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# Building Exterior and Hardscape Management Plan

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Royal Centre  
1055 West Georgia Street

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## 1. Scope

Warrington PCI Management has created this Exterior Building and Hardscape Management Plan to encourage environmentally sensitive building exterior and hardscape management practices that provide a clean, well-maintained and safe building exterior while supporting high-performance building operations. All practices shall comply with applicable local regulatory requirements.

The following boundaries apply to this plan:

Physical boundaries: Royal Centre's exterior, site, and base building areas.

Programmatic boundaries: This plan affects all Royal Centre personnel, vendors, contractors, and tenants who work at Royal Centre and addresses the following site issues:

- Snow and ice removal
- Maintenance equipment used outside the building
- Cleaning of building exterior, sidewalks, pavement and other hardscape
- Application of paints and sealants on the building exterior

## 2. Goals

The program has been developed to meet the requirements of LEED Canada EB:O&M Credit SSc2 - Building Exterior and Hardscape Management Plan, should the property intend to pursue LEED certification. This Plan aims to address the health of building occupants and the environment by employing an environmentally sensitive, low-impact building exterior and hardscape management plan that helps preserve surrounding ecological integrity.

## 3. Resources for Implementation: Procedures, Strategies & Performance Measurement

Royal Centre's low-impact site and green building exterior management plan addresses the overall site management of chemicals, snow and ice removal, and building exterior cleaning and maintenance. It includes green cleaning and maintenance practices and materials that minimize environmental impacts.

### 3.1 **Maintenance Equipment – Use low impact equipment and reduce use to minimum levels while maintaining public safety**

Sweepers, pressure washers, and other equipment used to clean and maintain hardscapes, landscaping, or the building exterior consume fossil fuels, can generate

significant emissions, and often produce a great deal of noise. Efforts will be employed to minimize these impacts by specifying that:

- Use of powered equipment will be minimized when possible;
- Powered maintenance equipment shall operate with a sound level less than 70 dBA;
- Propane and gas powered equipment has high efficiency, low emissions engines;
- Battery powered equipment is equipped with environmentally preferable gel batteries;
- Powered equipment is ergonomically designed to minimize vibration, noise and user fatigue;
- A log is kept for all powered maintenance equipment that documents the date of equipment purchase, all repair and maintenance activities, and includes vendor cut sheets for each equipment model.

**PERFORMANCE MEASUREMENT:** All maintenance for powered equipment is logged and applicable requirements listed above are met for each piece of equipment.

### **3.2 Snow and Ice Removal – Choose lower impact snow and ice removal products and processes**

A low-impact ice prevention program shall be used at Royal Centre. The site shall reduce the need for de-icing chemical through the selective closing of sidewalks. In addition, mechanical removal strategies shall be used whenever possible by increasing the frequency of shoveling, brushing and plowing. Ice prevention, an environmentally preferable and proactive approach to de-icing, will entail applying a small amount of de-icer to hardscapes before a storm or heavy frost. Further strategies include the use of heating cables installed at the uncovered parking ramp. Chemicals used to melt ice, such as calcium chloride and sodium chloride, shall be avoided which produce chemical runoff and can be toxic to vegetation and local, aquatic ecosystems.

Minimize the use of sodium and calcium chloride as a de-icing chemical by specifying that when de-icing chemicals must be used, one of the following shall be used 100% of the time:

- Sodium acetate
- Potassium acetate
- Sodium formate
- Potassium formate
- Urea
- Calcium magnesium acetate (CMA)
- Carbohydrate based solutions
- Other low impact, chloride-free de-icing agents

Maintenance staff shall test de-icing chemicals to determine the most appropriate products and amounts. Storage of the de-icing chemicals shall follow the MSDS instructions. Application of de-icing products is to be tracked by snow removal contractors by weight or volume.

