



**Professional Engineers
Ontario**

Building Exterior & Hardscape (BEH) Plan

Professional Engineers Ontario (PEO)
40 Sheppard Avenue West, Toronto ON M2N 6K9

Goals:

- Implement Building Exterior & Hardscape Management at least 80% of the time.
- To minimize the impact of site management practices on the local ecosystem.
- To reduce the exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological, and particle contaminants.

Scope:

The Building Exterior & Hardscape (BEH) Management Plan is applicable to the entire exterior site of PEO located at 40 Sheppard Avenue West. The BEH Management Plan must address all the operational elements listed below:

- Maintenance Equipment
- Snow & Ice Removal
- Cleaning of Building Exterior
- Building Exterior Paints and Sealants
- Cleaning of Sidewalks, Pavement and Other Hardscapes

Responsible Party:

Role: Facility Manager - BLJC

Name: John Cookson

Position: Facility Manager

Telephone: 416-801-6136

E-mail: john.cookson@bljc.com

Key Tasks of Facility Manager:

- Develop and implement the BEH Management Plan.
- Ensure the success of the BEH Management Plan.
- Manage agreement and relationship with Bee Clean Building Maintenance
- Provide reporting, as required by this Policy.

Role: Snow and Ice Removal Company & Exterior Cleaning Company

Bee Clean Building Maintenance

Name: Meghan Sinclair

Position: District Manager

Telephone: 416-410-6181

Fax: 416-421-2688

E-mail: msinclair@bee-clean.com

Key Tasks of District Manager:

- Support Facility Manager in achieving the Goals of this Plan.
- Provide reporting, as required by this Plan.
- Provide up-to-date product literature outlining the environmental attributes of each product.



- Provide up-to-date equipment cutsheets.

Role: Exterior Cleaning Company (exterior Window Washing) – Summit Window Services Ltd.

Name: David W Swan

Position: VP – Director of Operations

Telephone: 416-535-6273

Fax: 416-674-8567

E-mail: summitwindowervicesltd@bellnet.ca

Key Tasks of VP- Director of Operations:

- Support Facility Manager in achieving the Goals of this Plan.
- Provide reporting, as required by this Plan.
- Provide up-to-date product literature outlining the environmental attributes of each product.
- Provide up-to-date equipment cut sheets.

Guidance for Resources & Implementation: N/A

1. Paints & Sealants

The application of exterior paints and sealants to the building’s exterior and/or hardscapes shall be coordinated by qualified vendors on an as needed basis in compliance with the following criteria:

- Green Seal Standard GS-11

Green Seal GS-11, 2nd Edition, 2008 for Exterior Paints and Coatings

Coating Type	VOC weight in g/L of product minus water
Non-Flat	200
Flat	100

APPROVED PAINTS & SEALANTS LIST			
Product Name	Manufacturer Name	VOC Content (g/L)	Product Literature Submitted (Y/N)
N/A			

2. Adhesives & Sealants

The application of exterior adhesives and sealants to the building’s exterior and/or hardscapes shall be coordinated by BLJC on an as needed basis in compliance with the following criteria:

- South Coast Air Quality Management District (SCAQMD) Rule 1168
- Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 51



<i>South Coast Air Quality Management District (SCAQMD) Rule 1168 for Exterior Adhesives and Sealants</i>		
Adhesive Type	Adhesive Name	VOC Limit (grams/litre)
Architectural	Indoor Carpet	50
	Carpet Pad	50
	Wood Flooring	100
	Rubber Floor	60
	Subfloor	50
	Ceramic Tile	65
	VCT & Asphalt Tile	50
	Drywall & Panel	50
	Cove Base	50
	Multipurpose Construction	70
	Structural Glazing	100
	Single Ply Roof Membrane	250
	Specialty	PVC Welding
CPVC Welding		490
ABS Welding		325
Plastic Cement Welding		250
Adhesive Primer for Plastic		550
Contact Adhesive		80
Special Purpose Contact Adhesive		250
Adhesive for Traffic Marking Tape		150
Structural Wood Member		140
Substrate Specific		Metal to Metal
	Plastic Foam	50
	Porous Material (Except Wood)	50
	Wood	30
	Fiberglass	80
Sealants	Architectural	250
	Non-Membrane Roof	300
	Roadway	250
	Single-Ply Roof Membrane	450
	Other	420
Sealant Primers	Architectural, Non-Porous	250
	Architectural, Porous	775
	Modified Bituminous	500
	Other	750



