	0.816
68	0.951	0.951	0.951	0.864	0.920	0.808
67	0.949	0.949	0.949	0.856	0.906	0.799
66	0.946	0.946	0.946	0.848	0.891	0.790
65	0.943	0.943	0.943	0.840	0.875	0.781
64	0.940	0.940	0.940	0.832	0.858	0.773
63	0.937	0.937	0.937	0.824	0.839	0.764
62	0.934	0.934	0.934	0.816	0.820	0.755
61	0.931	0.931	0.931	0.808	0.799	0.746
60	0.929	0.929	0.929	0.800	0.778	0.738
59	0.926	0.926	0.926	0.790	0.755	0.729
58	0.923	0.923	0.923	0.780	0.731	0.720
57	0.920	0.920	0.920	0.770	0.706	0.711
56	0.917	0.917	0.917	0.760	0.680	0.703
55	0.914	0.914	0.914	0.750	0.653	0.694
54	0.911	0.911	0.911	0.740	0.624	0.685
53	0.909	0.909	0.909	0.730	0.595	0.676
52	0.906	0.906	0.906	0.720	0.564	0.668
51	0.903	0.903	0.903	0.710	0.533	0.659
50	0.900	0.900	0.900	0.700	0.500	0.650
49	0.882	0.882	0.882	0.686	0.490	0.637
48	0.864	0.864	0.864	0.672	0.480	0.624
47	0.846	0.846	0.846	0.658	0.470	0.611
46	0.828	0.828	0.828	0.644	0.460	0.598
45	0.810	0.810	0.810	0.630	0.450	0.585
44	0.792	0.792	0.792	0.616	0.440	0.572
43	0.774	0.774	0.774	0.602	0.430	0.559
42	0.756	0.756	0.756	0.588	0.420	0.546
41	0.738	0.738	0.738	0.574	0.410	0.533
40	0.720	0.720	0.720	0.560	0.400	0.520
39	0.702	0.702	0.702	0.546	0.390	0.507
38	0.684	0.684	0.684	0.532	0.380	0.494

PWL	Designated Large Sieve	4.75 mm Sieve	75 µm Sieve	AC Content	Air Voids	Compaction
37	0.666	0.666	0.666	0.518	0.370	0.481
36	0.648	0.648	0.648	0.504	0.360	0.468
35	0.630	0.630	0.630	0.490	0.350	0.455
34	0.612	0.612	0.612	0.476	0.340	0.442
33	0.594	0.594	0.594	0.462	0.330	0.429
32	0.576	0.576	0.576	0.448	0.320	0.416
31	0.558	0.558	0.558	0.434	0.310	0.403
30	0.540	0.540	0.540	0.420	0.300	0.390
29	0.522	0.522	0.522	0.406	0.290	0.377
28	0.504	0.504	0.504	0.392	0.280	0.364
27	0.486	0.486	0.486	0.378	0.270	0.351
26	0.468	0.468	0.468	0.364	0.260	0.338
25	0.450	0.450	0.450	0.350	0.250	0.325
24	0.432	0.432	0.432	0.336	0.240	0.312
23	0.414	0.414	0.414	0.322	0.230	0.299
22	0.396	0.396	0.396	0.308	0.220	0.286
21	0.378	0.378	0.378	0.294	0.210	0.273
20	0.360	0.360	0.360	0.280	0.200	0.260
19	0.342	0.342	0.342	0.266	0.190	0.247
18	0.324	0.324	0.324	0.252	0.180	0.234
17	0.306	0.306	0.306	0.238	0.170	0.221
16	0.288	0.288	0.288	0.224	0.160	0.208
15	0.270	0.270	0.270	0.210	0.150	0.195
14	0.252	0.252	0.252	0.196	0.140	0.182
13	0.234	0.234	0.234	0.182	0.130	0.169
12	0.216	0.216	0.216	0.168	0.120	0.156
11	0.198	0.198	0.198	0.154	0.110	0.143
10	0.180	0.180	0.180	0.140	0.100	0.130
9	0.162	0.162	0.162	0.126	0.090	0.117
8	0.144	0.144	0.144	0.112	0.080	0.104
7	0.126	0.126	0.126	0.098	0.070	0.091
6	0.108	0.108	0.108	0.084	0.060	0.078
5	0.090	0.090	0.090	0.070	0.050	0.065
4	0.072	0.072	0.072	0.056	0.040	0.052
3	0.054	0.054	0.054	0.042	0.030	0.039
2	0.036	0.036	0.036	0.028	0.020	0.026
1	0.018	0.018	0.018	0.014	0.010	0.013
0	0.000	0.000	0.000	0.000	0.000	0.000

**TABLE 7**  
**Allowable Macrotexture Ratios for Various Mixes**

Mix Type	Macrotexture Ratio (M <sub>R</sub> )		
	Degree of Segregation		
	Slight	Medium	Severe
Superpave 9.5	< 1.5	1.5 to 2.0	> 2.0
Superpave 12.5, 12.5FC 1, 12.5FC 2	< 1.6	1.6 to 2.2	> 2.2
Superpave 19.0	< 1.8	1.8 to 2.6	> 2.6
Superpave 25.0	< 2.0	2.0 to 3.5	> 3.5

**TABLE 8**  
**Minimum Sublot Lift Thickness**

Mix Course	Design Lift Thickness (T <sub>D</sub> ) mm	Minimum Sublot Lift Thickness mm
All Courses	25 to 39	T <sub>D</sub> - 7
	40 to 59	T <sub>D</sub> - 10
Surface Course	60 and greater	T <sub>D</sub> - 15
Binder Courses	60 and greater	0.70 x T <sub>D</sub>

**TABLE 9**  
**Lot Thickness Payment Adjustment**

Course	T <sub>L</sub>	Thickness Payment Adjustment, PA <sub>T</sub>
Surface Course (Note 1)	T <sub>L</sub> ≥ [0.85 x T <sub>D</sub> ]	PA <sub>T</sub> = lot quantity x price x {[1.000 - (T <sub>L</sub> / T <sub>D</sub> )] x 2.0}
Binder Course	T <sub>L</sub> ≥ [0.95 x T <sub>D</sub> ]	PA <sub>T</sub> = lot quantity x price x {[1.000 - (T <sub>L</sub> / T <sub>D</sub> )]}
	[0.95 x T <sub>D</sub> ] > T <sub>L</sub> ≥ [0.85 x T <sub>D</sub> ]	PA <sub>T</sub> = lot quantity x price x {[1.000 - (T <sub>L</sub> / T <sub>D</sub> )] x 2.0}
	T <sub>L</sub> < [0.85 x T <sub>D</sub> ]	PA <sub>T</sub> = lot quantity x price x {[1.000 - (T <sub>L</sub> / T <sub>D</sub> )] x 3.0}
<p>Where:                      T<sub>L</sub> = lot mean lift thickness for the tender item, if lot mean lift thickness is less than or equal to T<sub>D</sub> (see definition), or                      T<sub>L</sub> = T<sub>D</sub>, if lot mean lift thickness is greater than T<sub>D</sub>                      lot quantity = the horizontal area of the upper most lift of hot mix in the lot (normally surface course)                      price = the Contract price of the hot mix tender item</p>		
<p>Notes:                      1. A lot is rejectable when the surface course T<sub>L</sub> &lt; [0.85 x T<sub>D</sub>].</p>		

**TABLE 10**  
**Reference Densities, D<sub>R</sub>**

Region	Reference Densities, D <sub>R</sub> tonnes/m <sup>3</sup>
West Region	2.530
Central Region Northeastern Region Northwestern Region	2.520
Eastern Region	2.390

**TABLE 11**  
**AC Price Adjustment**

I <sub>P</sub>	AC Price Adjustment, PA
I <sub>P</sub> > 1.05 I <sub>TO</sub>	PA = (I <sub>P</sub> - 1.05 I <sub>TO</sub> ) x T <sub>AC</sub>
I <sub>P</sub> < 0.95 I <sub>TO</sub>	PA = (0.95 I <sub>TO</sub> - I <sub>P</sub> ) x T <sub>AC</sub>

Note:  
If I<sub>P</sub> > 1.05 I<sub>TO</sub> the Contractor receives compensation; however, if I<sub>P</sub> < 0.95 I<sub>TO</sub> the Owner receives a rebate.  
Where:  
PA = payment adjustment for new AC, in dollars  
I<sub>TO</sub> = PGAC price index for the month prior to Tender Opening  
I<sub>P</sub> = PGAC price index for the month in which paving occurs  
T<sub>AC</sub> = quantity of new AC in tonnes  
T<sub>AC</sub>, shall be calculated as follows:  
T<sub>AC</sub> = [AC<sub>new</sub> /100] x T<sub>mix\_mnth</sub>  
Where:  
AC<sub>new</sub> = the percentage of new AC in the mix as required by the JMF.  
T<sub>mix\_mnth</sub> = the tonnage of HMA, as calculated in the Hot Mix Quantity Calculation clause, accepted into the work during the month for which the payment adjustment was calculated.

**USE OF AIR COOLED IRON BLAST FURNACE SLAG AS GRANULAR MATERIAL**

Special Provision No. 110F10

September 2001

**SCOPE**

This special provision covers the requirements for the use of air cooled iron blast furnace slag as granular material in road construction.

**DEFINITIONS**

**Slag:** means air cooled iron blast furnace slag.

## CONSTRUCTION

### General Operational Constraints

For those applications permitted in this special provision, it is the Contractor's responsibility to notify the District Manager of the local District Office of the Ministry of the Environment (MOE), of the locations where slag will be utilized.

The Contractor shall prepare a contingency plan that specifically addresses management by the Contractor, during construction, of any odour and leachate which may be generated by the slag material. The plan shall include but not be limited to the following:

- a. a strategy for containment, cleanup and disposal of leachate to ensure a quick and comprehensive response to any escape of leachate from the construction site;
- b. a strategy for communicating with MOE and other regulatory authorities in the event of any escape of leachate;
- c. a strategy to identify the project specific causes of leachate problems as well as a commitment to developing short and long term corrections; and
- d. a strategy for dealing with public complaints about odour problems which may occur.

### Restrictions On the Use of Slag

- a. Slag is prohibited for any application below top of subgrade.
- b. Slag may be applied above subgrade with the following exceptions:  
  
N/A
- c. During construction, water shall not be directed, through means such as channelized flow or dewatering effluent, to areas where slag has been placed.
- d. When placing slag, the Contractor shall ensure that the material is graded and placed in a manner which ensures free drainage and prevents ponding on, within or against the material.

## SUBMISSION AND DESIGN REQUIREMENTS

### Notification of Sites Intended to be Used for the Placement of Slag

Three weeks prior to receipt of the slag material at the job site, a completed Notification of Intended Placement of Slag Form, included in this special provision, shall be submitted to the attention of the District Manager of the appropriate local District Office of the Ministry of the Environment. The notification shall include a copy of this special provision and a copy of the contingency plan required by this special provision.

Three weeks prior to receipt of the slag material on the job site, copies of the completed Notification of Intended Placement of Slag Form and the Contractor's contingency plan for the use of slag material shall be supplied to the Contract Administrator, and to the Manager/Supervisor of the MTO Regional Environmental Office/Unit.

**Notification of Intended Placement of Air Cooled Iron Blast Furnace Slag Form**

Highway: \_\_\_\_\_ MTO Contract No. \_\_\_\_\_

Location of Contract: \_\_\_\_\_

Contractor: \_\_\_\_\_ Telephone: \_\_\_\_\_

Construction Administrator: \_\_\_\_\_

The following describes the Contractor's intended locations for placement of slag on the noted MTO Contract currently under construction. By signing this form the noted Contractor acknowledges to the Ministry of the Environment that all locations proposed to be used by the Contractor for the placement of slag meet the requirements of the special provision attached.

