

APPENDIX H

Existing Air Quality Report

CITY OF TORONTO

SOUTHWEST AGINCOURT TRANSPORTATION CONNECTIONS STUDY
ENVIRONMENTAL ASSESSMENT

AIR QUALITY REPORT



MAY 2020



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1 INTRODUCTION

The City of Toronto is initiating the Southwest Agincourt Transportation Connections Study (Herein referred to as the SW Agincourt EA) to improve connectivity for all modes of transportation from Village Green Square (south of the Canadian Pacific Railway corridor), Cowdray Court and Collingwood Street to Sheppard Avenue East (in the vicinity of Reidmount Avenue and the Agincourt GO Station). A map of the study area can be found in Figure 1-1. This study will evaluate options for:

- A) Optimization of existing streets & intersections
- B) Transit improvements
- C) New Complete Streets
- D) New trail connections

Figure 1-1: Map of Southwest Agincourt Transportation Connections Study Area



As part of the Agincourt EA, an Air Quality Impact Assessment (AQIA) is required to evaluate the impact of traffic related air pollution (TRAP) concentrations in the focus area. This AQIA will evaluate existing air quality conditions in accordance with the Ministry of Environment, Conservation, and Parks (MECP) “Mitigation Strategies and Municipal Road Class Environmental Assessment Air Quality Impact Assessment Protocol” (MECP Protocol) dated July 25, 2017.

2 METHODOLOGY

2.1 APPROACH

As part of the Agincourt EA study, an AQIA assessing TRAP concentrations in the Study Area was completed following the MECP Protocol. The MECP Protocol provides guidance on assessment methodologies that can be applied to AQIA for transportation related projects. Based on the nature and complexity of the project, it was determined that the AQIA could be completed as a partial AQIA following the “hot spot area” method of assessment where only the areas of maximum expected TRAP concentrations or areas of maximum impact are modelled. The intent of this approach is to evaluate one “hot spot area” to represent the “worst case scenario” for the entire focus area, however more than one “hot spot area” may be required. The AQIA combines predicted project impacts from modelling and existing air quality conditions to determine a cumulative air quality impact in the focus area. The purpose of this AQIA is to assess the existing air quality conditions prior to modelling project air quality impacts.

The main objectives of this AQIA are as follows:

- Gather baseline ambient air quality data in the vicinity of the project from public sources (i.e., National Air Pollution Surveillance (NAPS) Program Stations or the MECP’s Ambient Monitoring Network) to establish existing conditions in the study area;
- Compare ambient air quality data in the vicinity of the project to applicable provincial and federal air quality thresholds;
- Identifying sensitive receptors in the study area; and,
- Identify emission sources from surrounding industrial activities.

The methodology, findings, conclusions and recommendations of this air quality impact assessment are presented in the subsequent sections of this report.

2.2 CRITERIA AIR CONTAMINANTS

As outlined in the MECP Protocol, the assessment of existing air quality in the Study Area focused on criteria air contaminants (CACs), compounds that are expected to be released from mobile sources, and contaminants which are generally accepted as indicators of changing air quality. These compounds are emitted from fuel combustion from vehicles travelling on roadways. The criteria air contaminants (CACs) for this project include:

- particulate matter less than 10 microns in diameter (PM₁₀);
- particulate matter less than 2.5 microns in diameter (PM_{2.5});
- total suspended particulates (TSP);
- nitrogen oxides, expressed as nitrogen dioxide (NO₂);
- carbon monoxide (CO); and,
selected volatile organic compounds (VOCs), including benzene, 1-3 butadiene, formaldehyde, acetaldehyde, and acrolein.

It is assumed that emissions from construction operations will be managed through best management practices for construction operations and monitoring and mitigation requirements will be considered as part of the special provisions written to the construction tender documents.

2.3 AIR QUALITY INDICATORS

The MECP has issued guidelines related to ambient air concentrations, which are summarized in *Ontario's Ambient Air Quality Criteria* (AAQC) (MECP, 2018). The federal objectives and criteria are presented in the Canadian Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Objectives (NAAQO).

The Ontario AAQC lists desirable concentrations of contaminants in air, based on protection against adverse effects on health and/or the environment. AAQCs are developed by the Ministry of the Environment, Conservation, and Parks (MECP) and have varying time weighted averaging periods (e.g., annual, 24 h, one hour, and 10 minutes) appropriate for the adverse effect that they are intended to protect against (i.e., acute or chronic). The adverse effects considered may be related to health, odour, vegetation, soiling, visibility, and/or corrosion. AAQCs may be changed from time to time based on the state-of-the-science for a contaminant (MECP, 2012).

The CAAQS and the NAAQO are specifically health-based air quality objectives for pollutant concentrations in outdoor air. Under the Air Quality Management System, Environment and Climate Change Canada (ECCC) and Health Canada established air quality standards for fine particulate matter. The CAAQS were established by the Federal government in 2013. The CAAQS include a long-term (annual) target for fine particulate matter (Environment Canada, 2013). Applicable standards include the 2020 CAAQS standards for PM_{2.5}. Additional CAAQS for NO₂ are to be implemented by 2025.

