



*Policy & Planning Department*  
Telephone: 604-432-6375 Fax: 604-436-6970

# PERMIT

(Under the provisions of the GVRD Air Quality Management Bylaw No. 937, 1999  
and the BC Environmental Management Act)

BEAVER ELECTRICAL MACHINERY LTD.

IS AUTHORIZED TO DISCHARGE AIR CONTAMINANTS

FROM AN ELECTRIC MOTOR REPAIR SHOP

LOCATED AT 7440 LOWLAND DRIVE, BURNABY BC V5J 5A4

This permit has been issued under the terms and conditions  
prescribed in the attached Schedules A,B,C,D,E,F,G & H  
for works existing or planned on May 18, 2005

DISTRICT DIRECTOR  
PERMIT NUMBER GVA0472

**INDEX OF SCHEDULES**

Schedule A.....Site Plan

Schedule B.....General Requirements

Schedule C.....Emission Monitoring, Sampling and Reporting Requirements

Schedule D.....Emission Sources and Discharge Points

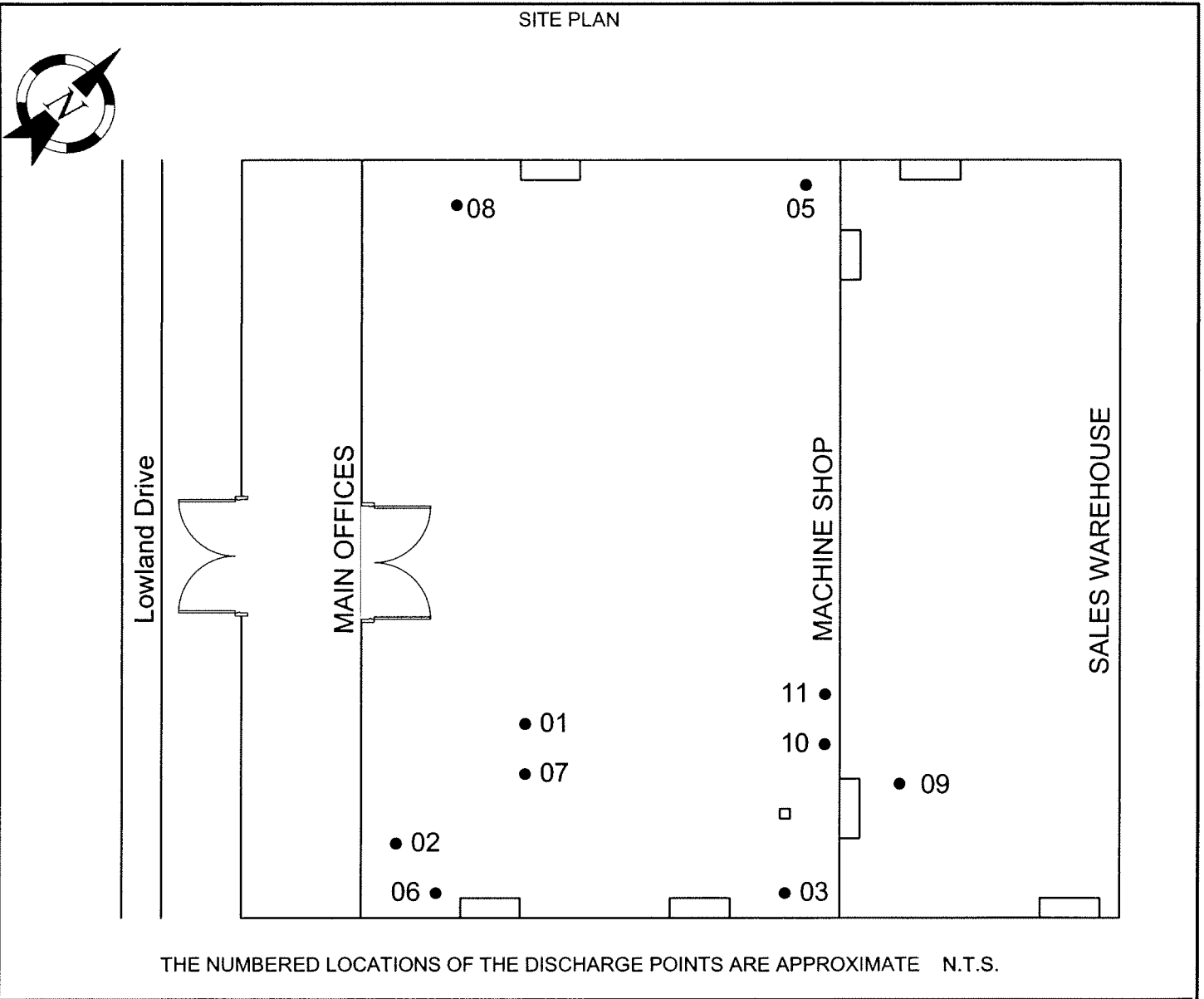
Schedule E.....Authorized Rates of Discharge

