



**PRELIMINARY DETERMINATION**  
(Pursuant to Section 44 of the *Environmental Management Act*)

I have made a Preliminary Determination that the site identified in Schedule A of this document **is not** a contaminated site.

This Preliminary Determination is qualified by the requirements and conditions specified in Schedule B.

The site does not have concentrations of the substances specified in Schedule C that exceed the applicable standards and criteria prescribed in the Contaminated Sites Regulation for determining whether a site is a contaminated site.

I have issued this Preliminary Determination based on a review of relevant information including the documents listed in Schedule D. I, however, make no representation or warranty as to the accuracy or completeness of that information.

This is to advise that I will consider submissions received 35 days after delivery of this Preliminary Determination before a Final Determination is made.

In accordance with the *Environmental Management Act*, I will notify persons with an interest in the subject site once a Final Determination is made.

This Preliminary Determination should not be construed as an assurance that there are no hazards present at the site.

April 18, 2019  
Date Issued

Lavinia Zanini, P.Geo.  
For Director, *Environmental Management Act*

## Schedule A

The site covered by this Preliminary Determination is located at 650 West 41<sup>st</sup> Avenue, Vancouver, British Columbia which is more particularly known and described as:

PID: 003-128-687

Portion of Lot 7, Except part in Air Space Plan 20425, Block 892 District Lot 526 Plan 20424, described by following metes and bounds:

ALL AND SINGULAR that certain parcel or tract of land, situate, lying, and being a portion of Lot 7, Block 892, District Lot 526, Group1 NWD, Except part in Air Space Plan 20425 and EPP85694, which may be more particularly described as follows:

COMMENCING at the most north westerly corner of Lot 7, Block 892, District Lot 526, Group1 NWD, Except part in Air Space Plan 20425 and Road Dedication Epp85694;

THENCE easterly following in the northern boundary of said Lot 7, a bearing of of 93° 05' 30" and a distance of 366.843 metres, more or less, to the north east corner of said Lot 7,

THENCE southerly following in the eastern boundary of said Lot 7, a bearing of 181° 35' 14" and a distance of 278.045 metres, to a point on the easterly boundary of said Lot 7;

THENCE a bearing of 273° 00' 06" and a distance of 49.747 metres;

THENCE a bearing of 226° 41' 12" and a distance of 63.690 metres;

THENCE a bearing of 182° 51' 10" and a distance of 62.174 metres, more or less, to a point on the southern boundary of said Lot 7;

THENCE westerly following in the southern boundary of said Lot 7, a bearing of 273° 06' 16" and a distance of 27.807 metres, more or less, to the most southerly and easterly corner of said Lot 7;

THENCE northerly following in the westerly boundary of said Lot 7, which may be more particularly described as follows:

THENCE a bearing of 3° 06' 26" and a distance of 51.042 metres;

THENCE a bearing of 273° 06' 26" and a distance of 57.718 metres;

THENCE a bearing of 318° 06' 18" and a distance of 150.22 metres;

THENCE a bearing of 318° 56' 25" and a distance of 38.955 metres;

THENCE a bearing of 327° 35' 58" and a distance of 38.824 metres;

THENCE a bearing of 335° 07' 36" and a distance of 38.737 metres;

THENCE a bearing of 344° 56' 33" and a distance of 38.765 metres;

THENCE a bearing of 352° 03' 19" and a distance of 38.787 metres;

THENCE a bearing of 1° 29' 18" and a distance of 60.359, metres, more or less, to the point of commencement and containing by admeasurement 10.1 hectares.

The site contains part of a legal parcel depicted in a legal sketch plan 20424 prepared by Underhill Geomatics Ltd. on December 13, 2018.