The NAAQOs are benchmarks that can be used to facilitate air quality management on a regional scale and provide goals for outdoor air quality that protect public health, the environment, or aesthetic properties of the environment (CCME, 1999).

The AAQC and CAAQS are collectively referred to as “air quality indicators” in this AQIA. **Table 2-1** summarizes the air quality indicators related to the contaminants of concern used in this AQIA. A value above an air quality indicator does not indicate a concern but is used to describe the air quality qualitatively.

Table 2-1 Applicable Air Quality Indicators

CONTAMINANT OF CONCERN	AVERAGING TIME	ONTARIO AMBIENT AIR QUALITY CRITERIA (µg/m³) ^A	CANADIAN AMBIENT AIR QUALITY STANDARDS (µg/m³)	NATIONAL AMBIENT AIR QUALITY OBJECTIVES ^B		PROJECT CRITERIA
				DESIRABLE (µg/m³)	ACCEPTABLE (µg/m³)	
PM ₁₀	24 h	50	-	-	-	50
PM _{2.5}	24 h	25 ^C	27 ^D	-	-	25
	Annual	-	8.8	-	-	8.8
TSP	24 h	120	-	-	120	120
	Annual	60	-	60	-	60
NO ₂	1 h	400	79.0 ^E	-	400	79.0 ^E
	24 h	200	-	-	200	200
	Annual	22.6	22.6	60	100	22.6 ^E
CO	1 h	36,200	-	15,000	35,000	15,000
	8 h	15,700	-	6,000	15,000	6,000
Acrolein	1 h	4.5	-	-	-	4.5
	24 h	0.4	-	-	-	0.4
Benzene	24 h	2.3	-	-	-	2.3
	Annual	0.45	-	-	-	0.45
1,3-Butadiene	24 h	10	-	-	-	10
	Annual	2	-	-	-	2
Acetaldehyde	30 min	500	-	-	-	500
	24 h	500	-	-	-	500
Formaldehyde	24 h	65	-	-	-	65

Notes: ^A MECP 2018 Ontario's Ambient Air Quality Criteria

^B CCME 1999 Canadian National Ambient Air Quality Objectives

^C MECP AAQC value is 30 µg/m³ on the 98th percentile, however the MECP recommends the contribution of primary PM_{2.5} from a single facility to ambient levels of PM_{2.5} should be no greater than 25 µg/m³ over 24-hours

^D CAAQS published in Canada Gazette Volume 147, No. 21 – May 25, 2013. Final standard phase of 2020 used.

^E CAAQS published in the Canada Gazette Volume 15, No. 49 — December 9, 2017. Final standard phase of 2025 used.

^F CAAQS published in Canada Gazette Volume 151, No. 43 – October 28, 2017. Final standard phase of 2025 used.

The air quality indicators represent desirable levels of contaminants in ambient air and are not enforceable within any jurisdiction; they represent indicators of ambient air quality provincially and nationally. The air quality indicator value for each contaminant and its applicable averaging period are used to assess air quality.

The applicable averaging periods for the contaminants are based on 30-minute, 1-hour, 8-hour, 24-hour, and annual exposure periods. The averaging periods for each contaminant are based on adverse impacts to human health, flora, or fauna. The limiting effects are indicated within the AAQC (MECP, 2018). As previously mentioned, CAAQS indicator values are based on adverse impacts to human health only.

3 BACKGROUND AIR QUALITY

3.1 AMBIENT MONITORING STATIONS

The concentrations of the selected contaminants for this assessment resulting from background sources were estimated by analyzing historical monitoring data from ECCC National Air Pollution Surveillance (NAPS) stations and the MECP air monitoring stations in the vicinity of the Project. Consideration was given to assess the representativeness of the data for the station selected for use in this assessment. Publicly available data was obtained from these stations for the latest available years. For most of the ambient stations, 2016 is the most recent year of data that has been through rigorous quality assurance and quality control (QA/QC).

Prevailing wind direction for the Project area is shown in **Figure 3-1**, based on meteorological data from ECCC Stations #4841 and #53678 located at Buttonville Airport in Toronto, Ontario. The station location was moved during the 5-year period and this resulted in data being extracted from the two stations.