**1. Source of Slag**

The material source is as follows:

Name and address of the commercial source;

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. Site Description**

The site description includes the following:

An identification of the location of the work project including a map reference;

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**3. Location for Placement of Slag**

Attach descriptions (including station numbers) detailing the following:

- a) use and location of the slag, including a detailed plan of the material placement site (and typical cross section if necessary); and
- b) quantities/volume of material to be placed at the location specified.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 2\_\_\_\_

\_\_\_\_\_  
Contractor's Signature

\_\_\_\_\_  
Name of Construction Company

**AMENDMENT TO OPSS 1151, NOVEMBER 2016**

Special Provision No. 111F06

August 2019

**1151.02 REFERENCES**

Section 1151.02 of OPSS 1151 is amended by the addition of the following under **Ontario Ministry of Transportation Publication**, MTO Laboratory Testing Manual:

LS-321 Method for Calculation of Asphalt Film Thickness

**1151.03 DEFINITIONS**

Section 1151.03 of OPSS 1151 is amended by deleting the definition of **RAP Content**.

Section 1151.03 of OPSS 1151 is further amended by the addition of the following definitions:

**Binder Replacement** means the asphalt cement from the RAP contributing to the total asphalt cement content in the mix, expressed as a percentage.

**Roof Shingle Tabs (RST)** means as defined in OPSS 313.

**1151.04 DESIGN AND SUBMISSION REQUIREMENTS****1151.04.01 Design Requirements****1151.04.01.01 General**

Clause 1151.04.01.01 of OPSS 1151 is deleted in its entirety and replaced with the following:

A laboratory that has current CCIL Type A certification, AMRL, or AMRL equivalent certification shall be used to conduct all mix designs and mix checks.

Superpave mixes shall be designed using the procedures specified in LS-309, with the exception of WMA mixes. WMA mixes shall be designed using the procedures specified in LS-318 at the anticipated WMA production temperature. In the mix design procedure, all references to RAP Content shall be deleted and replaced with % binder replacement.

Superpave materials, mix designs, and the JMF shall be according to the requirements specified in Tables 1, 2, 3 and 4 for the HMA mix type specified in the Contract Documents.

The use of RST is not permitted in the HMA.

SMA mixes shall be designed using the procedures specified in LS-311. SMA materials, mix designs, and the JMF shall be according to the requirements specified in Tables 1, 4, and 5 for the SMA mix type specified in the Contract Documents. Cellulose or mineral fibres shall be used as a stabilizing additive in dosage rates of 0.3% or 0.4%, respectively, by mass of the total mixture. Regardless of the type of fibre used, the manufacturer's recommendations for any product used shall be followed.

The composition of the HMA may be modified as permitted in Table 6.

The amount of RAP allowable by mass in a mix will be calculated by the Asphalt Binder Replacement method according to the following formula:

$$\% \text{ Binder Replacement} = [(\% \text{ asphalt cement content of RAP} \times \% \text{ RAP by mass of mix}) / (\% \text{ total asphalt cement content of mix})]$$

RAP as processed and ready for use in a HMA shall be tested using LS-282 or LS-292 to determine the average percentage asphalt cement and the average gradation for the extracted RAP aggregates.

Density testing of aggregates and RAP shall be conducted for the purpose of developing the mix design for each mix type in the Contract. Such testing shall be performed during production of each aggregate, RAP, or during stockpiling of the materials at the HMA plant.

In addition, if the composition of the mix is modified by including RAP, the high and low grade of PGAC required shall be lowered by 6 °C when:

$$\% \text{ Binder Replacement} > 20 \%$$

The JMF selected for use shall produce HMA that meets all the requirements specified in the Contract Documents.

For HMA in this Contract, the mix properties, the compaction effort, and the aggregate properties specified in the Contract Documents, shall conform to the requirements for the traffic category specified in Table A. The use of a mix designed with a traffic category different than specified in Table A is not permitted.

The asphalt cement (AC) added to the hot mix types shall be performance graded asphalt cement, PGAC as specified in Table A. For bidding purposes only, the percentage by mass of asphalt cement, AC<sub>BID</sub> contained in the various HMA mix types shall be as specified in Table A.

**TABLE A  
HMA Mix Design Criteria**

HMA Type	Location in Contract	Traffic Category	PGAC Grade	AC <sub>BID</sub> % (Note 1)
Superpave 12.5 FC2	Whole Contract	E	64-28	5.0
Note 1: For SMA Mix Types a minimum AC Content is specified in Table 5 based on combined aggregate bulk relative density.				

**1151.04.02 Submission Requirements**

**1151.04.02.01 Mix Design**

Clause 1151.04.02.01 of OPSS 1151 is amended by the addition of the following:

The % Binder Replacement shall be calculated and submitted with the mix design.

For SMA mix, the technical data sheet for the supplied fibres shall be submitted with the mix design.



The asphalt film thickness ( $T_F$ ) shall be calculated according to LS-321 and submitted on Form PH-CC-251 along with the mix design. The calculated asphalt film thickness shall be shown on the mix design summary sheet.

**1151.05 MATERIALS**

**1151.05.02 Aggregates**

**1151.05.02.01 Reclaimed Asphalt Pavement and Roof Shingle Tabs**

Clause 1151.05.02.01 of OPSS 1151 is deleted in its entirety and replaced with the following:

**1151.05.02.01 Reclaimed Asphalt Pavement**

The aggregate contained in the RAP, where permitted in a HMA, shall be according to the aggregate requirements of OPSS 1003 for the mix type specified in the Contract Documents.

RAP that is contaminated with deleterious material shall not be used and shall be removed from the work. RAP shall be stockpiled conforming to the stockpiling requirements for coarse aggregates according to OPSS 1001, except that when the material is stockpiled on a compacted granular pad, the top 75 mm of the pad shall be the coarse aggregate that is required for a new (virgin) mixture of the tendered hot mix item.

The use of RAP that is obtained from existing stockpiles that do not have a foundation conforming to the above paragraph shall be permitted provided that the bottom 0.3 m of the stockpile is not incorporated into the work.

Process control sampling and testing of the RAP shall be as specified in the Contract Documents.

**1151.05.05 Fibres**

Subsection 1151.05.05 of OPSS 1151 is deleted in its entirety and replaced with the following:

Fibres shall be either cellulose or mineral fibres, and appropriate for use in the SMA mix design, such as those detailed in QIS 122. The use of rock wool, asbestos, fiberglass, and fibres contained in RST, is prohibited.

Table 1 of OPSS 1151 is amended by deleting Note 1 in its entirety and replacing it with the following:

1. For mixes that have been specified in the Contract Documents as coarse graded, the allowable range of percentage by mass passing the 4.75 mm sieve shall be 45-55, and for the 2.36 mm sieve the allowable range will be 28-58.

Table 6 of OPSS 1151 is deleted in its entirety and replaced with the following:

**TABLE 6  
Maximum % Binder Replacement**

<b>Traffic Category (Note 1)</b>	<b>Binder Course 150 mm or More Below Pavement Surface</b>	<b>Binder Course Within 150 mm of Pavement Surface</b>	<b>Surface Course</b>
A, B	40%	40%	0%
C, D	40%	20%	0%
E	40%	20%	0%

Note 1: Traffic category as specified in the Contract Documents.

Table 8 of OPSS 1151 is deleted in its entirety and replaced with the following:

**TABLE 8  
Sample Quantities for Mix Design Monitoring**

<b>Material</b>	<b>Quantity (Note 1)</b>
Asphalt Cement	4 litres evenly split between 2 containers
Aggregate	75 to 100 kg of each type
RAP	75 to 100 kg required when RAP contained in the mix
Fines material passing 75 µm sieve	5 to 10 kg when the mix is to be produced with a plant that returns fines to the mix
Mineral Filler	5 to 10 kg sample for SMA mixes
Any other material samples including anti-stripping agents and fibres to be used in HMA	Quantity large enough to allow for a complete mix design

Note 1: Each material sample receptacle shall have a maximum mass of 30 kg.

Table 9 of OPSS 1151 is deleted in its entirety.

**TEMPORARY ROADWAY CLOSURES**

Special Provision No. 199F01

August 2019

**1.0 HOLIDAY / SPECIAL EVENT RESTRICTIONS**

Closures for mobilization of equipment and materials and construction operations shall not be permitted on the holidays / special events specified below; and when applicable, after noon on the date preceding and/or before noon on the date following, as specified below.

Name of Holiday/Special Event	Date that Closures are Not Permitted	Date that Closures are Not Permitted After Noon	Date that Closures are Not Permitted Before Noon
Labour Day	September 6, 2021	September 3, 2021	N/A
Thanksgiving	October 11, 2021	October 8, 2021	N/A
Christmas	December 25, 2020	December 24, 2020	N/A
Boxing Day	December 27, 2020	N/A	N/A

Notes:

**2.0 CLOSURES FOR MOBILIZATION OF EQUIPMENT AND MATERIALS**

The use of construction accesses, shoulder closures, lane closures, and ramp closures for mobilization of equipment and materials (i.e., loading and unloading of materials and construction equipment onto and from the travelled portion of the highway) shall only be permitted during the times specified below, subject to restrictions as noted, when applicable.

**Location/Description: Highway 401 EBL & WBL**

Monday	Tues to Thurs	Friday	Saturday	Sunday
No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**Location/Description: Palace Road**

Monday	Tues to Thurs	Friday	Saturday	Sunday
No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**Location/Description: Palace Road – E-N/S Ramp**

Monday	Tues to Thurs	Friday	Saturday	Sunday
No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**Location/Description: Palace Road – N/S-E Ramp**

Monday	Tues to Thurs	Friday	Saturday	Sunday
No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**2.1 Delivery and Trucking**

The Contractor shall plan and schedule the routes of vehicles transporting all materials to, from or within the job, so that vehicular movements are accomplished with minimum interference and interruptions to traffic.

This will necessitate vehicles to “slip-off” or “slip-on” in the direction of traffic, in order to merge with and thereby avoid crossing traffic lanes.

Access to and from the highway right-of-way will be restricted to ramps at the interchanges unless otherwise provided for in the Contract. Median cross-overs shall not be used except where single axle vehicles are entering a passing lane that is closed to traffic.

The Contractor shall obtain the Contract Administrator's prior approval for the location of any "slip-off" or "slip-ons". The Contract Administrator reserves the right to alter, reject or close same as considered necessary. The Contractor shall notify suppliers of materials and equipment of the above requirements.

**3.0 CLOSURES FOR CONSTRUCTION OPERATIONS**

**3.1 Shoulder Closures**

Shoulder closures for construction operations shall only be permitted during the times specified below, subject to restrictions as noted.

**Location/Description: Highway 401 EBL & WBL**

Monday	Tues to Thurs	Friday	Saturday	Sunday
No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**Location/Description: Palace Road**

Monday	Tues to Thurs	Friday	Saturday	Sunday
No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**Shoulder Location/Description: Palace Road – E-N/S Ramp**

Monday	Tues to Thurs	Friday	Saturday	Sunday
No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**Shoulder Location/Description: Palace Road – N/S-E Ramp**

Monday	Tues to Thurs	Friday	Saturday	Sunday
No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**3.2 Lane Closures**

Lane closures for construction operations shall only be permitted during the times specified below, subject to restrictions as noted.

**Lane Location/Description: Highway 401 EBL & WBL**

**Total Number of Lanes: 2 Each Direction**

Closure Type	Monday	Tues to Thurs	Friday	Saturday	Sunday
One Lane	No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**Lane Location/Description: Palace Road**

**Total Number of Lanes: 2**

Closure Type	Monday	Tues to Thurs	Friday	Saturday	Sunday
One Lane	No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**3.3 Ramp Closures**

Ramp closures for construction operations shall only be permitted during the times specified below, subject to restrictions as noted.