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The approximate centre of the site using the NAD (North American Datum) 1983 convention is:

Latitude: 49° 13' 54.66"  
Longitude: 123° 7' 7.34"

With reference to the Site Plan, the Supplemental Site Plan and Schedule B, two sub-parts of the site are described by the following metes and bounds:

Sub-Part 1 (SP1):

ALL AND SINGULAR that certain parcel or tract of land, situate, lying, and being a portion of Lot 7, Block 892, District Lot 526, Group1, NWD, Except part in Air Space Plan 20425 and EPP85694, which may be more particularly described as follows:

COMMENCING at a point on the northern boundary of said Lot 7, westerly from the north east corner of said Lot 7, a bearing of 273°05'30" and a distance of 55.133 metres.

THENCE westerly following the northern boundary of said Lot 7, a bearing of 273° 05' 30" and a distance of 66.299 metres, to a point on the northern boundary of said Lot 7,

THENCE a bearing of 183° 01' 20" and a distance of 10.404 metres;

THENCE a bearing of 138° 06' 27" and a distance of 46.910 metres;

THENCE a bearing of 48° 09' 01" and a distance of 46.795 metres;

THENCE a bearing of 3° 06' 17" and a distance of 10.528 metres, more or less, to the point of commencement and containing by admeasurement 0.179 ha (1791.4 square metres).

SP1 contains part of a legal parcel depicted in a legal sketch plan 20424 prepared by Underhill Geomatics Ltd. on December 13, 2018.

Sub-Part 2 (SP2):

All that portion of the site except SP1.

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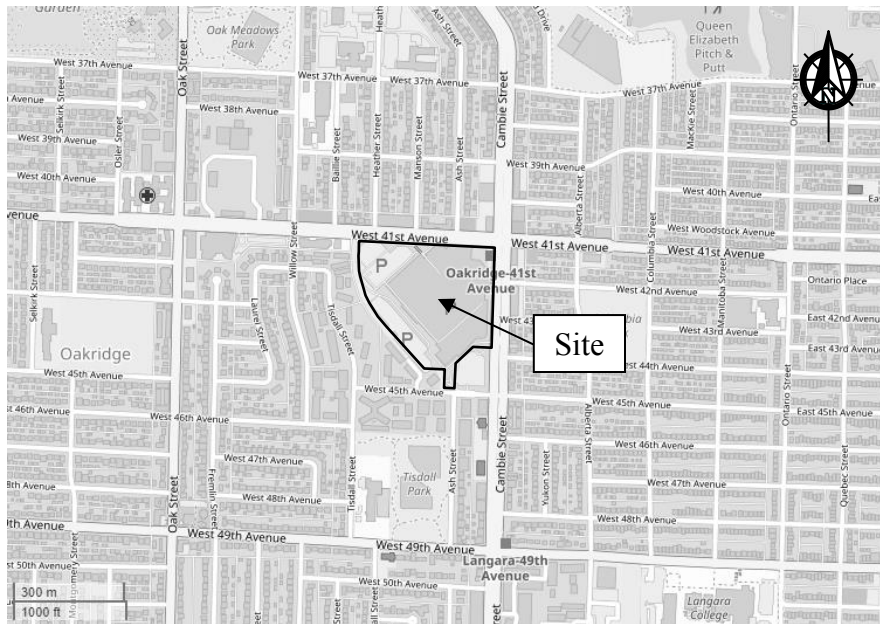
For Director, *Environmental Management Act*