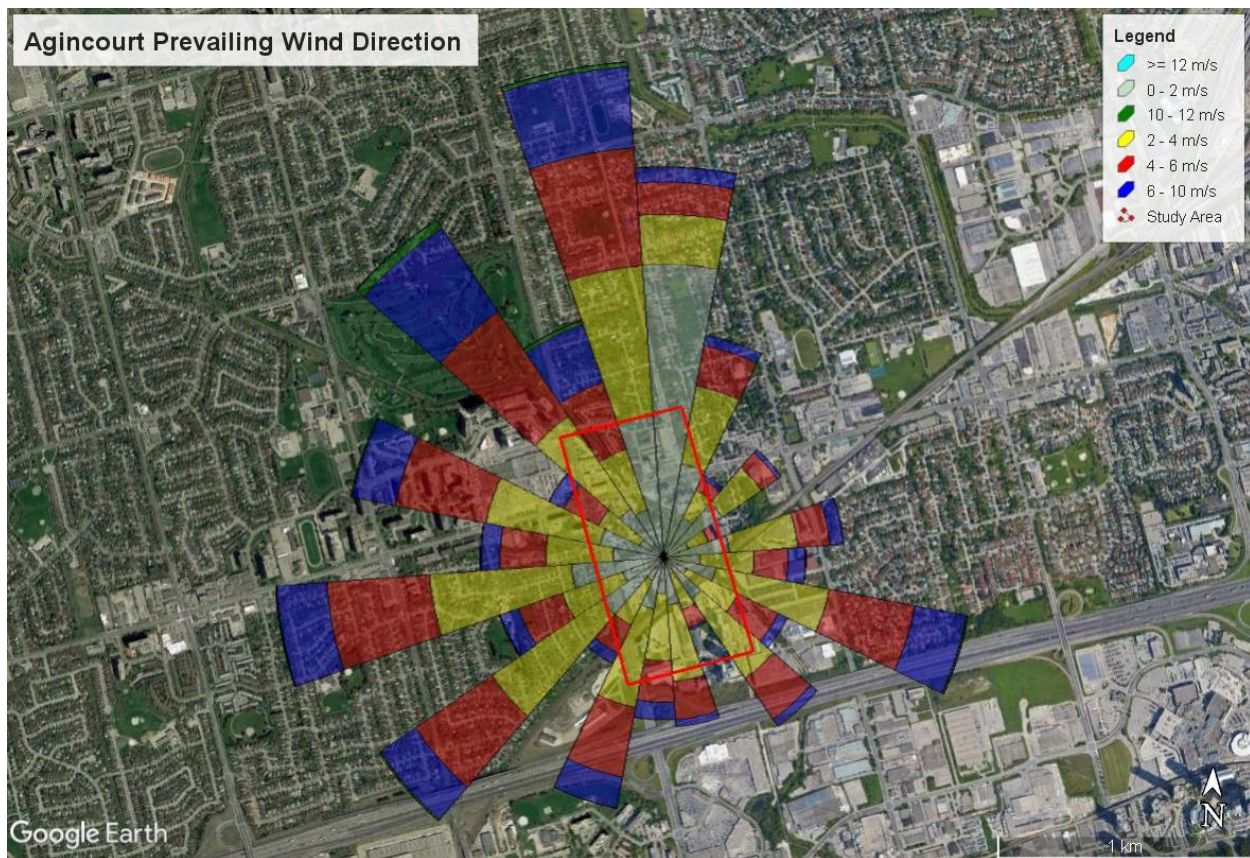


Figure 3-1: Toronto - Buttonville Wind Rose

WSP reviewed the ambient air monitoring data from stations in Ontario and selected the Toronto West, Toronto East, Toronto Gage Institute, Windsor West, and Egbert stations for this assessment to cover the air quality indicators retained for this assessment. Several stations were required due to some contaminants not being measured at closer ambient air monitoring stations. The location of the selected stations is presented in **Figure 3-2**.