**Ramp Location/Description: Palace Road – E-N/S Ramp**

**Total Number of Lanes on Ramp: 1**

Closure Type	Monday	Tues to Thurs	Friday	Saturday	Sunday
Full Closure	No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**Ramp Location/Description: Palace Road – N/S-E Ramp**

**Total Number of Lanes on Ramp: 1**

Closure Type	Monday	Tues to Thurs	Friday	Saturday	Sunday
Full Closure	No Restrictions	No Restrictions	0:00 – 05:00	Not Permitted	22:00 – 23:59

Notes:

**3.3.1 Simultaneous Ramp Closures**

The following ramps shall not be closed at the same time:

N/A

**3.3.2 Consecutive Ramp Closures**

N/A

**3.4 Full Mainline Closures**

A full mainline closure shall be used:

- a) When work affecting the travelled portion of an undivided highway requires the stoppage of traffic across the full width of the traffic lanes in both directions of travel.
- b) When work affecting the travelled portion of a freeway or divided highway requires the stoppage of traffic across the full width of the traffic lanes in one direction of travel. When necessary the closure of the adjacent lane on the other side of a median barrier may also be required.

Full mainline closures shall only be permitted during the times and for the work specified below, subject to restrictions as noted, when applicable.

N/A

**4.0 CLOSURE REQUIREMENTS**

**4.1 Closure Notifications**

Prior to all closures of lanes and/or ramps and/or shoulders for any reason, the Contractor shall:

1. Inform the Contract Administrator:
  - a) at least 1 week prior to the start date, for all closures lasting less than one week.
  - b) at least 2 weeks prior to the start date, for all closures lasting more than one week.
  - c) of all emergency closures as soon as any details are known.
2. Inform the Contract Administrator of any closure that is being canceled subsequent to 1. above.
3. Obtain a Closure Notification Number from the Contract Administrator for each closure.
4. Fill-in the Field Work Notification Form and e-mail it to [EastRegion.TOC@ontario.ca](mailto:EastRegion.TOC@ontario.ca) or fax it to 613-748-5287, at least 24 hours prior to any closure.
5. Notify the MTO East Region Traffic Operations Centre by phone 613-748-5296:
  - a) immediately prior to the set-up of any closure.
  - b) immediately of any changes to the closure or anticipated problems that may delay the opening time, stating details of the changes to and/or problems with the closure.
  - c) immediately upon removing the closure.

**4.2 Ontario Provincial Police (OPP) Assisted Closures and Speed Control**

In addition to the requirements listed in Ontario Traffic Manual (OTM) Book 7, Temporary Conditions, the Contractor has the option to use OPP assisted lane closures and speed control activities to execute the work.

Mandatory use of OPP (or their designate) shall be employed for all full mainline closures.

Mandatory use of OPP (or their designate) shall also be employed for:

N/A

All costs associated with optional and/or mandatory use of OPP for closures and/or speed control activities are deemed to be included in the Temporary Traffic Control Signs tender item. No additional payment will be made to the Contractor for these operations.

If an authorized third party stipulates that additional OPP assisted lane closures or speed control activities are required, the Owner will compensate the Contractor for the cost of the OPP services as a Change in the Work.

## **5.0 PAYMENT ADJUSTMENTS**

### **5.1 Payment Adjustments for Early Closing**

On each occasion when the Contractor closes lanes and/or ramps to traffic earlier than the specified times, the Contract Administrator will assess the Contractor an initial payment reduction of \$ 1,000.00.

Thereafter, a further payment reduction of \$100.00 per minute will be assessed against the Contractor for every minute outside the permitted closure window that the lanes and/or ramps are not open to traffic. The Contract Administrator will be the sole judge of the length of time of the delay.

For progress payment purposes, payment adjustments are made on the monthly progress payment certificate for the month in which the early closing(s) occurs.

### **5.2 Payment Adjustments for Late Opening**

On each occasion when the Contractor fails to reopen the lanes and/or ramps by the specified time, the Contract Administrator will assess the Contractor an initial payment reduction of \$ 1,000.00.

If lanes and/or ramps are not open within 15 minutes after the specified time, a further payment reduction of \$1,000.00 shall be assessed against the Contractor.

Thereafter, a further payment reduction of \$100.00 per minute shall be assessed against the Contractor for every minute that the lanes and/or ramps are not open to traffic. The Contract Administrator will be the sole judge of the length of time of the delay.

For progress payment purposes, payment adjustments are made on the monthly progress payment certificate for the month in which the late opening(s) occurs.

**Information to Bidders**

Special Provision No. 199F14

October 2020

**Aggregate Sources**

The Contractor must demonstrate the ability of aggregate sources to produce aggregate that satisfies the requirements of the Contract Documents.

During tendering, a request for approval for use of an MTO/Crown source not listed on an Aggregate Sources List (ASL) shall be made through the bid enquiry process. Any MTO/Crown sources not listed on an ASL may be used, subject to the approval of the Head, Regional Geotechnical Section. If approval is granted, the ministry’s ASL Conditions of Information shall apply.

For enquiries related to Crown sources or sources under permit to MTO, Contractors may contact the appropriate Regional Geotechnical Section to request available Mineral Aggregate Inventory Data Bank (MAIDB) information.

For enquiries related to a specific commercial and/or private source, the Contractor may contact the Aggregate Unit of the appropriate Regional Geotechnical Section to access available Mineral Aggregate Inventory Data Bank (MAIDB) information provided they have written consent from the source owner.

Regional Geotechnical Section offices are located in:

Location/Office	Region	Telephone #
Kingston	East	(613) 545-4794 (613) 530-5561
North Bay	Northeast	(705) 497-5478 (705) 358-4610
Thunder Bay	Northwest	(807) 473-2037 (807) 633-6222

For aggregate related enquiries for sources located in Central Region or West Region, please contact:

Location/Office	Region	Telephone #
Engineering Materials Office, Soils and Aggregates Section	Central or West	(416) 806-2141 (416)-420-0964

Access to the information in MAIDB is provided for the convenience of the Contractor only. Since MAIDB information is dated and subject to interpretation, the information is not guaranteed.

For Contracts that include concrete items, Structural Concrete Aggregate Source Lists and Concrete Base/Pavement Aggregate Source Lists, as applicable, are available from the MTO Technical Publications website at <https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/TechnicalPublications.aspx> under the Construction, Qualification, and Materials heading.



**Earth Borrow, Rock Supply, Granular Base, and Conventional Hot Mix Aggregates**

This contract does not include an Aggregate Sources List (ASL) for earth borrow, rock supply, granular base, and conventional hot mix aggregates. For information regarding commercial sources, Contractors may refer to the following sources of information:

- a) Commercial Aggregate and Membership Directory, available through Ontario Stone, Sand & Gravel Association (OSSGA);
- b) Aggregate License/Permit List, available through the Ministry of Natural Resources and Forestry (MNRF); [www.ontario.ca/environment-and-energy/find-pits-and-quarries](http://www.ontario.ca/environment-and-energy/find-pits-and-quarries), and
- c) Aggregate Resources Inventory Papers (ARIPs), available through the Ministry of Energy, Northern Development and Mines (ENDM). [www.geologyontario.mndm.gov.on.ca/index.html](http://www.geologyontario.mndm.gov.on.ca/index.html)

**CONSTRUCTION NOISE CONSTRAINTS**

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Special Provision No. 199F33 January 2020

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**Noise Sensitive Areas**

This Special Provision covers the requirements for control of construction noise produced by the Contractor's operations.

Noise constraints in noise sensitive areas are as follows:

**Noise Sensitive Area # 1**

<b>Noise Sensitive Area Limits</b>	
Throughout Contract Limits	
<b>Constraint</b>	<b>Constraint Details</b>
Equipment Maintenance	Equipment shall be maintained in an operating condition that prevents unnecessary noise, including but not limited to non-defective muffler systems, properly secured components, and the lubrication of moving parts.
Equipment Operation	Idling of equipment shall be restricted to the minimum necessary to perform the specified work.

**OTHER CONTRACTORS WITHIN OR ADJACENT TO THE LIMITS OF THE CONTRACT**

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Special Provision No. 199F43

March 2018

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Other work may be in progress within or adjacent to the limits of this contract.

The Contractor shall coordinate the work with other Contractors within and/or adjacent to the project limits to ensure that they do not perform work in the same area at the same time, or adversely affect each other's work.

The Contractor shall ensure that a minimum separation of 500 m is maintained between the operation included in this contract and the work within and/or adjacent to this project, done by others.

The Contractor shall provide a written submission to the Contract Administrator explaining how the work with other Contractors will be coordinated.

**GENERAL REQUIREMENTS OF SAMPLES FOR QUALITY ASSURANCE, REFEREE AND OTHER TESTING BY THE OWNER OR THE OWNER'S AGENT**

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Special Provision No. 199F57

December 2017

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**Scope**

This Special Provision covers the minimum requirements for the handling, identification, and delivery of samples to a laboratory for quality assurance, referee and other testing by the Owner or the Owner's agent.

**Sampling and Identification**

All samples shall be obtained and packaged by the Contractor, in the presence of the Contract Administrator or a designated representative. All samples shall be provided with a unique number by the Contract Administrator for identification purposes.

Sampling, handling, and storage of samples shall be as specified in the Contract Documents. Notwithstanding, the Owner may take samples for its own purposes at any time from any location. The Contractor shall furnish all reasonable assistance to the Owner and shall require its Subcontractors and suppliers to do the same.

The Contractor shall supply sample containers and all relevant Material Safety Data Sheets or Safety Data Sheets. All containers used for samples of materials controlled under the Workplace Hazardous Materials Information System shall be appropriate for the materials and shall be labelled and accompanied with the relevant Material Safety Data Sheets or Safety Data Sheets.

The Contractor shall package all samples to minimize risk of damage or contamination during transport. Once packaging is complete, the Contractor shall inspect all samples and confirm each sample and packaging is acceptable to the Contract Administrator for delivery.

After inspecting and determining that each sample is acceptable for delivery, the Contractor shall enter the sample data information. Upon the Contractor submitting the sample data information, the Contractor accepts responsibility that the information entered is accurate.

The Contractor shall place bags or containers of samples into clear polyethylene security bags supplied by the Owner when instructed by the Contract Administrator. At this point, the Contract Administrator shall take possession of, and assume responsibility for the samples. The Contract Administrator or his representative may apply security seals.

The Contractor shall be responsible for all costs associated with obtaining new samples if the original samples did not conform to the sampling requirements (e.g. weight and size) and were deemed unsuitable for testing by the laboratory or the Owner.

### **Sample Delivery by the Contractor**

The Contractor shall be responsible for the delivery of concrete cylinders for strength and grout cubes for strength determination, and bridge bearing pads, to the laboratory designated by the Owner. All other samples shall be delivered by the Contract Administrator.

Samples delivered by the Contractor shall be within the time limits and locations specified in the Contract Documents. The Contractor shall normally deliver samples during normal business hours. Normal business hours are deemed to be from 8:00 a.m. to 5:00 p.m., each Business Day. Where a sample has to be delivered outside these hours, the Contractor shall give the laboratory one full Business Day notice. If the time limits or locations or both for delivering samples are not specified in the Contract Documents, then the sample shall be delivered by the Contractor no later than 1 Business Day(s) from the date of sampling to the regional quality assurance laboratory located within a 100 km radius of the Contract limits.

For all samples delivered by the Contractor, the Contractor shall maintain a record of the date and time of delivery, and the printed name and signature of the authorized individual receiving the sample. The Contractor shall sign the laboratory's records to confirm the date and time of delivery.

The Contractor shall be responsible for all costs associated with obtaining new samples if the original samples delivered by the Contractor are lost or deemed unsuitable for testing by the laboratory or the Owner.

The regional quality assurance laboratory shall be designated by the Owner.

## **NATIONAL ENERGY BOARD (NEB) REGULATED PIPELINES**

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Special Provision No. 199F59

December 2017

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### **1.0 SCOPE**

The Contractor shall comply with regulations pursuant to Section 112 of the National Energy Board Act when using power-operated equipment or explosives within the prescribed area.

