



REPORT

Air Quality Feasibility Assessment

*Proposed Residential Development - Niagara Village, 6000 Marineland Parkway,
Niagara Falls, Ontario*

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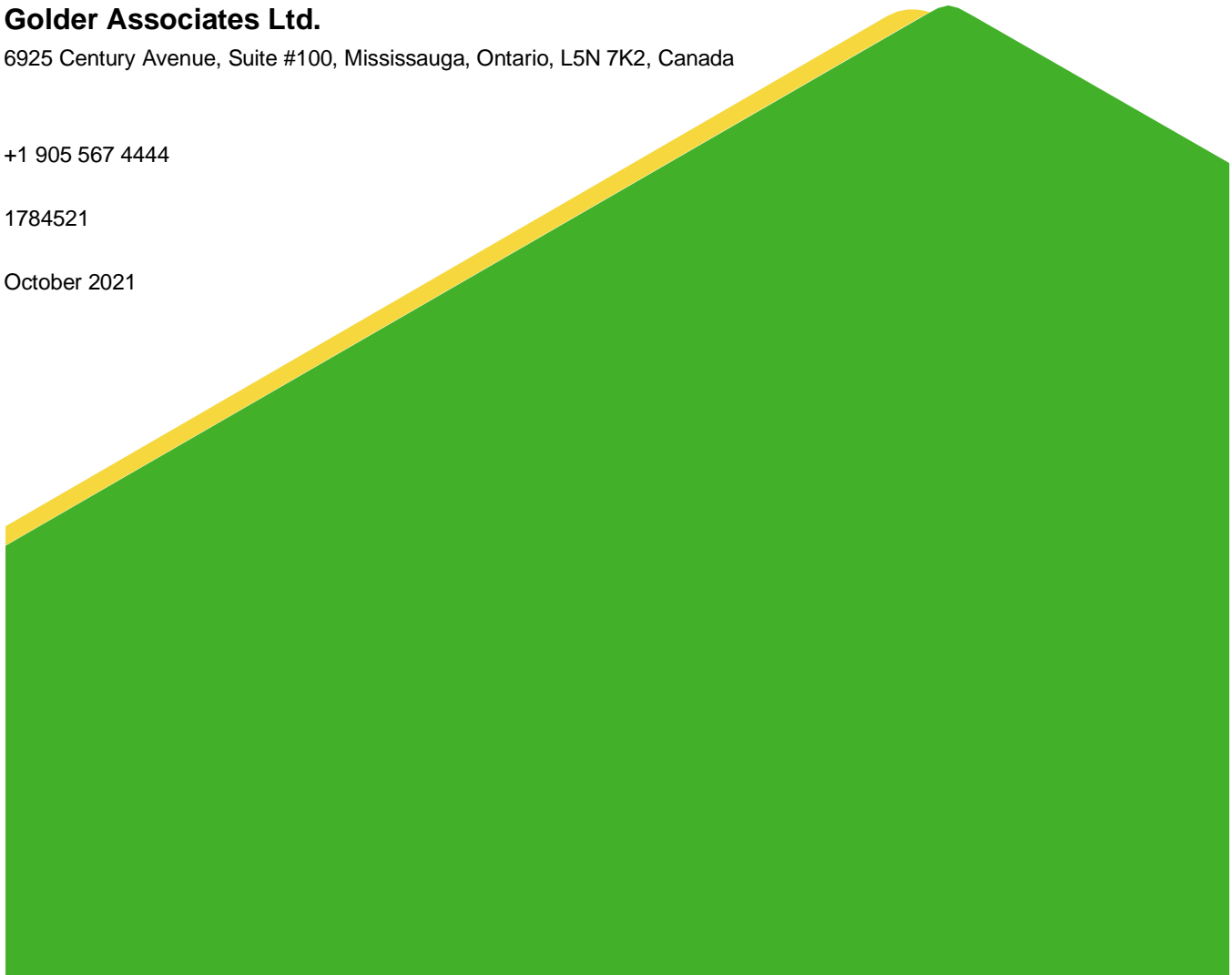
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Executive Summary

Golder was retained by 2592693 Ontario Inc. to carry out an air quality feasibility assessment in support of a proposed residential development named Niagara Village, to be located at the existing Thundering Waters Golf Course at 6000 Marineland Parkway, Niagara Falls, Ontario (the Site). The proposed redevelopment plans for the Site include low, mid-rise residential housing up to 6 storeys in height (the Proposed Development). The purpose of this study is to address the City of Niagara Falls (the City) requirements of an air quality study for a land use compatibility assessment through a review of the existing industrial emission sources surrounding the Site and an assessment of the potential for air quality impacts at the Proposed Development.

Golder completed a review of the existing air emission sources within 1 km of the Site (the Study Area). Twenty-one industrial facilities were identified within the Study Area that are potential sources of air emissions. The operations and emission sources at each industrial facility within the Study Area were reviewed using publicly available information and provisionally classified using the Ontario Ministry of Environment Conservation and Parks (MECP) D-6 guidelines to identify the corresponding “Potential Influence Area” and “Minimum Setback Distance” of each facility. Of the twenty-one industrial facilities identified, the Site was identified to be within the Potential Influence Area or Minimum Setback Distance of five industrial facilities. Further assessment was therefore completed to identify the potential impacts to air quality at the Site from each of these five industrial facilities:

- Mancuso Chemicals;
- Washington Mills;
- Chemtrade;
- Quality Ready-Mix; and
- Salit Steel.

An air quality screening assessment was completed for each of these five facilities to assess the potential for elevated concentrations resulting from each industrial facility at the Site. The air quality screening assessment included a review of the different types of emission sources at each facility, the manner of emission (e.g. are emissions released fugitively or from a stack) and the location of residences at the Proposed Development, relative to each industrial facility. Where the Site was identified to be located within the Minimum Setback Distance of an industrial facility, dispersion modelling was carried out using site-specific data, where available, and assumptions based on observations/aerial imagery when information was not provided by the industry.

Based on the results of the air quality screening assessment, the air quality concentrations at the Proposed Development are expected to be below the relevant MECP Air Quality Standards. Additionally, the Site was identified to be predominantly upwind from the majority of industrial facilities within the surrounding area and therefore any potential impacts from these industrial facilities would likely be infrequent.

The results of the air quality feasibility assessment thus indicate that the development of the Site is not anticipated to introduce additional environmental burden on the existing industrial facilities surrounding the Site and the introduction of mid-rise residential land use at the Site would be considered compatible with current surrounding land uses, with respect to air quality. The proposed new sensitive land use is not anticipated to be significantly impacted by emissions from existing nearby sources.

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1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was retained by 2592693 Ontario Inc. (the Client) to carry out an air quality feasibility assessment (the Study) for a proposed residential development named Niagara Village (the Project), located at the existing Thundering Waters Golf Course at 6000 Marineland Parkway, Niagara Falls, Ontario (the Site). The purpose of the Study is to review the feasibility of the Project with respect to air quality. The Study is to support the Project's official plan and zoning by-law amendment application to allow for the redevelopment of the Site with residential and mixed land uses.

The Site is located near the intersection of Marineland Parkway and Stanley Avenue. It is currently an active golf course that was developed in 2005 and covers approximately 150 hectares. A road network encircles the Site and the Canadian Pacific (CP) Montrose Subdivision, a tertiary branch rail line, runs through the centre of the Site and services the industrial facilities in the area. As part of the Project, we have assumed that the Site may be re-developed into a residential subdivision, containing townhouses, and residential apartments with municipal roads and open recreation spaces. It is estimated up to 1319 residential units will be constructed. It is anticipated that there will be a mix of single-family dwellings, townhouses, low rise apartments and high density residential apartments which may extend up to 6 storeys in height (approximately 21.3 m above grade-including parapet). A copy of the Draft Plan of Subdivision, revised as of 7th July 2021, is included as Appendix A.