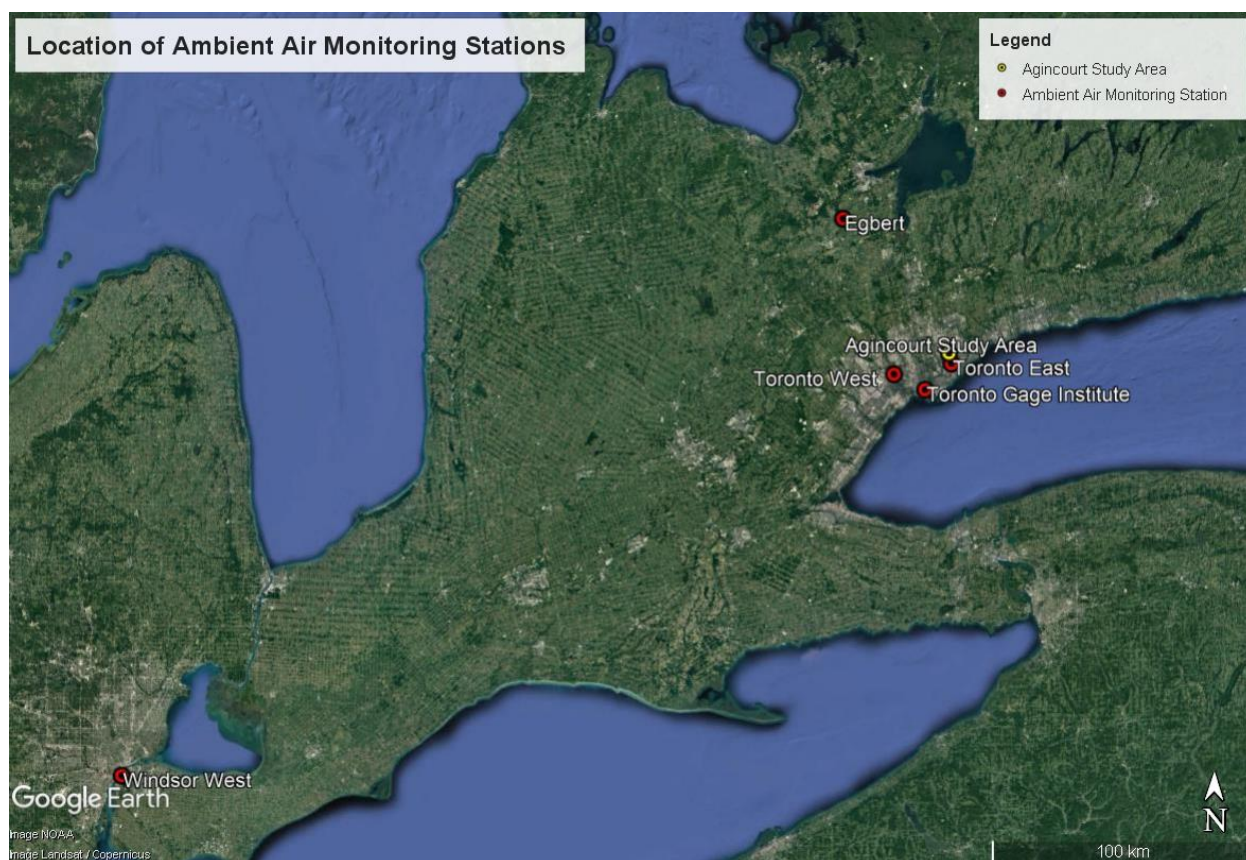


Figure 3-2: Location of Ambient Monitoring Stations

The availability of data varies for each contaminant based on accessibility to quality assured data from ECCC and the MECP. The station information and period of analysis are listed in **Table 3-1**. For $PM_{2.5}$ and NO_2 , the MECP station in Toronto East was used. Data from the Toronto West station was used for CO. Data from the Toronto – Gage Institute station was used for benzene and 1,3-butadiene. For formaldehyde and acetaldehyde, data from the Egbert station was used. For acrolein, the Windsor West station was selected. The Toronto East, Toronto West, and Toronto – Gage Institute stations were selected as a result of the station proximity to the Project site, data availability, as well as the station being located in a similar geographic region with similar local land use. For formaldehyde and acetaldehyde, the Egbert station was selected for use as a result of data availability. For acrolein the Windsor West station was used since only a few stations have data for this contaminant, Windsor West being the closest station to the Project site.

Table 3-1 Air Monitoring Stations and Data Availability for Selected Contaminants

STATION NAME	NAPS STATION ID	DATA AVAILABLE						YEARS OF DATA AVAILABLE	DISTANCE FROM PROJECT (KM)	DIRECTION FROM PROJECT
		$PM_{2.5}$	PM_{10}	TSP	CO	NO_2	VOC			
Toronto East	33003	Y	-	-	N	Y	N	2012-2016	3	South
Toronto West	35125	Y	-	-	Y	Y	N	2012-2016	22	West Southwest

STATION NAME	NAPS STATION ID	DATA AVAILABLE						YEARS OF DATA AVAILABLE	DISTANCE FROM PROJECT (KM)	DIRECTION FROM PROJECT
		PM _{2.5}	PM ₁₀	TSP	CO	NO ₂	VOC			
Toronto - Gage Institute	60427	N	-	-	N	N	Y	2009-2013	16	Southwest
Windsor West	60211	Y	-	-	N	Y	Y	2006-2010	350	Southwest
Egbert	64401	Y	-	-	N	N	Y	2006-2010	63	North Northwest

Background concentrations for each contaminant were obtained from the stations listed in **Table 3-1**. For contaminants with 1-hour averaging periods, the maximum 90th percentile over 5 years was recorded. The 90th percentile over the five-year data set is considered to be representative of ambient background conditions for averaging periods of 30 minutes and one hour. The 90th percentile of the available monitoring data is typically considered a conservative estimate of background air quality (CEA Agency and CNSC, 2009). For contaminants with an 8-hour averaging period, the ambient concentration over 5 years was calculated using the 1-hour ambient concentration, as outlined in Table 7-1 in the *MECP Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Modelling (ESDM) Report*. For contaminants with a 24-hour averaging period, the maximum 24-hour concentration over 5 years was recorded. For contaminants with an annual averaging period, the average annual mean concentration over 5 years was recorded. **Table 3-2** summarizes background concentrations in the area of the Project. Ambient air monitoring data can also be found in **Appendix A**.