Schedule F.....Authorized Discharge Criteria

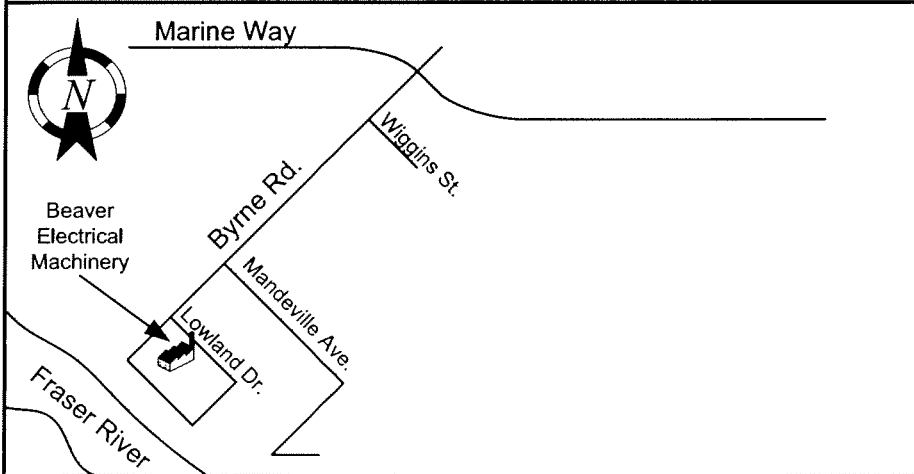
Schedule G.....Authorized Works and Procedures

Schedule H.....Record of Permit Issuance Dates

SITE PLAN



THE NUMBERED LOCATIONS OF THE DISCHARGE POINTS ARE APPROXIMATE N.T.S.



May 18, 2005

DISTRICT DIRECTOR

Schedule A to Permit No. GVA0472

**GREATER VANCOUVER REGIONAL DISTRICT**

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**SCHEDULE B - Page 1  
to PERMIT GVA0472**

**A        AMENDMENTS**

The terms and conditions of this Permit may be amended, as authorized by applicable legislation.

**B        MAINTENANCE AND OPERATION OF WORKS**

Works and procedures, which this Permit authorizes to control the discharge of air contaminants, shall be employed during all operating periods of the related facilities. The Permittee shall regularly inspect and maintain all such works in good repair.

**C        EMERGENCY PROCEDURES**

An emergency or other condition may prevent the continuous utilization of the above authorized works and procedures, or may result in a discharge of air contaminants which is not authorized by this Permit. If such a situation occurs, the Permittee shall report the circumstances of this event to the Greater Vancouver Regional District, Policy and Planning Department at 604-436-6777 (24 hours), at the first available opportunity.

No discharge that has bypassed control works is authorized unless the District Director's approval has been obtained. In the event of an emergency, bypassing facilities may be used for such periods as are necessary to effect a shutdown of the related processes.

**D        AIR CONDITIONING, HEATING AND VENTILATION SYSTEMS**

Air contaminants discharged from any natural gas-fired air conditioning, heating or ventilation systems for buildings located at the discharge site are not specified in this Permit. These works shall be maintained and operated in a manner prescribed by the manufacturer to ensure good combustion of the fuel with minimum discharge of air contaminants. Notwithstanding the above, the District Director may at her/his discretion stipulate limits for emission of contaminants from these sources in the Permit at a future date under provisions of the Bylaw.