As part of the land use planning process, an understanding of whether or not proposed land uses, changes to land uses and/or amendments to land uses will introduce a potential for issues related to land use compatibility is required. The City of Niagara Falls (the City) official plan (Official Plan for the City of Niagara Falls, 2017) includes policies of council that require the following related to this report:

- An air quality study to address impacts of neighboring properties and their uses, roads, rail lines, air traffic etc. on development proposals involving residential uses and other similar sensitive uses.

This scope of work has been prepared to fulfil the requirements of an air quality study for a land use compatibility assessment required as per the policies of the City.

In November 2020, the Regional Municipality of Niagara Falls (the Region) provided comments, including a peer review carried out by their air quality consultant, on the application for Official Plan and Zoning By-law Amendment and Draft Plan of Subdivision submitted by the Client in August 2020. This Study is a revision to the air quality study prepared by Golder in November 2019 to support the submission in August 2020. This Study has been updated to address the peer review comments and discussions with the Region.

2.0 METHODOLOGY

It is understood that the redevelopment will not include any industrial land use and Golder understands that there will be no significant sources of emission to air from the proposed new land uses. As such, this assessment focuses on the suitability of introducing sensitive land use to the area.

The air quality assessment includes three main tasks:

- Identification of existing air emission sources;
- Land use compatibility assessment; and
- Air quality assessment, if required.

Each of these tasks is described in more detail in the following sections.

3.0 IDENTIFICATION OF EXISTING AIR EMISSION SOURCES

The first step of this assessment is to identify the main sources of air emissions in the area surrounding the Site. The Site is surrounded primarily by industrial land use to the east and south, residential land use to the north, and forested land to the west and south-west. A 1 km radius around the Site was used to define the Study Area, based on the maximum potential influence areas for industrial land use identified in the Ontario Ministry of the Environment, Conservation and Parks (MECP) D series guidelines (Section 4). This study area was used to identify the main sources of air emissions from both industrial and transportation sources, as indicated in Figure 1. The Study Area is marked orange, the Site boundary marked red, and neighbouring industrial facilities in green, purple and blue. Tables 2 and 3 provide the IDs and descriptions of the existing industrial facilities that were identified.



Figure 1: 1 km radius from the Site

Identified industrial and transportation sources are discussed in the following two sections.

3.1 Industrial Land Use Emission Sources

A desktop analysis was carried out to identify nearby industrial land use air quality emission sources. The following further describes the relevant sources of information investigated.

3.1.1 National Pollutant Release Inventory (NPRI) Search

Under Section 46 of Canadian Environmental Protection Act, designated facilities that meet certain reporting thresholds are required to submit an annual NPRI report to Environment and Climate Change Canada (ECCC). The report must quantify releases to air, water, land, and material recovery of over 300 listed substances that have been determined to have the potential to cause significant environmental impact.

Two industrial facilities were found within 1 km of the Site that were required to report their emissions released to air in 2019 to the NPRI. NPRI data for the facilities is provided in Table 1 and their locations are indicated in purple circles on Figure 1.

Reporting to the NPRI is only required for facilities that have annual emissions above relevant thresholds set by ECCC. As a result, there may be additional industrial facilities in the vicinity of the Site that do not trigger NPRI reporting but have air quality emission sources with the potential to impact sensitive receptors introduced by the Site.

Table 1: 2019 NPRI Emission Totals for Industry within 1 km of the Site

ID	Company Name	NPRI ID	Distance from Site	Contaminants (Tonnes)							
				1,2,4-Trimethylbenzene	Ethylbenzene	Methanol	Phenol (and its salts)	Toluene	Xylene (all isomers)	2-Butoxyethanol	Sulphur Dioxide
1	Mancuso Chemicals Limited	728	460 m	0.005	0.019	0.031	0.0032	0.0853	0.0135	0.001	-
2	Chemtrade	855	<40 m	-	-	-	-	-	-	-	0.178
Study Area Total Emissions (tonnes)				0.005	0.019	0.031	0.0032	0.0853	0.0135	0.016	0.178

3.1.2 Existing Section 9 Air Approvals

In Ontario, the Environmental Protection Act, R.S.O 1990 Chapter E.19 (EPA) regulates the discharge of contaminants into the natural environment and is administered by the MECP. Section 20.2 of Part II.1 of the EPA, for activities that fall under Section 9 of the EPA, requires that an approval must be obtained before installation or modification of all atmospheric emission sources (i.e., air, odour, noise and vibration). Depending on the facility activities, approval for the atmospheric emission sources is granted through the Environmental Activity and Sector Registry (EASR) or by obtaining an Environmental Compliance Approval (ECA) – formerly referred to as a Certificate of Approval, for the equipment by submitting an application to the MECP in accordance with EPA Section 9.

Golder conducted a review of existing Section 9 air approvals for facilities located within the Study Area using the MECP Access Environment and Environmental Registry websites. The purpose of reviewing existing approvals is to help identify the main sources of emission to air within the surrounding area based on the descriptions of facilities that have already been permitted by the MECP.

Copies of existing approvals are publicly available on the MECP website. Golder has obtained copies of the approvals for the nineteen facilities identified within the Study Area and completed a preliminary review of the sources of air emissions.

Table 2 summarises the approvals identified and the sources of interest. The potential impact of each of these industrial sources on the Site are further discussed in Sections 4.0 and 5.0. Each industry is indicated in a green circle of Figure 1.

Table 2: Summary of Facilities with Section 9 Approvals within the Study Area

Figure 1 ID	Distance from Site	Facility/ Company Name	Address	Approval (Date Issued)	Sources of Interest as presented in the Approval	Comments
1	450 m	Mancuso Chemicals Limited	5725 Progress St.	7196-AK9Q6Q (May 11, 2017)	Furan resin, acid catalyst and alkyd resin manufacturing facility	Production limit of 30,000,000 kg of products per year
2	<40 m	Chemtrade Logistics Inc.	6300 Oldfield Rd.	R-010-6111569981 (September 18, 2019)	Chemical transfer and storage facility	-
3	290 m	Washington Mills	7780 Stanley Avenue	2240-A3WMAC (January 6, 2016)	Abrasive grain and specialty electro-fused minerals manufacturing facility	-
4	340 m	Fencast Industries	6272 Kister Rd.	6951-7Y5LKZ (November 29, 2009)	Produces fence fittings. Uses natural gas fired ovens, HVAC, and furnaces	-
5	510 m	Can Mar Manufacturing Inc.	5869 Progress St.	4568-65HLCW (October 8, 2004)	Metal stamping. Natural gas fired ovens, HVAC, hot water heaters, and industrial processes	5 stacks, tallest being 6.4 m above grade
6	510 m	Barbisan Allmetal Designs	5835 Progress St.	9633-53MQ9L (October 26, 2001)	Paint spray booth	Stack reaching 1.98 m above grade
7	570 m	Niagara Industrial Finishes Inc.	5635 Progress St.	4894-86QRVE (June 25, 2010)	Contains two paint spray booths and HVAC	Two stacks, 8.82 m and 10 m above grade
8	560 m	Pumpcrete Corporation	6000 Progress St.	5298-5VLS9Z	Concrete pumping company. Site contains spray booth and exhaust system. Welding occurs on site	Two stacks, 9.75 m and 5.49 m above grade
9	620 m	HOCO Limited	5720 Progress St.	9580-5H4MA8 (January 6, 2003)	Paint spray booth for the application of a solvent	Stack 6.55m above grade