Table 3-2 Summary of Ambient Background Concentrations within the Study Area

CONTAMINANT	AVERAGING PERIOD	BACKGROUND CONCENTRATION (µg/m ³)	AIR QUALITY INDICATOR (µg/m ³)	% OF INDICATOR
PM ₁₀	24 h	56	50	113%
PM _{2.5}	24 h	30	25	122%
	Annual	8.9	8.8	101%
TSP	24 h	101	120	84%
	Annual	30	60	49%
NO _x (expressed as NO ₂)	1 h	53	79.0 ^A	67%
	24 h	70	200	35%
	Annual	27	22.6 ^A	118%
CO	1 h	435	15,000	3%
	8 h	243	6,000	4%
Acrolein	1 h	0.10	4.5	2%
	24 h	0.12	0.4	31%
Benzene	24 h	1.52	2.3	66%

CONTAMINANT	AVERAGING PERIOD	BACKGROUND CONCENTRATION (µg/m³)	AIR QUALITY INDICATOR (µg/m³)	% OF INDICATOR
	Annual	0.77	0.45	171%
1,3-Butadiene	24 h	0.17	10	2%
	Annual	0.08	2	4%
Acetaldehyde	30 min	2.5	500	1%
	24 h	2.5	500	0.5%
Formaldehyde	24 h	6.0	65	9%

^A CAAQS published in the Canada Gazette Volume 15, No. 49 — December 9, 2017. Final standard phase of 2025 used.

As shown in **Table 3-2**, concentrations of PM₁₀, PM_{2.5}, annual NO_x, and annual benzene were above applicable air quality indicators.

3.2 SURROUNDING INDUSTRIAL FACILITIES

Nearby industrial and commercial facilities have the potential to impact existing air quality conditions surrounding the Study Area. Twenty-six (26) facilities have been identified within 5 km of the Study Area which may contribute to existing air quality conditions. These facilities have been identified based on National Pollutant Release Inventory (NPRI) data from 2016 which corresponds to the latest available year with data that has been quality assured by Environment and Climate Change Canada and are shown in **Table 3-3**.

Table 3-3 Summary of Surrounding Industrial Releases

FACILITY	DESCRIPTION	NOX	CO	VOC	TSP	PM ₁₀	PM _{2.5}
				(TONNES/YEAR)			
Colwell Canada Corp	Printing/Lithograph	-	-	34	-	-	-
Amvic Building Systems	Manufacturing	-	-	161	-	-	-
City of Toronto - Victoria Park Transfer Station	Waste Management	-	-	-	1.5	0.300	0.080
Parkway Place Holdings Ltd.	Office Building	-	-	-	-	0.526	-
Parkway Place Holdings Ltd.	Office Building	-	-	-	-	0.523	-
Parkway Place Holdings Ltd.	Office Building	-	-	-	-	3.4	-
G&K Services Canada Inc.	Commercial Laundry Services	-	-	12	-	0.962	0.5160
Active Exhaust Inc.	Manufacturing (Office)	-	-	-	-	0.330	0.330
Allied Halo Industries	Manufacturing	-	-	241	-	-	-
Precisioneering DKG Corp	Manufacturing	-	-	6.3	-	-	-
Shorewood Packaging	Supplier	-	-	18	-	-	-
Atlantic Packaging Products Ltd	Manufacturing	67	31	-	-	0.949	0.94
New Forest Paper Mills LP	Paper Mill	49	41	-	-	1.5	1.3
The International Group Inc (Agincourt Plant)	Manufacturing	30	25	98	-	1.1	0.19
Dufferin Concrete (Scarborough Plant)	Supplier	-	-	-	-	0.553	-
Olympic Kitchens Inc	Manufacturing	-	-	14	-	-	-
Lynnpak Packaging Ltd	Supplier	-	-	94	-	-	-

FACILITY	DESCRIPTION	NOX	CO	VOC	TSP	PM ₁₀	PM _{2.5}
				(TONNES/YEAR)			
Vacuum Metallizing Ltd	Metal Finishing	-	-	26	-	-	-
City of Toronto - Scarborough Transfer Station	Waste Management	-	-	-	3.9	0.740	0.180
DART Canada Inc	Manufacturing	-	-	12	-	0.771	0.225
G&P Millwork Ltd	Manufacturing	-	-	18	-	1.0	0.912
Durapaint Industries	Metal Finishing	-	-	20	-	-	-
Nienkamper Furniture & Accessories Inc	Manufacturing	-	-	18	-	-	-
De Luxe Produits De Papier Inc. (Division Toronto)	Supplier	-	-	1.7	-	-	-
Owens Corning Insulating Systems Canada LP (Toronto Plant)	Supplier	-	68	13	96	94	81
Trench Ltd	Manufacturer/Supplier	-	-	14	-	-	-
Total Emissions		146	165	801	101	107	86
Ontario Total Emissions		589 729	928 670	195 881	403 710	164 819	52 590
% of Study Area Emissions to Ontario Total		0.02%	0.018%	0.41%	0.03%	0.06%	0.16%

3.3 SENSITIVE RECEPTORS

As outlined in the MECP Protocol, sensitive receptors within a 300 m radius of the Project were identified in the assessment. The area surrounding the Project is comprised of residential, commercial, and industrial land use types. Various sensitive receptors have been identified within the Study Area of the Project including residential developments, places of worship, schools, and retirement homes.