For Sealants Used As Fillers, Meet the Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 51

Architectural	250
Marine Deck	760
Roadways	250
Single Ply Roof Material Installation/Repair	450
Non-Membrane Roof Installation/Repair	300
Other	420

APPROVED PAINTS & SEALANTS LIST			
Product Name	Manufacturer Name	VOC Content (g/L)	Product Literature Submitted (Y/N)
N/A			

3. Snow & Ice Removal

40 Sheppard Avenue West’s snow and ice removal shall be coordinated by Bee Clean Building Maintenance on a regular basis in compliance with the following criteria:

- Use mechanical snow removal methods whenever possible.
- Plow sidewalks prior to the application of deicing agents to limit the amount of chemicals needed and reduce the potential for harmful runoff.
- Source products which are safe for accidental ingestion by humans or animals.
- Do not use de-icing agents with salt, chlorides, chemicals or dyes.
- Use de-icing products in either of the two following categories:
 - Made of hydrothermal volcanic mineral whose structure retains water, neutralizes ammonia and acts as a natural odor suppressant and fertilizer. Products can be applied in small quantities to large areas.
 - Made with combinations of potassium carboxylates, carbohydrates and corrosive inhibitors which mimic airline industry deicers and have a freezing point below -50°F. These products are often liquids and can be applied before and after ice/snow storms.
- Where no alternatives are available and de-icing chemicals must be used, use one of the following:
 - Sodium Acetate
 - Potassium Acetate
 - Sodium Formate
 - Potassium Formate
 - Urea
 - Calcium Magnesium Acetate (CMA)
 - Carbohydrate Based-Solutions
 - Other Low Impact Chloride Free de-icing agents



- Deicing agents other than those listed above shall be submitted for review and approval by Facility Manager prior to use.
- Application of de-icing agents shall be tailored to match actual conditions based on pavement temperature, precipitation, and beginning concentrations of the deicer or follow manufacturer recommendations.

APPROVED SNOW & ICE REMOVAL LIST			
Product Name	Manufacturer Name	Name of De-icing Agent in Product	Product Literature Submitted (Y/N)
Enviro Melt	Kissner Salts & Chemicals	Calcium Magnesium Acetate (CMA)	Y

4. Hardscape Maintenance

40 Sheppard Avenue West’s hardscapes shall be maintained by Bee Clean Building Maintenance on a regular basis using only manual methods of hardscape management. Should Bee Clean require electric-powered equipment to clean exterior hardscapes, the company shall comply with the following:

- Use gel batteries for battery powered equipment.
- Equipment operates with a sound level less than 70 dBA.
- High efficiency, low emissions engines for propane powered equipment.
- Ergonomically designed to minimize vibration, noise, and user fatigue.
- Perform regular maintenance as per manufacturer’s recommendations, including weekly oil and filter changes. Reuse all equipment oil.
- Annual inspect all equipment.
- Use biodegradable detergents for pressure washers.

APPROVED MAINTENANCE EQUIPMENT LIST			
Equipment Name	Manufacturer Name	Sustainable Criteria Met	Product Literature Submitted (Y/N)
Only manual equipment used			


5. Cleaning of Building Exterior, Sidewalks, Pavement & Other Hardscapes

40 Sheppard Avenue West’s exterior and hardscapes shall be cleaned by Bee Clean Building Maintenance on a regular basis in compliance with the following criteria:

- Electric-powered sweepers and manual tools in place of gas-powered equivalents.
- Low-impact, biodegradable, Green Seal or Environmental Choice-certified cleaning products with minimal chemical use.
- Product types not covered by the Green Seal or Environmental Choice Standards shall comply with the California Code of Regulations maximum allowable VOC levels for the appropriate product category.