Figure 1 ID	Distance from Site	Facility/ Company Name	Address	Approval (Date Issued)	Sources of Interest as presented in the Approval	Comments
10	785 m	St. Lawrence Cement	5980 Don Murie St.	6063-6TMLK6 (September 27, 2006)	Dry concrete mixing facility	Limited to 100 cubic metres of concrete per hour
11	790 m	Laurcoat Inc. (Earl)	8591 Earl Thomas Ave.	9345-9ZYMES (September 15, 2015)	Powder coating and industrial sandblasting facility. Ovens, paint booths, and exhaust systems	Two stacks 5.5m and 7.9m above grade
12	775 m	Brunner Manufacturing & Sales Ltd.	5720 Don Murie St. 5770 Don Murie Street	5882-8PHSZE (January 25, 2012) 0387-6BCRBV (April 12, 2005)	Motor Vehicle Brake Part Manufacturing Facility. Site equipment includes exhaust systems, electrical induction units, saws and cooling towers Manufactures products for commercial vehicles. Site equipment includes exhaust systems, welding operations, and a cooling tower	Five stacks ranging in height from 6 m to 7.9 m above grade Five stacks ranging in height from 5 m to 8.7 m above grade
13	470 m	H. & L. Tool and Die Ltd.	5955 Don Murie St.	2764-8ATP7D (November 6, 2010)	Produces metal and rubber components for automotive. Coating operations and assembly	Limit of 2,200 stabilizer bars and 4,400 metal inserts per day
14	470 m	Niagara Pattern Ltd.	6135 Don Murie St.	5857-8AFRRE (October 21, 2010)	Paint spray booth	Stack 6.3m above grade
15	685 m	Laurcoat Inc. (Dorchester)	8100 Dorchester Rd.	5650-8S6LVJ (April 17, 2012)	Drying oven	Stack 8.8m above grade
16	645 m	CYRO Canada Inc.	8100 Dorchester Rd.	4622-4LRL63 (June 29, 2000)	Sawing of plastics and resins	One stack, 7.2m above grade

Figure 1 ID	Distance from Site	Facility/ Company Name	Address	Approval (Date Issued)	Sources of Interest as presented in the Approval	Comments
17	760 m	Corporation of the City of Niagara Falls	6815 Stanley Ave.	7958-86RLGY (June 25, 2010)	Standby generator for convention centre	Emergency generator, 400kW
18	10 m	Salit Steel	7771 Stanley Avenue	R-010-5111971633 (January 30, 2020)	The Facility employs several techniques to manipulate carbon steel (beams, plates, or rebar) to the meet customer specified length and/or shape including shearing, band saw cutting, hydraulic bending, oxy-propane metal cutting, and plasma metal cutting.	No metal products are manufactured on-site
19	660 m	Airwood Vents Inc.	6167 Don Murie Street	R-010-3111289481 (May 6, 2019)	Processes include receipt of raw wood, mill-working activities (cutting, sanding) and staining. Airborne emissions from the facility consist mainly of volatile organic compounds (VOCs) found in the wood finishing products.	

3.1.3 Additional Industrial Facilities Identified

In addition to industrial facilities identified using approvals and NPRI data, two additional facilities that are located within the Study Area were identified as part of the noise study. Further information on each of these facilities is provided in Table 3. Each of these facilities is identified on Figure 1 with a blue circle.

Table 3: Additional industrial facilities within the Study Area

Figure 1 ID	Distance from Site	Facility/ Company Name	Address	Comments
20	295 m	Lafarge Quality Ready Mix	6224 Progress Street	Ready mix plant
21	745 m	Palfinger	7942 Dorchester Road	Manufacturer and distributor of cranes

There are also a number of facilities that have Section 27 approvals for waste disposals. These are identified below but were not considered further as they do not have Section 9 approvals for emissions to air and are located over 900 m from the Site.

- Marine Clean – 6220 Don Murie Street;
- Air Liquide Canada Store – 6090 Don Murie Street;
- Gordon Wright Limited – 6255 Don Murie Street;
- Food Roll Sales (Niagara) Ltd. – 8464 Earl Thomas Avenue; and
- Niagara Bus Wash – 6441 Kister Road.

3.2 Transportation Sources

In addition to neighbouring industrial facilities, neighbouring transportation sources were also identified. There are several major transportation sources within the Study Area. However, it should be noted there is a setback of 15 m from the rail corridor upon which development is not permitted, as a result, the distance from the transportation sources to the closest point on the Site boundary is significantly smaller than the distance to closest location on the Site that could be developed. The identified transportation sources include:

- Marineland Parkway located adjacent to the Site boundary but approximately 450 m Northeast from the closest location that could be developed;
- McLeod Road located adjacent to the Site boundary but approximately 500 m North from the closest location that could be developed; and
- CP Rail Corridor which runs through the centre of the Site.

Studies by the US EPA have found that roadways generally influence air quality within a few hundred metres downwind from a heavily travelled road. The actual distance varies by location, time of day, year and prevailing meteorology, topography and traffic patterns (US EPA, 2014). Concentrations will dissipate rapidly from the road source. Each of these roads has annual average daily traffic of less than 40,000 vehicles and there are already residential developments in much closer proximity to each of these roads (i.e., less than 50 m). Given the distance of the two roads from potential development on the Site, neither of the two roads identified above were considered further in this assessment.

A rail corridor runs through the Site, however, confirmation was received from CP (Appendix B) that it is considered a tertiary branch line and consists of freight train activity to support the local industries only. No development is permitted within 15 m of the rail corridor. Given the infrequency of rail traffic along this line and the mandatory setback distance of residential development, emissions from the rail corridor were not considered further in this assessment.

4.0 LAND USE COMPATIBILITY ASSESSMENT

4.1 D-Series Guidelines

During the land use planning process for proposed future land uses, the MECP has recommendations described in a set of D-Series Guidelines developed in July 1995. The D-Series Guidelines are intended to assist in minimizing potential problems due to encroachment of sensitive land uses and industrial land uses on one another.

4.1.1 Guideline D-1 Land Use Compatibility

The MECP's Guideline D-1 Land Use Compatibility (Guideline D-1) provides recommendations and other control measures for land use planning proposals, which have the potential to involve encroachment of incompatible land uses. These recommendations seek to prevent or minimize potential adverse effects for an existing or proposed facility and apply only under circumstances of changes in land use proposals (i.e., future proposals).

Adverse effects considered under Guideline D-1 may include:

- noise and vibration;
- visual impact;
- odour and other air emissions;
- litter, dust and other particulates; and
- other contaminants.

Guideline D-6 Compatibility between Industrial Facilities and Sensitive Land Uses (Guideline D-6) discusses the applicability of Guideline D-1 for industrial facilities.

4.1.2 Guideline D-6 Compatibility between Industrial Facilities and Sensitive Land Uses

The purpose of Guideline D-6 is to prevent or minimize land use incompatibility between sensitive and industrial land uses through encroachment and the possibility of potential adverse effects due to normal operations of industrial facilities. This purpose is achieved by the suggestion of separation distances; however, Guideline D-6 also notes that detailed studies could be conducted to determine site-specific separation distances.

Guideline D-6 applies to proposed, committed and/or existing industrial land uses that have the potential to generate point and/or fugitive atmospheric emissions (noise, vibration, odour, dust and others) through normal operations, procedures, maintenance or storage activities, and/or from associated traffic/transportation. Guideline D-6 does not apply to non-stationary industrial facilities (e.g., mobile asphalt plant), roadways and railways (except ancillary facilities), agricultural operations, airports, or pits and quarries.

Guideline D-6 provides **potential influence areas** for three different classes of industrial land uses if an actual influence area is not available. The three different classes of industrial land uses are:

- Class I – Small scale business that is a self-contained plant or building which produces/stores a product contained to a package and has a low probability of fugitive emissions. Infrequent movement of products and/or heavy trucks. No outside storage. The facility only operates during the daytime period.

- Class II – Medium scale processing and manufacturing with occasional outputs of either point of fugitive emissions. Frequent movement of products and/or heavy trucks during the daytime hours. Outside storage of wastes or materials exists. The facility is permitted to have shift operations.
- Class III – Large scale processing or manufacturing. Frequent outputs of major annoyance with a high probability of fugitive emissions. Continuous movement of products. Outside storage of raw and finished product exists. The facility is permitted to have shift operations.

Actual influence areas refer to overall ranges within which a potential adverse effect would occur or is experienced. These areas are site-specific for facilities. They may be defined within or beyond the potential area of influence before or after buffers have been implemented as the approach to prevent or minimize potential adverse effects. Category classifications can be lowered if mitigative measures are applied at the source of emissions, which would reduce the recommended minimum separation distance.