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# Site Plan, Vancouver, BC



# Location Map, Vancouver, BC

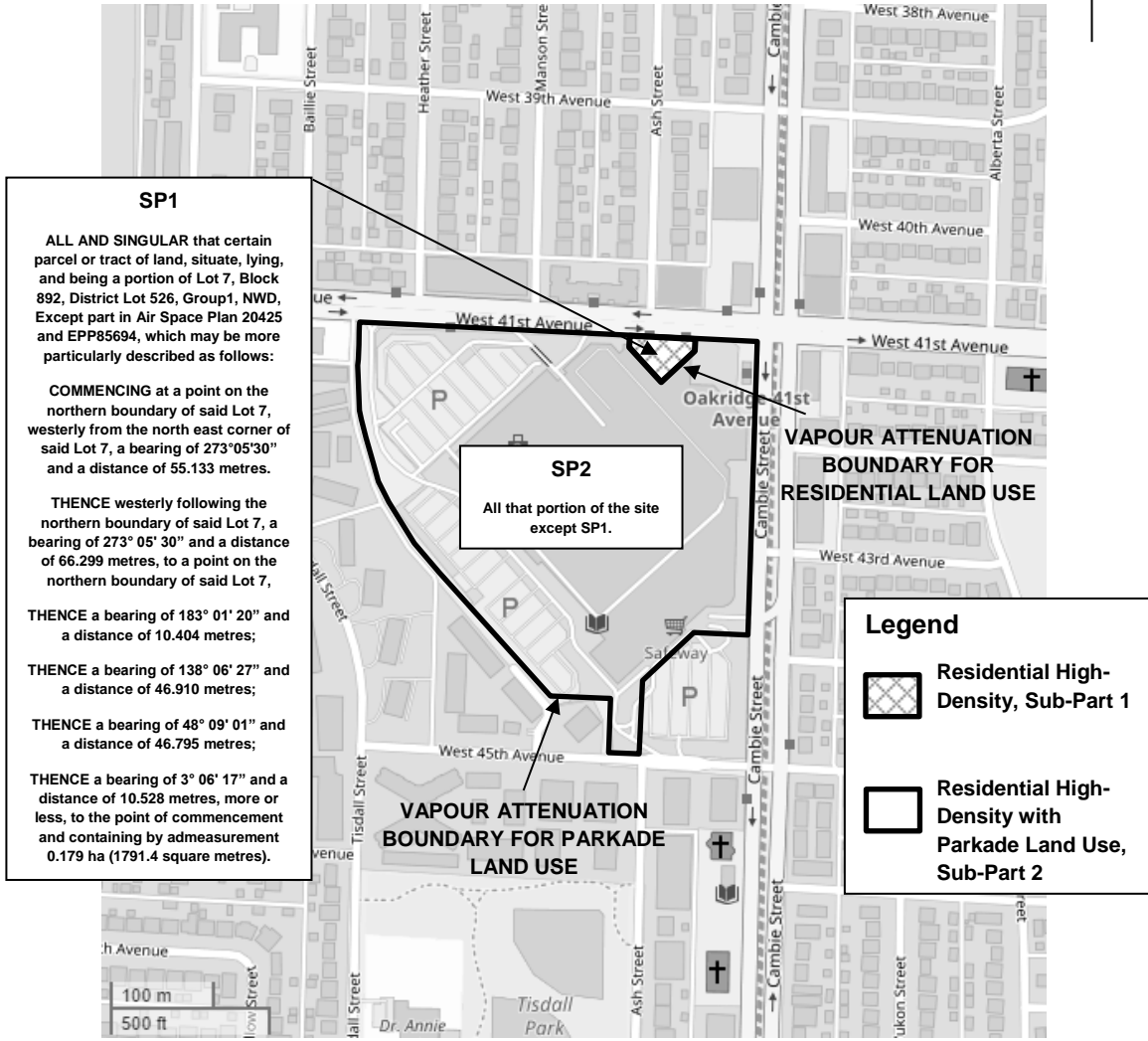


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# Supplemental Site Plan, Vancouver, BC



**SP1**

ALL AND SINGULAR that certain parcel or tract of land, situate, lying, and being a portion of Lot 7, Block 892, District Lot 526, Group1, NWD, Except part in Air Space Plan 20425 and EPP85694, which may be more particularly described as follows:

COMMENCING at a point on the northern boundary of said Lot 7, westerly from the north east corner of said Lot 7, a bearing of 273°05'30" and a distance of 55.133 metres.

THENCE westerly following the northern boundary of said Lot 7, a bearing of 273° 05' 30" and a distance of 66.299 metres, to a point on the northern boundary of said Lot 7,

THENCE a bearing of 183° 01' 20" and a distance of 10.404 metres;

THENCE a bearing of 138° 06' 27" and a distance of 46.910 metres;



THENCE a bearing of 48° 09' 01" and a distance of 46.795 metres;

THENCE a bearing of 3° 06' 17" and a distance of 10.528 metres, more or less, to the point of commencement and containing by admeasurement 0.179 ha (1791.4 square metres).

