Compatibility Mitigation Study, Air Quality, Dust and Odour

170 Northfield Drive West Waterloo, Ontario

Forgestone Capital Management L.P.

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Executive Summary

SLR Consulting (Canada) Ltd. (SLR), was retained by Forgestone Capital Management L.P., to conduct a Compatibility / Mitigation Study focusing on air quality, odour, and dust in support of the combined Official Planning Approval (OPA) and Zoning Bylaw Amendment (ZBA) application with the City of Waterloo for the proposed development. The development site is located at 170 Northfield Drive West in Waterloo, Ontario ("the Project site").

This assessment has included a review of air quality, odour, and dust emissions from industrial facilities in the area.

Based on the assessment completed, the Project site is anticipated to be compatible with the surrounding land uses from an air quality perspective. Further, the Project site will not affect the ability for industrial facilities to obtain or maintain compliance with applicable Provincial environmental policies, regulations, approvals, authorizations, and guidelines. The requirements of MECP Guideline D-6, Regulation 419/05 are met. As the applicable policies and guidelines are met, the Project site is:

- Unlikely to result in increased risk of complaint and nuisance claims;
- Unlikely to result in operational constraints for the major facilities; and
- Unlikely to result in constraints on major facilities to reasonably expand, intensify or introduce changes to their operations.

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1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR), was retained by Forgestone Capital Management L.P., to conduct a Compatibility / Mitigation Study focusing on air quality, odour, and dust in support of the combined Official Planning Approval (OPA) and Zoning Bylaw Amendment (ZBA) application with the City of Waterloo for the proposed development. The development site is located at 170 Northfield Drive West in Waterloo, Ontario ("the Project site").

This assessment has included a review of air quality, odour, and dust emissions from industrial facilities in the area.

In this assessment, SLR has reviewed the surrounding land uses and major facilities in the area with respect to the following guidelines:

- The Provincial Policy Statement;
- Ministry of the Environment, Conservation and Parks ("MECP") Guidelines D-1 and D-6;
- Ontario Regulation 419/05: *Air Pollution – Local Air Quality* and its associated air quality standards and assessment requirements; and
- The MECP draft policies on odour impacts and assessment.

This report identifies existing and potential land use compatibility issues and identifies and evaluates options to achieve appropriate design, buffering and/or separation distances between the proposed sensitive land uses, including residential uses, and nearby Employment Areas and/or major facilities.

2.0 Description of Development and Surroundings

2.1 Proposed Development

The proposed Project site is at 170 Northfield Drive West in Waterloo, Ontario. A portion of the north and east side of the Project site is vacant, while the remainder of the site is currently occupied by various employment uses including retail stores, restaurants, and professional services.

The proposed development will include three phases:

- Phase 1: Parcels A through E consisting of seven mixed used residential towers ranging from 20 to 39 storeys and a park at the west end.
- Phase 2: Parcels I through L consisting of four low-rise commercial building blocks.
- Phase 3: Parcels F through H consisting of six mixed use residential towers ranging from 19-31 storeys and a park on the east end.

A site and context plan are provided in **Figure 1**. Project site drawings received by the client are included in **Appendix A**.

2.2 Surroundings

The Project site is located east of the intersection of Weber Street North and Northfield Drive West, west of the Market Trail, and south of Randall Drive. There are commercial, employment and industrial uses in the immediate vicinity of the Project site.

2.3 Land Use Designations in the Area

The sections to follow outline the current land use designations under the City of Waterloo Official Plan (OP) (November 2022 consolidation).

2.3.1 City of Waterloo Official Plan

The City of Waterloo Official Plan Map for the area can be seen in **Figure 2a**. The Project site is designated as Employment. The lands north, east, and south of the Project site are also designated as Employment. The lands west of the Project site, beyond Weber Street North are designated as Commercial and Mixed-Use Medium Density Residential.

2.3.2 City of Waterloo Zoning

The City of Waterloo Zoning Map for the area can be seen in **Figure 2b**.

The Project site is currently zoned as Employment (“E”). The lands to the north, east, and south of the Project site are also zoned E. The lands to the west of the Project site and west of Weber Street North are zoned Commercial (“C”) and Residential Mixed-Use (“RMU”).

3.0 Assessment Framework

The intent of this report is to identify any existing and potential land use compatibility issues and to identify and evaluate options to achieve appropriate design, buffering and/or separation distances between the surrounding sensitive land uses, including residential uses, and nearby Employment Areas and/or major facilities. Recommended measures intended to eliminate or mitigate negative impacts and adverse effects are provided.

The requirements of the Ontario planning regime are organized such that generic policy is informed by specific policy, guidance, and legislation, as follows:

- The Ontario Planning Act, Section 2.1 – sets the ground rules for land use planning in Ontario, whereby planning decisions have regard to matters of provincial interest including orderly development, public health, and safety; then
- The Provincial Policy Statement (“PPS”) sets out goals – making sure adjacent land uses are compatible from a health and safety perspective and are appropriately buffered; then
- The Provincial Growth Plan, Section 2.2.5 – builds on the PPS to establish a unique land use planning framework for the Greater Golden Horseshoe, where the development of sensitive land uses will avoid, or where avoidance is not possible, minimize and mitigate adverse impacts on industrial, manufacturing, or other uses that are particularly vulnerable to encroachment; then
- The MECP D-series of guidelines set out methods to determine if assessments are required (Areas of Influence, Recommended Minimum Separation Distances, and the need for additional studies); then
- MECP and Municipal regulations, policies, standards, and guidelines then set out the requirements of additional air quality studies and the applicable policies, standards, guidelines, and objectives to ensure that adverse effects do not occur.

3.1 Ontario Planning Act

The Ontario Planning Act is provincial legislation that sets out the ground rules for land use planning in Ontario. It describes how land uses may be controlled, and who may control them. "The purpose of the Act is to:

- provide for planning processes that are fair by making them open, accessible, timely and efficient;
- promote sustainable economic development in a healthy natural environment within a provincial policy framework;
- provide for a land use planning system led by provincial policy;
- integrate matters of provincial interest into provincial and municipal planning decisions by requiring that all decisions be consistent with the Provincial Policy Statement and conform/not conflict with provincial plans;
- encourage co-operation and coordination among various interests;
- recognize the decision-making authority and accountability of municipal councils in planning"[1]

Section 2.1 of the Ontario Planning Act describes how approval authorities and Tribunals must have regard to matters of provincial interest including orderly development, public health, and safety.

3.2 Provincial Policy Statement

The PPS "provides policy direction on matters of provincial interest related to land use planning and development. As a key part of the Ontario policy-led planning system, the Provincial Policy Statement sets the policy foundation for regulating the development and use of land. It also supports the provincial goal to enhance the quality of life for all Ontarians."

The PPS is a generic document, providing a consolidated statement of the government policies on land use planning and is issued under section 3 of the Planning Act. Municipalities are the primary implementers of the PPS through policies in their local official plans, zoning by-laws and other planning related decisions. The current 2020 PPS came into effect on May 1, 2020. Policy direction concerning land use compatibility is provided in Section 1.2.6 of the PPS.

From the current 2020 version:

> "1.2.6 Land Use Compatibility
>
> 1.2.6.1 Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise, and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures.

[1] https://www.ontario.ca/document/citizens-guide-land-use-planning/planning-act

1.2.6.2 Where avoidance is not possible in accordance with policy 1.2.6.1, planning authorities shall protect the long-term viability of existing or planned industrial, manufacturing, or other uses that are vulnerable to encroachment by ensuring that the planning and development of proposed adjacent sensitive land uses are only permitted if the following are demonstrated in accordance with provincial guidelines, standards and procedures:

a) there is an identified need for the proposed use;

b) alternative locations for the proposed use have been evaluated and there are no reasonable alternative locations;

c) adverse effects to the proposed sensitive land use are minimized and mitigated; and

d) potential impacts to industrial, manufacturing, or other uses are minimized and mitigated."

The goals of the PPS are implemented through Municipal and Provincial policies, as discussed below. Provided the Municipal and Provincial policies, guidelines, standards, and procedures are met, the requirements of the PPS will be met.

3.3 Growth Plan for the Greater Golden Horseshoe (2019, as amended)

A Place to Grow: The Growth Plan for the Greater Golden Horseshoe, 2019 (the "2019 Growth Plan") came into effect, replacing the Growth Plan for the Greater Golden Horseshoe, 2017. All decisions made on or after this date in respect of the exercise of any authority that affects a planning matter will conform with the 2019 Growth Plan, subject to any legislative or regulatory provisions providing otherwise. Subsequently, on August 28, 2020, the 2019 Growth Plan was amended by Growth Plan Amendment No. 1. [2]

There are a number of changes from the previously applicable Growth Plan that are relevant to the Project site. One significant change was the identification of 29 provincially significant employment zones. Provincially Significant Employment Zones (PSEZs) are areas defined by the Minister in consultation with affected municipalities for the purpose of long-term planning for job creation and economic development. These zones can consist of employment areas or mixed-use areas with a significant number of jobs. The Project site and surrounding lands are located in PSEZ – Zone 24, Waterloo[3]. An Excerpt of the Place to Grow Map can be seen in the attached **Figure 2c**.

3.4 D-Series of Guidelines

The D-series of guidelines were developed by the MECP in 1995 as a means to assess Recommended Minimum Separation Distances and other control measures for land use planning proposals in an effort to prevent or minimize 'adverse effects' from the encroachment of incompatible land uses where a facility either exists or is proposed.

[2] https://www.ontario.ca/page/growth-plan-greater-golden-horseshoe-2019-order-council-6412019

[3] https://www.ontario.ca/page/provincially-significant-employment-zones#section-1

D-series guidelines address sources including sewage treatment (Guideline D-2), gas and oil pipelines (Guideline D-3), landfills (Guideline D-4), water services (Guideline D-5) and industries (Guideline D-6).[4]

For this assessment, the applicable guideline is Guideline D-6 - *Compatibility between Industrial Facilities and Sensitive Land Uses*.

Sensitive Land Use is defined in the D-Series Guidelines as:

> "A building, 'amenity area' or outdoor space where routine or normal activities occurring at reasonably expected times would experience 1 or more 'adverse effect(s)' from contaminant discharges generated by a nearby 'facility'. The 'sensitive land use' may be a part of the natural or built environment. Depending upon the particular 'facility' involved, a sensitive land use and associated activities may include one or a combination of:
>
> I. residences or facilities where people sleep (e.g. single and multi-unit dwellings, nursing homes, hospitals, trailer parks, camping grounds, etc.). These uses are considered to be sensitive 24 hours/day.
>
> II. a permanent structure for non-facility related use, particularly of an institutional nature (e.g. schools, churches, community centres, day care centres).
>
> III. certain outdoor recreational uses deemed by a municipality or other level of government to be sensitive (e.g. trailer park, picnic area, etc.).
>
> IV. certain agricultural operations (e.g. cattle raising, mink farming, cash crops and orchards).
>
> V. bird/wildlife habitats or sanctuaries."

Adverse effect is a term defined in the Environmental Protection Act and "means one or more of

- impairment of the quality of the natural environment for any use that can be made of it,
- injury or damage to property or to plant or animal life,
- harm or material discomfort to any person,
- an adverse effect on the health of any person,
- impairment of the safety of any person,
- rendering any property or plant or animal life unfit for human use,
- loss of enjoyment of normal use of property, and
- interference with the normal conduct of business".

3.4.1 Guideline D-6 Requirements

The guideline specifically addresses issues of air quality, odour, dust, and litter. To minimize the potential to cause an adverse effect, Areas of Influence and Recommended Minimum Separation Distances are included within the guidelines.

[4] https://www.ontario.ca/page/environmental-land-use-planning-guides



The Areas of Influence and Recommended Minimum Separation Distances from the guidelines are provided in the table below.

Table 1: Guideline D-6 - Potential Areas of Influence and Recommended Minimum Separation Distances for Industrial Land Uses

Industry Classification	Area of Influence	Recommended Minimum Separation Distance
Class I – Light Industrial	70 m	20 m
Class II – Medium Industrial	300 m	70 m
Class III – Heavy Industrial	1000 m	300 m

Industrial categorization criteria are supplied in Guideline D-6, and are shown in the following table:

Table 2: Guideline D-6 - Industrial Categorization Criteria

Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class I Light Industry	• Noise: Sound not audible off-property • Dust: Infrequent and not intense • Odour: Infrequent and not intense • Vibration: No ground-borne vibration on plant property	• No outside storage • Small-scale plant or scale is irrelevant in relation to all other criteria for this Class	• Self-contained plant or building which produces/ stores a packaged product • Low probability of fugitive emissions	• Daytime operations only • Infrequent movement of products and/ or heavy trucks	• Electronics manufacturing and repair • Furniture repair and refinishing • Beverage bottling • Auto parts supply • Packaging and crafting services • Distribution of dairy products • Laundry and linen supply
Class II Medium Industry	• Noise: Sound occasionally heard off-property • Dust: Frequent and occasionally intense • Odour: Frequent and occasionally intense • Vibration: Possible ground-borne vibration, but cannot be perceived off-property	• Outside storage permitted • Medium level of production allowed	• Open process • Periodic outputs of minor annoyance • Low probability of fugitive emissions	• Shift operations permitted • Frequent movements of products and/ or heavy trucks with the majority of movements during daytime hours	• Magazine printing • Paint spray booths • Metal command • Electrical production • Manufacturing of dairy products • Dry cleaning services • Feed packing plants

Category	Outputs	Scale	Process	Operations / Intensity	Possible Examples
Class III Heavy Industry	• Noise: Sound frequently audible off property • Dust: Persistent and/ or intense • Odour: Persistent and/ or intense • Vibration: Ground-borne vibration can frequently be perceived off-property	• Outside storage of raw and finished products • Large production levels	• Open process • Frequent outputs of major annoyances • High probability of fugitive emissions	• Continuous movement of products and employees • Daily shift operations permitted	• Paint and varnish manufacturing • Organic chemical manufacturing • Breweries • Solvent recovery plants • Soaps and detergent manufacturing • Metal refining and manufacturing

3.4.2 Requirements for Assessments

Guideline D-6 requires that studies be conducted to assess impacts where sensitive land uses are proposed within the Potential Area of Influence of an industrial facility. This report is intended to fulfill this requirement.

The D-series guidelines reference previous versions of the air quality regulation (Regulation 346). However, the D-Series of guidelines are still active, still represent current MECP policy and are specifically referenced in numerous other current MECP policies. In applying the D-series guidelines, the current policies, regulations, standards, and guidelines have been used (e.g., Regulation 419).

3.4.3 Recommended Minimum Separation Distances

Guideline D-6 also *recommends* that no sensitive land use be placed within the Recommended Minimum Separation Distance. However, it should be noted that this is a recommendation only. Section 4.10 of the Guideline allows for development within the Recommended Minimum Separation Distance, in cases of redevelopment, infilling, and transitions to mixed use, provided that the appropriate studies are conducted and that the relevant air quality and noise guidelines are met.

4.0 Nearby Industries

The Guideline D-6 Separation distances from the Project site are shown in **Figures 3a** and **3b**. SLR personnel conducted a site visit to the area on January 25, 2024. Local industries within 1 km of the Project site were inventoried. The lands surrounding the Project site are generally compromised of commercial, residential and employment uses.

In Ontario, facilities that emit significant amounts of contaminants to the environment are required to obtain and maintain an Environmental Compliance Approval ("ECA") from the MECP or submit an Environmental Activity and Sector Registry ("EASR"). ECAs/ EASRs within 1 km of the site were obtained from the MECP *Access Environment* website[5].

Table 3 lists the identified industries within 1000 m of the Project site and within their applicable Area of Influence. A more detailed table of all industries within 1000 m is provided in **Appendix B.** Industries which lie within their applicable Area of Influence in respect to the Project site are discussed further below.

Table 3: Identified Industries Within the Potential Area of Influence of the Project Site

Facility	Type of Operation	Environmental Compliance Approval No.	Industry	Area of Influence (m)	Actual Distance to Site (m)	Additional Assessment Required
ION LRT Operation Maintenance Storage Facility (Operated by AECON Construction)	LRT Maintenance and Storage	3478-9YWNHR, 05/07/2016	II	300	300	Yes
Broil King	Barbeque Manufacturer	N/A	II	300	20	Yes
Heffner Cabinetry & Woodworking	Cabinet maker	5843-77LM2Z, 10/18/2007	I	70	25	Yes
Waterloo Fire Station 3	Fire Station	8495-7HMQZ5, 2008	I	70	0	Yes
Waterloo Nissan	Automotive Dealership	-	I	70	25	Yes

The industries listed above were identified inside their Potential Area of Influence and, therefore, require additional assessment:

All other industries, detailed in Appendix B, are outside of their respective Guideline D-6 Area of Influence and, therefore, are anticipated to be compatible with the proposed Project site development.

