

DESIGNATED SUBSTANCES REPORT

R.074878.204

ALEXANDRA BRIDGE STRUCTURAL STEEL REPAIRS FOR PIERS 2 AND 3 AREAS

2016-01-15

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1- Introduction

On October 26th, 2015 the *Canada Labour Code* – Building Environment Unit (CLC-BE) of Public Works and Government Services Canada (PWGSC) was retained by Melanie May, Project Management Officer, Major Crown Projects, at PWGSC's Real Property Branch (RPB) to complete a site-specific Designated Substance Report (DSR) for coating piers 2 and 3 areas of the Alexandra Bridge, Ontario section.

The DSR scope of work included the assessment of all project areas for the presence of the eleven (11) Designated Substances as identified in the Ontario *Occupational Health and Safety Act*.

Designated Substances, as identified in the Ontario Regulation Ontario 490/09 "Designated Substances", as amended, under the Ontario *Occupational Health and Safety Act* are:

- Acrylonitrile;
- Arsenic;
- Asbestos (both friable and non-friable);
- Benzene;
- Coke Oven Emissions;
- Ethylene Oxide;
- Isocyanates;
- Lead;
- Mercury;
- Silica; and
- Vinyl Chloride.

Other Hazardous Materials, which are not classified as Designated Substances, but were included as part of the DSR scope of work include:

- Polychlorinated Biphenyls (PCBs); and
- Halocarbons.

2- Regulatory Requirements

According *Canada Labour Code* under Part II, Section 124 every employer shall ensure that the health and safety at work of every person employed by the employer is protected. Furthermore, Section 125(1)(z.14) of the *Canada Labour Code* stipulates that the employer, to the extent that the employer controls the activity, will take all reasonable care to ensure that all persons granted access to the work place, other than the employer's employees, are informed of every known or foreseeable health and safety hazard to which they are likely to be exposed in the work place.

A DSR is required to meet the requirements of Section 30 of the *Ontario Occupational Health and Safety Act, Revised Statutes of Ontario, 1990, Chapter O.1*. By having a DSR completed, the Project Manager will be able to inform his or her employees, contractors, and tenants of any designated substances that may be present and possibly disturbed throughout the duration of the project. The *Ontario Occupational Health and Safety Act* also requires the DSR in order to identify designated substances that may be present within the project area. Polychlorinated Biphenyls (PCBs) and halocarbons have also been considered in order to identify the need to comply with appropriate Environmental legislation.

3- Project Scope of work

The purpose of this project consists of coating the piers 2 and 3 of the Alexandra Bridge in Ontario section.

4- Background Information Review

Prior to the commencement of field work, CLC-BE reviewed a past bulk sampling documentation, as pertinent to the project areas. As part of the project, CLC-BE reviewed the following:

- Designated Substances Report for the Alexandra Bridge Zone Painting Project at the Alexandra Bridge, Gatineau, Quebec, completed by CLC-BE on July 03, 2012.

5- Methodology

The on-site survey for this report was conducted by CLC-BE on November 16th, 2015. No other areas outside the defined work boundaries have been assessed.

6- Findings

Based on information from the DSR produced in 2012, the actual visual inspection does not include the collection of bulk sample of suspected asbestos containing-materials and bulk sample of suspected lead-containing materials from the project areas.

6-1 Acrylonitrile

Not identified in the project areas.

6-2 Arsenic

Not identified in the project areas.

6-3 Asbestos

Not identified in the project areas.

6-4 Benzene

Not identified in the project areas.

6-5 Coke Oven Emissions

Not identified in the project areas.

6-5 Ethylene Oxide

Not identified in the project areas.

6-7 Isocyanates

Not identified in the project areas.

6-8 Lead

Identified in the DSR produced in 2012 in the project areas.

Table 1 summarizes the analytical results of the paint samples collected in 2012 from beams 13C; 14C and 15C that were analyzed for lead content.

Table 1: Lead Paint Sample results by inductively couple plasma-mass spectrometry (ICP-MS) method

Sample Number	Description	Location	Lead Content (ppm)
ALEX-Pb-1	Dark grey/green paint	Beam 13C	130
ALEX-Pb-2	Grey paint	Beam 14C	n/d
ALEX-Pb-3	Dark grey/green paint	Beam 15C	110

Bold items exceed the 90 ppm limit for lead, as per Hazardous Products Act's *Surface Coating Materials Regulations* SOR/2010-224

n.d.: None detected

Laboratory analysis results indicate that lead content in the dark grey/green paint samples collected from beams 13C and 15C of the Alexandra Bridge is greater than 90ppm. This paint was observed to be similar to the one applied to piers 2 and 3; it is considered to have a lead content of potential concern, as per the Hazardous Products Act's *Regulations Amending the Surface Coating Materials Regulations* SOR/2010-224.

Furthermore, all of the existing bridge surfaces have already been covered with paint containing lead. Although the vast majority of this painting has been removed during the previous repainting projects, the contractor must consider in his bid that the items affected by the work, particularly the structure assemblies, are likely to be covered in whole or in part, by one or more coats of high levels of lead containing high concentrations of lead or present debris accumulations containing high lead content. The Report "*DSR-Letter-Alexandra Zone Coating for piers 2 and 3*" should be consulted for lead concentrations details found in the collected samples.

6-9 Mercury

Not identified in the project areas.

6-10 Silica

Not identified in the project areas.

6-11 Vinyl Chloride

Not identified in the project areas.

6-12 Polychlorinated Biphenyls (PCBs)

Not identified in the project areas.

5-13 Halocarbons

Not identified in the project areas.

7- Conclusions and Recommendations

6.1 LEAD

1. Comply with Ontario Regulations *O, Reg. 490/09 (as amended)* while performing works that may disturb lead-containing materials.
2. Follow recommendations provided in the Ontario Ministry of Labour (MoL) Guideline entitled "*Guideline: Lead on Construction Projects*". This document classifies all disturbances of lead-

containing materials as Type 1, Type 2a, Type 2b, Type 3a or Type 3b work, based on presumed airborne concentrations of lead generated during the work each of which will have defined work practices. Although this document is not a regulation, Ministry of Labour Inspectors uses it as guidance during site inspections.

3. Disposal of construction waste containing lead must be done in accordance with “General – Waste Management” *O.Reg. 347/90 (as amended)* under the *Ontario Environmental Protection Act* and the federal *Transportation of Dangerous Goods Act*.

8- Limitation of report

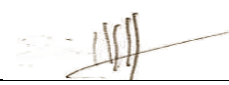


The visual inspection was limited to readily accessible areas. Should any suspected substances be encountered in the course this renovation work, work shall be stopped, precautionary measures taken, and the Departmental Representative notified immediately. Do not proceed until written instructions have been received.

This final report titled:

**Designated Substances Report
Alexandra Bridge Areas Coating Project,
Ottawa, Ontario**

2016-01-15

has been reviewed by Member(s) in accordance with
the following Environmental Services (ES) Quality Management System criteria:

Criteria	Reviewer Signature/Date:
PTS-ES, CLC-BE Project Leader Meets quality for clarity, grammar and tone	 Cyprien Amani / 2016-01-15
PTS-ES, CLC-BE Senior Technical Advisor or Equivalent Meets quality for technical content and methodology Meets quality for clarity, grammar and tone Approval of recommendations	 El Houcine Faouzi / 2016-01-15
PTS-ES, CLC-BE Client Advisor, or Equivalent Verify On time, on scope, and on budget	 Laurent Lavergne / 2016-01-21

Professional and Technical Services
Environmental Services
NCA Operations
Real Property Branch