**SP2**

All that portion of the site except SP1.

**Legend**

-  Residential High-Density, Sub-Part 1
-  Residential High-Density with Parkade Land Use, Sub-Part 2

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## Schedule B

### Requirements and Conditions

1. Any changes in land, vapour or water uses must be promptly identified by the responsible person in a written submission to the Director. An application for an amendment or new Determination of Contaminated Site may be necessary. The uses to which this condition applies are described in Schedule C and in the site investigation documents listed in Schedule D.

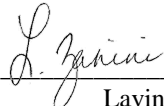
The documents listed in Schedule D indicate that vapour attenuation factors were applied to meet Contaminated Sites Regulation numerical standards at and adjacent to the site. These vapour attenuation factors were selected based on assumptions about the structures, locations and depths of buildings expected at and adjacent to the site. These assumptions include the following:

- (a) Residential land use will apply within Sub-Part 1 (SP1; residential land use) as shown on the Supplemental Site Plan as shown on Figure 10 of the report titled 'Stage 1 and 2 Preliminary Site Investigation, Detailed Site Investigation and Remediation Plan, Oakridge Centre'; and
- (b) A subsurface parkade will be constructed within Sub-Part 2 (SP2; parkade land use) as shown on the Supplemental Site Plan as shown on Figure 10 of the report titled 'Stage 1 and 2 Preliminary Site Investigation, Detailed Site Investigation and Remediation Plan, Oakridge Centre'.

Any inconsistencies that arise between the structures, locations and depths of proposed or constructed buildings at the site and the range of structures, locations and depths of buildings assumed in the selection of vapour attenuation factors in the documents listed in Schedule D must be promptly identified by the responsible persons in a written submission to the Director. An application for an amendment or new Determination of Contaminated Site may be necessary.

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## Schedule C

### Substances and Uses

*Substances evaluated in soil for residential high density land soil use:*

To meet numerical standards prescribed for defining whether a site is contaminated:

acenaphthene	83-32-9	aluminum	7429-90-5
anthracene	120-12-7	antimony	7440-36-0
arsenic	7440-38-2	barium	7440-39-3
benzene	71-43-2	benz(a)anthracene	56-55-3
benzo(a)pyrene	50-32-8	benzo(k)fluoranthene	207-08-9
beryllium	7440-41-7	bromobenzene	108-86-1
bromodichloromethane	75-27-4	bromoform	75-25-2
bromomethane	74-83-9	butadiene, 1,3-	106-99-0
cadmium	7440-43-9	carbon tetrachloride	56-23-5
chlorobenzene	108-90-7	chloroform	67-66-3
chromium	7440-47-3	cobalt	7440-48-4
copper	7440-50-8	dibenz(a,h)anthracene	53-70-3
dibromochloromethane [DBCM]	124-48-1	dibromoethane, 1,2-	106-93-4
dichlorobenzene, 1,2-	95-50-1	dichlorobenzene, 1,3-	541-73-1
dichlorobenzene, 1,4-	106-46-7	dichloroethane, 1,1-	75-34-3
dichloroethane, 1,2-	107-06-2	dichloroethylene, 1,1-	75-35-4
dichloroethylene, 1,2- (cis)	156-59-2	dichloroethylene, 1,2- (trans)	156-60-5
dichloromethane	75-09-2	dichloropropane, 1,2-	78-87-5
dichloropropene, 1,3- (cis + trans)	542-75-6	ethylbenzene	100-41-4
fluoranthene	206-44-0	fluorene	86-73-7
HEPHs	not applicable	indeno(1,2,3-c,d)pyrene	193-39-5
iron	7439-89-6	lead	7439-92-1
LEPHs	not applicable	lithium	7439-93-2
manganese	7439-96-5	mercury	7439-97-6
methyl tert-butyl ether [MTBE]	1634-04-4	molybdenum	7439-98-7
naphthalene	91-20-3	nickel	7440-02-0