The NEB Act and Regulations referenced below must be read in conjunction with and are intended to supplement the general requirements of the Ontario Occupational Health and Safety Act and Regulations for Construction Projects, specifically Section 228, Precautions Concerning Services.

**2.0 REFERENCES**

This Special Provision refers to the following publications:

- National Energy Board Act 112(1) and 112(2)
- NEB Pipeline Damage Prevention Regulations - Authorizations
- NEB Pipeline Damage Prevention Regulations - Obligations of Pipeline Companies
- NEB Pipeline Damage Prevention - Ground Disturbance, Construction and Vehicle Crossings

**3.0 DEFINITIONS**

For the purpose of this specification, the following definitions apply:

**Prescribed Area** means a strip of land measured 30 metres perpendicularly on each side from the centreline of a pipe controlled by the NEB.

**Ground Disturbance** means any activity that may disturb the ground within the prescribed area.

**4.0 COMPLIANCE MEASURES**

The Contractor shall contact all pipeline owners listed below and request from them a copy of their technical guidelines for work adjacent to their pipelines.

Pipeline Owner	Contact Information
Not Applicable	

Activities requiring permission from the pipeline owner include;

- Construction of a facility across, on, along, or under a pipeline, including the pipeline right of way;
- Ground disturbance activities in the prescribed area;
- Ground disturbance using explosives or mechanical equipment within the prescribed area;
- Operation of a vehicle or mobile equipment across a prescribed area, outside the travelled portion of a highway or public road, or;
- Seismic/vibration activity within the prescribed area.

The Contractor shall submit a written application to the pipeline owner in accordance with the requirements of the pipeline owner, seeking permission to perform the work under this Contract.

The Contractor shall immediately submit a copy of the approved application to the Contract Administrator once received from the pipeline owner.

The Contractor shall comply with all conditions, requirements and procedures of the pipeline owner and not proceed with the work until written permission has been received.

Once the pipeline owner has given its permission, the Contractor shall comply with the following:

- Initiate a locate request at least three Working Days before the day on which the construction or ground disturbance activity is planned in the prescribed area, by calling Ontario One Call, or by calling the pipeline company where there is no Ontario One Call centre, to have the pipe located and marked.
- Witness the pipe being located and marked and become familiar with the meaning of the pipeline markings.
- Review NEB requirements with all persons working on your behalf and keep a copy of the approved application on site.
- Expose the pipe by hand digging or other acceptable excavation techniques approved by the pipeline company prior to any mechanical excavation within three metres of the pipe.
- Notify the pipeline company 24 hours prior to backfilling over the pipe or facilities, where the pipe or facilities have been exposed.
- Follow the instructions of the pipeline company's authorized field representative.
- Immediately notify the pipeline company if any contact is made with the pipe or its coating.

The Contractor shall comply with the following rules for ground disturbance within three metres of the pipe. Ground disturbance using mechanical equipment is not permitted within three metres of the pipe except under the following conditions:

- a) When the excavation runs parallel to the pipe and;
  - i. the pipe has been exposed by hand at sufficient intervals to confirm the pipe's location or;
  - ii. the pipeline company has used a method that would permit it to confirm the pipe's exact location and has informed the person of that location.
- b) When the excavation crosses the pipe and;
  - i. the pipe has been exposed by hand at the point of crossing or;
  - ii. the pipeline company has used a method that would permit it to confirm the pipe's exact location, has informed the person of that location and has confirmed that the pipe is at least 60 cm deeper than the proposed excavation.

And

- c) When the ground conditions render it impractical to locate the pipe using any of the methods set out in (a) and (b), the pipeline company directly supervises any excavation.

The Contractor shall not move or alter the pipe or its fittings, or in any other way interfere with the pipe without the written consent of the pipeline owner.

**EARTH EXCAVATION, GRADING - Item No. 1**

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Special Provision No. 206F06

September 2017

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**Amendment to OPSS 206, November 2014**

**206.07.03.01 Earth Excavation - Grading**

**206.07.03.01.01 General**

Clause 206.07.03.01.01 of OPSS 206 is amended by the addition of the following paragraph:

The work shall also include the excavation of pavement, treated base, concrete base, prime, surface treatment, and mulch pavements, including any buried layers of these materials, at the following locations:

Shoulder strengthening locations as detailed in the Contract Drawings.

**206.09.01.01 Earth Excavation, Grading**

Clause 206.09.01.01 of OPSS 206 is amended by the addition of the following paragraph:

Where the work of earth excavation, grading includes the removal of pavement, treated base, concrete base, prime, surface treatment, and mulch pavements, including any buried layers of these materials, the measurement for payment of earth excavation, grading shall include the volume of these materials.

**REMOVAL OF ASPHALT PAVEMENT FROM CONCRETE SURFACES ON STRUCTURES - Item No. 10**

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Special Provision

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**Amendment to OPSS 510**

**510.07 CONSTRUCTION**

**510.07.06 Pavement Work**

**510.07.06.05 Removal of Asphalt Pavement from Concrete Surfaces on Structures**

Clause 510.07.06.05 of OPSS 510 is amended by the addition of the following:

All existing waterproofing material shall be removed and all concrete surfaces prepared according to OPSS 914.07.02.02.

**TEMPORARY TRAFFIC CONTROL SIGNS - Item No. 15**

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Special Provision

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**Amendment to OPSS 706, November 2016**

**706.07 CONSTRUCTION**

**706.07.01 Temporary Traffic Control Signs**

**706.07.01.01 General**

Section 706.07.01.01 of OPSS.PROV 706 is amended by the addition of the following:

- e) Supplying, installing, maintaining, and removing sequential lighting within the taper for lane closures. The implementation is required for the full duration of the contract when traffic is reduced to one lane during permitted times for lane and ramp closures according to Special Provision No. 199F01.

The sequential lighting shall be installed on TC-54s in accordance with the supplier's recommendations and OTM Book 7.

Sequential Lighting materials and any batteries shall be supplied by the Contractor.

More information about the SynchroGUIDE sequential lighting is available from the supplier:

Unipart Dorman North America Office  
173 Main Street  
Bath, ON  
K0H 1G0

T: 613-352-3458  
F: 613-352-6845  
E: [dorman.enquiries@unipartdorman.com](mailto:dorman.enquiries@unipartdorman.com)

- f) Supplying, installing, maintaining, and removing advanced TC-3 signs ahead of lane closures. The implementation is required for the full duration of the contract when traffic is reduced to one lane during permitted times for lane and ramp closures as specified elsewhere in the contract.

In addition to the recommendations in OTM Book 7, TC-3 signs shall be installed 1km and 2km in advance of lane closures.

**Provision of Speed Signs**

The Contractor shall supply, erect and maintain regulatory speed signs (black on white) as indicated in Table 2 and approved by the Contract Administrator in those work areas (as defined by Ontario Traffic Manual Book 7 temporary layout utilized or as detailed in the contract drawings) and at those times where construction activities involving lane reductions are actually taking place (When, While, Where). The Rb-105A, Rb-103A and Rb-101A signs shall be of the oversize type measuring 900 x 1500 mm. The Rb-101A

signs shall be spaced approximately 1.5 km apart. When lane reductions are not in place, the regulatory speed signs shall be returned to their original condition. All signage shall be in conformance with the requirements of Book 7 of the Ontario Traffic Manual.

**Table 2 Regulatory Signs**

Existing Posted Speed	Regulatory Signs to be Provided by the Contractor
100	80
90	70*
80	60
60	Maintain Existing

Regulatory or advisory speed reductions of greater than 20 km/h are not permitted (\*except when flagging operations are required in existing posted speed zones of 90 km/h, the speed shall be reduced to 60 km/h)

The Contractor shall also carry out any necessary removal, covering, temporary placement or replacement of existing regulatory signs to complete this work.

**Provision of Oversized Load Signs**

The Contractor shall supply, erect, maintain on a daily basis and remove Over Sized Load Restriction signs meeting the requirements of this special provision for the duration of construction operations that adversely affect the movement of Oversized Loads, as approved by the Contract Administrator. A total of 4 signs in English and a total of 4 signs in French are required which shall be located as directed by the Contract Administrator.

**Freeway Contracts (Normal posted speed of 100 km/h)**

Signs shall be a minimum of 1.52 m wide by 3.04 m high and hinged at mid height to allow the sign to be obscured or displayed as required. A locking device shall be provided to ensure that the sign cannot be displayed when not required.

The sign shall have a white, high intensity background and shall display an Rb-62 “No Heavy Trucks” sign measuring 1.2 x 1.2 m at the top.

Under the Rb-62, Black lettering shall be displayed as follows:

<u>English</u>	<b>OVER 4.1 m (Note 1) LOAD WIDTH</b>	<u>French</u>	<b>LARGEUR EXCÉDANT 4,1 m (Note 1)</b>
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Note 1: 4.1 m is for example only. The actual measurement will be provided by the Contract Administrator, at the request of the contractor. In addition, up to two (2) sets of tabs shall be supplied showing different width measurements to reflect changes in conditions.

The lettering shall be 250 mm high except for the width measurement, which shall be 300 mm high lettering.



**All other contracts (Normal posted speed of less than 100 km/h)**

Signs shall be a minimum of 1.22 m wide by 2.44 m high and hinged at mid height to allow the sign to be obscured or displayed as required. A locking device shall be provided to ensure that the sign cannot be displayed when not required.

The sign shall have a white, high intensity background and shall display an Rb-62 “No Heavy Trucks” sign measuring 0.9 x 0.9 m at the top.

Under the Rb-62, Black lettering shall be displayed as follows:

<u><b>English</b></u>	<b>OVER</b> <b>4.1 m</b> (Note 1) <b>LOAD</b> <b>WIDTH</b>	<u><b>French</b></u>	<b>LARGEUR</b> <b>EXCÉDANT</b> <b>4,1 m</b> (Note 1)
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Note 1: 4.1 m is for example only. The actual measurement will be provided by the Contract Administrator, at the request of the contractor. In addition, up to two (2) sets of tabs shall be supplied showing different width measurements to reflect changes in conditions.

The lettering shall be 200 mm high except for the width measurement, which shall be 250 mm high lettering.

**PAVEMENT MARKING, DURABLE - Item No. 17**

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Special Provision No. 710F07

September 2011

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**Amendment to OPSS 710, November 2010**

**710.07.06 Short Term Pavement Marking**

The second paragraph of subsection 710.07.06 of OPSS 710, is deleted and replaced by the following:

The Contractor shall apply short term pavement markings for the centerline, lane lines and 10 cm. wide continuous edge of pavement lines.

The fifth paragraph of sub-section 710.07.06 is deleted and replaced by the following:

The Contractor shall use paint for short term pavement markings, except for the short term pavement markings that are to be replaced on a final surface course which shall be temporary, preformed, removable, pavement marking tape.

**ROADWAY WEATHER INFORMATION SYSTEM (RWIS) PAVEMENT SENSORS - Item No. 21**

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Special Provision

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**CONSTRUCTION SPECIFICATION FOR ROADWAY WEATHER INFORMATION SYSTEM  
(RWIS) PAVEMENT SENSORS**

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**1.0 SCOPE**

This specification covers the requirements for the removal, salvage and installation of Roadway Weather Information System (RWIS) Pavement Sensors and associated cables, sealant, and hardware that are part of Roadway Weather Information System (RWIS) along with the calibration, testing and re-commissioning of the system that will be affected by full or partial depth pavement removal work and/or shoulder work.

The requirements of OPSS 106 shall apply to this work.

**2.0 REFERENCES**

This specification refers to the following standards, specifications, or publications:

**Ontario Provincial Standard Specifications**

OPSS 106      General Specification for Electrical Work

### **3.0 DEFINITIONS**

**RWIS** means Road Weather Information System which monitors and forecasts the pavement and weather conditions for the immediate area surrounding a weather station through a programmable RPU (Remote Processing Unit) that collects data from atmospheric environmental sensors and roadway surface/subsurface sensors and transmits the data to a Central System via an Ethernet interface and modem.