- Residences:
 - A total of 11 residential subdivisions are located within 300 m of the Study Area.
- Place of Worship:
 - A total of 8 places of worship are located within 300 m of the Study Area.
- Schools:
 - A total of 5 schools are located within 300 m of the Study Area.
- Retirement Homes:
 - A total of 1 retirement home is located within 300 m of the Study Area.

The location of sensitive receptors is shown in **Figure 3-3** and **Appendix B**.

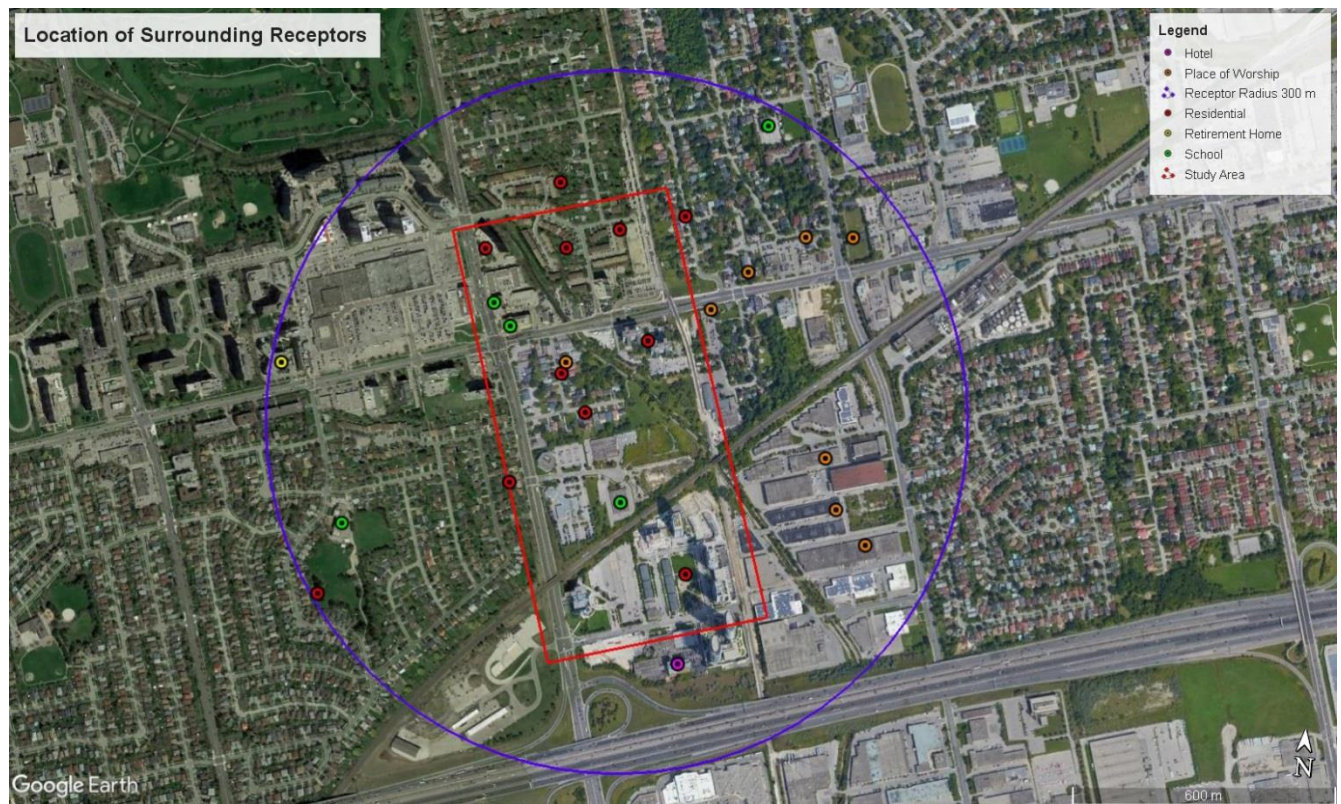


Figure 3-3: Location of Surrounding Sensitive Receptors

APPENDIX

A AMBIENT MONITORING DATA

Table A-1: Five Year Ambient Air Quality Monitoring Data

Contaminant	Averaging Period	Background Concentration (µg/m³)	Air Quality Threshold (µg/m³)	% of Threshold
PM ₁₀	24 h	56	50	113%
PM _{2.5}	24 h	30	25	122%
	Annual	8.9	8.8	101%
TSP	24 h	101	120	84%
	Annual	30	60	49%
NO _x (expressed as NO ₂)	1 h	53	79.0 (1)	67%
	24 h	70	200	35%
	Annual	27	22.6 (1)	118%
CO	1 h	435	15,000	3%
	8 h	243	6,000	4%
Acrolein	1 h	0.10	4.5	2%
	24 h	0.12	0.4	31%
Benzene	24 h	1.52	2.3	66%
	Annual	0.77	0.45	171%
1,3-Butadiene	24 h	0.17	10	2%
	Annual	0.08	2	4%
Acetaldehyde	30 min	2.5	500	1%
	24 h	2.5	500	0.5%
Formaldehyde	24 h	6.0	65	9%