4.1 Class III Heavy Industries

The area within 1 km of the Project site was reviewed. There are no Class III Heavy Industries with the potential Area of Influence of the Project site.

[5] https://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/GoSearch.action



4.2 Class I Light and Class II Medium Industries

The area within 300 m of the Project site was reviewed. There are a number of Class I light and Class II medium scale industries within 300 m of the Project site, as shown in **Figure 3b**, namely:

- ION LRT Operation Maintenance Storage Facility;
- Broil King;
- Heffner Cabinetry & Woodworking;
- Waterloo Fire Station 3; and
- Waterloo Nissan.

4.2.1 ION LRT Operation Maintenance Storage Facility

Address:	516 & 518 Dutton Drive
Contacts:	--
Distance to Project:	300 m
D-6 Classification:	II Medium Industry

AECON Construction and Materials Limited and Peter Kiewit Infrastructure Co. operating as GrandLinq Contractors operate the ION Light-Rail Transit (LRT) Operation Maintenance Storage Facility, which is located approximately 300 m southeast of the Project site and is currently used for LRT vehicle maintenance. The facility operates under ECA number 3478-9YWNHR dated June 7, 2016. A copy of the MECP permit is located in **Appendix C**.

Based on the ECA permit, air quality sources at the facility include:

- LRT trains operating in yard;
- Paint spray booth exhaust;
- Dust collector for sand silo;
- Exhaust system serving the battery charger area;
- Exhaust system serving the part washer area; and
- Standby diesel generator for emergency situations.

On January 25, 2024, SLR personnel conducted a site visit to the area. No odours or visible dust was observed at the facility at the time of the site visit.

Based on the size and nature of the above noted operations, the facility is considered a Class II Medium Industry under MECP Guideline D-6, with a 300 m Area of Influence and a Recommended Minimum Separation Distance of 70 m.

The Project site is located within the 300 m Potential Area of Influence. Therefore, additional assessment is warranted and provided further within this report.

4.2.2 Broil King

Address:	585 Kumpf Drive
Distance To Project:	15 m
D-6 Classification:	Class II Medium Industry

Onward Manufacturing, often referred to as Broil King, is a barbeque manufacturing and assembly plant located northeast of the Project site. The facility is approximately 15 m east of the Project site.

A search of the MECP registry did not yield a permit or registration for this site.

On January 25, 2024, SLR personnel conducted a site visit to the area. No odours or visible dust were observed at the facility at the time of the site visit.

Based on the size and nature of the above noted operations, the Broil King facility is considered a Class II Medium Industry under MECP Guideline D-6, with a 300 m Area of Influence and a Recommended Minimum Separation Distance of 70 m.

The Project site is located within the 70 m Minimum Recommended Separation Distance and is within the 300 m Potential Area of Influence. Therefore, additional assessment is warranted and provided further within this report.

4.2.3 Johnsonite Canada Inc.

Address:	560 Weber Street North
Distance To Project:	200 m
D-6 Classification:	Class II Medium Industry

Johnsonite Canada is a vinyl baseboard manufacturing facility located approximately 200 m south of the Project site. The facility operates under MECP Amended Certificate of Approval (C of A) (Air) Number 3482-8ESR5L, dated March 30, 2011. A copy of the MECP permit is located in **Appendix D**.

The facility operates extrusion, milling, and blending processes. Based on a review of the permit information, the facility produces up to 98 million linear feat of vinyl baseboard per year.

SLR personnel conducted site visits to the area on January 25, 2024. During the site visit no dust and odours emissions were detected from the facility.

Based on the size and nature of the of the facility operations, the Johnsonite Canada Inc. facility is considered Class II Medium Industry under MECP Guideline D-6, with a Recommended Minimum Separation Distance of 70 m and a Potential Area of Influence of 300 m. The Project lies outside of the Recommended Minimum Separation Distance but is within the Potential Area of Influence. Therefore, additional assessment is warranted and provided in subsequent sections of this report.

4.2.4 Heffner Cabinetry & Woodworking

Address:	145 Northfield Drive
Distance To Project:	25 m
D-6 Classification:	Class I Light Industry

The Heffner Cabinetry & Woodworking is a carpentry facility located approximately 25 m south of the Project site. A search of the MECP registry did not yield a permit or registration for this site.

On January 25, 2024, SLR personnel conducted a site visit to the area. No odours or visible dust were observed at the facility. The facility contained bay doors at the south end of the building used for shipping and receiving of products. Truck activity was observed at the time of the site visit. During the site visit it was noted that Heffner Cabinetry operates out of a multi-tenant building. The building is shared with various commercial uses, including the Drayton Entertainment Youth Academy.

Based on the size and nature of the facility operations, Heffner Cabinetry & Woodworking is considered a Class I Light Industry. The Recommended Minimum Separation Distance is 20 m, and the Area of Influence is 70 m.

The Project lies outside of the Recommended Minimum Separation Distance but is within the Potential Area of Influence. Therefore, additional assessment is warranted and is provided and provided in subsequent sections of this report.

4.2.5 Waterloo Fire Station 3

Address:	150 Northfield Drive West
Distance To Project:	Adjacent
D-6 Classification:	Class I Light Industry

The Waterloo Fire Station 3 is located immediately east of the Project site. The facility operates under MECP (C of A) (Air) Number 8495-7HMQZ5, dated August 19, 2008. A copy of the MECP Permit is located in **Appendix D**.

On January 25, 2024, SLR personnel conducted a site visit to the area. No odours or visible dust were observed at the facility.

Based on a review of the MECP permit, the facility is permitted to operate a 35 kilowatt standby natural gas generator set, to provide power for the facility during emergency situations.

Based on the size and nature of the facility operations, the Waterloo Fire Station is considered a Class I Light Industry, with a 70 m Potential Area of Influence and a 20 m Recommended Minimum Separation Distance.

The Project site lies within the Minimum Separation Distance, therefore, additional assessment is warranted and is provided in subsequent sections of this report.

4.2.6 Waterloo Nissan

Address:	141 Northfield Drive West
Distance To Project:	25 m
D-6 Classification:	Class I Light Industry

Waterloo Nissan is a car dealership that is located approximately 25 m south of the Project site. A search of the MECP registry did not yield a permit or registration for this site

On January 25, 2024, SLR personnel conducted a site visit to the area. No odours or visible dust were observed at the facility.



As suggested in Guideline D-6, automotive repair shops maybe listed as a Class II facility partly due to the operation of a spray-paint booth. However, auto-repair shops of this size are now generally considered Class I facilities, as the MECP has a specific EASR for this industry with specific operating conditions required which reduces emissions. Auto-repair shops are regulated under Ontario Regulation 347/12: Regulations under part II.2 of the Ontario Environmental Protection Act – Automotive Refinishing[6]. Therefore, Waterloo Nissan is classified as a Class I light industry, with a Recommended Minimum Separation Distance of 20 m and a Potential Area of Influence of 70 m.

The Project site is within the Recommended Minimum Separation Distance and the Potential Area of Influence. Therefore, additional assessment is warranted and is provided in subsequent sections of this report.

4.3 Future Uses

A review of development applications in the area indicated that there is 1 active development application within 1000 m of the Project site. The following is a summary of the significant applications and excludes committee of adjustment applications such as minor variance or consent. This information is reflective of those applications listed online at the City of Waterloo applications information centre as of February 1, 2024:

Table 4: Development Applications in the Area

Address	Date	Development Application Information *	Details
525 to 565 Conestoga Rd W	October 5, 2023	OPA 32, Z-21-03, 30T-21401	The approved application permits development of the project in phases, with implementation guided by a Master Plan. Tall buildings containing a mix of residential, commercial and employment uses are contemplated north of the hydro corridor, with low to mid-rise buildings containing employment and ancillary uses contemplated to the south.

The above table illustrates that some of the surrounding landowners are pursuing rezoning applications to enable more efficient use of land and mixed uses including residential.

4.4 Summary

From the list of industries discussed in **Section 4**, seven are identified to require further analysis as a result of being within their Area of Influence. These industries include:

- ION LRT Operation Maintenance Storage Facility;
- Broil King;
- Heffner Cabinetry & Woodworking; and
- Waterloo Fire Station 3.

[6] https://www.ontario.ca/laws/regulation/120347

5.0 Air Quality, Dust and Odour Assessment

5.1 Industrial Sources

5.1.1 Guidelines and Regulations

Within Ontario, facilities which emit significant amounts of contaminants to the environment are required to obtain and maintain an ECA from the MECP or submit an EASR. Facilities with an ECA/EASR should already meet the MECP guidelines for air quality contaminants at their property line.

5.1.2 Air Quality

Under O.Reg. 419/05, a facility is required to meet prescribed standards for air emissions at their property boundary line and any location off-site. The MECP does not require industries to assess their emissions at elevated points off-site if a receptor does not exist at that location. While the introduction of mid-rise or high-rise residential buildings could trigger a facility to re-assess compliance at new, elevated receptor locations, the introduction of new low-rise receptors does not introduce a new condition related to demonstrating compliance, as the facility is already required to be in compliance at grade-level at the property line of the operating industry.

5.1.2.1 Odour

There are a select few compounds that are provincially regulated from an odour perspective; however, there is no formal regulation with respect to mixed odours. Impacts from mixed odours produced by industrial facilities are generally only considered and regulated by the MECP in the presence of persistent complaints (ECO 2010).

The MECP assesses mixed odours, in Odour Units, following draft guidelines. One odour unit (1 OU) has been used as a default threshold. This is the concentration at which 50 % of the population will just detect an odour (but not necessarily identify/recognize or object to it). Recognition of an odour will typically occur between 3 and 5 odour units. The following factors may be considered:

- **Frequency** – How often the odour occurs. The MECP typically allows odours to exceed 1 OU with a 0.5 % frequency.
- **Intensity** – The strength of the odour, in odour units. 1 OU is often used in odour assessments in Ontario.
- **Duration –** How long the odour occurs.
- **Offensiveness** – How objectionable the odour is.
- **Location** – Where the odour occurs. The MECP assesses at odours where human activity is likely to occur.

The MECP has decided to apply odour-based standards to locations “where human activities regularly occur at a time when those activities regularly occur,” which is generally accepted to be places that would be considered sensitive such as residences and public meeting places.

5.1.2.2 Dust

Ontario Regulation 419/05 also provides limits for dust, including limits for suspended particulates and dust fall. Under Reg. 419/05, these air quality limits must be met at the property line and all points beyond. This is not changed by the addition of the Project site. That is to say, the existing mutual property line is already a point of reception for dust, and the limits must already be met at that location.

5.1.2.3 Cumulative Assessments

Cumulative impact assessments, examining the combined effects of individual industries, or the combined effects of industry and roadway emissions, are generally not required. Neither the PPS, the D-Series of guidelines, Regulation 419/05, or the current MECP odour assessment protocols require an assessment of cumulative impacts.

Which is not to say that such assessments are never warranted; rather, the need to do so is considered on a case-by-case basis, depending on the nature and intensity of the industrial operation(s), and the nature of the pollutants released. Based on the types of pollutants released by the industries in this area, cumulative effects assessments are not warranted.

5.1.2.4 Local Meteorology

Surface wind data was obtained to generate a wind rose from data collected at the Region of Waterloo International Airport from 1986 through 2015, as shown in **Figure 4.** As can be seen in the wind rose, predominant winds are from the west and northwestern quadrants, while winds from the northeast and southeast quadrants may be the least frequent.

5.1.3 Site Visits and Odour and Dust Observations

A site visit was conducted to the area on January 25, 2024, by SLR personnel to identify significant sources of air quality emissions and to identify any significant sources of n odour, or dust in the area surrounding the Project site. During the site visit, the staff members observed existing industries from the sidewalks and other publicly accessible areas. Wind conditions during the site visit were noted as:

- January 25, 2024 south easterly winds, 4 km/h, 1 °C, 96 %RH

Processing odours were observed from the sidewalk surrounding the JD Sweid facility. The detected odour was strong and consistent. Faint odours were detected up to 100 m downwind of the facility. Odours were not detected beyond 100 m.

Solvent type odours were detected from the sidewalks adjacent to the Ultra Manufacturing facility. The odours were faint and inconsistent and were not detected beyond the sidewalk.

Odour and visible dust were observed at the entrance of the Waterloo Waste Transfer Station at the time of the site visit. The fugitive dust emissions are associated with the unpaved ground that trucks travel on. Garbage type odours were detected along the entrance of the facility. The odours were inconsistent and faint. The odours were local to the facility and were not detected beyond the facility.

Odours or dust emissions were not detected at the Project site at the time of the site visit.

5.1.4 Assessment of Potential Air Emissions

The following facilities were identified as being within the Potential Area of Influence for their industrial classification and were identified to require additional review from an air quality perspective:

- ION LRT Operation Maintenance Storage Facility;
- Broil King;
- Heffner Cabinetry & Woodworking;
- Waterloo Fire Station 3; and
- Waterloo Nissan

Further discussion regarding each of these facilities and potential air emissions is provided below.

All the other industries surrounding the Project site were outside of the Potential Area of Influence. Therefore, the development of the Project site is anticipated to be compatible with these facilities from an air quality perspective. In addition, emissions of dust, and/or odour at the Project are not anticipated. Further the Project site is not anticipated to limit the ability of these industries to obtain or maintain required MECP permits and approvals.

5.1.4.1 ION LRT Operation Maintenance Storage Facility

AECON Construction and materials Limited and Peter Kiewit Infrastructure Co. operating as GrandLinq Contractors operate the ION LRT Operation Maintenance Storage Facility, which is located approximately 300 m southeast of the Project site and is currently used for train maintenance. The facility operates under ECA number 3478-9YWNHR dated June 7, 2016. A copy of the MECP permit is located in **Appendix C**.

On January 25, 2024, SLR personnel conducted a site visit to the area. No odours or visible dust was observed at the facility at the time of the site visit.

A wind frequency distribution diagram (a wind rose) is provided in **Figure 4**. Prevailing winds are from the west, which will generally direct emissions from the facility operations away from the Project site. Winds with the potential to direct air emissions from the facility towards the Project site are predicted to occur less than 5% of the time.

There are existing residences located to the south of the facility along Weber Street. These residences are approximately 100 m south of the facility. In addition, the approved multi-storey development located along Conestoga Road is located approximately 150 m east of the facility. These existing sensitive receptors including elevated receptors are in closer proximity to the facility than the Project site (300 m).

The facility is required to operate and maintain in compliance with the requirements of their MECP permit. The MECP determines compliance at the property boundary, and any elevated receptor locations.

A review of the environmental permit identifies that there are a number of emission sources that are equipped with emission control equipment to reduce the concentration of emissions exhausted into the atmosphere. The permit also requires the facility to prepare a Manual outlining the operating procedures and maintenance program for the equipment, including all appropriate measures to minimize noise and odorous emissions from all potential sources.

Based on the above, the Project site is anticipated to be compatible with the ION LRT Operation Maintenance Storage facility from an air quality perspective. Emissions of dust, and/or odour at the facility are not anticipated. Further, the Project site is not anticipated to limit the ability of ION LRT Operation Maintenance Storage to obtain or maintain required MECP permits or approvals.

5.1.4.2 Broil King

Broil King is a barbeque manufacturing and assembly plant located northeast of the Project site. The facility is approximately 15 m east of the Project site. A search of the MECP registry did not yield a permit or registration for this site.

On January 25, 2024, SLR personnel conducted a site visit to the area. Outdoor storage was observed on the west property line of the facility. No odour or visible dust were observed at the facility at the time of the site visit.

Based on the size and nature of the above noted operations, and the use of outdoor storage, the Broil King facility is considered a Class II Medium Industry under MECP Guideline D-6, with a 300 m Area of Influence and a Recommended Minimum Separation Distance of 70 m.

The Project site is located within the 70 m Minimum Recommended Separation Distance and within the 300 m Potential Area of Influence.

A wind frequency distribution diagram (a wind rose) is provided in **Figure 4**. Prevailing winds are from the west, which will generally direct emissions from the Broil King facility away from the Project site. Winds with the potential to direct air emissions from the facility towards the Project site are predicted to occur less than 15% of the time.