PERFORMANCE MEASUREMENT: 100% of the volume of all de-icing products applied are to conform to the standards outlined within this plan and shall be least toxic, as defined in the aforementioned list.x

### **3.3 Building Exterior Cleaning – Reduce frequency to minimum necessary**

Clean the building only as often as needed to maintain building and site appearance and safety, and use water and cleaning products efficiently to ensure that chemicals do not run into the sewer system.

Cleaning of adjacent sidewalks, pavement and other hardscapes shall use least-impact methods, such as using power washers sparingly and only as absolutely required. The focus is to reduce the amount of potable water for exterior cleaning purposes.

Minimize use of biodegradable and low-impact cleaning products whenever possible. Any cleaning products used on the building exterior should meet the requirements of the Green Cleaning Policy and follow applicable codes and standards, including Green Seal, Environmental Choice, and California Code of Regulations Title 17.

A summary of products currently used shall be documented. All Material Safety Data Sheets (MSDSs) shall be reviewed by management staff prior to product use on and kept on file.

PERFORMANCE MEASUREMENT: 100% of cleaning products used on the building exterior shall meet the requirements of EQ Credit 3.3, Green Cleaning: Purchase of Sustainable Cleaning Products and Materials.

### **3.4 Paints, Coatings, Adhesives and Sealants on Building Exterior**

Use environmentally preferable paints, coatings, adhesives and sealants for the building's exterior as a means of reducing harmful VOC emissions and to protect the health of workers. Apply adhesives, coatings, paints, sealants and sealant primers that meet the requirements of the Sustainable Purchasing Policy. This includes adhering to the VOC requirements of the most relevant standard:

- SCAQMD Rule #1168 Adhesives and Sealants;
- Green Seal 11 Paints and Coatings; or
- SCAQMD Rule #1113 Architectural Coatings

The MSDS for any products to be used on the building exterior shall be submitted to Warrington PCI Management and reviewed by management staff prior to commencing work. Quantities measured by weight, volume, or cost may serve as the performance metric.

PERFORMANCE MEASUREMENT: 100% of adhesives, coatings, paints, sealants and sealant primers shall meet the requirements above. The MSDS for all products used on the building exterior shall be submitted to Warrington PCI Management at least two weeks prior to commencing any work involving their use. If the proposed product(s) are deemed unacceptable, the contractor shall be responsible for identifying and submitting MSDSs for replacement products that comply with this policy. Products may only be used if they have been approved by Warrington PCI Management based on the applicable standards.

The property shall solicit information and feedback from their service contractors and incorporate new technologies into their contracts as necessary to continually improve their processes and reduce environmental impact. Any significant improvements or major changes to products or processes should be documented. The service contracts should then be appended to include any new services or equipment.

**4. Responsible Party**

Teams and individuals involved in activities pertaining to the Plan include the following:

Name / Position	Responsibilities
David Basford Property Manager Warrington PCI Management Tel: 604-602-4800 Email: dbasford@warringtonpci.com	Review the plan on an annual basis; review contractors' documentation related to program; solicit feedback on plan improvement.
Gordie Sangha Director, Client Services Bee-Clean Building Maintenance Tel: 604-230-2206 Email: gordie.sangha@beeclean.net	Maintain exterior hardscape; provide maintenance and repair logs for exterior maintenance equipment; snow removal and provide MSDS for de-icing products applied.

**5. Time Period**

This plan has been developed for the Warrington PCI Management portfolio as a part of the corporate sustainable effort and shall be reviewed annually.

This plan will be in effect for the duration of building operations until amended and/or replaced by a subsequent building exterior management policy.

## **6. Quality Assurance / Quality Control Process**

Warrington PCI Management shall ensure that the service providers follow their contracts and will review any discrepancies with the contractors to determine appropriate corrective actions (increased staff training, working with a new supplier, etc.).

In addition, Warrington PCI Management shall solicit feedback from contractors on potential program improvements such as new products or materials that help reduce environmental impacts.