(1) CAAQS published in the Canada Gazette Volume 15, No. 49 — December 9, 2017. Final standard phase of 2025 used.

Table A-2: 2012 Ambient Air Quality Monitoring Data

Contaminant	Averaging Period	Background Concentration (µg/m³)	Air Quality Threshold (µg/m³)	% of Threshold
PM ₁₀	24 h	39	50	78%
PM _{2.5}	24 h	21	25	84%
	Annual	6.3	8.8	72%
TSP	24 h	70	120	58%
	Annual	21	60	35%
NO _x (expressed as NO ₂)	1 h	51	79.0 (1)	64%
	24 h	64	200	32%
	Annual	26	22.6 (1)	116%
CO	1 h	435	15,000	3%
	8 h	243	6,000	4%
Acrolein (2)	1 h	0.08	4.5	2%
	24 h	0.12	0.4	30%
Benzene (3)	24 h	1.56	2.3	68%
	Annual	0.77	0.45	171%
1,3-Butadiene (3)	24 h	0.19	10	2%
	Annual	0.08	2	4%
Acetaldehyde (2)	30 min	2.5	500	1%
	24 h	3.1	500	1%
Formaldehyde (2)	24 h	8.2	65	13%

(1) CAAQS published in the Canada Gazette Volume 15, No. 49 — December 9, 2017. Final standard phase of 2025 used.

(2) Calculated using 2006 Annual Data

(3) Calculated using 2009 Annual Data

Table A-3: 2013 Ambient Air Quality Monitoring Data

Contaminant	Averaging Period	Background Concentration (µg/m³)	Air Quality Threshold (µg/m³)	% of Threshold
PM ₁₀	24 h	59	50	119%
PM _{2.5}	24 h	32	25	128%
	Annual	8.2	8.8	93%
TSP	24 h	107	120	89%
	Annual	27	60	46%
NO _x (expressed as NO ₂)	1 h	49	79.0 (1)	62%
	24 h	58	200	29%
	Annual	26	22.6 (1)	113%
CO	1 h	412	15,000	3%
	8 h	230	6,000	4%
Acrolein (2)	1 h	0.10	4.5	2%
	24 h	0.12	0.4	31%
Benzene (3)	24 h	1.57	2.3	68%
	Annual	0.77	0.45	171%
1,3-Butadiene (3)	24 h	0.19	10	2%
	Annual	0.07	2	4%
Acetaldehyde (2)	30 min	1.7	500	0%
	24 h	2.0	500	0%
Formaldehyde (2)	24 h	4.6	65	7%

(1) CAAQS published in the Canada Gazette Volume 15, No. 49 — December 9, 2017. Final standard phase of 2025 used.

(2) Calculated using 2007 Annual Data

(3) Calculated using 2010 Annual Data

Table A-4: 2014 Ambient Air Quality Monitoring Data

Contaminant	Averaging Period	Background Concentration (µg/m³)	Air Quality Threshold (µg/m³)	% of Threshold
PM ₁₀	24 h	61	50	122%
PM _{2.5}	24 h	33	25	132%
	Annual	8.9	8.8	101%
TSP	24 h	110	120	92%
	Annual	30	60	49%
NO _x (expressed as NO ₂)	1 h	51	79.0 (1)	64%
	24 h	90	200	45%
	Annual	27	22.6 (1)	118%
CO	1 h	424	15,000	3%
	8 h	237	6,000	4%
Acrolein (2)	1 h	0.07	4.5	1%
	24 h	0.12	0.4	29%
Benzene (3)	24 h	1.12	2.3	49%
	Annual	0.59	0.45	131%
1,3-Butadiene (3)	24 h	0.17	10	2%
	Annual	0.06	2	3%
Acetaldehyde (2)	30 min	2.4	500	0%
	24 h	3.0	500	1%
Formaldehyde (2)	24 h	6.7	65	10%

(1) CAAQS published in the Canada Gazette Volume 15, No. 49 — December 9, 2017. Final standard phase of 2025 used.