A review of aerial imagery of the Broil King facility, identifies low level emission sources present on the roof top. The Project site will introduce new elevated receptors, however, based on a review of aerial imagery of the Broil King facility, SLR is of the opinion that the operations have a low potential to generate fugitive emissions of dust and odour. The emission sources are observed to be low level and primarily located on the facility roof.

Based on the above the Project site is anticipated to be compatible with Broil King from an air quality perspective. Emissions of dust, and/or odour at the facility are not anticipated. Further, the Project site is not anticipated to limit the ability of Broil King to obtain or maintain required MECP permits or approvals.

5.1.4.3 Heffner Cabinetry & Woodworking

The Heffner Cabinetry & Woodworking is a carpentry facility located approximately 25 m south of the Project site. A search of the MECP registry did not yield a permit or registration for this site.

Based on the size and nature of the facility operations, Heffner Cabinetry & Woodworking is considered a Class I Light Industry. The Recommended Minimum Separation Distance is 20 m, and the Area of Influence is 70 m. The Project lies outside of the Recommended Minimum Separation Distance but is within the Potential Area of Influence.

On January 25, 2024, SLR personnel conducted a site visit to the area. No odours or visible dust were observed at the facility. The facility contained bay doors at the south end of the building used for shipping and receiving of products. Truck activity was observed at the time of the site visit. During the site visit it was noted that Heffner Cabinetry operates out of a multi-tenant building. The building is shared with various commercial uses, including the Drayton Entertainment Youth Academy.

A wind frequency distribution diagram (a wind rose) is provided in **Figure 4**. Prevailing winds are from the west, which will generally direct emissions from the Heffner Cabinetry facility away from the Project site. Winds with the potential to direct air emissions from the facility towards the Project site are predicted to occur less than 15% of the time.

A review of aerial imagery of the Heffner Cabinetry & Woodworking facility, identifies low level emission sources present on the roof top and one dust collection system on the west side of the building. The Project site will introduce new elevated receptors, however, based on a review of aerial imagery of the Broil King facility, SLR is of the opinion that the operations have a low potential to generate fugitive emissions of dust and odour. The facility is fully enclosed, there are no outdoor storage areas and no outdoor handling of materials. The emission sources are observed to be low level and primarily located on the facility roof.

The Project site is located outside the 20 m Minimum Recommended Separation Distance and buffered from the Project site by Northfield Drive. This separation distance is anticipated to be sufficient.

Based on the above the Project site is anticipated to be compatible with Heffner Cabinetry & Woodworking from an air quality perspective. Emissions of dust, and/or odour at the facility are not anticipated. Further, the Project site is not anticipated to limit the ability of Heffner Cabinetry & Woodworking to obtain or maintain required MECP permits or approvals.

5.1.4.4 Johnsonite Canada Inc.

Johnsonite Canada is a vinyl baseboard manufacturing facility located approximately 200 m south of the Project site. The facility operates under MECP Amended Certificate of Approval (C of A) (Air) Number 3482-8ESR5L, dated March 30, 2011. A copy of the MECP permit is located in **Appendix D**.

The facility operates extrusion, milling, and blending processes. Based on a review of the permit information, the facility produces up to 98 million linear feat of vinyl baseboard per year.

SLR personnel conducted site visits to the area on January 25, 2024. During the site visit no dust and odour emissions were detected from the facility.

Based on the size and nature of the of the facility operations, the Johnsonite Canada Inc. facility is considered Class II Medium Industry under MECP Guideline D-6, with a Recommended Minimum Separation Distance of 70 m and a Potential Area of Influence of 300 m. The Project lies outside of the Recommended Minimum Separation Distance but is within the Potential Area of Influence.

A wind frequency distribution diagram (a wind rose) is provided in **Figure 4**. Prevailing winds are from the west, which will generally direct emissions from the Johnsonite facility away from the Project site. Winds with the potential to direct air emissions from the facility towards the Project site are predicted to occur less than 5% of the time.

There are existing residences, including mid-rise apartments and 2-storey houses, located along Weber Street. These residences are located west of the Johnsonite facility, with the closest being approximately 18 m from the facility. These existing sensitive receptors are in closer proximity to the Johnsonite facility than the Project site (200 m).

Johnsonite Canada is more than 2 times the Recommended Minimum Separation Distance of 70 m for a Class II Medium Industry. The facility operations are buffered from the Project site by the intervening employment lands.

Based on a review of the MECP permit, the facility has procedures in place to prevent and/or minimize odorous emissions and all other fugitive emissions. The MECP permit also requires the facility to maintain a record and report any complaints associated with off-property fugitive emissions.

The facility is required to operate and maintain in compliance with the requirements of their MECP permit. The MECP determines compliance at the property boundary, and any elevated receptor locations.

Based on the above, the Project site is anticipated to be compatible with Johnsonite Canada from an air quality perspective. Emissions of dust, and/or odour at the facility are not anticipated. Further, the Project site is not anticipated to limit the ability of Johnsonite Canada to obtain or maintain required MECP permits or approvals.

5.1.4.5 Waterloo Fire Station 3

The Waterloo Fire Station 3 is located immediately east of the Project site. The facility operates under MECP C of A (Air) Number 8495-7HMQZ5, dated August 19, 2008. A copy of the C of A (Air) is located in **Appendix D**.

On January 25, 2024, SLR personnel conducted a site visit to the area. No odours or visible dust were observed at the facility.

Based on a review of the MECP permit, the facility is permitted to operating a 35 kilowatts standby natural gas generator set, to provide power for the facility during emergency situations.

The operation of the generator is limited to testing and use in an emergency power back-up situation. It is not approved to use as a peek shaving power generation unit and the operation is infrequent. Based on the size and nature of generator operations, the Waterloo Fire Station facility is considered to be a Class I Light Industry, with a Minimum Recommended Separation Distance of 20 m. The Project site lies within this separation distance.

Give the infrequent use of the generator, and that is powered by natural gas, the generator operations are anticipated to be compatible with the Project site.

The facility is required to operate and maintain in compliance with the requirements of their MECP permit. The MECP determines compliance at the property boundary, and any elevated receptor locations.

Based on the above, the Project site is anticipated to be compatible with the Waterloo Fire Station facility. Emissions of dust, or odour from this facility are not anticipated at the Project site. Further, the Project site is not anticipated to limit the ability of the Waterloo Fire Station to obtain or maintain required MECP permits or approvals.

5.1.5 Waterloo Nissan

Waterloo Nissan is a car dealership that is located approximately 25 m south of the Project site. A search of the MECP registry did not yield a permit or registration for this site

On January 25, 2024, SLR personnel conducted a site visit to the area. No odours or visible dust were observed at the facility.

As suggested in Guideline D-6, automotive repair shops maybe listed as a Class II facility partly due to the operation of a spray-paint booth. However, auto-repair shops of this size are now generally considered Class I facilities, as the MECP has a specific EASR for this industry with specific operating conditions required which reduces emissions.

Auto-repair shops are regulated under Ontario Regulation 347/12: Regulations under part II.2 of the Ontario Environmental Protection Act – Automotive Refinishing[7]. Therefore, Waterloo Nissan is classified as a Class I light industry, with a Recommended Minimum Separation Distance of 20 m and a Potential Area of Influence of 70 m.

Based on a review of services offered by Waterloo Nissan, SLR confirms that vehicle service and repairs are undertaken at the facility. SLR is unable to confirm if a paint booth is operated. Some low level emissions sources are observable on aerial imagery.

To account for a worst-case compatibility assessment, SLR has assessed the facility under the assumption that one paint booth is operated at an application rate of less than 2 to less than 3 litres per hour.

Based on a review of Ontario Regulation 347/12 the recommended separation distance for this application rate from source to receptor is 20 m. The approximate distance from the nearest building edge of Waterloo Nissan to the property boundary is 35 m. Therefore, the recommended 20 m separation distance is achieved.

The Project site will introduce new elevated receptors, however, based on a review of aerial imagery of Waterloo Nissan facility, SLR is of the opinion that the operations have a low potential to generate fugitive emissions of dust and odour. Under standard operating procedures for paint booth operations, emissions are controlled through the use of filters, and most paints used at this time are water based versus oil based. The water-based paints have a lower potential for the generation of fugitive odours.

Based on the above information, the Project site is anticipated to be compatible with Waterloo Nissan from an air quality perspective. Emissions of dust, and odour are not anticipated at the Project site. Further, the Project site is not anticipated to limit the ability of Waterloo Nissan to obtain or maintain required MECP permits or approvals.

5.1.6 Transportation Related Air Pollution

5.1.6.1 Northfield Station

Northfield Station is a stop on the Region of Waterloo's Ion light rail transit (LRT) system, located 90 m southeast of the Project site.

The LRT is an electrified transit system. Therefore emissions of dust, and/or odour from the facility are not anticipated.

5.1.6.2 Waterloo Junction Railway

The Waterloo Junction Railway (WJR) is a short line railway that runs northward from Kitchener through Waterloo and St. Jacobs before terminating in Elmira. The WJR is owned by the City of Waterloo and operated by Canadian National (CN) as the Waterloo Spur.

[7] https://www.ontario.ca/laws/regulation/120347

The rail corridor is located along the east property boundary of the Project site and runs at grade level. A portion of the rail is used by the ION LRT between Waterloo Public Square station and the Northfield Station. CN runs freight operations on the line at night when the LRT

There are no storage or yard facilities along this corridor and the rails are used for through traffic, therefore, idling of vehicles is not anticipated.

A wind frequency distribution diagram (a wind rose) is provided in **Figure 4**. Prevailing winds are from the west, which will generally direct emissions from the rail corridor away from the Project site. Winds with the potential to direct air emissions from the facility towards the Project site are predicted to occur less than 20% of the time.

The use of diesel engines along the rail corridor has the potential to generate fugitive odour emissions. The use of the spur line is infrequent and limited to night time passby traffic. There are many locations along the spur line where elevated residential receptors are located at a similar distance from the line as the proposed Project site.

Therefore, the operations are anticipated to be compatible with the Project site from an air quality perspective. Further, the Project site will not create a new operational condition for CN.

5.2 Summary of Air Quality, Dust and Odour Conclusions and Recommendations

The potential for air quality emissions at the Project Site including dust and odour have been assessed.

Based on the assessment completed within this report the Project Site is anticipated to be compatible with the surrounding land uses from an air quality perspective.

6.0 Conclusions

SLR was retained by Forgestone Capital Management L.P., to conduct a Compatibility / Mitigation Study focusing on air quality, odour, and dust in support of the combined OPA and ZBA applications with the City of Waterloo for the proposed development. The development site is located at 170 Northfield Drive West in Waterloo, Ontario (“the Project site”).

This assessment has included a review of air quality, odour, and dust emissions from industrial facilities in the area.

Based on the assessment completed, the Project site is anticipated to be compatible with the surrounding land uses from an air quality perspective. Further, the Project site will not affect the ability for industrial facilities to obtain or maintain compliance with applicable Provincial environmental policies, regulations, approvals, authorizations, and guidelines. The requirements of MECP Guideline D-6, Regulation 419/05 are met. As the applicable policies and guidelines are met, the Project site is:

- Unlikely to result in increased risk of complaint and nuisance claims;
- Unlikely to result in operational constraints for the major facilities; and
- Unlikely to result in constraints on major facilities to reasonably expand, intensify or introduce changes to their operations

7.0 Closure

Should you have questions on the above report, please contact the undersigned.

Regards,

SLR Consulting (Canada) Ltd.





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8.0 References

Environmental Commissioner of Ontario (ECO, 2010), Review of Posted Decision: Developing an Odour Policy Framework, April 2010.

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1995), Guideline D-1: Land Use Compatibility

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1995), Guideline D-6: Compatibility Between Industrial Facilities and Sensitive Land Uses

Ontario Ministry of the Environment, Conservation & Parks (MECP, 2008), Technical Bulletin, Standards Development Branch, Methodology For Modelling Assessments Of Contaminants With 10-Minute Average Standards And Guidelines Under O. Reg. 419/05, September 2016

Ontario Ministry of Municipal Affairs and Housing (MMAH, 2020). Provincial Policy Statement

Ontario Ministry of the Environment, Conservation & Parks (MECP, 2008), Technical Bulletin, Standards Development Branch, Methodology For Modelling Assessments Of Contaminants With 10-Minute Average Standards And Guidelines Under O. Reg. 419/05, April 2008.

Ontario Regulation 419/05 – Local Air Quality

Figures

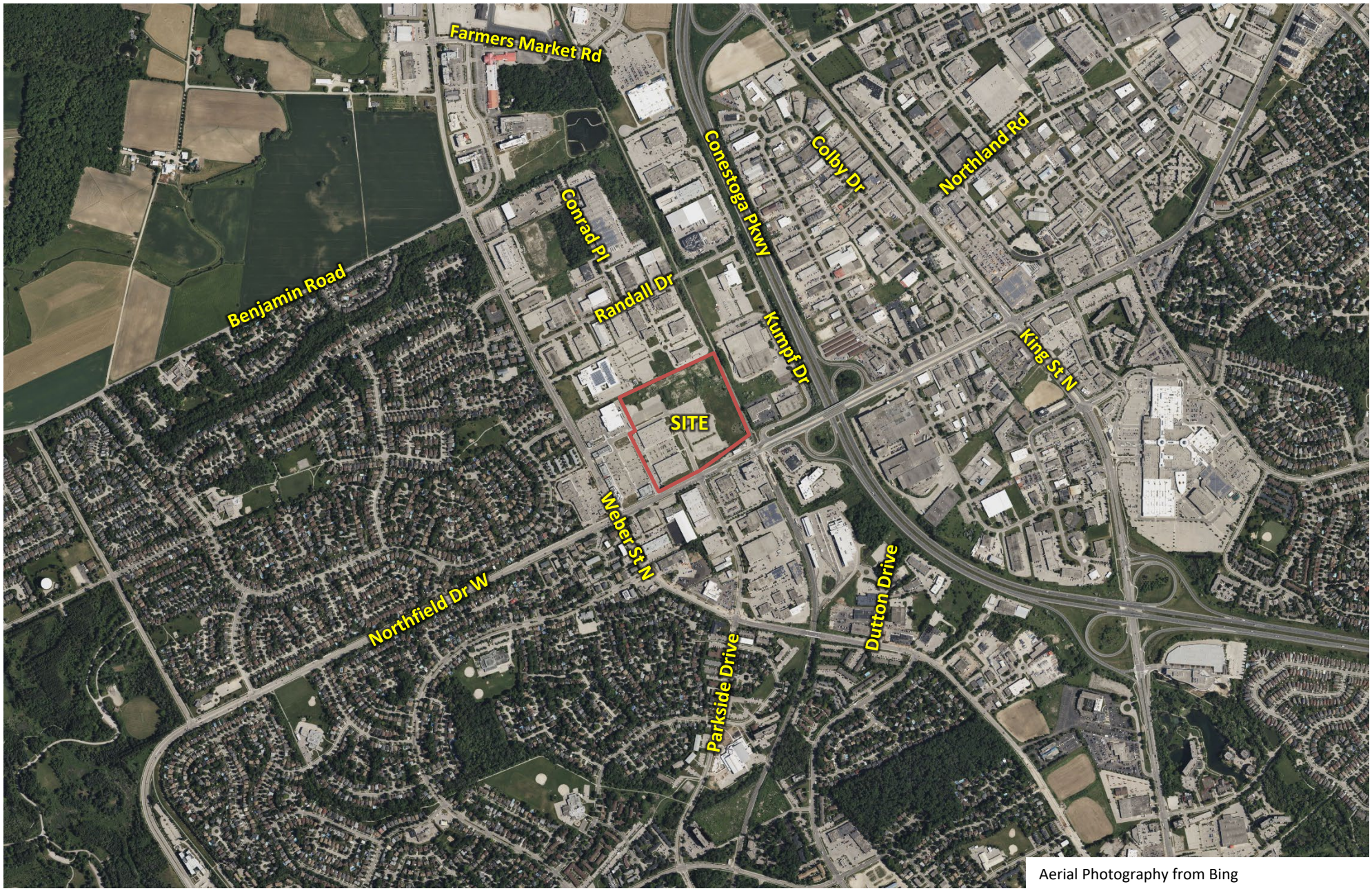
Compatibility Mitigation Study, Air Quality, Dust and Odour

170 Northfield Drive West Waterloo, Ontario

Forgestone Capital Management L.P.

SLR Project No.: 241.030968.00001

March 25, 2024



Aerial Photography from Bing

FORGESTONE CAPITAL MANAGEMENT L.P.