A RWIS standard station consists of an equipment and communication tower, power supply and grounding, RPU, communication modem, passive pavement and subsurface sensors, atmospheric and environmental sensors such as thermistor, hygistor, anemometer, barometer, occurrence meter (precipitation). Additional equipment, such as active pavement surface sensors, video equipment, transportation sensors (vehicular volume, speed and classification), can also be included.

**RWIS Technician** means a person that has been accredited / trained by the RWIS manufacturer to perform work on their system.

### **4.0 DESIGN AND SUBMISSION REQUIREMENTS**

The Contractor shall test the existing Roadway Weather Information System electronics prior to the work and prepare a written plan for the removal and installation of the existing pavement sensors, electronics, hardware and the associated cables. This plan shall include the data testing results from all devices, methodology for removal of existing system and installation of new system and the certified RWIS Technician's details and record of certification. Plan shall also include when the work will take place.

The plan shall be submitted to the Contract Administrator for review a minimum of one (1) week prior to commencing the work.

### **5.0 MATERIALS**

#### **5.01 Roadway Weather Information System (RWIS) Pavement Sensors**

The RWIS pavement sensors shall be re-installed with new Vaisala FP2000 pavement sensors and Vaisala Linux Sub-probes. The sensors and sub-probes are available through the following manufacture:

Complete System Installations (CSI)  
106 McGonigal St Unit D  
Arnprior, ON K7S 1M4  
613.622.0060  
Attention: Nick Chupick

All sensors shall be supplied complete with cable, hardware and accessories for connection to existing RWIS.

The manufacture shall determine the correct distance and supply sufficient length of cable between the location of each road sensor and the existing RWIS. Splices of sensor cables are not permitted.

#### **5.02 Epoxies and Sealants**

All epoxies and sealants shall be in accordance with the manufacturer's specifications.

**6.0 EQUIPMENT**

All equipment shall be in accordance with the manufacturer's specifications.

**7.0 CONSTRUCTION**

**7.01 General**

The general requirements for electrical work shall be as specified in the Contract Documents.

All work shall be in accordance with the contract drawings and manufacturer's specifications.

**7.02 Roadway Weather Information System Technician**

Installation of the RWIS shall be completed by a certified RWIS Technician.

**7.03 Sequence of the Work**

The Contractor shall proceed with the work according to the following sequence:

- a) Prior to performing any removal work all parts must be ordered and received by the Contractor.
- b) The Contractor shall remove and salvage the existing sensors, electronic components, hardware and their associated cables prior to the removal of the asphalt pavement operation, and deliver them to Complete System Installations (CSI):

Complete System Installations (CSI)  
106 McGonigal St Unit D  
Arnprior, ON K7S 1M4  
613.622.0060  
Attention: Nick Chupick

- c) After all pavement and/or shoulder restoration has been completed the Contractor shall install the new Vaisala sensors and sub-probes into the pavement.
- d) The Contractor shall calibrate, test, and re-commission the system in accordance with the RWIS manufacturer's specifications and provide a final test report to the Contract Administrator.

**8.0 QUALITY ASSURANCE**

The contractor shall notify the Contract Administrator when the work is complete, and verify to the Contract Administrator proper operation of the RWIS Pavement Sensors.

All work shall be completed to the satisfaction of the Contract Administrator.

The Contract Administrator may witness any test performed and may make random inspections of the work.

**10.0 BASIS OF PAYMENT**

Payment at the contract price for the above tender item shall be full compensation for all labour, Equipment, and Material to do the work.

**11.0 WARRANTY**

The warranty is for one (1) year, which includes all parts and labour. The warranty period shall commence once the work is certified in writing by the RWIS technician and Contractor Administrator that RWIS is fully operational and compliant.

**PORTABLE QUEUE DETECTION AND WARNING SYSTEM SERVICE - Item No. 22**

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Special Provision

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**1. SCOPE**

This Special Provision covers the requirements for the supply, delivery, software, configuration and testing of an automated Queue Warning System comprised of Portable Queue Warning Detectors and Portable Variable Message Signs (PVMS). The item includes but not limited to:

- deployment and configuration the Queue Warning System and verification with PVMS;
- confirmation of communications between the field and central system;
- coordination with Owner for speed thresholds and sign messaging;
- technical support and provision of the queue warning data.

**2. REFERENCES**

This Special Provision refers to the following standards, specifications, or publications:

**Other:**

Ontario Electrical Safety Code

**3. DEFINITIONS**

For the purpose of this Special Provision, the following definition applies:

**XML (Extensible Markup Language):** means a markup language that defines a set of rules for encoding documents in a format which is both human-readable and machine-readable. It is defined by the W3C's XML 1.0 Specification.

**4. DESIGN AND SUBMISSION REQUIREMENTS**

- 4.1** All documentation shall be submitted in accordance with the requirements of Special Provision “Quality Control, Testing and Documentation for ATMS work”.

- 4.2 The Contractor shall submit shop drawings for the vehicle detector, battery system and product cut-sheets for all off-the-shelf components and calculations proving that the proposed equipment meets the contract requirements.
- 4.3 The Contractor shall supply detail on the Queue Warning System software operation and speed threshold levels.
- 4.4 The Contractor shall submit detail test plan demonstrating how the system will be tested and calibrated in the field.
- 4.5 All protocol documentation shall be submitted

**5. MATERIALS**

The Portable Queue Warning Detectors shall be comprised of vehicle detector, battery and housing. The Portable Variable Message Signs shall comply with the DSM.

**5.1 Portable Queue Warning Detector**

- 5.1.1 The Portable Queue Warning Detector shall be comprised of a speed radar detector, GPS and communications interface.
- 5.1.2 Traffic speed detection shall be by K-band radar (24.125 GHz) recording average speeds. The sensor shall be FCC approved consumer grade Doppler radar that is safe for brief exposure periods. The data reporting shall be user configurable with user-defined speed average time interval and modem-to-server communication time intervals.
- 5.1.3 The Portable Queue Warning Detector shall have an arrow to facilitate aiming of the unit.
- 5.1.4 The Portable Queue Warning Detector shall have a 10BaseT RJ45 Ethernet port to provide for communications. The unit shall be capable of communicating over the cellular modems provided by the Contractor.
- 5.1.5 The Portable Queue Warning Detector shall provide for autonomous operation on a continuous basis for the four stages of construction where lane reductions will occur:

Palace Road Overpass

Stage	Timing	401 Direction	Description of Needs (Estimated)
1	Fall 2021 – for 2 weeks	Eastbound and Westbound	<p><u>Westbound</u> Queue Detection and Warning System required starting from 1.0 km east of Palace Road easterly for 8.1 km.</p> <p>PVMS Placement Highway 401 approximately 9.7 km east of Palace Road located on the right shoulder and 60 m westerly on the left shoulder.</p> <p><u>Eastbound</u></p>

Stage	Timing	401 Direction	Description of Needs (Estimated)
			<p>Queue Detection and Warning System required starting from 1,170 metres west of Palace Road westerly for 7.2 km</p> <p>PVMS Placement                      Highway 401 approximately 8.8 km east of Palace Road located on the right shoulder and 60 m easterly on the left shoulder.                      L&amp;A County Road 41 North of Hwy 401                      L&amp;A County Road 41 South of Hwy 401</p>
2	Fall 2021 – for 2 weeks	Eastbound and Westbound	

- 5.1.6 The GPS shall have high-accuracy positioning to identify the location that the unit is placed.
- 5.1.7 The Contractor shall provide a warranty on the Portable Queue Warning Detector for the duration use throughout the contract. The contractor is solely responsible for the detector and shall have it replaced in the event that it is defective, damaged, stolen or for any other reason where the detector is not functioning as part of the system. The warranty shall include all labour, equipment, and materials required to replace the batteries, including traffic control and all removal and disposal work. The Contractor shall be responsible for the removal and disposal of any defective detectors replaced under warranty.

**5.2 Batteries**

- 5.2.1 The batteries shall provide power to the system on a continuous basis for the duration for the Queue Warning Detection system is deployed.
- 5.2.2 The batteries shall be suitable for installation in an -40°C to 45°C environment.
- 5.2.3 The unit shall have an on/off switch with LED status indicator on the outside of the unit.
- 5.2.4 Each battery shall be labelled with the date of manufacture. The label shall be at a visible location on the top of the battery.
- 5.2.5 The Contractor shall provide a warranty on the batteries for the duration use throughout the contract. The contractor is solely responsible for the battery and shall have it replaced in the event that it is defective, damaged, stolen or for any other reason where the system is not receiving power. The warranty shall include all labour, equipment, and materials required to replace the batteries, including traffic control and all removal and disposal work. The Contractor shall be responsible for the removal and disposal of any defective batteries replaced under warranty.

**5.3 Portable Queue Warning Detector Housing**

- 5.3.1 The detector housing shall have a durable construction and be waterproof and shock resistant.

- 5.3.2 The unit shall be NCHRP 350 compliant and tested for crash worthiness with the detector and batteries installed and shall be MUTCD compliant – Class 1/11 traffic barrel with reflective material meeting the applicable OPSS.
- 5.3.3 The complete unit shall weigh less than 30 kg to allow for easy deployment along the roadway.
- 5.3.4 The unit shall be suitable for locating on the side of the highways.
- 5.3.5 The cable and connectors for the system shall be sized for the load and rated for outdoor installation.
- 5.3.6 The unit shall have a charging port to allow for battery charging.

**5.4 Queue Warning System (QWS) Software**

- 5.4.1 The QWS operation shall allow for a single or multiple Portable Queue Warning Detectors to be deployed communicating with an upstream sign to provide warning of slow moving traffic. The messages shall be sent automatically to a PVMS within 60 seconds of detecting slow moving traffic.
- 5.4.2 The QWS host computer shall communicate with the vehicle detectors and shall send messages to the appropriate PVMS using NTCIP protocol based upon a pre-defined message set determined by the Owner. The system shall automatically send approved messages to the PVMS based upon user settable speed thresholds.
- 5.4.3 The QWS shall alarm the Contract Administrator in event of failed sign or detectors.
- 5.4.5 The QWS shall communicate with the Portable VMS using the NTCIP communication protocol (MIBs defined by sign vendor) defined for each device.
- 5.4.6 The QWS shall output the message content, traffic data and equipment status using an xml format or other approved format.

**5.5 Portable Variable Message Signs**

- 5.5.1 The quantity of PVMS to be used and placement of the QWS detectors and PVMS shall be as detailed in the contract documents and shall be confirmed with input from the Contract Administrator and Owner.

**6. EQUIPMENT – Not Used**

**7. CONSTRUCTION**

- 7.1 The Contractor shall conduct pre-installation test as part of acceptance of the equipment. This includes configuration and integration testing of the units with the communications equipment supplied under this Contract. The installation of the queue detectors will be paid under the deployment of portable queue warning detector item.
- 7.2 The Contractor shall install the queue detectors on the side of the highway in the locations provided in the deployment order process. The units shall be placed as not to be a traffic hazard as defined in OTM Book 7.



- 7.3 The Contractor shall set up and perform all system configuration necessary as part of the installation testing. The units shall be spaced as per the manufacturer’s recommendations. The speed data collected by each unit shall be verified and recorded as part of the onsite testing procedures.
- 7.4 The units shall be aimed to optimize the vehicle detection.
- 7.5 The Contractor to configure the IP address to allow for communications to the central QWS system and the signs. The Contractor shall install the cellular modems in each unit and confirm communications to the central QWS software system.
- 7.6 The Contractor is responsible for maintaining the battery charge at all times during the equipment deployment.
- 7.7 The Contractor shall perform integration testing of the unit to confirm compatibility with the Queue Warning System (QWS) central software.
- 7.8 The QWS shall be configured and the connection and control of the PVMS shall be demonstrated.
- 7.9 The QWS shall be calibrated to output a sign message based upon an agreed speed threshold. The threshold shall be approved by the Owner as part of the POP testing.
- 7.10 The remote message override shall be demonstrated using a web portal.
- 7.11 The Contractor shall provide detector data for the queue warning system and 24/7 operation of the system during the deployment period including technical support.
- 7.12 The Contractor shall remove the QWS from site following the completion of the deployment.