Guideline D-6 recommends that there should not be incompatible land uses within the range of the minimum separation distance. The **minimum separation distance** is the distance between the designation, zoning or property lines of closest proposed or existing sensitive and industrial land uses. It is used as an initial screening distance for land use separation to identify whether a more detailed assessment may be required.

Table 4 below summarizes the potential influence area and recommended minimum separation distances according to Guideline D-6 for each of the industrial facility classes.

Table 4: Summary of MECP Potential Influence Area and Recommended Minimum Separation Distances

Designation	Potential Influence Areas Separation Distance (m)	Minimum Separation Distance (m)
Class I (Light Industrial)	70	20
Class II (Medium Industrial)	300	70
Class III (Heavy Industrial)	1000	300

According to Guideline D-6, when a change in land use is proposed within an actual or potential influence area of one of the three classes of an industrial land use, a sensitive land use should not be permitted unless evidence can prove absence of compatibility issues due to possibility of adverse effects. In cases where a sensitive land use is proposed beyond an industrial facility's influence area (potential or actual), there should be no objection to a change in land use.

It also should be noted that even where facilities meet the recommended separation distances specified in Guideline D-6, an air, odour, noise and/or vibration assessment may still be required to ensure that the facility meets the applicable guidelines and regulations. When industrial activities cannot be mitigated either through at-source mitigation or at-receptor mitigation (reduction or minimization of potential adverse effects), the development of a new industrial facility or sensitive land use should not be permitted.

4.2 Application of D-Series Guidelines

Industrial facilities located within the Study Area were identified through the use of NPRI reporting data and Section 9 air approvals as well as through findings of the noise study as described in Section 3. As detailed information on site-specific emission inventories and mitigation measures are not available, the 21 facilities were classified based on their typical operating hours (where available) and sources identified in their approvals. Table 5 provides a summary of the application of Guideline D-6 for the 21 facilities with respect to the Site. The Site is within the potential area of influence of five facilities and within the recommended minimum separation distance of three of these five facilities. As a result, further assessment is required to demonstrate compatibility. This is provided in Section 5.

Table 5: Application of Guideline D-6 to Neighbouring Industrial Facilities

Figure ID (in Figure 1)	Facility/Company and Address	Designation	Potential Influence Areas Separation Distance (m)	Minimum Separation Distance (m)	Facility's Separation Distance from Site ¹ (m)	Further Assessment Required?
1	Mancuso Chemicals Limited	Class III	1000	300	450	Yes
2	Washington Mills	Class III	1000	300	290	Yes
3	Chemtrade Logistics Inc.	Class II	300	70	10	Yes
4	Fencast Industries	Class II	300	70	340	No
5	Can Mar Manufacturing Inc.	Class II	300	70	510	No
6	Barbisan Allmetal Designs	Class I	70	20	510	No
7	Niagara Industrial Finishes Inc.	Class II	300	70	570	No
8	Pumpcrete Corporation	Class II	300	70	560	No
9	HOCO Limited	Class I	70	20	620	No
10	St. Lawrence Cement	Class II	300	70	785	No

Figure ID (in Figure 1)	Facility/Company and Address	Designation	Potential Influence Areas Separation Distance (m)	Minimum Separation Distance (m)	Facility's Separation Distance from Site ¹ (m)	Further Assessment Required?
11	Laurcoat Inc. (Earl)	Class II	300	70	790	No
12	Brunner Manufacturing & Sales Ltd.	Class II	300	70	775	No
13	H. & L. Tool and Die Ltd.	Class I	70	20	470	No
14	Niagara Pattern Ltd.	Class I	70	20	470	No
15	Laurcoat Inc. (Dorchester)	Class II	300	70	685	No
16	CYRO Canada Inc.	Class II	300	70	645	No
17	Corporation of the City of Niagara Falls	Class I	70	20	760	No
18	Quality Ready Mix	Class II	300	70	295	Yes
19	Salit Steel ²	Class III	1000	300	10	Yes
20	Palfinger	Class II	300	70	745	No
21	Airwood Vents Inc.	Class I	70	20	670	No

Note:

¹ Distances measured from Facility property boundary to Site property boundary

² Salit Steel have identified that they consider themselves a Class III Facility

5.0 AIR QUALITY ASSESSMENT

The results of the D-6 Assessment indicated that an air quality assessment is required to demonstrate land use compatibility between five existing industrial facilities and proposed residential land use at the Site. A qualitative assessment was completed for facilities that are operating with a Section 9 approval that are within the potential influence area of the Site but meet the minimum separation distance. A more detailed assessment, which includes dispersion modelling, was completed for the facilities that appear to be operating with a Section 9 approval and have significant sources of emissions (i.e. Quality Ready-Mix a ready-mix concrete batching plant appears to be operating without a Section 9 approval) or that are within the potential influence area of the Site and did not meet the recommended minimum separation distance to the Site.

Of the five industrial facilities identified within the Study Area that require further assessment, four are approved to operate under a Section 9 approval. To be granted a Section 9 approval, facilities are required to demonstrate that predicted concentrations of significant air quality contaminants released are below the relevant air quality standards listed in Ontario Regulation (O. Reg.) 419/05 (MECP Air Quality Standards) at ground level beyond their property boundary and at any elevated sensitive receptors such as condominium balconies or windows. The proposed land use for the Site is for low and medium/high density residential use, extending up to 6 storeys. As a result, the land use introduces new receptors to the area that are not already required to be considered. The proposed buildings at the Site extend up to 6 m for low density, singles, and townhouses, up to 10 m for medium density residential buildings and up to 21 m for high density residential buildings, and therefore introduce potential sensitive receptors up to 21 m above grade. This is primarily a concern for facilities with taller stacks. Short stacks typically result in less dispersion of emissions, as a result, maximum concentrations are typically highest relatively close to the point of emission. The concentrations of emissions from short stacks are not expected to significantly contribute to elevated concentrations at the Site.

The predominant wind direction in the area is from the southwest, therefore of the five industrial facilities identified for further assessment, only Chemtrade would be considered to be predominantly upwind of any portion of the Site. A windrose for the area, based on 2016-2020 data taken from St Catharines Airport, is presented in Figure 2, below.