- Reduce cleaning frequency, as applicable.
- Reduce the amount of cleaning product that is used, as applicable.
- MSDS and Technical Bulletins for all exterior maintenance products shall be filed in first floor janitorial room on the first floor. MSDS shall be available to the property manager and maintenance and cleaning personnel.
- Cleaning and maintenance personnel shall be trained in the use, maintenance and disposal of exterior cleaning chemicals and equipment.

SEQUENCE OF BASIC JOB STEPS – Window Cleaning	POTENTIAL ACCIDENT OR HAZARDS	RECOMMENDED SAFE JOB PROCEDURES
		
<p>1. Ensure that Log Book has current anchor inspections</p>	<p>Visual anchor inspections must take place every 12 months. Failed system may cause catastrophic failure of anchors and may cause a serious fall</p>	<p>- Inform site contact if Log Book must be updated with the most recent anchor inspection. No work is to commence without proof of inspection taking place in the last 12 months. - Review inspection report</p>
<p>2. Bring all applicable <i>Suspended Service Equipment</i> to roof surface</p>	<p>Risk of major injury if lifting with legs straight</p>	<p>- Bend to crouching position</p>
<p>3. Set-up <i>Suspended Access Equipment</i> on elevation that minimizes wind and the sun</p>	<p>Wind may cause <i>Suspended Service Technician</i> to swing outside the safe operating distance of fall arrest system.</p>	<p>- Work will not commence with strong winds or in the event of heavy rains, or if any thunder and lightning is in the area</p>



4. Ensure that all lines and safety gear is secure prior to descent	Catastrophic injuries can occur should fall arrest system not be used properly or incorrectly set-up	<ul style="list-style-type: none"> - Prior to commence of work perform a visual inspection of safety harness, lines, descent devices, rope grab and D Clips before each descent - Review training & certification records of all workers.
5. Ensure that reach does not exceed 1 meter left or right of Technician	Fail arrest system will not function properly as Pendulum effect may cause <i>Technician</i> to sustain major injuries as they may hit columns, wall, frames, or other objects in their path	<ul style="list-style-type: none"> - Technician must only clean those windows directly in front of him/her - Job supervision to conduct safety review check once per day, as per regulations
6. Ensure that proper signage is below worker	Pedestrians walking under <i>Suspended Service</i> area may receive injuries from falling debris or equipment	<ul style="list-style-type: none"> - Always move “Danger Work Overhead” signs to your next drop location after each descent. Be vigilant at all times when working near pedestrians - Work area to be restricted.
7. Ensure that all lines and safety gear is secure prior to descent	Catastrophic injuries can occur should fall arrest system not be used properly or incorrectly set-up	<ul style="list-style-type: none"> - Secure all equipment when not in use

APPROVED PRODUCT/EQUIPMENT LIST			
Product/Equipment Name	Manufacturer Name	Sustainable Criteria Met	Product Literature Submitted (Y/N)
Sunlight Dishwashing Liquid	JohnsonDiversey Canada Inc.		Y

Performance Measurement:

The successful implementation of this Plan will be measured by ongoing monthly tracking of product and equipment purchasing to ensure compliance with the appropriate Standards.



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Quality Assurance/Quality Control Processes:

The Facility Manager will review all service provider documentation and ensure that it meets the Plan's objectives. The Facility Manager will maintain communication with all service providers and conduct regular site inspections and evaluations to ensure the Plan is functioning according to intention.

This Plan will be reviewed and updated yearly to ensure the most current environmental criteria and standards are incorporated into the Plan.

This policy shall take effect on November 1, 2011 and shall continue indefinitely or until amended and/or replaced by a subsequent Plan.

Signed and executed on this 17th day of November, 2011.

Professional Engineers Ontario
By: John T Cookson



Facility Manager