170 NORTHFIELD DRIVE WEST, WATERLOO , ONTARIO

SITE AND CONTEXT PLAN

True North

Scale: 1:17000

METRES

Date: Feb 8, 2024

Rev 0.0

Figure No. 1

Project No. 241.030968.00001

SLR



Land Use Designations

- Low Density Residential
- Mixed-Use Medium Density Residential
- Mixed-Use Medium High Density Residential
- Mixed-Use High Density Residential
- Commercial
- Employment
- Major Institutional
- Open Space
- Rural
- Urban Area Boundary
- Uptown Waterloo Urban Growth Centre
- Future Node

True North

FORGESTONE CAPITAL MANAGEMENT L.P.

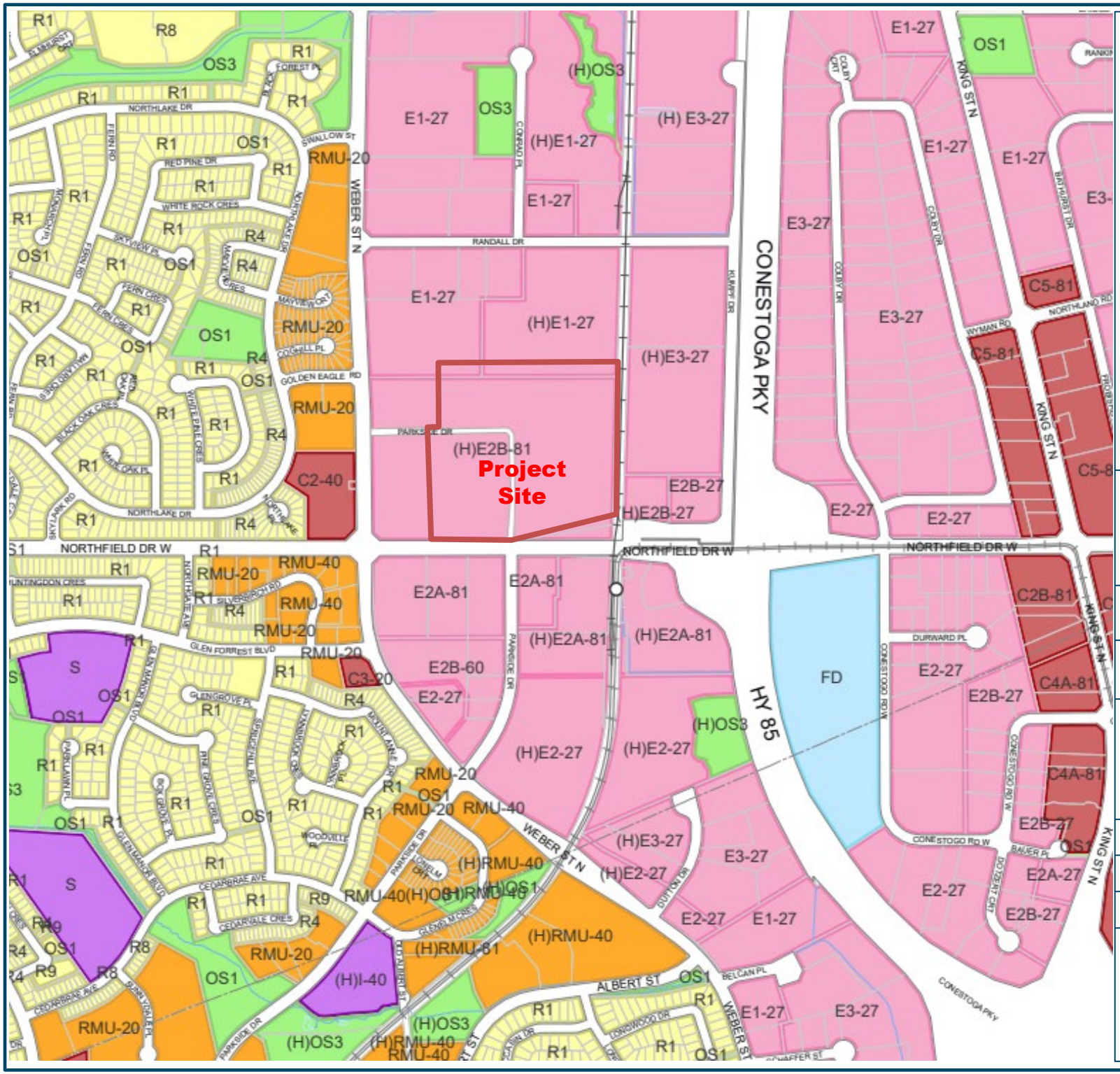
170 NORTHFIELD DRIVE WEST, WATERLOO , ONTARIO

OFFICIAL PLAN – WATERLOO

OP_Schedule_A_Land_Use.pdf (waterloo.ca)

Scale: n/a		METRES
Date: Feb 8, 2024	Rev 0.0	Figure No. **2a**
Project No. 241.030968.00001		

SLR



True North

FORGESTONE CAPITAL MANAGEMENT L.P.

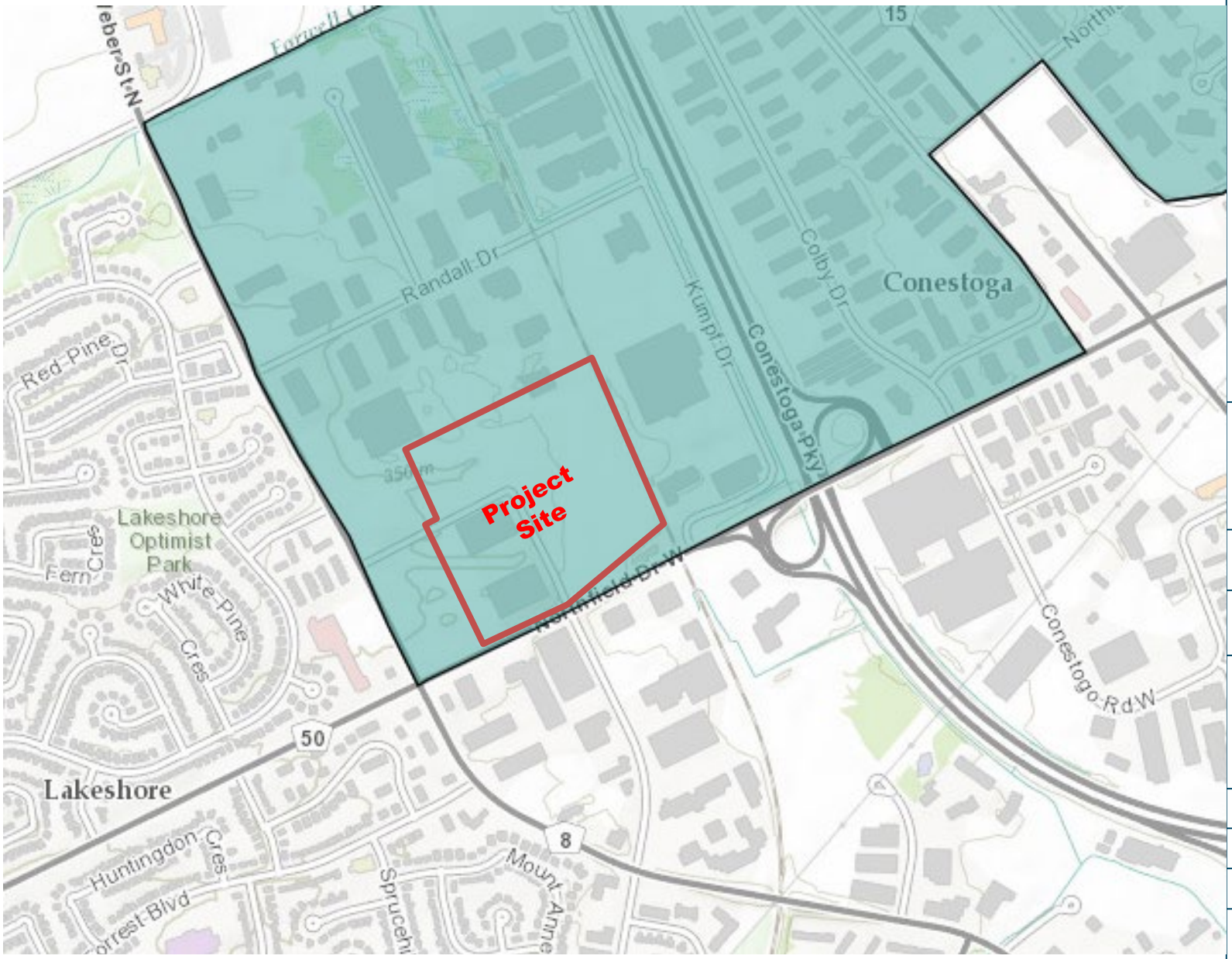
170 NORTHFIELD DRIVE WEST, WATERLOO , ONTARIO

AREA ZONING MAP - WATERLOO

Zoning-bylaw-Schedule-A.pdf (waterloo.ca)

Scale: n/a		METRES
Date: Feb 8, 2024	Rev 0.0	Figure No. **2b**
Project No. 241.030968.00001		

SLR



Project Site

Provincially Significant Employment Zone (PSEZ)

True North

FORGESTONE CAPITAL MANAGEMENT L.P.

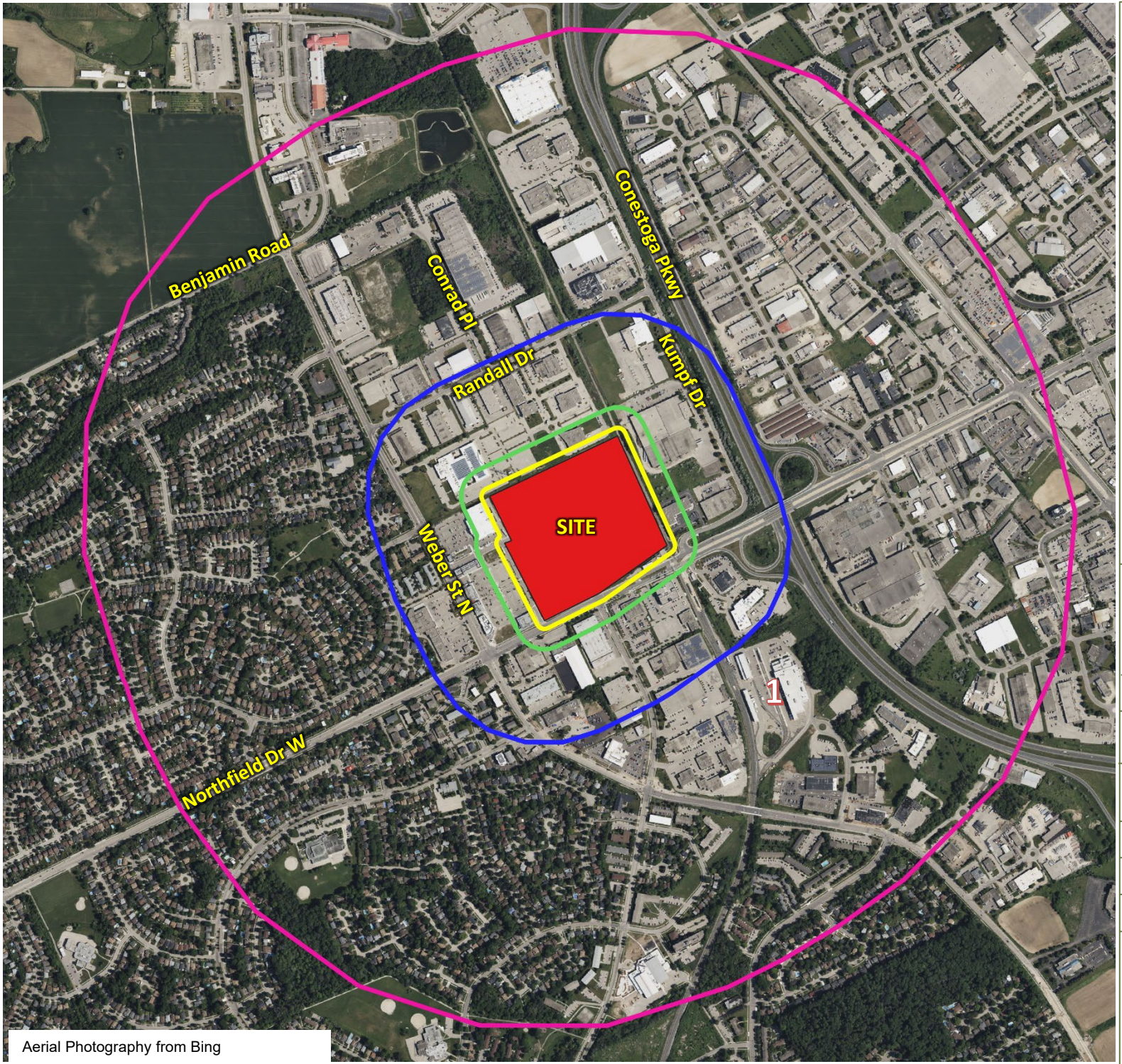
170 NORTHFIELD DRIVE WEST, WATERLOO , ONTARIO

PLACE TO GROW MAP - PROVINCIALLY SIGNIFICANT EMPLOYMENT ZONES

Provincially Significant Employment Zones (arcgis.com)

Scale: n/a		METRES
Date: Feb 8, 2024	Rev 0.0	Figure No. **2c**
Project No. 241.030968.00001		

SLR



Facility with MECP Permit (ECA/EASR)

20 m

70 m

300 m

1000 m

1- LRT Maintenance

True North

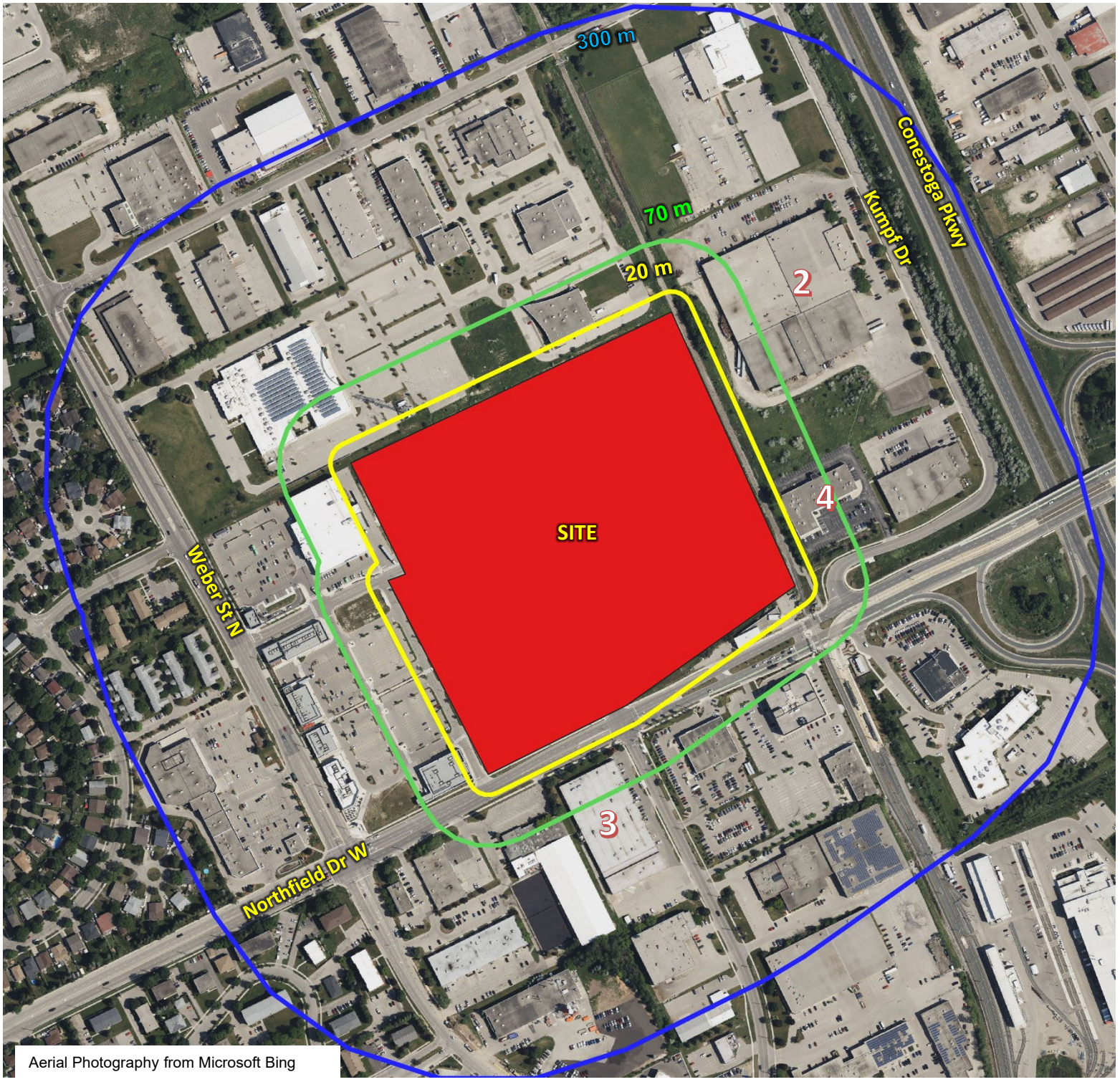
FORGESTONE CAPITAL MANAGEMENT L.P.