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phenanthrene	85-01-8	polychlorinated biphenyls (total) [PCBs]	1336-36-3
pyrene	129-00-0	selenium	7782-49-2
silver	7440-22-4	strontium	7440-24-6
tetrachloroethane, 1,1,1,2-	630-20-6	tetrachloroethane, 1,1,2,2-	79-34-5
tetrachloroethylene	127-18-4	tin	7440-31-5
toluene	108-88-3	trichloroethane, 1,1,1-	71-55-6
trichloroethane, 1,1,2-	79-00-5	trichloroethylene	108-88-3
trichlorofluoromethane	75-69-4	uranium	7440-61-1
vanadium	7440-62-2	vinyl chloride	75-01-4
VPHs	not applicable	xylene, total	1330-20-7
zinc	7440-66-6		

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***Substances evaluated in vapour for parkade vapour use:***

To meet numerical standards prescribed for defining whether a site is contaminated:

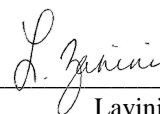
benzene	71-43-2	bromomethane	74-83-9
bromobenzene	108-86-1	bromodichloromethane [BDCM]	75-27-4
bromoform	75-25-2	butadiene, 1,3-	106-99-0
carbon tetrachloride	56-23-5	chlorobenzene	108-90-7
chloroethane	75-00-3	chloroform	67-66-3
chloromethane	74-87-3	dibromo-3-chloropropane, 1,2- [DBCP]	96-12-8
dibromochloromethane [BDCM]	124-48-1	dibromomethane	74-95-3
dibromomethane, 1,2-	106-93-4	dichlorobenzene, 1,2-	95-50-1
dichlorobenzene, 1,3-	541-73-1	dichlorobenzene, 1,4-	106-46-7
dichloroethane, 1,1-	75-34-3	dichloroethylene, 1,1-	75-35-4
dichloroethane, 1,2-	107-06-2	dichloroethylene, 1,2- (cis)	75-35-4
dichloroethylene, 1,2- (trans)	156-60-5	dichloromethane	75-09-2
dichloropropane, 1,2-	78-87-5	dichloropropane, 1,3-	142-28-9
dichloropropene, 1,3- (cis + trans)	542-75-6	ethylbenzene	100-41-4
isopropylbenzene	98-82-8	methyl ethyl ketone [MEK]	78-93-3
methyl isobutyl ketone [MIBK]	108-10-1	methyl tert-butyl ether [MTBE]	1634-04-4
methylcyclohexane	108-87-2	naphthalene	91-20-3
n-decane	124-18-5	n-hexane	110-54-3
styrene	100-42-5	tetrachloroethane, 1,1,1,2-	630-20-6
tetrachloroethane, 1,1,1,2-	79-34-5	tetrachloroethylene	127-18-4
toluene	108-88-3	trichlorobenzene, 1,2,4-	120-82-1
trichloroethane, 1,1,1-	71-55-6	trichloroethane, 1,1,2-	79-00-5
trichloroethylene	79-01-06	trichlorofluoromethane	75-69-4
trichloropropane, 1,2,3-	96-18-4	trimethylbenzene, 1,2,4-	95-63-6
trimethylbenzene, 1,3,5-	108-67-8	vinyl chloride	75-01-4
VPH	not applicable	xylene, total	1330-20-7

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***Substances evaluated in vapour for residential vapour use:***