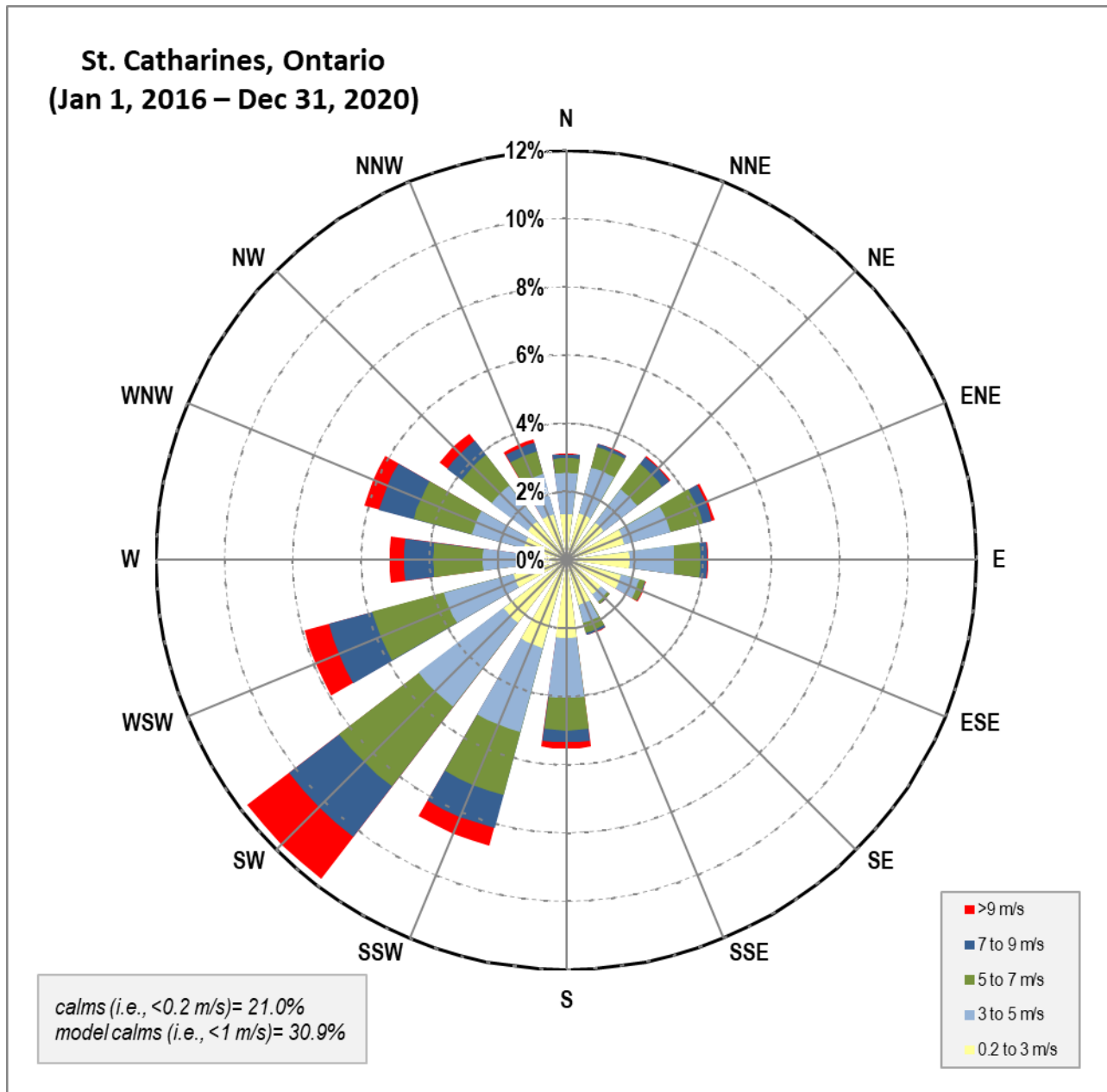


Figure 2: Windrose for St Catharines Airport (2016-2020)

An assessment of each of the five facilities identified to be located within the potential influence area of the Site is provided below.

5.1 Mancuso Chemicals

The Mancuso Chemicals facility manufactures furan resin, acid catalyst and alkyd resin and includes both furan batch reactors and alkyd batch reactors. It was classified as a Class III facility, therefore, the Site, at 450 m away, meets the 300 m recommended minimum setback distance but was considered for further assessment as it is located within the 1000 m potential influence area. The Mancuso Chemicals facility operates under an ECA with Limited Operational Flexibility; therefore, no details are provided about the facility's stacks. A copy of the Emission Summary and Dispersion Modelling (ESDM) Report that supports the facility's ECA was not publicly available or provided upon request.

A review of aerial imagery dated 2018 indicates that the Mancuso Chemical facility has a number of short stacks that appear to be less than 2 m above roof height and located greater than 400 m from the Site. There appear to be no tall stacks at the Mancuso Chemicals facility. Short stacks typically result in less dispersion of emissions, as a result, maximum concentrations are typically highest relatively close to the point of emission. As a result, the concentrations of emissions from these sources are not expected to significantly contribute to elevated concentrations at the Site. Additionally, this facility operates under an ECA, which will have included an assessment of ground level concentrations at or beyond the facility property line to demonstrate compliance with MECP Air Quality Standards.

It is understood that the Mancuso Chemicals facility has historically been a source of odour complaints (Arcadis, 2016). In Ontario, odour is typically assessed at odour sensitive receptors (which include residences) with predicted concentrations calculated on a 10-minute average to demonstrate compliance with a 1 OU threshold. As described above, the facility only has short stacks and/or tanks with vents, as a result, odour concentrations are expected to be highest close to the facility. The Site is separated from the Mancuso Chemicals Facility by a large woodlot. There are already existing residences closer to the Mancuso Chemicals facility than the Site, including residences that are in the same wind direction but approximately 50 m closer to Mancuso Chemicals facility than the Site. As a result, the predicted odour concentrations at the Site are anticipated to be lower than those at the existing odour sensitive receptors and the Site is not adding odour receptors closer than existing locations.

Proposed development of the Site is not anticipated to impact the ability of the Mancuso Chemicals facility to maintain compliance with their ECA.

5.2 Washington Mills

Washington Mills operates a speciality abrasive grain and electrofused minerals processing facility that is located approximately 290 m from the Site. The Site is within the minimum recommended separation distance and potential influence area of Washington Mills facility, therefore a more detailed assessment of air emissions from the Washington Mills facility was undertaken to assess the potential impact of the Site on Washington Mills. The Washington Mills facility operates under an ECA with limited operational flexibility, which allows for the operation of the following sources to produce up to 90,718 tonnes of fused material per year:

- Briquetting operations;
- Furnace operations;
- Pouring and casting;
- Crushing and screening; super sack/paper bag packaging;
- Dust collectors; and
- Natural gas fired comfort heating systems.

A copy of the ESDM Report that supports the facility's ECA was not made readily available for review. As a result, to provide a conservative screening assessment of the potential impacts of the facility on the Site, a simplified conservative emission estimate and dispersion modelling exercise was conducted. The screening assessment focussed on trivalent chromium and suspended particulate matter emissions as the Washington Mills facility triggered reporting of chromium (and its compounds) and particulate matter (PM₁₀ and PM_{2.5}) to the NPRI in 2017, and therefore data for these compounds is available for review. It should be noted that the facility has not historically reported emissions of hexavalent chromium to the NPRI, and additionally, only chromium in its trivalent form is listed as a potential emission source on the Environmental Registry posting that supported the ECA application (EBR Registry 012 – 4051). Therefore, an assessment of hexavalent chromium was not required. Furthermore, the NPRI data for 2018 and 2019 does not include any records for Washington Mills so it is assumed that releases of emissions in those years did not trigger the reporting thresholds for any contaminants.

As copies of the facility's emission estimates and modelling files are not available, general estimates of chromium and suspended particulate matter emission rates were calculated using the total NPRI releases reported for 2017 and an assumption that the facility operates 10 hours per day, 250 days per year. A summary of the calculated emission rates using these assumptions is provided in Table 6, below.

Table 6: Washington Mills Emission Summary

Substance	2017 Annual Release Reported to NPRI (tonnes/year)	Estimated Emission Rate for Screening Assessment (g/s)
Suspended Particulate Matter ¹	5.7	0.63
Particulate Matter less than 10 microns in diameter (PM ₁₀)	5.7	0.63
Particulate Matter less than 2.5 microns in diameter (PM _{2.5})	1.1	0.12
Chromium (and its compounds)	0.016	0.002

Notes: ¹ Assumed to be equal to PM₁₀

Aerial imagery from 2018 indicates the presence of at least two stacks at the Washington Mills facility. Historical ECA documents for the facility indicate that there are at least two stacks at the facility, both serving baghouse equipment, which are 15.24 m above grade and 18.9 m above grade. For this screening assessment, it was assumed that these stacks are both located on the western edge of the Washington Mills facility (i.e., closest to the Site) and that all of the chromium and suspended particulate matter emissions are being released from these stacks. It is understood that there may be fugitive sources of emissions of these contaminants but the ECA contains requirements that the facility develop best management plans to control fugitive releases. Additionally, emissions of fugitive sources are typically emitted at ground level and would not be expected to be buoyant, as a result, maximum predicted concentrations would be expected to be close to the facility boundary and decrease with distance. As noted above, the Site is approximately 290 m from the Washington Mills facility. The closest area of the Site at which residential development is planned is approximately 400 m from the Washington Mills facility and would be separated by a dense woodlot. This is anticipated to minimize the potential for fugitive dust impacts at the Site.

Each stack was modelled using the MECP-approved AERMOD dispersion model (version 19191) and accompanying MECP regional meteorological dataset for the area, based on suburban land use. The actual exhaust parameters for the two baghouse dust collectors were obtained from the facility's historical ECA information and are presented in Table 7.