(2) Calculated using 2008 Annual Data

(3) Calculated using 2011 Annual Data

Table A-5: 2015 Ambient Air Quality Monitoring Data

Contaminant	Averaging Period	Background Concentration (µg/m³)	Air Quality Threshold (µg/m³)	% of Threshold
PM ₁₀	24 h	72	50	144%
PM _{2.5}	24 h	39	25	156%
	Annual	8.5	8.8	97%
TSP	24 h	130	120	108%
	Annual	28	60	47%
NO _x (expressed as NO ₂)	1 h	53	79.0 (1)	67%
	24 h	71	200	36%
	Annual	26	22.6 (1)	116%
CO	1 h	412	15,000	3%
	8 h	230	6,000	4%
Acrolein (2)	1 h	0.07	4.5	1%
	24 h	0.12	0.4	31%
Benzene (3)	24 h	1.34	2.3	58%
	Annual	0.62	0.45	138%
1,3-Butadiene (3)	24 h	0.16	10	2%
	Annual	0.06	2	3%
Acetaldehyde (2)	30 min	1.2	500	0%
	24 h	1.8	500	0%
Formaldehyde (2)	24 h	3.0	65	5%

(1) CAAQS published in the Canada Gazette Volume 15, No. 49 — December 9, 2017. Final standard phase of 2025 used.

(2) Calculated using 2009 Annual Data

(3) Calculated using 2012 Annual Data

Table A-6: 2016 Ambient Air Quality Monitoring Data

Contaminant	Averaging Period	Background Concentration ($\mu\text{g}/\text{m}^3$)	Air Quality Threshold ($\mu\text{g}/\text{m}^3$)	% of Threshold
PM ₁₀	24 h	50	50	100%
PM _{2.5}	24 h	27	25	108%
	Annual	7.0	8.8	80%
TSP	24 h	90	120	75%
	Annual	23	60	39%
NO _x (expressed as NO ₂)	1 h	47	79.0 (1)	60%
	24 h	68	200	34%
	Annual	23	22.6 (1)	101%
CO	1 h	0	15,000	0%
	8 h	0	6,000	0%
Acrolein (2)	1 h	0.07	4.5	2%
	24 h	0.13	0.4	32%
Benzene (3)	24 h	2.03	2.3	88%
	Annual	0.61	0.45	136%
1,3-Butadiene (3)	24 h	0.14	10	1%
	Annual	0.05	2	3%
Acetaldehyde (2)	30 min	1.5	500	0%
	24 h	2.5	500	1%
Formaldehyde (2)	24 h	7.4	65	11%

(1) CAAQS published in the Canada Gazette Volume 15, No. 49 — December 9, 2017. Final standard phase of 2025 used.

(2) Calculated using 2010 Annual Data

(3) Calculated using 2013 Annual Data

APPENDIX

B SENSITIVE RECEPTOR LOCATIONS

Table B-1: Summary of Sensitive Receptors

No.	Location	Description	UTM E	UTM N
R1	Reidmont Ave, northwest side of focus area	Residential subdivision within focus area	637865	4849444
R2	Reidmont Ave, northeast side of focus area	Residential subdivision within focus area	637979	4849488
R3	Gordon Ave, west side of focus area	Residential subdivision within focus area	637888	4849169
R4	Collingwood St, west side of focus area	Residential subdivision within focus area	637951	4849073
R5	Sheppard Ave, east side of focus area	Residential high-rise within focus area	638076	4849259
R6	Kennedy Rd, northwest corner of focus area	Residential high-rise within focus area	637682	4849439
R7	Sheppard Ave, west side of focus area	School	637764	4849270
R8	Cowdray Court, south end of focus area	School	638056	4848903
R9	Village Green Square, south end of focus area	Residential mixed high-rise and townhouse within focus area	638231	4848751
R10	Village Green Square, south of focus area	Hotel	638228	4848545
R11	Kennedy Rd, northwest side of focus area	School	637720	4849310
R12	Gordon Ave, west side of focus area	Place of worship	637903	4849204
R13	Cardwell Ave, north of focus area	Residential subdivision	637845	4849600
R14	Agincourt Dr, northwest of focus area	Residential subdivision	638131	4849560
R15	Kennedy Rd, west side of focus area	Residential subdivision	637801	4848915
R16	Birchmount Ave, west of focus area	Residential subdivisions	637398	4848621
R17	Allanford Rd, west of focus area	School	637429	4848783
R18	Lockie Ave, northeast of focus area	School	638300	4849794
R19	Sheppard Ave E, west of focus area	Retirement Residence	637241	4849131
R20	Sheppard Ave E, east of focus area	Place of worship	638209	4849354
R21	Sheppard Ave E, east of focus area	Place of worship	638289	4849450
R22	Donalda Cres, east of focus area	Place of worship	638415	4849541
R23	Midland Ave, east of focus area	Place of worship	638518	4849554
R24	Weybright Ct, east of focus area	Place of worship	638510	4849050
R25	Midland Ave, east of focus area	Place of worship	638621	4848854
R26	Midland Ave, east of focus area	Place of worship	638552	4848934