To meet numerical standards prescribed for defining whether a site is contaminated:


benzene	71-43-2	bromomethane	74-83-9
bromobenzene	108-86-1	bromodichloromethane [BDCM]	75-27-4
bromoform	75-25-2	butadiene, 1,3-	106-99-0
carbon tetrachloride	56-23-5	chlorobenzene	108-90-7
chloroethane	75-00-3	chloroform	67-66-3
chloromethane	74-87-3	dibromo-3-chloropropane, 1,2- [DBCP]	96-12-8
dibromochloromethane [BDCM]	124-48-1	dibromomethane	74-95-3
dibromomethane, 1,2-	106-93-4	dichlorobenzene, 1,2-	95-50-1
dichlorobenzene, 1,3-	541-73-1	dichlorobenzene, 1,4-	106-46-7
dichloroethane, 1,1-	75-34-3	dichloroethylene, 1,1-	75-35-4
dichloroethane, 1,2-	107-06-2	dichloroethylene, 1,2- (cis)	75-35-4
dichloroethylene, 1,2- (trans)	156-60-5	dichloromethane	75-09-2
dichloropropane, 1,2-	78-87-5	dichloropropane, 1,3-	142-28-9
dichloropropene, 1,3- (cis + trans)	542-75-6	ethylbenzene	100-41-4
isopropylbenzene	98-82-8	methyl ethyl ketone [MEK]	78-93-3
methyl isobutyl ketone [MIBK]	108-10-1	methyl tert-butyl ether [MTBE]	1634-04-4
methylcyclohexane	108-87-2	naphthalene	91-20-3
n-decane	124-18-5	n-hexane	110-54-3
styrene	100-42-5	tetrachloroethane, 1,1,1,2-	630-20-6
tetrachloroethane, 1,1,1,2-	79-34-5	tetrachloroethylene	127-18-4
toluene	108-88-3	trichlorobenzene, 1,2,4-	120-82-1
trichloroethane, 1,1,1-	71-55-6	trichloroethane, 1,1,2-	79-00-5
trichloroethylene	79-01-06	trichlorofluoromethane	75-69-4
trichloropropane, 1,2,3-	96-18-4	trimethylbenzene, 1,2,4-	95-63-6
trimethylbenzene, 1,3,5-	108-67-8	vinyl chloride	75-01-4
VPH	not applicable	xylene, total	1330-20-7

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***Substances evaluated in water for drinking water use:***

To meet numerical standards prescribed for defining whether a site is contaminated:

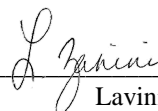
acenaphthene	83-32-9	acridine	260-94-6
anthracene	120-12-7	antimony	7440-36-0
arsenic	7440-38-2	barium	7440-39-3
benzo(a)anthracene	56-55-3	benzo(a)pyrene	50-32-8
beryllium	7440-41-7	benzene	71-43-2
boron	7440-42-8	cadmium	7440-39-9
carbon tetrachloride	56-23-5	chlorobenzene	108-90-7
chloroform	67-66-3	chromium, hexavalent	18540-29-9
chromium, trivalent	16065-83-1	chrysene	218-01-9
cobalt	7440-48-4	copper	7440-50-8
dichlorobenzene, 1,2-	95-50-1	dichloroethane, 1,2-	107-06-2
dichlorobenzene, 1,3-	541-73-1	dichlorobenzene, 1,4-	106-46-7
dichloromethane	75-09-02	EPHw10-19	not applicable
ethylbenzene	100-41-4	fluoranthene	206-44-0
fluorene	86-73-7	lead	7439-92-1
LEPHw	not applicable	mercury	7439-97-6
methyl tert-butyl ether [MTBE]	1634-04-4	molybdenum	7439-98-7
naphthalene	91-20-3	nickel	7440-02-0
phenanthrene	85-01-08	pyrene	129-00-0
quinoline	91-22-5	selenium	7782-49-2
silver	7440-22-4	styrene	100-42-5
tetrachloroethylene [PERC]	127-18-4	thallium	7440-28-0
titanium	7440-32-6	toluene	108-88-3
trichloroethylene	79-01-06	uranium	7440-61-1
VHw6-10	not applicable	VPHw	not applicable
xylenes, total	1330-20-7	zinc	7440-66-6
zirconium	7440-67-7		