Table 7: Washington Mills Modelled Source Parameters

Source	Stack Height Above Grade (m)	Stack Exit Diameter (m)	Stack Exhaust Flow Rate (m ³ /s)	Exhaust Temperature (K)
Baghouse 1	15.24	0.99 x 0.89	3.12	Ambient
Baghouse 2	18.9	0.6 x 0.45	2.92	Ambient

The proposed development at the Site was represented in the model as a series of receptor grids. Each receptor grid has receptors placed at a 25 m intervals with varying elevations starting at 0 m (ground level) and extending upwards in increments of 3 m to maximum heights of between 6 and 21 m above grade, depending on the density of residential development identified in the Draft Plan of Subdivision (Appendix A). Elevated receptors represent potential openable windows and balconies.

The maximum predicted concentration of each contaminant assessed was compared to the relevant MECP Air Quality Standard listed in O. Reg. 419/05 and are summarised in Table 8. There are no O. Reg. 419/05 Air Quality Standards for PM₁₀ or PM_{2.5}, therefore predicted concentrations of these contaminants were compared to the Ontario Ambient Air Quality Criteria, which are used as indicators of good air quality.

Table 8: Washington Mills Screening Assessment Summary and Comparison to MECP Air Quality Standards or Ontario Ambient Air Quality Criteria

Substance	Averaging Period	MECP Air Quality Standard or Criteria (µg/m ³)	Maximum Predicted Concentration at The Site (µg/m ³)	Percentage of Air Quality Standard or Criteria (%)
Suspended Particulate Matter	24-hour	120	26.78	22%
PM ₁₀	24-hour	50	26.78	54%
PM _{2.5}	24-hour	27	5.17	19%
	Annual	8.8	0.01	<1%
Chromium (and compounds)	24-hour	0.5	0.08	15%

This conservative screening assessment indicates that predicted concentrations from the facility, are unlikely to exceed MECP air quality standards at the Site. The proposed development of the Site is not anticipated to impact the ability of the Washington Mills facility to maintain compliance with their ECA.

5.3 Chemtrade

Chemtrade operates a chemical transfer and storage facility that is located within 40 m of the Site boundary, thus within both the potential influence area and recommended minimum separation distance. Chemtrade is approved to operate under an EASR for air and noise emissions, prepared in 2019. A copy of the ESDM Report which supports the current EASR was requested from Chemtrade by Golder but was not made available for review. However, as part of the EASR, an Emission Summary Table (EST) is required to be made available publicly available and was therefore downloaded for review. The EST identifies the contaminants released from the facility and the facility-wide emission rates. In addition, as part of a previous request for information, a copy of a 2013 ESDM Report was provided to Golder by Chemtrade for review. As a result, Golder used the emission rates from the 2019 EST and in the absence of any other information used the source parameters from the 2013 ESDM Report to prepare a dispersion modelling assessment for the Chemtrade facility.

The main emission sources from the Chemtrade facility listed in the 2013 ESDM Report are as follows:

- Sulphuric acid and sulphur dioxide emissions from sulphuric acid tank passive vents;
- Hydrogen sulphide and sulphur dioxide from scrubber exhausts;
- Fugitive sulphuric acid and sulphur dioxide from truck and railcar loading; and
- Combustion products (nitrogen oxides and sulphur dioxide) from diesel fired combustion equipment.

A total of seven sources were modelled in the 2013 ESDM Report with stack heights ranging from 0.6 to 11.5 m above grade. The EST for the 2019 EASR no longer lists the facility as a source of hydrogen sulphide, therefore it was assumed that this source has been decommissioned.

Golder completed modelling of the three contaminants identified in the EST that supports the 2019 EASR: sulphuric acid, sulphur dioxide and nitrogen oxides using the stack parameters and emission rates included in the 2013 ESDM Report. Modelling was completed using the AERMOD dispersion model (version 19191) and regional meteorological data for the area, based on suburban land use.

The proposed development at the Site was represented in the model as a series of receptor grids. Each receptor grid has receptors placed at a 25 m intervals with varying elevations starting at 0 m (ground level) and extending upwards in increments of 3 m to maximum heights of between 6 and 21 m above grade, depending on the density of residential development identified in the Draft Plan of Subdivision (Appendix A). Elevated receptors represent potential openable windows and balconies.

The buildings on the Site within 50 m of the Chemtrade property are proposed to be either singles or low-density units with a maximum height extending up to 6 m.

The facility wide emission rate for sulphur dioxide identified in the EST was consistent with that identified in the 2013 ESDM report, therefore sulphur dioxide was modelled using source specific emission rates. For nitrogen oxides and sulphuric acid, the emission rates identified in the EST and 2013 ESDM report differ, therefore, for additional conservatism, each relevant source was modelled independently using an emission rate of 1 g/s to calculate a dispersion factor in $\mu\text{g}/\text{m}^3/\text{g}/\text{s}$. The maximum concentration of each contaminant was then calculated by multiplying the relevant emission rate of each contaminant taken from the ESDM Report by the largest dispersion factor. This is very conservative as it assumes that the maximum emission rate of each contaminant is emitted only from the source which results in the highest concentration which may not necessarily be the case. Emission rates for each contaminant assessed are provided in Table 9 and the stack parameters obtained from the 2013 ESDM Report are provided in Table 10.

Table 9: Chemtrade Emission Summary

Substance	Emission Rate from EST (g/s)
Nitrogen Oxides	0.26
Sulphur Dioxide	0.12
Sulphuric Acid	0.0010

Table 10: Chemtrade Modelled Source Parameters (from 2013 ESDM Report)

Source	Stack Height Above Grade (m)	Stack Exit Diameter (m)	Stack Exhaust Flow Rate (m^3/s)	Exhaust Temperature (K)
S1 – 93% Sulphuric Acid Vent	11.5	0.2	0.076	Ambient
S2 – 98% Sulphuric Acid Vent	0.6	0.2	0.019	Ambient
S4 – Sulphur Dioxide Scrubber Tank System	1.0	0.15	0.047	Ambient
S5 – Sulphuric Acid Loading into Trucks	2.9	0.5	0.038	Ambient
S10 – Diesel Fueled Pressure Washer	3.7	0.2	0.20	423.15
S11 – Portable Diesel Fuelled Compressor	1.6	0.076	0.12	423.15

The maximum predicted concentration of each contaminant assessed was compared to the relevant MECP Air Quality Standard listed in O. Reg. 419/05 and are summarised in Table 11.

Table 11: Chemtrade Screening Assessment Summary and Comparison to MECP Air Quality Standards

Substance	Averaging Period	MECP Air Quality Standard, Criteria or Screening Limit ($\mu\text{g}/\text{m}^3$)	Maximum Predicted Concentration at The Site ($\mu\text{g}/\text{m}^3$)	Percentage of MECP Air Quality Standard, Criteria or Screening Limit (%)
Nitrogen Oxides	1/2-hour	1880	1810.37	96%
Sulphur Dioxide	1-hour	690	121.22	18%
	24-hour	275	22.17	8%
	Annual	10	2.97	30%
Sulphuric Acid	24-hour	5	0.30	6%

This conservative screening assessment indicates that predicted concentrations from the Chemtrade facility are unlikely to exceed MECP air quality standards at the Site. The proposed development of the Site is not anticipated to impact the ability of the Chemtrade facility to maintain compliance with their ECA.

5.4 Quality Ready-Mix

Quality Ready-Mix is a ready mix concrete batching plant that does not appear to be operating with a Section 9 approval. It is located approximately 295 m from the Site boundary, which is greater than the recommended minimum separation distance of 70 m but the Site is within the potential area of influence. The facility is expected to have emissions related to the delivery, storage, batching and transfer of materials. Based on a review of aerial imagery and Golder's experience with ready-mix facilities, the Quality Ready-Mix likely has a baghouse dust collector to control emissions from process operations. Other sources of emission from the facility are anticipated to be fugitive, and therefore not buoyant, with maximum concentrations typically occurring closest to the point of emission.