170 NORTHFIELD DRIVE WEST, WATERLOO , ONTARIO

GUIDELINE D-6 SEPARATION DISTANCES TO 1000 METRES

Scale: 1:11,000		METRES
Date: Feb 8, 2024	Rev 1.0	Figure No. **3a**
Project No. 241.030968.00001		

SLR



Aerial Photography from Microsoft Bing

Facility with MECP Permit (ECA/EASR)

20 m

70 m

300 m

1000 m

2 – Broil King

3 - Heffner Cabinetry

4 – Fire Station 3

True North

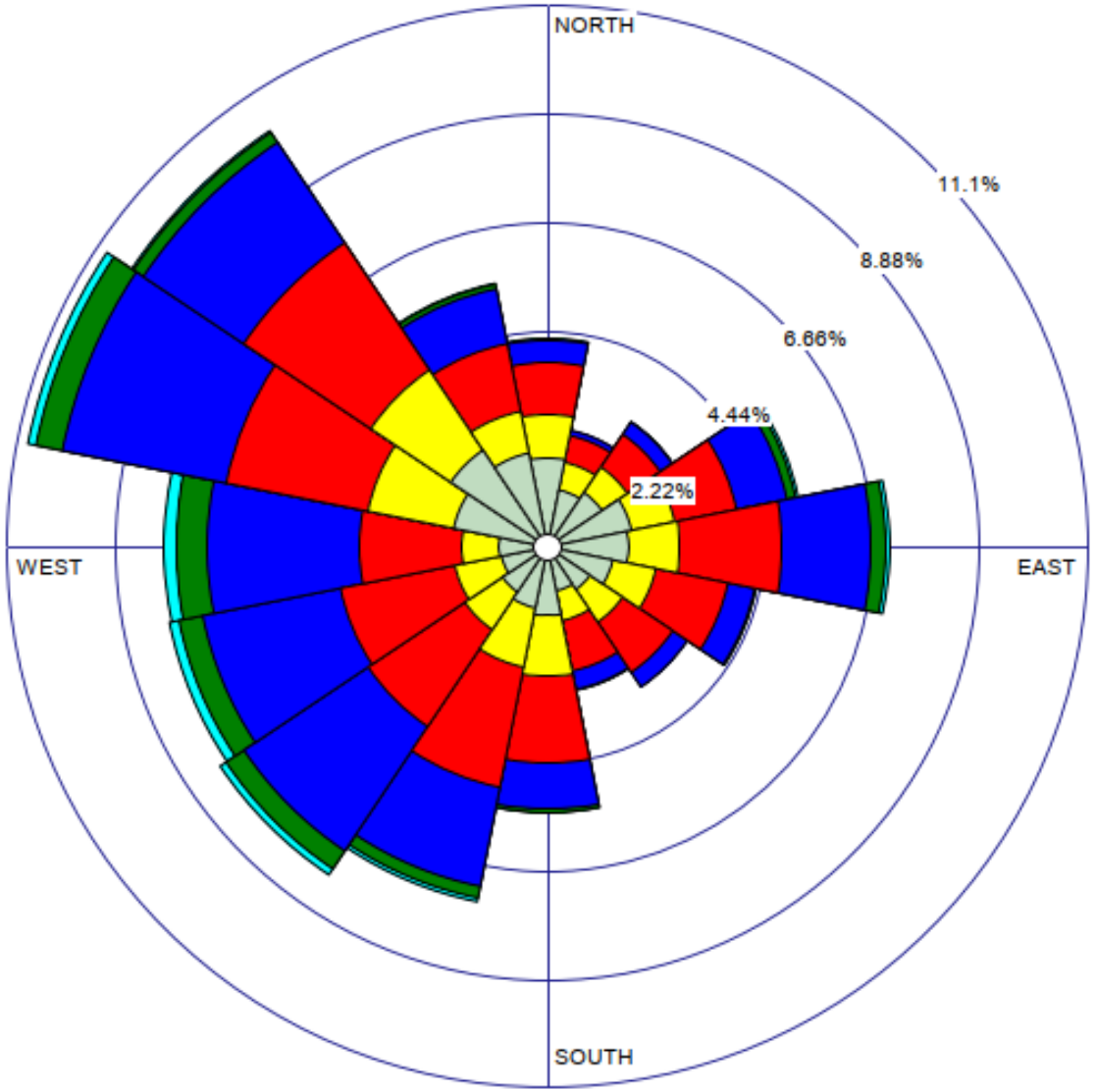
FORGESTONE CAPITAL MANAGEMENT L.P.

170 NORTHFIELD DRIVE WEST, WATERLOO , ONTARIO

GUIDELINE D-6 SEPARATION DISTANCES TO 300 METRES

Scale: 1:4,500		METRES
Date: Feb 8, 2024	Rev 1.0	Figure No. **3b**
Project No. 241.030968.00001		

SLR



WIND SPEED
(m/s)

- >= 11.10
- 8.80 - 11.10
- 5.40 - 8.80
- 3.60 - 5.40
- 2.10 - 3.60
- 0.50 - 2.10

Calms: 3.90%

True North

FORGESTONE CAPITAL MANAGEMENT L.P.

170 NORTHFIELD DRIVE WEST,
WATERLOO , ONTARIO

WIND FREQUENCY
DISTRIBUTION DIAGRAM
(WIND ROSE)
REGION OF WATERLOO
INTERNATIONAL AIRPORT

Scale: n/a		METRES
Date: Feb 8, 2024	Rev 0.0	Figure No. **4**
Project No. 241.030968.00001		

SLR

Appendix A Architectural Drawings

Compatibility Mitigation Study, Air Quality, Dust and Odour

170 Northfield Drive West Waterloo, Ontario

Forgestone Capital Management L.P.

SLR Project No.: 241.030968.00001

March 25, 2024

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2024-02-28

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BUILDING AREA SUMMARY	m²	ft²	% GROSS SUBJECT SITE AREA
DEVELOPMENT LANDS SUMMARY			
BUILDING A	3,382.95	36,414	2.09%
BUILDING B	6,482.01	69,772	4.00%
BUILDING C	5,345.53	57,539	3.30%
BUILDING D	5,986.20	64,435	3.70%
BUILDING J	11,707.43	126,016	7.23%
BUILDING K	13,157.27	141,624	8.13%
BUILDING L	24,594.31	264,731	15.19%
POPS	1,442.29	15,525	0.89%
PRIVATE DRIVEWAY	2,383.81	25,659	1.47%
DEVELOPMENT LANDS SUB-TOTAL	**74,481.90**	**801,716**	**46%**
OFFICE LANDS SUMMARY			
BUILDING E	3,399.43	36,591	2.10%
BUILDING F	5,215.23	56,136	3.22%
BUILDING G	4,302.32	46,330	2.66%
BUILDING H	2,842.65	30,598	1.76%
BUILDING I	8,478.20	91,259	5.24%
POPS	1,777.72	19,135	1.10%
PRIVATE DRIVEWAY	2,554.47	27,496	1.58%
OFFICE LANDS SUBTOTAL	**28,570.10**	**307,526**	**18%**
ROADS AND PUBLIC LANDS SUMMARY			
PARKSIDE DRIVE	6,248.45	67,258	3.86%
PARKSIDE DRIVE CUL-DE-SAC (TEMP)	392.63	4,226	0.24%
NORTHFIELD DR ROAD WIDENING	363.58	3,914	0.22%
EXPROPRIATED LANDS	1,002.96	10,796	0.62%
EXISTING EASEMENT	306.46	3,299	0.19%
PUBLIC LANDS SUB-TOTAL	**8,314.10**	**89,492**	**5%**
ADJACENT LANDS	**50,500**	**543,576**	**31%**
GROSS SITE AREA	**161,866.05**	**1,742,312**	**100.00%**

DEFINITIONS:

CITY OF WATERLOO ZONING BY-LAW 2018-050

BUILDING FLOOR AREA
means the gross floor area of a BUILDING measured between the outside of all exterior walls. Includes an attic with a clear ceiling of 2.15m for at least 50% of the attic floor area. Excludes STRUCTURED PARKING.

BUILDING HEIGHT

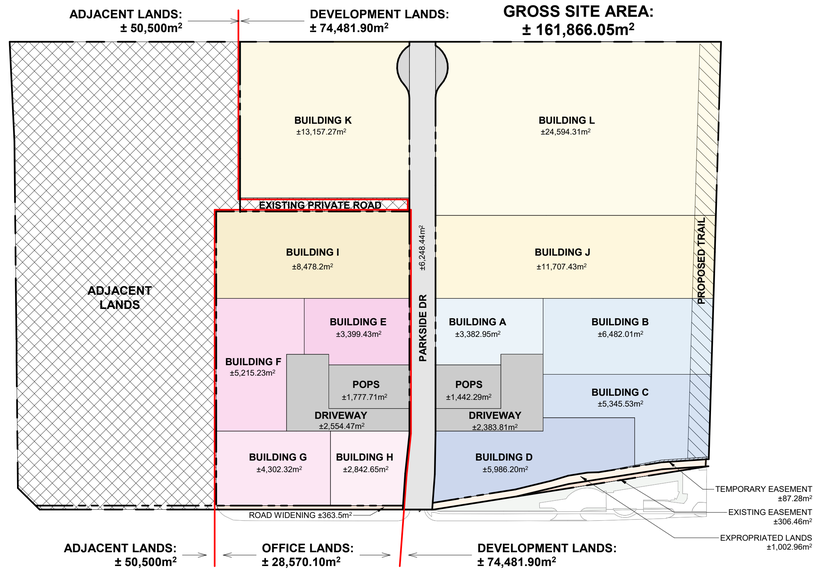
means the vertical distance from the finished ground level abutting the FRONT BUILDING FACADE, measured as the average of five (5) points CITY OF WATERLOO ZBL 2018 - 050 PAGE 1 6 equally spaced apart adjacent to the entire FRONT BUILDING FAÇADE to:

a.) for a flat roof, the highest point of:
- the roof's surface; or
- the parapet, where the parapet exceeds 1.2 metres in height, whichever is higher;

b.) for a mansard roof, the roof deck line;
c.) for a gable, hipped, cottage, gambrel, or peaked roof, the mid-point measured between the eaves and the ridges. .

The following shall be disregarded when calculating BUILDING HEIGHT:

- chimney
- church spire, church steeple, church belfry, and the like
- rooftop mechanical, ventilation, electrical, utility and service equipment not exceeding four metres in height
- enclosed stairwell roof access not exceeding four metres in height
- elevator penthouse not exceeding six metres in height
- rooftop architectural feature (see section 3.A.5)
- mechanical and service equipment noise barriers
- elevator penthouse



1 R2001 SITE AREA DIAGRAM
1 : 2000

BUILDING LEGEND

- BUILDING A
- BUILDING B
- BUILDING C
- BUILDING D
- BUILDING E
- BUILDING F
- BUILDING G
- BUILDING H
- BUILDING I
- BUILDING J
- BUILDING K
- BUILDING L

BUILDING	GROSS BUILDING AREA						AMENITY BREAKDOWN (INCLUDED IN BFA)				GROSS CONSTRUCTION AREA	
	RESIDENTIAL BFA		COMMERCIAL BFA		TOTAL BFA		INDOOR PROVIDED		OUTDOOR PROVIDED			
	m2	ft2	m2	ft2	m2	ft2	m2	PER UNIT	m2	PER UNIT	m2	ft2
BUILDING A TOWER A (29 STY)	29,830	321,088			29,830	321,088	1,161	3.2	1,759.1	4.9	43,788	471,337
BUILDING B TOWER B1 (40 STY) TOWER B2 (40 STY)	62,108	668,527			62,108	668,527	1,874	2.0	3,530.9	3.8	96,787	1,041,816
BUILDING C TOWER C1 (25 STY) TOWER C2 (36 STY)	47,843	514,982			47,843	514,982	903	1.5	973.0	1.6	76,077	818,896
BUILDING D TOWER D1 (35 STY) TOWER D2 (25 STY)	50,819	547,017	360.9	3,884.7	50,819	547,017	1,739	2.9	3,160.5	5.3	76,147	819,647
TOTAL	**190,599.5**	**2,051,613**	**360.9**	**3,885**	**190,599.5**	**2,051,613**	**5,677.4**	**2.3**	**9,423.5**	**3.8**	**292,799.7**	**3,151,696**

BUILDING	RESIDENTIAL BFA		COMMERCIAL BFA		TOTAL BFA		INDOOR PROVIDED		OUTDOOR PROVIDED		TOTAL GCA	
BUILDING E TOWER E (27 STY)	29,454	317,043			29,454	317,043	1,216	3.6	1,777.3	5.2	42,624	458,801
BUILDING F TOWER F1 (35 STY) TOWER F2 (30 STY)	48,416	521,153			48,416	521,153	2,153	3.5	2,163.5	3.5	73,760	793,952
BUILDING G TOWER G1 (28 STY) TOWER G2 (25 STY)	40,917	440,431			40,917	440,431	1,633	3.1	1,669.0	3.1	60,081	646,715
BUILDING H TOWER H1 (27 STY)	21,782	234,466			21,782	234,466	886	3.2	1,251.8	4.5	33,047	355,720
TOTAL	**140,569.7**	**1,513,093**			**140,569.7**	**1,513,093**	**5,887.8**	**3.3**	**6,861.6**	**3.9**	**209,512.1**	**2,255,188**

BUILDING	RESIDENTIAL BFA		COMMERCIAL BFA		TOTAL BFA		INDOOR PROVIDED		OUTDOOR PROVIDED		TOTAL GCA	
GRAND TOTAL	**331,169.3**	**3,564,706**	**360.9**	**3,885**	**331,169.3**	**3,564,706**	**11,565.2**	**2.7**	**16,285.2**	**3.8**	**502,311.8**	**5,406,884**

BUILDING	RESIDENTIAL BFA		COMMERCIAL BFA		TOTAL BFA		INDOOR PROVIDED		OUTDOOR PROVIDED		TOTAL GCA	
BUILDING I			2,714.4	29,217.8	2,714	29,218					2,714	29,218
BUILDING J			3,890.5	41,877.3	3,891	41,877					3,891	41,877
BUILDING K			4,855.5	52,264.6	4,856	52,265					4,856	52,265
BUILDING L			10,460.4	112,595.7	10,460	112,596					10,460	112,596
TOTAL			**21,920.8**	**235,955**	**21,920.8**	**235,955**					**21,920.8**	**235,955**

BUILDING	RESIDENTIAL BFA		COMMERCIAL BFA		TOTAL BFA		INDOOR PROVIDED		OUTDOOR PROVIDED		TOTAL GCA	
GRAND TOTAL	**331,169.3**	**3,564,706**	**22,281.7**	**239,840**	**353,090.1**	**3,800,662**	**11,565.2**	**2.7**	**16,285.2**	**3.8**	**524,232.6**	**5,642,840**

PARKING BREAKDOWN				
REQUIRED	PROVIDED	PER UNIT	VISITOR RATE	RESIDENT RATE
#	#	#	#	#
358	369	1.03	0.10	0.93
924	1,117	1.21	0.10	1.11
622	697	1.12	0.10	1.02
599	675	1.13	0.10	1.03
2,503	**2,858**	**1.14**	**0.10**	**1.02**

REQUIRED	PROVIDED	PER UNIT	VISITOR RATE	RESIDENT RATE
341	351	1.03	0.10	0.93
612	644	1.05	0.10	0.95
533	545	1.02	0.10	0.92
278	300	1.08	0.10	0.98
1,764	**1,840**	**1.04**	**0.10**	**0.95**