DISTRICT DIRECTOR  
PERMIT NUMBER GVA0472

**GREATER VANCOUVER REGIONAL DISTRICT**

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**SCHEDULE B - Page 2  
to PERMIT GVA0472**

**E GENERAL SITE RESTRICTIONS**

No air contaminant(s) from any single source, or combination of sources shall pass the boundary of the property, described in Section I of this Schedule B, such that the District Director determines that pollution has occurred.

**F INTERNAL COMBUSTION ENGINES**

Air contaminants discharged from any natural gas, propane, gasoline, diesel, or other fossil fuel fired internal combustion engines operated at the discharge site may not be specifically authorized in this Permit. These works shall be maintained and operated in a manner prescribed by the manufacturer to ensure good combustion of the fuel and to minimize emissions such that the requirements of Section E of this Schedule B are not exceeded. The District Director may at her/his discretion stipulate further limits for emission of contaminants from these sources in the Permit at a future date under provisions of the Bylaw.

May 18, 2005



DISTRICT DIRECTOR  
PERMIT NUMBER GVA0472

GREATER VANCOUVER REGIONAL DISTRICT

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SCHEDULE B - Page 3  
to PERMIT GVA0472

**G ENGINEERING UNITS**

The engineering units specified in this Permit are in accordance with the Metric System of measure. Approximate equivalent values for the British System can be calculated using the following conversion factors.

$\text{mg/m}^3 \times 0.000437 = \text{gr/cf}$   
 $\text{m}^3/\text{min} \times 35.3 = \text{cf/min}$   
 $\text{kg/m}^3 \times 0.0624 = \text{lbs/cf}$   
 $\text{kg/L} \times 10.0 = \text{lbs/gal}$   
 $\text{mg/m}^3 \times 24.0/\text{M} = \text{ppm (by volume)}$   
 $\text{GJ/h} \times 0.9478 = \text{MMBTU/h}$

where

$\text{m}^3 = \text{cubic metre}$   
 $\text{min} = \text{minute}$   
 $\text{mg} = \text{milligram}$   
 $\text{cf} = \text{cubic feet}$   
 $\text{s} = \text{second}$   
 $\text{lb} = \text{pound}$   
 $\text{kg} = \text{kilogram}$   
 $\text{gal} = \text{gallon}$   
 $\text{L} = \text{litre}$   
 $\text{M} = \text{molecular weight}$   
 $\text{gr} = \text{grain}$   
 $\text{ppm} = \text{parts per million}$   
 $\text{GJ} = \text{GigaJoule}$   
 $\text{MMBTU} = \text{Million British Thermal Unit}$   
 $\text{h} = \text{hour}$



DISTRICT DIRECTOR  
PERMIT NUMBER GVA0472

**SCHEDULE B - Page 4  
to PERMIT GVA0472**

**H STANDARD CONDITIONS AND DEFINITIONS**

Except where otherwise indicated, the following standard conditions and definitions apply to this Permit.

1. The Restrictions in the attached Schedules are maximum limits.
2. Gaseous volumes are corrected to dry conditions of 20° Celsius & 760mm Hg.
3. Particulate matter from combustion sources is corrected to 12% Carbon Dioxide.
4. Opacity is measured at the point of maximum density, nearest the discharge point.
5. Opacity measurements exclude the effect of condensed, uncombined water droplets.
6. Definitions in the Environmental Management Act and GVRD Air Quality Management Bylaw current at the time of issuance of this Permit apply to terminology used in this Permit. If the Permit is subsequently amended, definitions in the Environmental Management Act and GVRD Air Quality Management Bylaw current at the time of amendment shall apply to terminology used in this Permit.
7. Threshold Limit Values (TLV) refer to the Time Weighted Average (TWA) exposure limits for substances specified in the American Conference of Governmental Industrial Hygienists Threshold Limit Values handbook for the year 2005.
8. Any production, storage, transportation, handling, treatment, processing or ownership of a hazardous waste must comply with the requirements of the Environmental Management Act Hazardous Waste Regulation (BC Reg. 63/88).