To provide a conservative screening assessment of the potential impacts of the Quality Ready-Mix facility on the Site, a simplified emission estimate and dispersion modelling assessment was conducted using suspended particulate matter. Modelling was completed based on particulate matter emissions from a 20 m tall baghouse exhaust using the MECP outlet loading concentration of $20 \text{ mg}/\text{m}^3$ and typical exhaust flow rate of 10,000 cfm. The calculated emission rate based on these assumptions and the assumed stack parameters are provided in Table 12.

Table 12: Quality Ready-Mix Modelled Source Parameters

Source	Stack Height Above Grade (m)	Stack Exit Diameter (m)	Stack Exhaust Flow Rate (m^3/s)	Exhaust Temperature (K)	SPM Emission Rate (g/s)
Baghouse	20	0.335	5	Ambient	0.63

The proposed development at the Site was represented in the model as a series of receptor grids. Each receptor grid has receptors placed at a 25 m intervals with varying elevations starting at 0 m (ground level) and extending upwards in increments of 3 m to maximum heights of between 6 and 21 m above grade, depending on the density of residential development identified in the Draft Plan of Subdivision (Appendix A). Elevated receptors represent potential openable windows and balconies.

The maximum predicted concentration of suspended particulate matter was compared to the relevant MECP Air Quality Standard listed in O. Reg. 419/05 and is presented in Table 13 and identified to be significantly less than the relevant standard.

Table 13: Quality Ready – Mix Screening Model Output Summary and Comparison to MECP Air Quality Standards

Substance	Averaging Period	MECP Air Quality Standard ($\mu\text{g}/\text{m}^3$)	Maximum Predicted Concentration at The Site ($\mu\text{g}/\text{m}^3$)	Percentage of MECP Air Quality Standard (%)
Suspended Particulate Matter	24-hour	120	2.80	2%

This conservative screening assessment indicates that predicted concentrations from the Quality Ready-Mix facility are unlikely to exceed MECP Air Quality Standards at the Site. As a result, proposed development of the Site is not anticipated to impact the ability of the Quality Ready-Mix facility to obtain Section 9 approval.

5.5 Salit Steel

Salit Steel operates under an EASR dated January 2020. It is understood that the facility manufactures and supplies steel rebar and structural steel members. The EASR confirmation certificate is publicly available and states that the facility primarily receives carbon steel in the form of beams, plates or rebar. Several techniques are used to manipulate the steel to meet customer specified length and/or shape including shearing, band saw cutting, hydraulic bending, oxy-propane metal cutting and plasma cutting. It is stated that no plasma metal cutting or oxy propane metal cutting occur outdoors and no metal products are manufactured on-site.

In aerial imagery for the site dated 2018, there are also no stacks visible and there does not appear to be significant material handling occurring outside, as a result any emissions would be expected to be ground based fugitive sources. To be granted a Section 9 approval, facilities are required to demonstrate that predicted concentrations of significant air quality contaminants released are below the relevant air quality standards listed in O. Reg. 419/05 (MECP Air Quality Standards) at ground level beyond their property boundary. Emissions of fugitive sources, such as the Salit Steel sources, are typically emitted at ground level and would not be expected to be buoyant, as a result, predicted concentrations would be expected to be maximum close to the facility boundary and decrease with distance. As a result, proposed development of the Site is not anticipated to impact the ability of the Salit Steel to obtain a Section 9 approval. In addition, the Site is not expected to be impacted by air quality emissions from the Salit Steel facility.

6.0 CONCLUSIONS

Golder was retained by 2592693 Ontario Inc. to carry out an air quality feasibility assessment in support of a proposed residential development named Niagara Village. The proposed redevelopment plans for the Site include mid-rise residential housing in close proximity to industrial and transportation sources of air emissions.

Golder completed an assessment of the existing air emission sources within the Study Area to identify whether there is a potential for elevated air quality concentrations at the Site through the following:

- Identification of existing sources of air quality emissions in the surrounding area, including:
 - Industrial sources;
 - Transportation sources;
- Assessment of land use compatibility through the application of D-Series Guidelines to identify whether further air quality assessment are required for industrial sources; and
- Air quality assessment of potential impacts from industrial sources.

The results of the land use compatibility assessment indicate that there are over twenty industrial facilities, one railway line and two arterial roads that are located within the Study Area. Of these sources, five industrial facilities were identified as potentially having an impact to air quality at the Site. An air quality screening assessment was completed for each facility to assess the potential for elevated concentrations resulting from the industrial facility at the Site. The air quality concentrations at the Site are expected to be below the relevant MECP Air Quality Standards for each of the facilities that were assessed. Additionally, the Site was identified to be predominantly upwind from the majority of industrial facilities within the surrounding area.

The development of the Site is not anticipated to introduce additional environmental burden on the existing industrial facilities surrounding the Site and the use of mid-rise residential land use at the Site would be considered compatible with current surrounding land uses. The proposed new sensitive land use is not anticipated to be significantly impacted by emissions from existing nearby sources.

Signature Page

Golder Associates Ltd.



Sita Chinnadurai, M.Env.Sc.
Air Quality Specialist



Katherine Armstrong, M.Sc.
Senior Air Quality Specialist

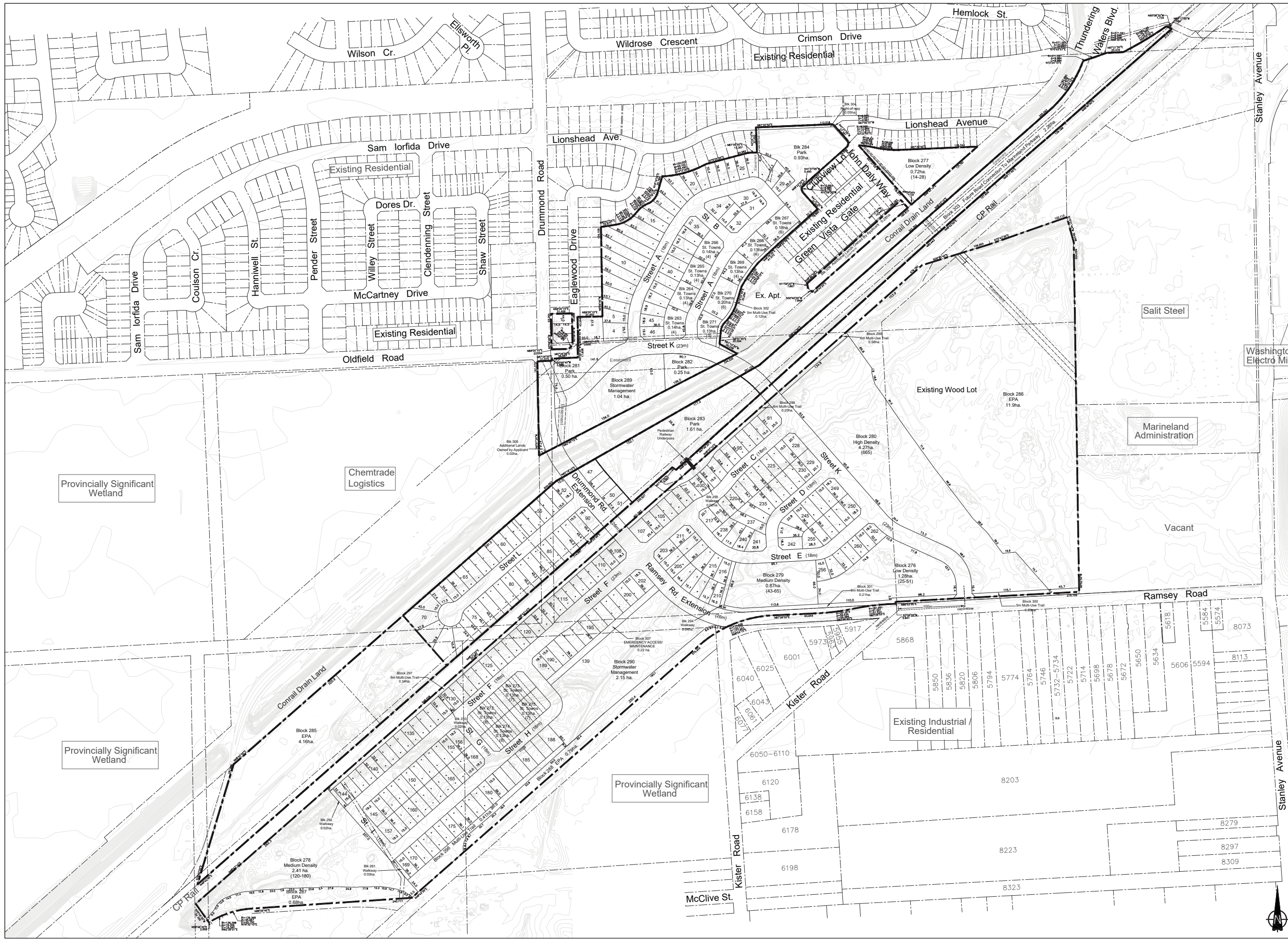
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APPENDIX A