**7.12 Quality Control**

- 7.12.1 Contractor is responsible for all testing and documentation required to establish approval and acceptance of installation and operation of this equipment. The Terms and Conditions of the Special Provision "Quality Control, Testing and Documentation for ATMS Work" establish the framework of the approval process.
- 7.12.2 The Contractor shall validate compliance to the specifications during the Pre-Installation Testing procedures. This shall include demonstrating connection to the signs.
- 7.12.3 The Contractor shall prepare detailed test procedures demonstrating how each item will be tested including the test equipment requirements.

The following table details the clauses within this Special Provision, which are to be validated through the PIT and POP processes as indicated:

<b>CLAUSE</b>	<b>PIT</b>	<b>POP</b>	<b>SIT</b>
5.1.2	√	√	
5.1.3	√	√	
5.1.4		√	

CLAUSE	PIT	POP	SIT
5.1.5	√		
5.1.6	√		
5.2.1	√		
5.3.2	√		
7.2		√	
7.3		√	
7.5		√	
7.7		√	
7.8	√	√	
7.9	√	√	
7.10	√	√	

The POP procedures shall form the testing to be conducted as part of the deployment testing requirements.

**9. MEASUREMENT FOR PAYMENT**

Lump sum

**10. BASIS OF PAYMENT**

Payment at the Contract price for the above tender item shall be full compensation for all labour, Equipment, Material and Software required to do the work including supply, operation, testing and the production of documentation and test results.

**CONCRETE REMOVAL - PARTIAL DEPTH - TYPE A - Item No. 23, 27**

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Special Provision

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**Amendment to OPSS 928**

**928.01 SCOPE**

Section 928.01 of OPSS 928 is amended by the addition of the following:

The work of Concrete Removal – Partial Depth, Type A shall include:

- Removal of deteriorated or unsound concrete from the deck surface, and
- Removal of deteriorated or unsound concrete from the expansion joint end dams.

All shall be as indicated on the Contract Drawings and or as directed by the Contract Administrator.

The Contractor shall take particular care in concrete removal from the top surface of the deck in such a manner as to prevent punching through from occurring.

**CONCRETE REMOVAL - FULL DEPTH - Item No. 24, 28**

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Special Provision

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**Amendment to OPSS 928, April 2012**

**930.01 SCOPE**

Section 928.01 of OPSS 928 is amended by the addition of the following:

The work of Concrete Removal – Full Depth shall include:

- Full depth concrete removal of the deck to repair deteriorated concrete extending the full thickness of the deck slab.

All as shown on the Contract Drawings.

**CONCRETE PATCHES, PROPRIETARY PRODUCTS - Item No. 26, 30**

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Special Provision

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**CONSTRUCTION REQUIREMENTS FOR PATCHING COMPONENTS WITH PROPRIETARY PRODUCTS**

**1.0 SCOPE**

This specification covers the requirements for the surface preparation and placement of proprietary (rapid hardening) products used for the patching of concrete components.

**2.0 REFERENCES**

This specification refers to the following standards, specifications or publications:

**Ontario Provincial Standard Specifications, Construction**

OPSS 928                      Structure Rehabilitation - Concrete Removal

OPSS 929	Abrasive Blast Cleaning - Concrete Construction
OPSS 904	Concrete Structures
OPSS 930	Structure Rehabilitation - Concrete Patches, Refacing, and Overlays
OPSS 1350	Concrete - Materials and Production
CSA A23.2-3C	Making and Curing Concrete Compression and Flexural Test Specimens [Part of A23.1-19/A23.2-19 -Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete]

**3.0 DEFINITIONS**

**Cold Weather:** means those conditions when the ambient air temperature is at or below 10 °C. It is also considered to exist when the ambient air temperature is at or is likely to fall below 10 °C within 96 hours after completion of concrete placement. Temperature refers to shade temperature.

**4.0 DESIGN AND SUBMISSION REQUIREMENTS**

**4.01 Submission Requirements**

The Contractor shall provide the Contract Administrator with four copies of the manufacturer's specifications for placement of the patch material(s) at least one week prior to the placement of the material.

**4.01.01 Concrete Subject to Cold Weather**

For concrete that will be subject to cold weather, the Contractor shall submit temperature control plans and temperature records according to Temperature Control Plans and Monitoring clause of OPSS 904.

**4.02 Truck Mixers**

If a ready mixed truck is used for concrete mixing, the Contractor shall submit documentation from Ready Mixed Concrete Association of Ontario verifying the certification of trucks to be used for concrete mixing.

**5.0 MATERIALS**

The proprietary product(s) chosen must be:

1. HP-S10  
King Packaged Materials Company,  
541 Oak Park Road  
Brandtford, ON  
N3T 5L8

Phone: (519) 756-6177  
Fax: (519) 756-7490  
Toll Free: 1-800-265-8487

**5.05 Concrete**

Plastic concrete shall have air content of  $6 \pm 1.5\%$ , a minimum slump of 150 mm and a maximum slump of 230 mm.

Concrete temperature at the time of discharge shall be between 18°C and 25°C.

Concrete shall be free of lumps and segregation and shall have consistent slump throughout each load.

Hardened concrete in patches shall have a minimum compressive strength of 20 MPa before opening to traffic including construction traffic, and a minimum 28-Day compressive strength of 50 MPa.

Maximum rapid chloride permeability of concrete in patches at 28-32 Days shall be 1000 Coulombs.

Hardened concrete in expansion joint and patches shall have a minimum 3% air content and a maximum spacing factor or 0.230 mm.

Hardened concrete in patches shall have minimum tensile bond strength of 1.0 MPa before opening to traffic.

## **6.0 EQUIPMENT**

### **6.01 Hand Finishing Tools**

Hand finishing tools shall be according to OPSS 904.

### **6.02 Concrete Mixing Equipment**

Mixing equipment shall be according to the manufacturer's recommendations. If ready mixed trucks are used for mixing concrete, the trucks shall conform to the certification requirements of the Ready Mixed Concrete Association of Ontario.

## **7.0 CONSTRUCTION**

### **7.01 General**

The Contractor shall be responsible for concrete production.

Concrete production shall be according to the manufacturer's instructions and this specification.

Concrete shall not be placed when the ambient air temperature or existing concrete surface temperature is above 30°C or likely to rise above 30°C throughout the duration of the concrete placing operation.

The Contractor shall ensure that material is mixed sufficiently such that all material in the mixing drum is thoroughly mixed and homogeneous. No unmixed or dry material shall remain in the mixing drum before discharge. The Contractor shall ensure that no segregation or formation of lumps in concrete occurs. Under no circumstances shall concrete which is segregated or contains lumps be placed in the work.

The concrete shall be discharged within one (1) hour of completion of mixing.

Typical locations and areas of patches are as shown on the Contract Drawings; however, the actual locations and extent of repair shall be as determined during the layout of the repair areas according to OPSS 928 and as directed by the Contract Administrator

### **7.01 Access to Work Areas**

The Contractor shall provide adequate access to facilitate any inspection or measurement of the work by the Contract Administrator as specified in OPSS 928.

**7.02 Concrete Removal**

Concrete removal shall be according to OPSS 928.

**7.03 Surface Preparation**

Surface preparation shall be according to OPSS 930.

**7.04 Placing Proprietary Product**

Placement of proprietary product shall be according to Placing of Concrete clause of OPSS 930.

The Contractor shall schedule and plan their operations such that placement of concrete is completed within the timing constraints of the Contract Documents. This may require, but is not limited to:

- Use of cold weather protection

Not more than one (1) hour before placement of the proprietary product, all surfaces against which the product is to be placed shall be air blasted clean to remove all sand, dust and debris.

The treatment of deck patch and joint blockout areas with a bonding agent and the mixing, placing, finishing and curing of the proprietary product, shall be done according to the manufacturer's recommendations.

**7.05 Consolidation**

Consolidation shall be according to Consolidation clause of OPSS 904.

**7.06 Concrete Finishing**

Concrete finishing shall be according to Concrete Finishing clause of OPSS 904.

**7.07 Surface Tolerance**

The surface tolerance shall be according to Surface Tolerance clause of OPSS 904.

**7.08 Curing**

Concrete shall be cured with burlap and water according to Curing with Burlap and Water clause of OPSS 904 for no less than 24 hours and wet curing shall continue until the concrete is opened to traffic.

When the ambient air temperature falls below 20°C during curing period, the Contractor shall take measures to control the ambient air temperature, such that an ambient air temperature of 21°C ± 3°C is maintained for the entire curing period.

**7.09 Control of Emissions and Management of Excess Material**

The Contractor shall control emissions and manage excess materials according to the Contract Documents.

**7.10 Field Testing**

Casting, curing, transportation and testing of hardened concrete shall be according to OPSS 1350 except as specified below.

Testing of plastic concrete shall be according to Testing of Plastic Concrete and Frequency of Testing Slump, Air Content, and Temperature clauses of OPSS 1350.

The contractor shall be responsible for making, curing and transportation of specimens to the Regional Quality Assurance laboratory for testing of compressive strength, rapid chloride permeability, air void system, and linear shrinkage by the Owner. When tensile bond testing is carried out, the cores shall be removed and provided to the Contract Administrator for the use of the Owner.

For testing compressive strength, rapid chloride permeability, and air void system, the lot size shall be according to OPSS 1350. For tensile bond strength, the lot size shall be according to OPSS 930.

The Contractor shall cast 100mm diameter and 200mm long cylinders for compressive strength determinations per lot. The Contractor shall cast twelve (12) cylinders for strength determinations at 10 hours, 48 hours, and 28 Days, including three referee cylinders to be used for verification of 28-Day compressive strength. A compressive strength result will be an average of three cylinders. Additional cylinders for early age compressive strength determination can be cast at the Contractor's option.

The Contractor shall remove two (2) cores per lot from the hardened concrete for rapid chloride permeability testing by the owner.

The Contractor shall remove two (2) cores from the hardened concrete per lot for air void system analysis.

The tensile bond strength testing shall be carried out on three (3) in-situ cores taken within 1 m of each other for each lot according to Material Sampling and Testing and Testing - Tensile Bond Strength clauses of OPSS 930 except as specified below. The testing of concrete at 7-10 days of age for tensile bond does not apply. The core locations shall be randomly selected by the Contract Administrator. Additional testing shall not be permitted.

## **8.0 QUALITY ASSURANCE**

Subsequent to the patching operation, the Contract Administrator will inspect the work to determine if the completed work contains:

- a) Debonded areas
- b) Open or torn surfaces
- c) Cracks wider than 0.3 mm
- d) Full depth cracks
- e) Surface finish not complying with contract requirements or unsuitable for intended application.

The areas containing the above unacceptable defects shall be removed and replaced.

Acceptance of concrete compressive strength shall be according to OPSS 1350, method B.

Acceptance of rapid chloride permeability and air void system shall be according to OPSS 1350.

Acceptance of tensile bond strength shall be according to OPSS 930.

**9.0 MEASUREMENT FOR PAYMENT**

Measurement for the placement of the proprietary product shall be by volume in cubic metres measured to the nearest 0.001 m3.

The final quantity will be calculated by adding the volumes of the individual patched areas and rounded to the nearest 0.01 m3.

**10.0 BASIS OF PAYMENT**

**10.01 Concrete Patches - Proprietary Products - Item**

Payment at the Contract price for the above tender item shall be full compensation for all labour, Equipment and Materials to do the work.

When the Contract contains a separate item for access to the work area, payment shall be at the Contract price for such work.