**I DESCRIPTION OF DISCHARGE SITE**

The land from which the air contaminants are discharged is described as: "Municipality of Burnaby Parcel Identifier: 002-459-825 Lot 26 District Lot 166A Group 1 New Westminster District Plan 46532".



**GREATER VANCOUVER REGIONAL DISTRICT**

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**SCHEDULE C - Page 1  
to PERMIT GVA0472**

This Schedule describes emission monitoring, sampling and reporting requirements.

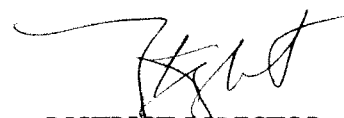
The Permittee shall conduct the following monitoring and sampling program on the discharges and submit the results to the District Director. The need for increased or decreased monitoring may be reviewed periodically by the District Director.

<b>EMISSION NUMBER</b>	<b>DUE DATES</b>	<b>REQUIREMENTS</b>
03	See requirement	The after-burner temperature shall be continuously monitored in a convenient, visible location. The Permittee shall calibrate this temperature measurement system on a regular basis using procedures approved by the District Director.
08	March 31, 2006 and annually thereafter	Written report indicating inspection frequency, filter condition and any action taken or proposed to solve any problems detected for the cyclone or baghouse described in schedule G of this permit.
General	March 31, 2006 and annually thereafter	Written report detailing the types and amounts of principal products produced and principal raw materials used in the preceding calendar year.
General	March 31, 2006 and annually thereafter	Written report detailing the types and amounts of fuel burned in the preceding calendar year.
General	March 31, 2006 and annually thereafter	Written report detailing the types, amounts and end use of organic solvents and organic solvent-containing materials used in the preceding calendar year.

Unless otherwise approved by the District Director prior to any sampling or analysis, all emission measurements shall be performed by an independent agency in accordance with those procedures described in applicable source test codes and laboratory manuals which have been published by the British Columbia Ministry of Water, Land and Air Protection, as they may be amended from time to time. Any variance from these procedures must receive prior approval from the District Director. Monitoring results shall be reported in the metric units which are used in this Permit to specify the authorized discharge criteria. These submissions shall include the production rate at the time of the test, and all field data and calculations. In addition, the Permittee shall provide the Greater Vancouver Regional District, Policy and Planning Department, with a minimum of 3 working days advance notice before any emission measurements required by this Monitoring and Sampling Program are carried out.

Ambient air sampling and monitoring shall be undertaken by the Permittee, when required by the District Director.

May 18, 2005



DISTRICT DIRECTOR  
PERMIT NUMBER GVA0472



**GREATER VANCOUVER REGIONAL DISTRICT**

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**SCHEDULE D - Page 1  
to PERMIT GVA0472**

The authorized emission sources and discharge points located approximately as shown on Schedule A are:

<b>EMISSION NUMBER</b>	<b>EMISSION SOURCE</b>	<b>DISCHARGE POINT</b>
01	Bake Oven	Stack(s)
02	DeVilbiss Paint Spray Booth	Stack(s)
03	Roast Oven	Stack(s)
05	Machine Shop Ventilation System	Wall system
06	Large Paint Booth	Stack(s)
07	Varnish Tank	Stack(s)
08	Sandblasting Booth	Baghouse Exhaust(s)
09	Small Bake Oven	Stack(s)
10	Glass Beader	Stack(s)
11	Steam Cleaner	Stack(s)

May 18, 2005



DISTRICT DIRECTOR  
PERMIT NUMBER GVA0472

**GREATER VANCOUVER REGIONAL DISTRICT**

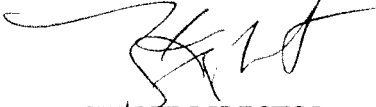
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**SCHEDULE E - Page 1  
to PERMIT GVA0472**

The authorized rates of discharge for the emission sources described in Schedule D are:

<b>EMISSION NUMBER</b>	<b>MAXIMUM AUTHORIZED RATE OF DISCHARGE</b>			<b>NOTES &amp; ADDITIONAL REQUIREMENTS</b>
	<b>FLOW m3/min</b>	<b>DURATION hours/day</b>	<b>FREQUENCY days/week</b>	
01	4.9	10	5	
02	409	3	5	
03	45	12	3	
05	55	3	5	
06	900	2	5	
07	96	0.5	5	
08	461	1	5	
09	57	12	1	
10	10	2	5	
11	65	2	5	