Draft Plan of Subdivision



CONTRACTOR SHALL CHECK ALL DIMENSIONS ON THE WORK AND REPORT ANY DISCREPANCY TO THE CONSULTANT BEFORE PROCEEDING. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL AUTHORIZED IN WRITING BY CONSULTANT.

KEY PLAN

NO.	DATE	REVISION
01	23/05/2019	DRAFT SUBDIVISION PLAN
02	28/05/2019	DRAFT SUBDIVISION PLAN
03	23/05/2019	DRAFT SUBDIVISION PLAN
04	18/08/2019	DRAFT SUBDIVISION PLAN (GSP)
05	05/09/2019	DRAFT SUBDIVISION PLAN (GSP)
06	09/19/2019	DRAFT SUBDIVISION PLAN (GSP)
07	12/12/2019	DRAFT SUBDIVISION PLAN (GSP)
08	28/01/2020	DRAFT SUBDIVISION PLAN (GSP)
09	10/02/2020	DRAFT SUBDIVISION PLAN (GSP)
10	16/03/2021	DRAFT SUBDIVISION PLAN (GSP)
11	07/07/2021	DRAFT SUBDIVISION PLAN (GSP)

LEGEND

- Property Line
- City Owned Land to be Acquired
- Realigned Conrail Drain

USE	LOTS / BLOCKS	UNITS	AREA (ha.)
Single Detached Residential	1-262	262	15.49
Street Townhouses	263-275	69	2.10
Low Density Residential	276-277	39-79	2.00
Medium Density Residential	278-279	163-247	3.59
High Density Residential	280	665	4.27
Park / Parkette	281-285		3.29
Environmental Protection Area	286-289		17.53
Stormwater Management	290,291		3.19
Walkway	292-296		0.13
Multi-Use Trail	297-303		1.45
Future Road Connection	304		2.26
Right-of-way	305		0.05
Additional Lands	306,307		0.30
Emergency Access/Maintenance	308		0.22
Roads			8.83
TOTAL			1198-1322 64.50

UNIT BREAKDOWN	
Singles	262
Street Townhouses	69
Low Density Residential (towns, back-to-back towns)	39-79
Medium Density Residential (towns, back-to-back towns, or low rise apartments)	163-247
High Density Residential	665
Total	1198-1322

ADDITIONAL INFORMATION
(UNDER SECTION 5(17) OF THE PLANNING ACT)
INFORMATION REQUIRED BY CLAUSES a,b,c,d,e,f,g) AND I ARE AS SHOWN ON THE DRAFT PLAN.
h) Municipal water supply
i) Silt clay and minor sand
k) All sanitary and storm sewers as required

OWNER'S CERTIFICATE
I AUTHORIZE THE GSP GROUP INC. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE CITY OF NIAGARA FALLS.

February 24, 2020
DATE

2522603 ONTARIO INC.
SIRHAN SALTJAJI

SURVEYOR'S CERTIFICATE
I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE CORRECTLY SHOWN.

J.D. Barnes
J.D. BARNES LIMITED
DASRA PAGE 02

February 25, 2020
DATE

Client Information:
INVEST GROUP LTD
4308 Village Center Court, Mississauga
T: 905.281.4590 | C: 416.522.7731
F: 905.277.0086 | Skype: Saltjaji

PROJECT:
NIAGARA VILLAGE

DRAFT PLAN OF SUBDIVISION
Part of Lots 1 and 3, Plan 4
Part of Blocks 'A', 'B', 'C' and 'F', Plan 8
Part of Lots 189, 195, 215, 216 and 217
And Part of the Road Allowance Between Lots 195 and 196 (CLOSED BY BY-LAW No. 9, INSTR. 572488)
And Part of the Road Allowance Between Lots 195 and 216, 217 (CLOSED BY BY-LAW No. 9, INSTR. 572488)
And Part of the Road Allowance Between Lots 216 and 217 (CLOSED BY BY-LAW No. 10, INSTR. 5721823)
Geographic Township of Stamford
City of Niagara Falls

DRAWING SCALE:
1:2500
DATE:
2019-05-29

APPENDIX B

Correspondence from CP Rail



INDUSTRIAL SPUR LINE REQUIREMENTS

1. Setback of dwellings from the railway right-of-way to be a minimum of 15 metres. While no dwelling should be closer to the right-of-way than the specified setback, an unoccupied building, such as a garage, may be built closer.
 2. A clause should be inserted in all offers of purchase and sale or lease and in the title deed or lease of each dwelling within 300m of the railway right-of-way, warning prospective purchasers or tenants of the existence of the Railway's operating right-of-way; the possibility of alterations including the possibility that the Railway may expand its operations, which expansion may affect the living environment of the residents notwithstanding the inclusion of noise and vibration attenuating measures in the design of the subdivision and individual units, and that the Railway will not be responsible for complaints or claims arising from the use of its facilities and/or operations.
 3. Any proposed alterations to the existing drainage pattern affecting railway property must receive prior concurrence from the Railway, and be substantiated by a drainage report to be reviewed by the Railway.
 4. A 1.83 metre high chain link security fence be constructed and maintained along the common property line of the Railway and the development by the developer at his expense, and the developer is made aware of the necessity of including a covenant running with the lands, in all deeds, obliging the purchasers of the land to maintain the fence in a satisfactory condition at their expense.
 5. Any proposed utilities under or over railway property to serve the development must be approved prior to their installation and be covered by the Railway's standard agreement.
-



800 - 1290 Central Parkway
West
Mississauga, Ontario
Canada L5C 4R3

T 905 803 3429
E josie_tomei@cpr.ca

November 6, 2018

Via email: scicak@golder.com

Stefan Cicak
Golder Associates Ltd.
6925 Century Avenue
Suite 100
Mississauga, ON L5N 7K2

Dear Sir/Madam:

*Re: Rail Traffic Volumes, CP Mileage 4.0, Montrose Subdivision,
Marineland Parkway, Niagara Falls*

This is in reference to your request for rail traffic data in the vicinity of Marineland Parkway in the City of Niagara Falls. The study area is located in the vicinity of mile 4.0 of our Montrose Subdivision, which is classified as an Industrial Spur line.

The information requested is as follows:

1. Number of freight trains between 0700 & 2300: 0
Number of freight trains between 2300 & 0700: 2
2. Maximum cars per train freight: 20
3. Number of locomotives per train: 2
4. Maximum permissible train speed: 25 mph (normal speed 15 mph)
5. Grade crossings are located at Biggar Road, Grassy Brook Road and Montrose Road, however whistling is prohibited at these locations. Please note, the whistle may be sounded if deemed necessary by the train crew for safety reasons at any time.
6. The Montrose Spur services industrial facilities in the area only. There is a main track and siding with additional leads into industrial facilities all with jointed track. There is also a cross-over switch in the study area.

The information provided is based on recent rail traffic. Variations of the above may exist on a day-to-day basis. Specific measurements may also vary significantly depending on customer needs.

Yours truly,

Josie Tomei SR/WA
Specialist Real Estate Sales & Acquisitions – Ontario



golder.com