Any expenses for remedial work to correct defects described in the Quality Assurance section shall be borne by the Contractor.

**10.02 Concrete Removal - Item**

Payment for concrete removal shall be according to OPSS 928.



**SCHEDULE OF MATERIALS TO BE SUPPLIED BY THE OWNER**

Pursuant to Subsection GC 5.01, Supply of Material, this Special Provision lists all the Materials to be supplied by the Owner:

- (A) The Owner supplies the following Materials F.O.B. haulage vehicles at a point within the Working Area. Deliveries to the Working Area shall be as requested by the Contractor but subject to the approval of the Contract Administrator:**

Nil

The Contractor shall complete Owner’s Standard Form PH-CC-765 "Contract Material Delivery Schedule", detailing the Contractor's required delivery date for each item of Material to be supplied by the Owner.

The form shall be completed in triplicate and returned to the Team Lead, Contract Tendering Section within the time limit specified by the Owner in a letter to the Contractor.

At any time following the required delivery date which the Contractor enters in Form PH-CC-765 for each item of Material, the Contractor shall either accept delivery of that Material when required by the supplier or shall make alternative arrangements satisfactory to the supplier which do not result in any additional cost to the Owner.

- (B) The Owner supplies the following Materials as indicated below:**

<u>Material</u>	<u>Quantity</u>	<u>Supply Point</u>
Contract Information Signs	4 each	Marysville Patrol Yard, Lot 33, Conc. 1, Tyendinaga Township

This Special Provision shall take precedence over all other Special Provisions with respect to the supply of the above materials.

THE CONTRACTOR SHALL SUPPLY ALL OTHER MATERIALS FOR THIS CONTRACT.

**SECTION B  
FAIR WAGE PROGRAM**

**Labour Conditions for Road Building Contracts  
(Classifications and wage rates listed in attached schedules)**

**DEFINITIONS**

1. In these Labour conditions,
  - (1) "Contract" means a Contract between \_\_\_\_\_ (Owner) Ministry/Crown Corporation/agent \_\_\_\_\_ and the Contractor for the Work at \_\_\_\_\_ (location).
  - (2) "Contractor" refers to  
\_\_\_\_\_  
(name of business)  
\_\_\_\_\_  
(business address)  
\_\_\_\_\_  
(business phone no./fax no.)
  - (3) "Employee" means a person in the employ of the Contractor a Sub-Contractor or any other person doing or contracting to do the whole or any part of the Work contemplated by this Contract.
  - (4) "Employer" means the Contractor, and/or any of the Contractor's Sub-Contractors, who has control or direction of, or is directly or indirectly responsible for, the employment of a person therein.
  - (5) "Fair Wage" or "Fair Wage Rates" means the respective wage rates listed in the attached Schedule(s), or any revisions from time to time, for each classification of labour.
  - (6) "Owner" refers to the ministry, crown corporation or agent named in subsection (1) as one of the contracting parties of the Contract.
  - (7) "Provincial Zone" means a geographic area in the Province of Ontario which is designated by the Ontario Ministry of Labour from time to time as non-urban, for the purpose of establishing the Fair Wage Rates.
  - (8) "Regular rate" means
    - (a) the hourly rate paid to an Employee for her/his normal non-overtime work week; or

- (b) in the case of an Employee to whom clause (a) does not apply, the amount obtained by dividing her/his total earnings for the week by the number of hours he or she worked in the week;
- (9) "Sub-Contractor" means any person, firm or corporation having a Contract for the execution of a part or parts of the Work included in the Contract, or a person, firm or corporation furnishing material called for in the Contract and worked to a special design according to the Contract but does not include one who merely furnishes material not so worked.
- (10) "Urban Zone" means a geographic area in the Province of Ontario which is designated by the Ontario Ministry of Labour from time to time as urban, for the purpose of establishing the Fair Wage Rates.
- (11) "Work on roads" means the preparation, construction, finishing and construction maintenance of roads, streets, highways and parking lots and includes all work incidental thereto other than work on structures.

"Work on structures" means the construction, reconstruction, repair, alteration, remodelling, renovation or demolition of any bridge, tunnel or retaining wall and includes the preparation for and the laying of the foundation of any bridge, tunnel or retaining wall and installation of equipment and appurtenances incidental thereto.

The Ontario Minister of Labour may at his or her sole discretion determine whether any particular work is to be classified as work on roads or as work on structures and such decision may be made notwithstanding the definitions in subsection (11).

## **GENERAL**

2. (1) These Labour Conditions are subject to the Employment Standards Act and the regulations made thereunder.
- (2) These Labour Conditions are intended for application primarily to work on the Contract site. Work that is carried out at sites that are not in the immediate vicinity of the Contract site or that are not used exclusively for the purposes of Contracts including municipal contracts containing similar Labour Conditions will not be subject to these Labour Conditions.

## **HOURS OF WORK -- GENERAL**

3. (1) Subject to section 4, the regular work week for a person employed on work on roads being done under this Contract or any other Contract subject to these or similar Labour Conditions shall not exceed fifty-five hours and all time worked by such person in excess of fifty-five hours a week shall be overtime.
- (2) Subject to section 4, the regular work week for a person employed on work on structures being done under this Contract or any other Contract subject to these or similar Labour Conditions shall not exceed forty-four hours and all time worked by such person in excess of forty-four hours a week shall be overtime.

**HOURS OF WORK -- PROVINCIAL ZONE**

4. (1) The regular work week for a person employed on work on roads being done in the provincial zone under this Contract or any other Contract subject to these or similar Labour Conditions shall not exceed fifty-five hours and all time worked by such person in excess of fifty-five hours a week shall be overtime, except that part of the hours of work in excess of fifty-five hours a week which, together with the hours worked in the preceding week, do not exceed fifty-five hours in that preceding week, but in no case shall the number of hours that can be included in the hours of work for that preceding week exceed twenty-two hours.
- (2) The regular work week for a person employed on work on structures being done in the provincial zone under this Contract or any other Contract subject to these or similar Labour Conditions shall not exceed fifty hours and all time worked by such person in excess of fifty hours a week shall be overtime, except that part of the hours of work in excess of fifty hours a week which, together with the hours worked in the preceding week, do not exceed fifty hours in that preceding week, but in no case shall the number of hours that can be included in the hours of work for that preceding week exceed twenty-two hours.

**WAGES AND OVERTIME PAY**

5. (1) Every person employed by the Contractor or a Sub-Contractor or other person to do any part of the work contemplated by this Contract shall be paid while employed on such work not less than the wage rate set out in the Roads and Structures Fair Wage Schedule for the appropriate classification of such work or not less than such other wage rates as, during the continuance of the work, are fixed by the Ontario Minister of Labour for hours of work that are not overtime.
  - (2) The Fair Wage rates apply to work performed under a Contract let by a ministry of the Ontario government, a corporation established under the Capital Investment Planning Act, 1993, a third party acting on behalf of the Ontario government as its agent, or a municipality receiving funding from the Ontario government for work performed in this Contract.
  - (3) The wage rates set out in the Roads and Structures Fair Wage Schedule are subject to change periodically.
  - (4) Any increase in costs incurred by a change in the wage rates referred to in subsection (3) shall be borne by the Contractor.
6. (1) For Urban Zones only, Fair Wage Rates represent 85% of the union rate established in the specific zone for the respective classification, as determined by the Ontario Ministry of Labour from time to time, plus 15% in lieu of non-statutory benefits.
  - (2) In Urban Zones, employers may pay a portion of the Fair Wage Rates, up to a maximum of 15% of the applicable Fair Wage Rate, to their Employees in non-statutory benefits, and the remainder of not less than 85% of the Fair Wage Rate shall be paid to these Employees in wages.
  - (3) In the Provincial Zone, employers shall pay their Employees the full amount (100%) of the Fair Wage Rates in wages, exclusive of non-statutory benefits.

- (4) In the event that an Employer is performing Work in an Urban Zone and it chooses to pay a portion of the Fair Wage Rates to its Employees in non-statutory benefits, the Contractor must inform the Owner, prior to commencing the Contract or the relevant sub-contract, as to the total cost of such non-statutory benefits to the Contractor, and/or its Sub-Contractor where a Sub-Contractor has elected to provide these non-statutory benefits. The cost of any non-statutory benefit paid to Employees shall be calculated in accordance with subsection (6).
  - (5) Upon informing the Owner as to its selection in accordance with subsection (2), the Contractor shall provide documentation to the Owner, prior to commencing the Contract or relevant sub-Contract, to sufficiently substantiate, in the Owner's opinion, the total cost of the all non-statutory benefits to the Contractor and/or respective Sub-Contractor.
  - (6) The cost to the Contractor, and/or a Sub-Contractor, of any non-statutory benefit shall be calculated on the basis of the total weekly cost to the Contractor/Sub-Contractor of each non-statutory benefit provided to Employees divided by forty-eight (48). The total cost of all non-statutory benefits equals the sum of the costs of each non-statutory benefit provided to Employees.
  - (7) Where the documentation is not provided to the Owner in accordance with subsections (5) and (6), the Contractor and/or relevant Sub-Contractor is responsible for paying its Employees the full amount (100%) of the Fair Wage Rates in wages, exclusive of non-statutory benefits.
  - (8) Notwithstanding subsection (7), where the Contractor fails to inform and/or provide such documentary proof to the Owner as required by subsections (4) (5) and (6) and the Contractor or any of its Sub-Contractors proceeds to pay a portion, up to a maximum of 15%, of the Fair Wage Rates in non-statutory benefits, the Owner may withhold payments under the Contract until such time as the Owner is satisfied that the Employees have received their Fair Wages.
  - (9) Once an Employer has made its selection pursuant to subsection (2), it shall continue to pay its Employees in accordance with its initial selection for the entire duration of the Contract and/or relevant sub-contract.
- 7.
- (1) Every person employed by the Contractor or a Sub-Contractor or other person to do any part of the work contemplated by this Contract shall be paid while employed on such work one and one-half times his or her regular rate for all hours of work that are overtime.
  - (2) Notwithstanding that a Contractor, Sub-Contractor, or other person pays wages in excess of the wage rates set out in the Roads and Structures Fair Wage Schedule, the Contractor, Sub-Contractor or other person shall not, in computing overtime wages payable to an Employee, set off against such overtime wages any part of the wages earned by the Employee in respect of their regular work period.
  - (3) Where a person is working on more than one Contract that is subject to these conditions, including any municipal Contract that contains similar labour conditions, the regular work week and the entitlement to overtime for that person shall be based upon the total hours worked on all such Contracts and if, on this basis, overtime is worked on this Contract the Contractor shall pay such person at the overtime rate and no waiver by that person of this entitlement to overtime wages and no interposition of a third party by way of an employment agency or as the nominal employer of that person shall relieve the Contractor of the obligation to pay that person the overtime wages.

8. Travelling time will not be subject to the Fair Wage Schedule. The hours and wages or moneys paid for travelling time are to be deleted from the wage record of an Employee in computing his or her wage entitlement.
9. The amount of room and board allowance will be negotiated between the employer and Employee, but in no case shall the amount of wages paid to an Employee net of the allowance be less than the amount the Employee would be entitled to receive if he or she was paid the minimum wage set out in the regulations under the Employment Standards Act less the amount of room and board allowance prescribed in those regulations.