May 18, 2005

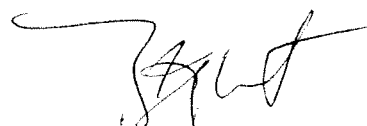
  
DISTRICT DIRECTOR  
PERMIT NUMBER GVA0472

GREATER VANCOUVER REGIONAL DISTRICT

SCHEDULE F - PAGE 1  
to PERMIT GVA0472

The authorized maximum discharge criteria for emission sources described in Schedule D are:

EMISSION NUMBER	PARAMETER	RESTRICTION	NOTES
08	Particulate Matter	20 mg/m <sup>3</sup>	
05	Particulate Matter	50 mg/m <sup>3</sup>	
01, 02, 03, 05, 06, 07, 08, 09, 10, 11	Opacity	10%	Based on six minute average.
01, 02, 03, 05, 06, 07, 09, 11	Odour	See notes	None past the plant boundary such that the District Director determines that pollution has occurred.
01, 02, 03, 05, 06, 07, 09, 11	Chemical Contaminants	See notes	The maximum allowable emission concentration (EC) for each emitted chemical contaminant with a Threshold Limit Value (TLV) is such that the sum of the individual EC/TLV ratios for all such contaminants in any single emission is less than 10.
09	Combustion Products	See notes	Typical products of natural gas combustion at a maximum firing rate of 0.211 GJ/hr.
11	Combustion Products	See notes	Typical products of natural gas combustion at a maximum firing rate of 0.31 GJ/h.
03	Combustion Products	See notes	Typical products of natural gas combustion at a maximum firing rate of 0.791 GJ/h.
02, 06, 08, 09, 10, 11	Particulate Matter	See notes	None from any single source, or combination of sources, past the plant boundary such that the District Director determines that pollution has occurred.



DISTRICT DIRECTOR  
PERMIT NUMBER GVA0472

**GREATER VANCOUVER REGIONAL DISTRICT**

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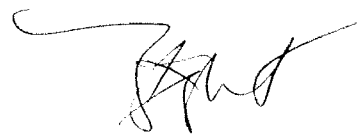
**SCHEDULE G - Page 1  
to PERMIT GVA0472**

The authorized emission control works and procedures to control the discharge of air contaminants from the emission sources described in Schedule D are indicated below. The District Director may require that further works be installed, if the existing works, in her/his opinion, do not provide an acceptable level of emission control. New works or alterations to existing works must be approved, in principle, by the District Director.

Where the District Director has specified that additional works are required, the maximum discharge criteria described in Schedule F of this Permit are applicable as specified by the Completion Date(s) listed below. Prior to the specified date(s) the existing control works and procedures must be maintained in good operating condition and operated in a manner to minimize emissions.

<b>EMISSION NUMBER</b>	<b>COMPLETION DATE</b>	<b>DESCRIPTION OF CONTROL WORKS/PROCEDURES</b>
08	Completed	Cyclone and baghouse operated in series together with good operating practices.
02, 06	Completed	Dual media filters together with good operating practices.
01, 05, 07, 09, 10, 11	Completed	Good operating practices.
03	Completed	The afterburner operated at a minimum incinerator exit temperature of 760°C, together with good operating practices.

May 18, 2005



DISTRICT DIRECTOR  
PERMIT NUMBER GVA0472

**GREATER VANCOUVER REGIONAL DISTRICT**

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**SCHEDULE H - Page 1  
to PERMIT GVA0472**

**RECORD OF PERMIT ISSUANCE**

<b>DATE</b>	<b>ACTION</b>	<b>SECTIONS AFFECTED</b>
November 30, 1992	ISSUANCE	Face, Schedules A,B,C,D,E,F,G & H
May 18, 2005	AMENDMENT	Face, Schedules A,B,C,D,E,F,G & H

May 18, 2005



**DISTRICT DIRECTOR  
PERMIT NUMBER GVA0472**