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## Schedule D

### Documents

- *Summary of Site Condition*, prepared by Pinchin Ltd. and dated December 13, 2018;
- *Supplemental Stage 1 Preliminary Site Investigation, Part 1 – Oakridge Centre, 650 West 41<sup>st</sup> Avenue, Vancouver, British Columbia, Site ID: 14598*, prepared by Pinchin Ltd. And dated December 13, 2018;
- *Oakridge Mall – Site ID 14598*, email from MOECCS (Liliana Jerade) to Pinchin Ltd. ([tberger@Pinchin.com](mailto:tberger@Pinchin.com)) and dated September 13, 2018;
- *Protocol 6 Approval Application 5812-5898 Cambie Street, Vancouver, BC*, letter prepared by MOECCS and dated July 16, 2018;
- *Protocol 6 Request for Approval to not Delineate, 5812-5898 Cambie Street, Vancouver, BC*, letter prepared by MOECCS and dated July 16, 2018;
- *Approval in Principle – 650 West 41<sup>st</sup> Avenue, Vancouver, British Columbia*, letter and AIP prepared by MOECCS and dated April 11, 2016;
- *Preapproval Request to Extend an Approval in Principle Timeframe, 650 W 41<sup>st</sup> Avenue, Vancouver, BC, PID: 003-128-687*, letter prepared by MOECCS and dated July 13, 2015;
- *Summary of Site Condition*, prepared by Hemmera Envirochem Inc. and dated December 21, 2015;
- *Summary of Site Condition*, prepared by Hemmera Envirochem Inc. and dated April 20, 2015;
- *Prospective Detailed Human Health and Ecological Risk Assessment AEC1, Oakridge Centre, Vancouver, BC*, prepared by Hemmera Envirochem Inc. and dated April 20, 2015;
- *Stage 1 and 2 Preliminary Site Investigation, Detailed Site Investigation, and Remediation Plan, Oakridge Centre, 650 W 41<sup>st</sup> Avenue, Vancouver, BC*, prepared by Hemmera Envirochem Inc. and dated February 28, 2015;
- *Letter Report: Sampling Results on Strip of Land to become COV Road Dedication, Oakridge Centre, Vancouver, BC*, prepared by Hemmera Envirochem Inc. and dated February 10, 2015;
- *Flow Through Determination, 650 W 41<sup>st</sup> Avenue, Vancouver, BC, PID: 003-128-687*, letter from MOECCS and dated February 12, 2014;
- *Analysis of Soil at Furnace (sic) Oil Tank Excavation, 650 – 41<sup>st</sup> Street, Vancouver, BC*, prepared by LB Petroleum and Environmental Consulting, and dated November 7, 2007;
- *Environmental Stage 2 Preliminary Site Investigation, 650 West 41<sup>st</sup> Avenue, Vancouver, BC*, prepared by PHH Environmental Limited and dated April 17, 2004;
- *Environmental Stage 1 Preliminary Site Investigation, 650 West 41<sup>st</sup> Avenue, Vancouver, BC*, prepared by PHH Environmental Limited and dated March 26, 2004;
- *Stage 2 Preliminary Site Investigation, Oakridge Shopping Centre, Vancouver, BC*, prepared by PHH Environmental Limited and dated January 1, 2000;

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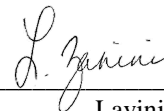
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- *Environmental Audit Phase I and Phase II, Oakridge Centre, 650 West 41<sup>st</sup> Street, Vancouver, British Columbia V5Z 2M9*, prepared by C.D. Sonter Management Inc. and dated July 22, 1993;
- *Environmental Audit Phase I and Phase II, Woodward's Department Store, Oakridge Centre, 650 West 41<sup>st</sup> Street, Vancouver, British Columbia V5Z 2M9*, prepared by C.D. Sonter Management Inc. and dated June 15, 1993; and
- *Preliminary Environmental Assessment, Oakridge Centre Project, Vancouver, BC*, prepared by Norecol Environmental Management Ltd. and dated December 1, 1990.

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