#### **CLASSIFICATION OF WAGE RATES**

10. For the purpose of this Contract, the following interpretations apply:
  - (1)
    - (a) Employees, other than students, learning to operate equipment are classified as "apprentice equipment operators" during their first three months operating equipment which does not require a licensed operator or during their first eighteen months operating equipment which requires a licensed operator.
    - (b) The wages for apprentice equipment operators are as follows:
      - (i) Windsor Zone - wage rate for Cement Improver;
      - (ii) Hamilton Zone - wage rate for Asphalt Raker;
      - (iii) Toronto Zone - wage rate for Asphalt Raker;
      - (iv) Ottawa Zone - wage rate for Skilled Labourer;
      - (v) Provincial Zone - wage rate for Skilled Labourer.
  - (2) Employees other than an operator are to be classified as "Pile Driver Operators" and shall be entitled to the wage rate for "Labourer - Structure Section".
  - (3) Employees engaged as Gravel and Chip Spreaders shall be paid the wage rate of Equipment and Maintenance Operator, Group "B".
  - (4) The attachment for a farm or industrial tractor must be power operated and be an integral part of the tractor.
  - (5)
    - (a) Students employed as flagpersons or watchpersons shall be entitled to the wage rate for those classifications.
    - (b) Students performing work in positions that are classified in the Fair Wage Schedule, other than flagpersons or watchpersons, shall be entitled to receive the student rate, notwithstanding the rate set out in Schedule for the classification applicable to the work.
    - (c) Students employed for more than three months in a classified position shall then be entitled to the wage rate for that classification.
    - (d) Students performing work in positions that are not classified in the Fair Wage Schedule shall be entitled to receive the student rate, regardless of the location of the Contract.

**DISCRETION OF THE MINISTER OF LABOUR**

11. (1) The Ontario Minister of Labour may decide that special circumstances exist which make it expedient for him/her to decide:
  - (a) what the current or fair and reasonable wage rates for overtime are; and/or
  - (b) the proper classification of any Work for the purposes of wages and hours.
- (2) The Contractor and Sub-Contractor(s), upon receipt of notice of any decision of the Ontario Minister of Labour, shall adjust accordingly the wage rates, hours, classification of Work so as to give effect to such decision.

**CONTRACTOR'S OBLIGATIONS**

12. The Contractor must comply with the requirements set out in these Labour Conditions.
13. (1) The Contractor shall post and keep posted these Labour Conditions, and the applicable Road and Structure Fair Wage Schedule, and any revisions thereto, in a conspicuous place on the Site.
  - (2) The Contractor shall ensure that the posted applicable Schedule includes a breakdown of the wages and non-statutory benefits paid to the Employees of the Contractor and each Sub-Contractor electing to pay the Fair Wage Rates in accordance with Section 6(2).
14. (1) The Contractor shall keep proper records showing the names, trades and addresses of all of the Contractor's Employees who perform any part of the work contemplated by this Contract and the wages paid to and time worked by them, as well as the Contractor's costs for all non-statutory benefits where the Contractor chooses to pay its Employees Fair Wages in accordance with Section 6(2).
  - (2) The records referred to in subsection (1) shall be kept separate from any records concerning Employees of the Contractor who do not perform any part of the work contemplated by this Contract.
  - (3) The records referred to in subsection (1) shall be kept in the Province of Ontario and made available for inspection by the Owner's Representative upon request, whether or not any Employee has complained that he or she is not being paid in accordance with section 6.
15. The Contractor shall deliver to the Owner's representative an affidavit or declaration attesting to the Contractor's compliance with these labour conditions accompanying the final invoice to be delivered under this Contract.

**CONTRACTOR'S OBLIGATION WITH RESPECT TO SUB-CONTRACTORS**

16. (1) The Contractor is responsible for ensuring that Sub-Contractors under the Contractor and any other persons doing or contracting to do the whole or any part of the work contemplated by this Contract under the Contractor comply with these Labour Conditions.
  - (2) The Contractor must provide all Sub-Contractors with a copy of these Labour Conditions and the applicable Schedule before any work is performed by the Sub-Contractor.

17. Without restricting the generality of Section 16(1), if any Sub-Contractor under the Contractor or any other person doing or Contracting to do the whole or any part of the work contemplated by this Contract under the Contractor fails to pay wages to an Employee of the Sub-Contractor or other person in accordance with section 6, the Contractor shall pay directly to the Employee, regardless of whether or not monies are still owed by the Contractor to the Sub-Contractor, the difference between the amount of wages that the Employee was paid by the Sub-Contractor or other person and the amount of wages that he or she would have been paid had the Sub-Contractor or other person paid wages in accordance with section 6.
18. The Contractor shall, in any Contract with a Sub-Contractor or other person doing or contracting to do the whole or any part of the work contemplated by this Contract who employs an Employee, require the sub-Contractor or other person,
  - (a) to pay the Employee in accordance with section 6 of these labour conditions;
  - (b) to keep proper records showing the names, trades and addresses of all Employees who perform any part of the work contemplated by this Contract and the wages paid to and time worked by them, as well as the Sub-Contractors's costs for all non-statutory benefits where the Sub-Contractor chooses to pay its Employees Fair Wages in accordance with Section 6(2);
  - (c) to keep the records referred to in clause (b) separate from any records concerning Employees who do not perform any part of the work contemplated by this Contract;
  - (d) to keep the records referred to in clause (b) in the Province of Ontario and to make them available for inspection by the Contractor and/or the Owner's representative upon request, whether or not any Employee has complained that he or she is not being paid in accordance with section 6; and
  - (e) in any Contract with any other person doing or Contracting to do the whole or any part of the work contemplated by this Contract who employs an Employee, to require that other person to assume the same obligations in relation to his, her or its Employees as the Contractor is required by this section to require parties with whom the Contractor Contracts to assume in relation to their Employees.

### **CLAIM PROCEDURE**

19.
  - (1) Wage claims with respect to Contracts issued by the Owner should be made directly to the Owner's Representative.
  - (2) An Employee employed by the Contractor shall file his/her completed form regarding a Fair Wage complaint with the Owner's Representative at the earliest time but no later than forty-five (45) days following total completion of the Contract, as defined in the Construction Lien Act.
  - (3) An Employee employed by a Sub-Contractor shall file his/her completed form regarding a Fair Wage complaint with the Owner's Representative at the earliest time but no later than forty-five (45) days following total completion of the relevant sub-contract, as defined in the Construction Lien Act.



- (4) Third parties may assert a Fair Wage complaint on the Owner's prescribed form on behalf of an Employee where it is based on specific information.
- 20. In addition to, or alternately to Section 19, an Employee may file a lien claim for wages, in respect of a failure to comply with any requirements under Section 6, under the Construction Lien Act. These lien claims must be filed directly with the Owner.
- 21. Claims made with respect to Contracts issued by municipalities should be made directly to them under the provisions of the Construction Lien Act.

**OWNER'S RIGHT TO HOLD BACK**

- 22.
  - (1) If the Owner receives a complaint that an Employee is not being paid in accordance with section 6 or if Owner finds that an Employee is not being paid in accordance with section 6, the Ministry may withhold from any money that it owes to the Contractor an amount equal to the amount that the complainant alleges is owing or that the Owner has found to be owing to the Employee.
  - (2) Subsection (1) applies even though the Employee is not the Employee of the Contractor.
  - (3) The Owner is not required to disclose the identity of a complaining Employee unless the Owner finds that the Employee has not been paid by his or her employer in accordance with section 6 and that Employee is the only Employee of the employer who has not been so paid.
  - (4) An amount withheld under subsection (1) because the Owner received a complaint that an Employee was not being paid in accordance with section 6 will be paid to the Contractor if,
    - (i) the Owner finds that the Employee was in fact being paid in accordance with section 6; or
    - (ii) the Owner finds that although the Employee was not being paid in accordance with section 6, the Employee has subsequently been paid the difference between the amount of wages that he or she had been paid and the amount of wages that he or she would have been paid had he or she been paid in accordance with section 6.
  - (5) If the Owner has found that an amount is owing to an Employee, and that amount has not been paid within 105 days of the completion of the work to be performed under this Contract, the amount withheld may be forfeited to the Crown at the discretion of the Owner in which case the entitlement of the Contractor under this Contract is reduced by the amount forfeited.

FAIR WAGE SCHEDULE  
ROADS AND STRUCTURES CONSTRUCTION, ONTARIO  
PROVINCIAL ZONE

ROAD BUILDING SECTION

CLASSIFICATION OF LABOUR	Fair Wage Rate Per Hour not less than:
	Effective Date: April 1, 1995
LICENSED OPERATORS	\$13.83
LICENSED MECHANICS AND WELDERS, CLASS "A"	12.99
EQUIPMENT AND MAINTENANCE OPERATORS, GROUP "A"	12.85
EQUIPMENT AND MAINTENANCE OPERATORS, GROUP "B"	12.20
SKILLED LABOURERS	11.69
TRUCK DRIVERS - Tow Tractor Operators - Rollermen (Grade)	11.48
LABOURERS	11.19
FLAGPERSON	9.40
WATCHPERSON	9.40
STUDENTS (registered in day school)	9.04

STRUCTURE SECTION

CARPENTERS, FORM BUILDERS	13.83
RODMEN, CONCRETE FINISHERS, PAINTERS	12.69
STRUCTURE LABOUR OPERATIONS	11.34
STRUCTURAL TRAINEES	11.48

CLASSIFICATION DEFINITIONS:

Licensed Operators: Includes Shovel, Clam, Gradall, Backhoe, Dragline, Piledriver Operator.

Equipment and Maintenance Operators, Group A: Includes Mechanic and Welder, Class B, Rollerman - Asphalt, Burnerman, Powerman, Boiler Engineer (with papers). Float Driver (over 25 tons), Concrete Paver (over 1 cu. yd.), Bulldozer (75 Drawbar HP and over), Grader, Class A (Finished Grading), Front End Loader (1-1/2 yds. and over), Scraper, Crusher, Asphalt Spreader Operator.

Equipment and Maintenance Operators, Group B: Includes Boiler Fireman, Mixerman, Float Driver (25 tons and under), Front End Loader (under 1-1/2 yds.) Grader, Class B (Gravel and other Grading), Farm and Industrial Tractor with Power Attachments, Driller (Air Track), Bulldozer (under 75 Drawbar HP) Operator.

Skilled Labourers: Includes Air Tool Operator, Asphalt Raker, Form Setter, Pipe Layer, Screedman.

Structure Labour Operations: Includes Labourers on Structures.

Structural Trainee: Means an Employee who is enrolled in the Ontario Road Builders Association Pilot Training Programme.

**SECTION C  
LIQUIDATED DAMAGES**

**Fixed Completion Date and Charges**

**1. Time**

Time shall be of the essence for carrying out and completing the Work.

**2. Progress of the Work and Time for Completion**

The Contractor shall complete this Contract in its entirety by **12 Nov 2021**.

If the time limit specified above is not sufficient to permit completion of the Work by the Contractor working a normal number of hours each Day or week on a single daylight/night shift basis, it is expected that additional and/or augmented daylight and night shifts will be required throughout the life of the Contract to the extent deemed necessary by the Contractor to ensure that the Work will be completed within the time limit specified. Any additional costs occasioned by compliance with these provisions will be considered to be included in the prices bid for the various items of work and no additional compensation will be allowed therefore.

**3. Liquidated Damages**

It is agreed by the parties to the Contract that in case all the Work called for under the Contract is not finished or completed within the date of completion specified aforementioned or as extended according to subsection GC3.06, Extension of Contract Time or Interim Completion Dates, of MTO General Conditions of Contract, November 2016, a loss or damage will be sustained by the Owner. Since it is and will be impracticable and extremely difficult to ascertain and determine the actual loss or damage which the Owner will suffer in the event of and by reason of such delay, the parties hereto agree that the Contractor will pay to the Owner the sum of **\$1,500.00** as liquidated damages for each and every Day's delay in finishing the Work beyond the date of completion prescribed. It is agreed that this amount is an estimate of the actual loss or damage to the Owner which will accrue during the period in excess of the prescribed date of completion.

The Contractor shall incur interest on Liquidated Damages and pay such interest in accordance with GC 7.19. For greater certainty, the Owner may also retain interest charges from monies owing to the Contractor under GC 8.02.04.11 (Owner's Set-Off).

ASSISTANT DEPUTY MINISTER,  
TRANSPORTATION INFRASTRUCTURE MANAGEMENT DIVISION  
MINISTRY OF TRANSPORTATION, ONTARIO