REQUIRED	PROVIDED	PER UNIT	VISITOR RATE	RESIDENT RATE
4,267	**4,698**	**1.10**	**0.10**	**0.95**

REQUIRED	PROVIDED	PER 100SF
41	112	4.13
59	103	2.65
73	69	1.42
157	157	1.50
330	**441**	**2.01**

UNIT BREAKDOWN								
UNITS	STUDIO	1B	1B+D	2B	2B+D	3B	3B+D	
#	#	#	#	#	#	#	#	
358	44	119		136		59		
924	66	363	264	99		132		
622		340		123	72	87		
599	18	225		240		116		
2,503	**128**	**1,047**	**264**	**598**	**72**	**394**		
	128	**1,311**		**670**		**394**		
	57.49%			26.77%		15.74%		

341	40	82		156		63		
612	79	245		288				
533	40	284		208		1		
278	20	146		110		2		
1,764	**179**	**757**		**762**		**66**		
	179	**757**		**762**		**66**		
	53.06%			43.20%		3.74%		

UNITS	STUDIO	1B	1B+D	2B	2B+D	3B	3B+D
4,267	**307**	**1,804**	**264**	**1,360**	**72**	**460**	
	7%	**48%**		**34%**		**11%**	

TURNER FLEISCHER

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T 416 425 2222
turnerfleischer.com

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DRAWING LIST

DRAWING NUMBER	DRAWING NAME	Revision Date
RZ000	COVER SHEET	2024-02-28
RZ001	STATISTICS-SUMMARY	2024-02-28
RZ002	STATISTICS-BLOCK A	2024-02-28
RZ003	STATISTICS-BLOCK B	2024-02-28
RZ004	STATISTICS-BLOCK C	2024-02-28
RZ005	STATISTICS-BLOCK D	2024-02-28
RZ006	STATISTICS-BLOCK E	2024-02-28
RZ007	STATISTICS-BLOCK F	2024-02-28
RZ008	STATISTICS-BLOCK G	2024-02-28
RZ009	STATISTICS-BLOCK H	2024-02-28
RZ010	CONTEXT PLAN	2024-02-28
RZ011	SURVEY BY J.D.BARNES COMPLETED ON JULY 27, 2023	2024-02-28
RZ012	MASTER/BLOCK PLAN	2024-02-28
RZ013	OVERALL SITE PLAN	2024-02-28
RZ014	SITE PLAN / ROOF PLAN - RESIDENTIAL	2024-02-28
RZ101	UNDERGROUND LEVEL 01	2024-02-28
RZ151	FLOOR 01	2024-02-28
RZ152	FLOOR 02	2024-02-28
RZ153	FLOOR 03-06 (TYPICAL)	2024-02-28
RZ154	FLOOR 07 (AMENITY)	2024-02-28
RZ155	FLOOR 08 (TYPICAL)	2024-02-28
RZ161	SITE PLAN / ROOF PLAN - COMMERCIAL	2024-02-28
RZ162	FLOOR 01 - COMMERCIAL	2024-02-28
RZ301	ELEVATIONS	2024-02-28
RZ302	ELEVATIONS	2024-02-28
RZ303	ELEVATIONS	2024-02-28
RZ304	ELEVATIONS	2024-02-28
RZ401	BUILDING SECTIONS	2024-02-28
RZ402	BUILDING SECTIONS	2024-02-28
RZ403	BUILDING SECTIONS	2024-02-28
RZ901	3D PERSPECTIVE	2024-02-28
RZ902	3D PERSPECTIVE	2024-02-28
RZ903	3D PERSPECTIVE	2024-02-28
RZ904	3D PERSPECTIVE	2024-02-28
RZ905	3D PERSPECTIVE	2024-02-28
RZ906	3D PERSPECTIVE	2024-02-28
RZ911	SHADOW STUDIES	2024-02-28
RZ912	SHADOW STUDIES	2024-02-28
RZ913	SHADOW STUDIES	2024-02-28
RZ914	SHADOW STUDIES	2024-02-28
RZ915	SHADOW STUDIES	2024-02-28
RZ916	SHADOW STUDIES	2024-02-28
RZ917	SHADOW STUDIES	2024-02-28
RZ918	SHADOW STUDIES	2024-02-28
RZ919	SHADOW STUDIES	2024-02-28
RZ920	SHADOW STUDIES	2024-02-28

#	DATE	DESCRIPTION	BY
1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT
170 Northfield Drive West, Waterloo

170 Northfield Drive West, Waterloo, Ontario

DRAWING
STATISTICS-SUMMARY

PROJECT NO.	22.237P01
PROJECT DATE	2024-02-28
DRAWN BY	DVI
CHECKED BY	RMM
SCALE	As indicated

ONTARIO ASSOCIATION OF ARCHITECTS
RUSSELL L.FLEISCHER
LICENCE
5004

DRAWING NO. RZ001
REV. 1

2024-02-28 10:27:23 AM

SITE AREA

LAND USE	m²	ft²	%
GROUND FLOOR TOWER FOOTPRINT	2,821.3	30,368	83.4%
LANDSCAPED/PAVED OPEN SPACE	561.7	6,046	16.6%
TOTAL SITE AREA	**3,383.0**	**36,414**	100.0%

GROSS BUILDING AREA SUMMARY

BUILDING	USE	BFA		FSI
		m²	ft²	
BUILDING A	RESIDENTIAL	28,669.0	308,590	8.47
	INDOOR AMENITY	1,160.8	12,494.5	0.34
	TOTAL	**29,829.8**	**321,085**	**8.82**

GROSS CONSTRUCTION AREA SUMMARY

FLOORS	GCA	
	m²	ft²
UNDERGROUND	3,844.4	41,381
PODIUM	16,927.8	182,207
TOWER	23,016.2	247,745
TOTAL	**43,788.3**	**471,333**

GROSS BUILDING AREA (BFA) BREAKDOWN

GROSS BUILDING AREA BREAKDOWN

BUILDING	PART	FLOOR	# OF UNITS	RESIDENTIAL SALEABLE m²	RESIDENTIAL SALEABLE ft²	RESIDENTIAL NON-SALEABLE m²	RESIDENTIAL NON-SALEABLE ft²	TOTAL RESIDENTIAL m²	TOTAL RESIDENTIAL ft²	TOTAL BUILDING FLOOR AREA (BFA) (GCA - EXCLUSIONS) m²	TOTAL BUILDING FLOOR AREA (BFA) (GCA - EXCLUSIONS) ft²
			#	m²	ft²	m²	ft²	m²	ft²	m²	ft²
BUILDING A	PODIUM	U/G 1				322.2	3,468	**322.2**	**3,468**	322.2	3,468
		1		535.3	5,493	835.3	8,991	**1,345.6**	**14,484**	1,609.2	17,322
		2	10	716.5	7,711	304.7	3,280	**1,021.2**	**10,992**	1,021.2	10,992
		3	10	716.4	7,711	248.9	2,679	**965.2**	**10,389**	965.2	10,389
		4	10	716.4	7,711	248.9	2,679	**965.2**	**10,389**	965.2	10,389
		5	10	716.4	7,711	248.9	2,679	**965.2**	**10,389**	965.2	10,389
		6	10	716.4	7,711	248.9	2,679	**965.2**	**10,389**	965.2	10,389
		PODIUM SUB TOTAL	**50**	**4,092.2**	**44,046.1**	**2,457.7**	**26,454.0**	**6,549.9**	**70,502.1**	**6,813.5**	**73,340.1**
	TOWER A (29 STY)	FLOOR	# OF UNITS	SALEABLE m²	SALEABLE ft²	NON-SALEABLE m²	NON-SALEABLE ft²	TOTAL RESIDENTIAL m²	TOTAL RESIDENTIAL ft²	TOTAL BUILDING FLOOR AREA m²	TOTAL BUILDING FLOOR AREA ft²
		7				101.7	1,094	**101.7**	**1,094**	998.8	10,751
		8	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		9	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		10	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		11	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		12	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		13	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		14	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		15	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		16	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		17	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		18	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		19	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		20	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		21	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		22	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		23	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		24	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		25	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		26	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		27	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		28	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		29	14	897.1	9,657	101.7	1,094	**998.8**	**10,751**	998.8	10,751
		MPH				44.3	477	**44.3**	**477**	44.3	477
		TOWER A SUB-TOTAL	**308**	**19,736.6**	**212,443.4**	**2,382.5**	**25,645.0**	**22,119.1**	**238,088**	**23,016.2**	**247,745**
TOTAL		FLOOR	# OF UNITS	SALEABLE		NON-SALEABLE		TOTAL RESIDENTIAL		TOTAL BUILDING FLOOR AREA	
		TOTAL	**358**	**23,829**	**256,491**	**4,840**	**52,099**	**28,669**	**308,590**	**29,829.8**	**321,085**

BUILDING	PART	FLOOR	OUTDOOR AMENITY m²	OUTDOOR AMENITY ft²	INDOOR AMENITY m²	INDOOR AMENITY ft²	AREA EXCLUSIONS TOTAL EXCLUSIONS m²	AREA EXCLUSIONS TOTAL EXCLUSIONS ft²	GROSS CONSTRUCTION AREA [GCA] (NO EXCLUSIONS) m2	GROSS CONSTRUCTION AREA [GCA] (NO EXCLUSIONS) ft2
			m²	ft²	m²	ft²	m²	ft²		
BUILDING A	PODIUM	U/G 1					3,522.2	37,913	3,844.4	41,381
		1			263.7	2,838	1,212.0	13,046	2,821.3	30,368
		2					1,800.1	19,376	2,821.3	30,368
		3					1,856.1	19,978	2,821.3	30,368
		4					1,856.1	19,978	2,821.3	30,368
		5					1,856.1	19,978	2,821.3	30,368
		6					1,856.1	19,978	2,821.3	30,368
		PODIUM SUB TOTAL			**263.7**	**2,838.0**	**13,958.5**	**150,248.3**	**20,772.0**	**223,588.4**
	TOWER A (29 STY)	FLOOR	OUTDOOR AMENITY m²	OUTDOOR AMENITY ft²	INDOOR AMENITY m²	INDOOR AMENITY ft²				
		7	1,759.1	18,935	897.1	9,657			998.8	10,751
		8							998.8	10,751
		9							998.8	10,751
		10							998.8	10,751
		11							998.8	10,751
		12							998.8	10,751
		13							998.8	10,751
		14							998.8	10,751
		15							998.8	10,751
		16							998.8	10,751
		17							998.8	10,751
		18							998.8	10,751
		19							998.8	10,751
		20							998.8	10,751
		21							998.8	10,751
		22							998.8	10,751
		23							998.8	10,751
		24							998.8	10,751
		25							998.8	10,751
		26							998.8	10,751
		27							998.8	10,751
		28							998.8	10,751
		29							998.8	10,751
		MPH							44.3	477
		TOWER A SUB-TOTAL	**1,759.1**	**18,935**	**897.1**	**9,657**			**23,016.2**	**247,744.7**
TOTAL		FLOOR	TOTAL		TOTAL		TOTAL		TOTAL	
		TOTAL	**1,759**	**18,935**	**1,161**	**12,495**	**13,958.5**	**150,248.3**	**43,788.3**	**471,333.1**

AMENITY BREAKDOWN

UNIT MIX BREAKDOWN

	FLOOR	STUDIO	1B	1B+D	2B	2B+D	3B	3B+D	TH	TOTAL	m²	ft²
PODIUM	1											
	2		1		6		3			**10**	71.6	771
	3		2		5		3			**10**	71.6	771
	4		2		5		3			**10**	71.6	771
	5		2		5		3			**10**	71.6	771
	6		2		5		3			**10**	71.6	771
	SUBTOTAL		**9**		**26**		**15**			50		
	TOTAL UNITS		9		26		15			50	**81.8**	**881**
	UNIT MIX		**18.0%**		**52.0%**		**30.0%**		**100.0%**			
TOWER A (29 STY)	7										#DIV/0!	#DIV/0!
	8	2	5		5		2			**14**	64.1	690
	9	2	5		5		2			**14**	64.1	690
	10	2	5		5		2			**14**	64.1	690
	11	2	5		5		2			**14**	64.1	690
	12	2	5		5		2			**14**	64.1	690
	13	2	5		5		2			**14**	64.1	690
	14	2	5		5		2			**14**	64.1	690
	15	2	5		5		2			**14**	64.1	690
	16	2	5		5		2			**14**	64.1	690
	17	2	5		5		2			**14**	64.1	690
	18	2	5		5		2			**14**	64.1	690
	19	2	5		5		2			**14**	64.1	690
	20	2	5		5		2			**14**	64.1	690
	21	2	5		5		2			**14**	64.1	690
	22	2	5		5		2			**14**	64.1	690
	23	2	5		5		2			**14**	64.1	690
	24	2	5		5		2			**14**	64.1	690
	25	2	5		5		2			**14**	64.1	690
	26	2	5		5		2			**14**	64.1	690
	27	2	5		5		2			**14**	64.1	690
	28	2	5		5		2			**14**	64.1	690
	29	2	5		5		2			**14**	64.1	690
	SUBTOTAL	**44**	**110**		**110**		**44**			308	**64.1**	**690**
	TOTAL UNITS	**44**	**110**		**110**		**44**					
	UNIT MIX	**14.3%**	**35.7%**		**35.7%**		**14.3%**		**100.0%**			
TOTAL	SUBTOTAL	**44**	**119**		**136**		**59**			**358**	**66.6**	**716**
	TOTAL UNITS	**44**	**119**		**136**		**59**					
	UNIT MIX	**12.3%**	**33.2%**		**38.0%**		**16.5%**		**100.0%**			

VEHICULAR PARKING - REQUIRED

	USE	RATIO (MIN.)	UNITS	SPACES (MIN.)
BUILDING A	RESIDENTIAL	1.00 / UNIT	358	358
	TOTAL RESIDENTIAL			**358**
	TOTAL REQUIRED			**358**

VEHICULAR PARKING - PROVIDED

	FLOOR	USE		
		RESIDENTIAL	VISITOR	TOTAL
BUILDING A	U/G LEVEL 1	94	7	101
	FLOOR 1		29	29
	FLOOR 2	48		48
	FLOOR 3	52		52
	FLOOR 4	52		52
	FLOOR 5	52		52
	FLOOR 6	35		35
	TOTAL PROVIDED	**333**	**36**	**369**
	RATIO	**0.93 / UNIT**	**0.10 / UNIT**	

AMENITY AREAS - REQUIRED & PROVIDED

	TYPE	REQUIRED RATIO	REQUIRED m2	REQUIRED ft2	PROVIDED RATIO	PROVIDED m2	PROVIDED ft2
BUILDING A	INDOOR AMENITY	2.0 m2/ UNIT	716.0	7,707	3.2 m2 / UNIT	1,160.8	12,495
	OUTDOOR AMENITY	TOTAL AMENITY REQUIRED MINUS THE INDOOR			4.9 m2 / UNIT	1,759.1	18,935
	TOTAL AMENITY	**4.0 m2/ UNIT**	**1,432.0**	**15,414**	**8.2 m2 / UNIT**	**2,919.9**	**31,430**

BICYCLE PARKING - REQUIRED

	USE	RESIDENTIAL	
		RATIO	SPACES
BUILDING A	TYPE 'A'	0.30 / UNIT	108
	TYPE 'B'	0.30 / UNIT	108
	TOTAL REQUIRED		**216**

** BICYCLE PARKING RATIOS AS PER CITY OF WATERLOO ZONING BY-LAW 2018-050*

BICYCLE PARKING - PROVIDED

		RESIDENTIAL		
	FLOOR	TYPE 'A'	TYPE 'B'	SUB-TOTAL
BUILDING A	U/G LEVEL 1			
	FLOOR 1	184	58	242
	FLOOR 2			
	FLOOR 3			
	FLOOR 4			
	FLOOR 5			
		184	**58**	**242**

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#	DATE	DESCRIPTION	BY
1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT

170 Northfield Drive West, Waterloo

170 Northfield Drive West, Waterloo, Ontario

DRAWING

STATISTICS-BLOCK A

PROJECT NO. 22.237P01
PROJECT DATE 2024-02-28
DRAWN BY DVI
CHECKED BY RMM
SCALE

ONTARIO ASSOCIATION OF ARCHITECTS
RUSSELL L.FLEISCHER
LICENCE
5004

DRAWING NO. RZ002
REV. 1

2024-02-28 10:27:24 AM



2024-02-28 10:27:27 AM

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1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT

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DRAWING

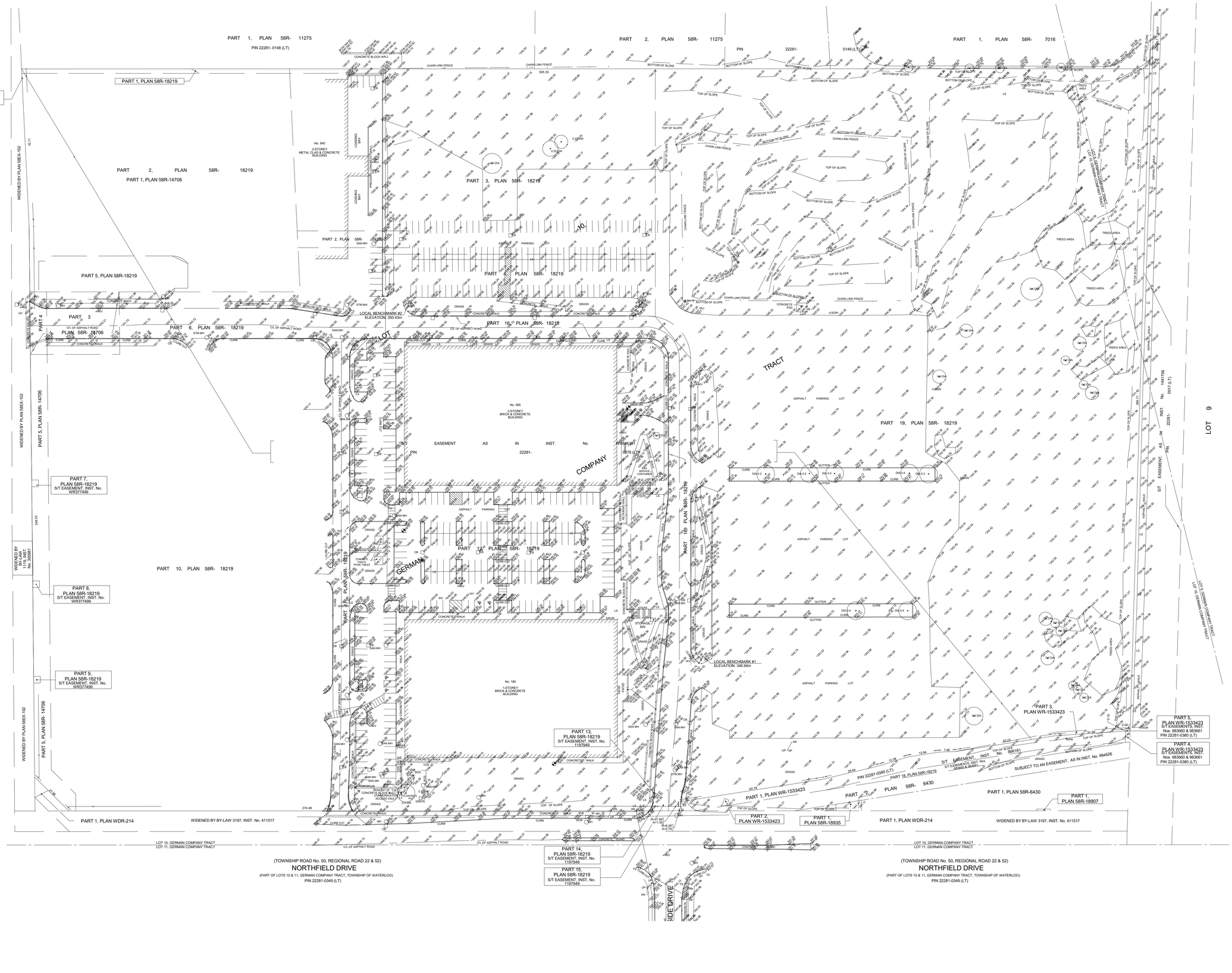
CONTEXT PLAN

PROJECT NO.	22.237P01
PROJECT DATE	2024-02-28
DRAWN BY	DVI
CHECKED BY	RMM
SCALE	1 : 2500

ONTARIO ASSOCIATION OF ARCHITECTS
RUSSELL L.FLEISCHER
LICENCE
5004

DRAWING NO. RZ010

REV. 1



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#	DATE	DESCRIPTION	BY
1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT

170 Northfield Drive West, Waterloo

170 Northfield Drive West, Waterloo, Ontario

DRAWING

SURVEY BY J.D.BARNES COMPLETED ON JULY 27, 2023

PROJECT NO.	22.237P01
PROJECT DATE	2024-02-28
DRAWN BY	DVI
CHECKED BY	RMM
SCALE	1 : 750

DRAWING NO. RZ011 | REV. 1

2024-02-28 10:27:28 AM

ADJACENT LANDS:
± 50,500m²

DEVELOPMENT LANDS:
± 74,481.90m²

TOTAL SUBJECT SITE AREA:
± 161,866.05m²

WEBER ST N

EXISTING 1 STY COMMERCIAL BUILDINGS

PARKSIDE CUL DE SAC
±393.31m²

BUILDING K
SITEA AREA: ±13,157.27m²

BUILDING L
SITE AREA: ±24,594.31m²

AREA: ± 6,248.44m²

EXISTING PRIVATE ROAD

PARKSIDE DRIVE

PROPOSED TRAIL

BUILDING I
SITE AREA: ±8,478.20m²

BUILDING J
SITE AREA: ±11,707.43m²

BUILDING F
SITE AREA: ±5,215.23m²

BUILDING E
SITE AREA: ±3,399.43m²

POPS
±1,777.71m²

DRIVEWAY ±2,554.47m²

BUILDING A
SITE AREA: ±3,382.95m²

BUILDING B
SITE AREA: ±6,482.01m²

POPS
±1,442.29m²

DRIVEWAY ±2,383.81m²

BUILDING C
SITE AREA: ±5,345.53m²

BUILDING G
SITE AREA: ±4,302.32m²

BUILDING H
SITE AREA: ±2,842.65m²

BUILDING D
SITE AREA: ±5,986.20m²

150.00 m FROM NORTHFIELD DR

WATERLOO FIRE STATION 3

ROAD WIDENING
±363.5m²

EXISTING EASEMENT
±306.46m²

EXPROPRIATED LANDS
±1,002.96m²

ADJACENT LANDS:
± 50,500m²

OFFICE LANDS:
± 28,570.10m²

DEVELOPMENT LANDS:
± 74,481.90m²

2024-02-28 10:27:29 AM

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BUILDING LEGEND

- BUILDING A
- BUILDING B
- BUILDING C
- BUILDING D
- BUILDING E
- BUILDING F
- BUILDING G
- BUILDING H
- BUILDING I
- BUILDING J
- BUILDING K
- BUILDING L

#	DATE	DESCRIPTION	BY
1	2024-02-28	ISSUED FOR REZONING	DVI

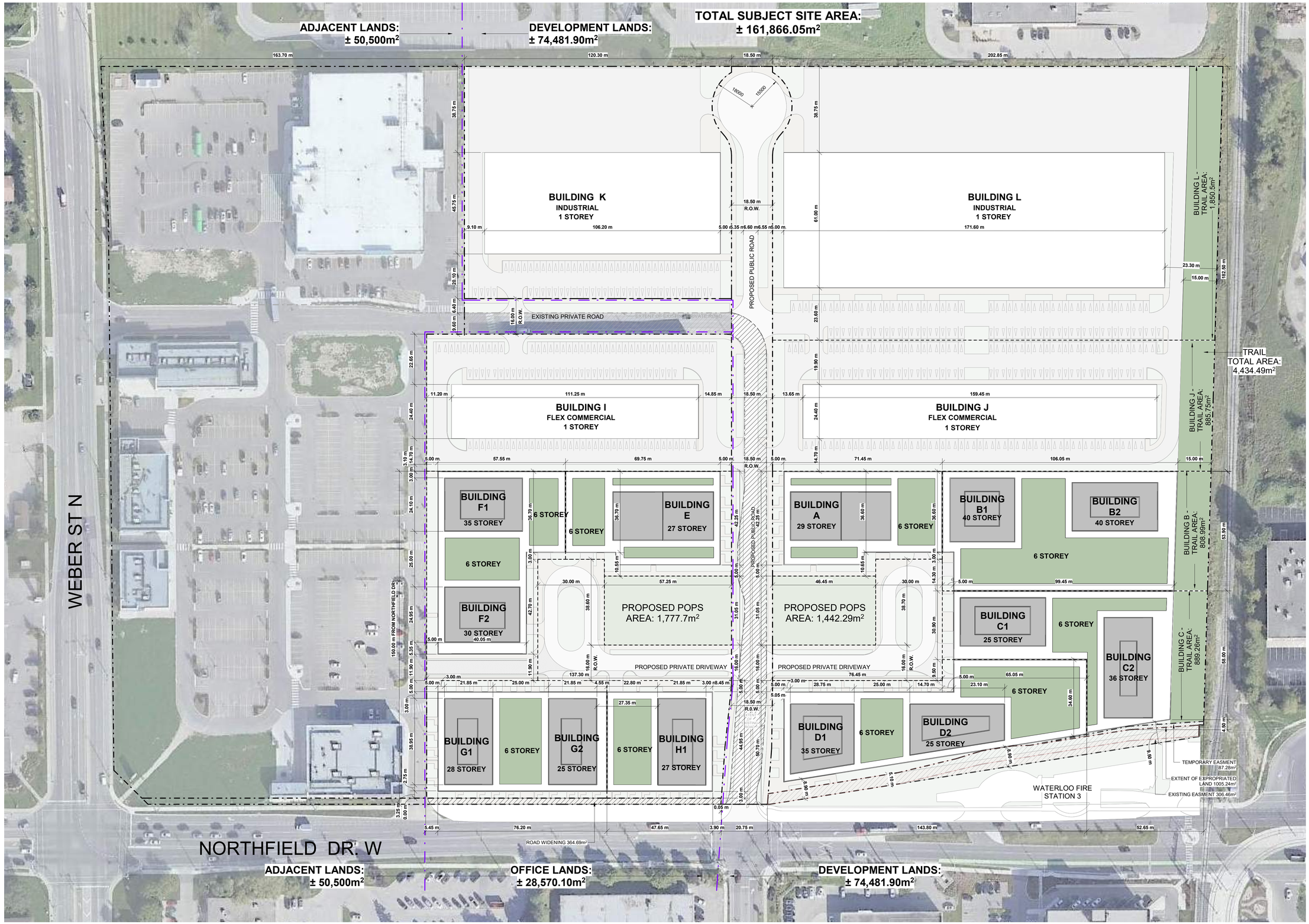
PROJECT
170 Northfield Drive West, Waterloo
170 Northfield Drive West, Waterloo, Ontario

DRAWING
MASTER/BLOCK PLAN

PROJECT NO.	22.237P01
PROJECT DATE	2024-02-28
DRAWN BY	DVI
CHECKED BY	RMM
SCALE	1:750

ONTARIO ASSOCIATION OF ARCHITECTS
RUSSELL LFLEISCHER
LICENCE
5004

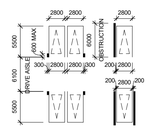
DRAWING NO. RZ012
REV. 1



TYPICAL PARKING DIMENSIONS:

AISLE WIDTH: MIN 6.1m

TYPICAL PARKING SPACE:
MIN 2.8 x 5.5 x 2.0m HIGH



TYPICAL BARRIER FREE SPACE:

MIN 3.7 x 5.5 x 2.1m HIGH



#	DATE	DESCRIPTION	BY
1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT

170 Northfield Drive West, Waterloo

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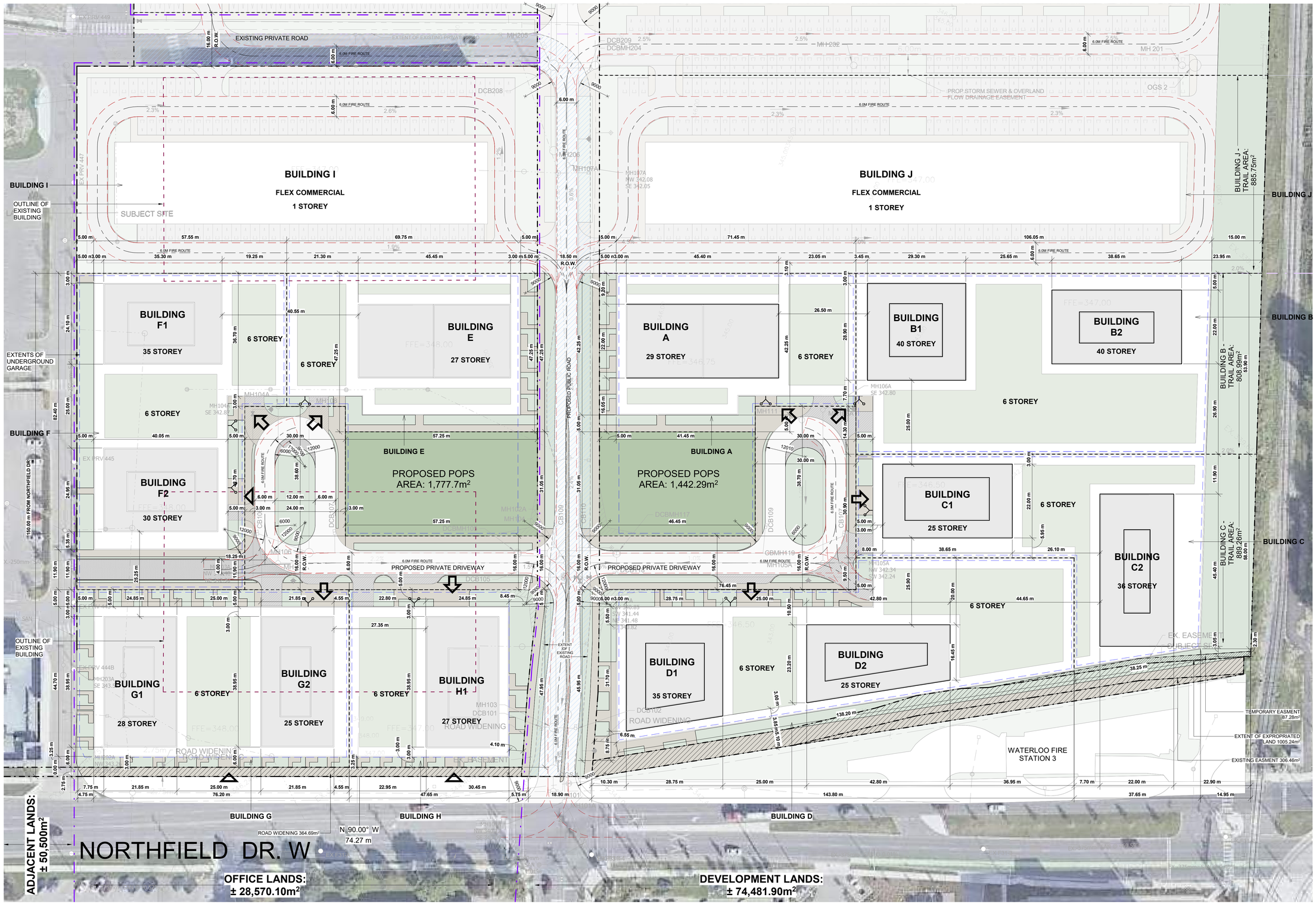
DRAWING

OVERALL SITE PLAN

PROJECT NO.	22.237P01
PROJECT DATE	2024-02-28
DRAWN BY	DVI
CHECKED BY	RMM
SCALE	1:750

DRAWING NO. RZ013 | REV. 1

2024-03-07 11:22:35 AM



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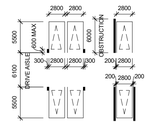
LEGEND

- PRIMARY RESIDENTIAL ENTRANCE
- SECONDARY RESIDENTIAL ENTRANCE
- RETAIL ENTRANCE
- EXIT
- FIRE HYDRANT
- SIAMESE CONNECTION
- PROPERTY BOUNDARY
- BUILDING DELINEATION

TYPICAL PARKING DIMENSIONS:

AISLE WIDTH: MIN 6.1m

TYPICAL PARKING SPACE:
MIN 2.8 x 5.5 x 2.0m HIGH



TYPICAL BARRIER FREE SPACE:

MIN 3.7 x 5.5 x 2.1m HIGH



#	DATE	DESCRIPTION	BY
1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT
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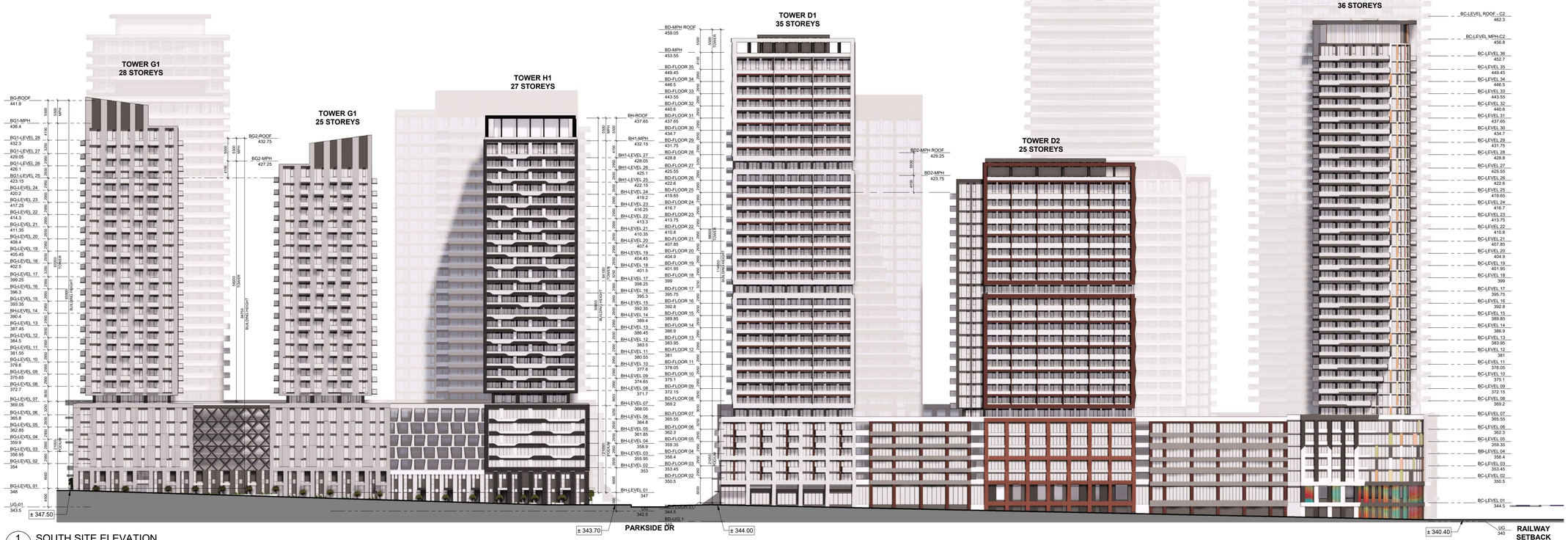
DRAWING
SITE PLAN / ROOF PLAN - RESIDENTIAL

PROJECT NO.	22.237P01
PROJECT DATE	2024-02-28
DRAWN BY	DVI
CHECKED BY	RMM
SCALE	1 : 500

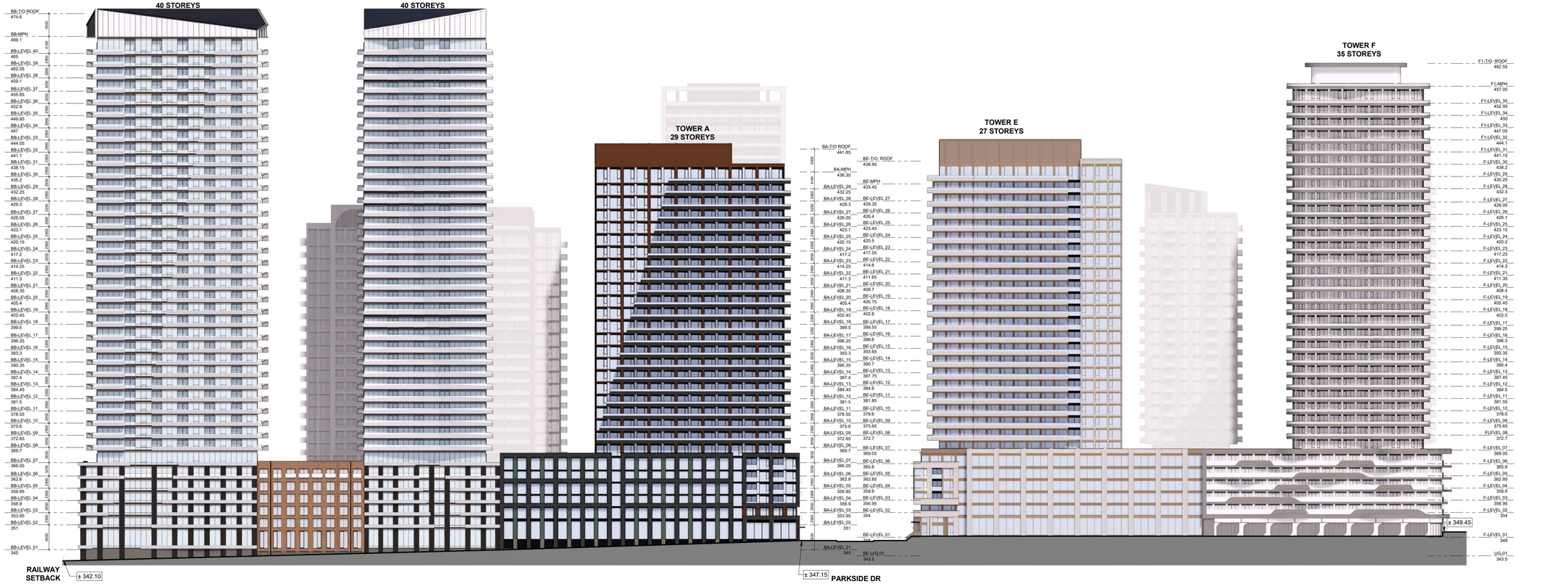
ONTARIO ASSOCIATION OF ARCHITECTS
RUSSELL LFLEISCHER
LICENCE
5004

DRAWING NO. RZ014
REV. 1

2024-02-28 10:27:41 AM



1 SOUTH SITE ELEVATION
RZ301 1 : 500



2 NORTH SITE ELEVATION
RZ301 1 : 500

2024-02-28 10:28:26 AM

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1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT
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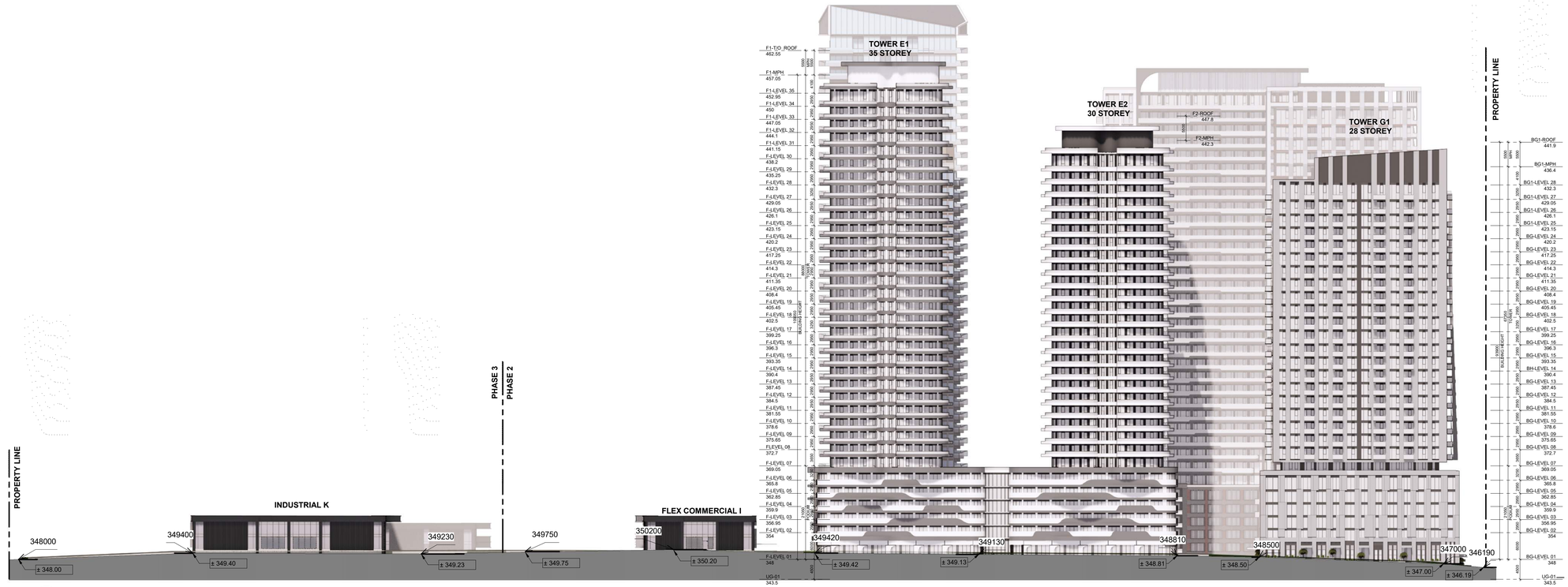
170 Northfield Drive West, Waterloo, Ontario

DRAWING
ELEVATIONS

PROJECT NO.
22.237P01
PROJECT DATE
2024-02-28
DRAWN BY
DVI
CHECKED BY
RMM
SCALE
1 : 500

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5004

DRAWING NO.
RZ301
REV.
1



1 RZ302 WEST SITE ELEVATION
1 : 500



2 RZ302 EAST SITE ELEVATION
1 : 500

2024-03-07 11:22:52 AM

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1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT

170 Northfield Drive West, Waterloo

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DRAWING

ELEVATIONS

PROJECT NO.
22.237P01

PROJECT DATE
2024-02-28

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CHECKED BY
RMM

SCALE
1 : 500

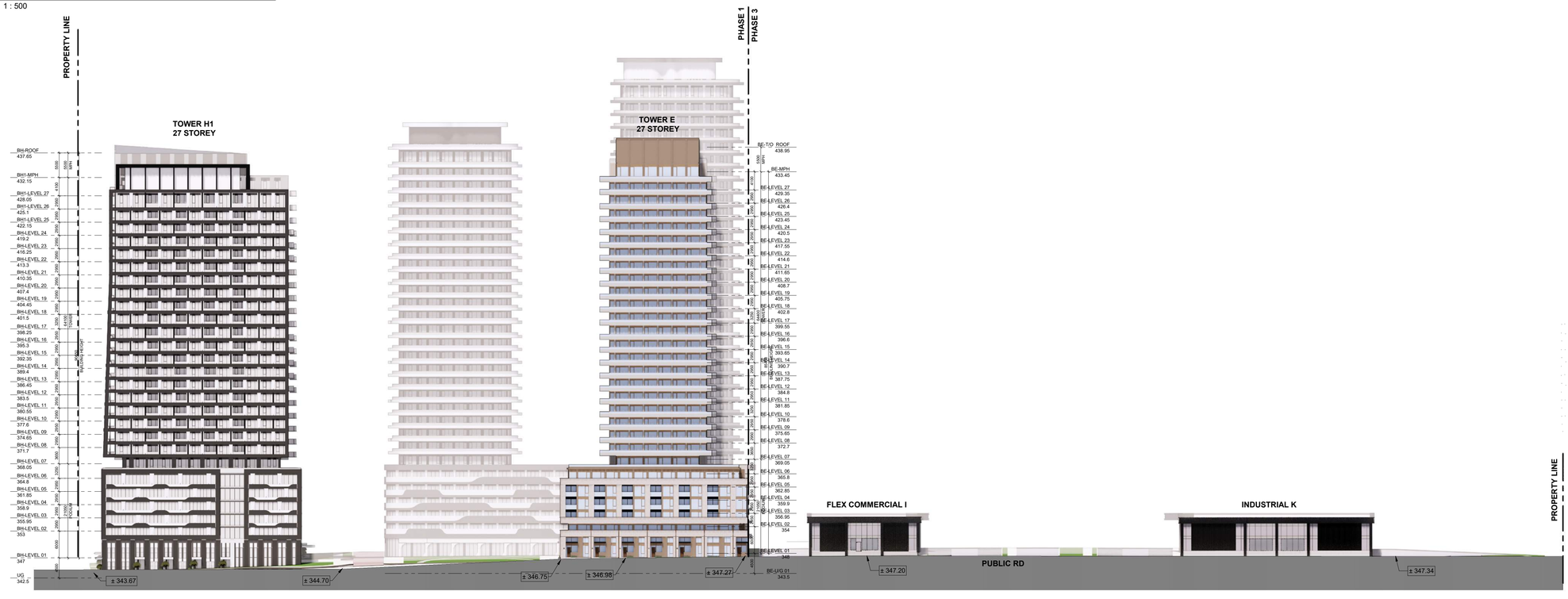
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LICENCE
5004

DRAWING NO.
RZ302

REV.
1



1 WEST INTERIOR SITE ELEVATION
RZ303 1 : 500



2 EAST INTERIOR SITE ELEVATION
RZ303 1 : 500

2024-03-07 11:23:01 AM

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PROJECT
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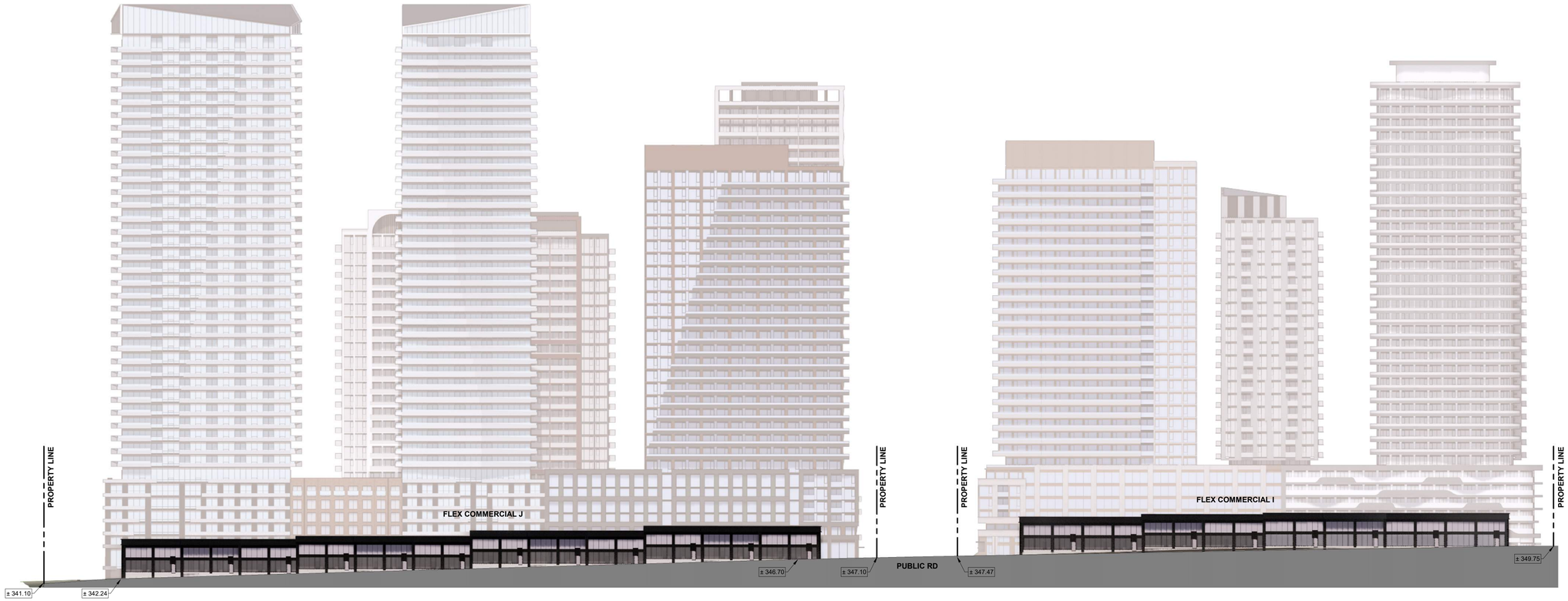
170 Northfield Drive West, Waterloo, Ontario

DRAWING
ELEVATIONS

PROJECT NO.	22.237P01
PROJECT DATE	2024-02-28
DRAWN BY	DVI
CHECKED BY	RMM
SCALE	1 : 500

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LICENCE
5004

DRAWING NO. RZ303
REV. 1



1 NORTH INTERNAL COMERCIAL SITE ELEVATION
RZ304 1 : 500



2 SOUTH INTERNAL COMERCIAL SITE ELEVATION
RZ304 1 : 500

2024-03-07 11:23:03 AM

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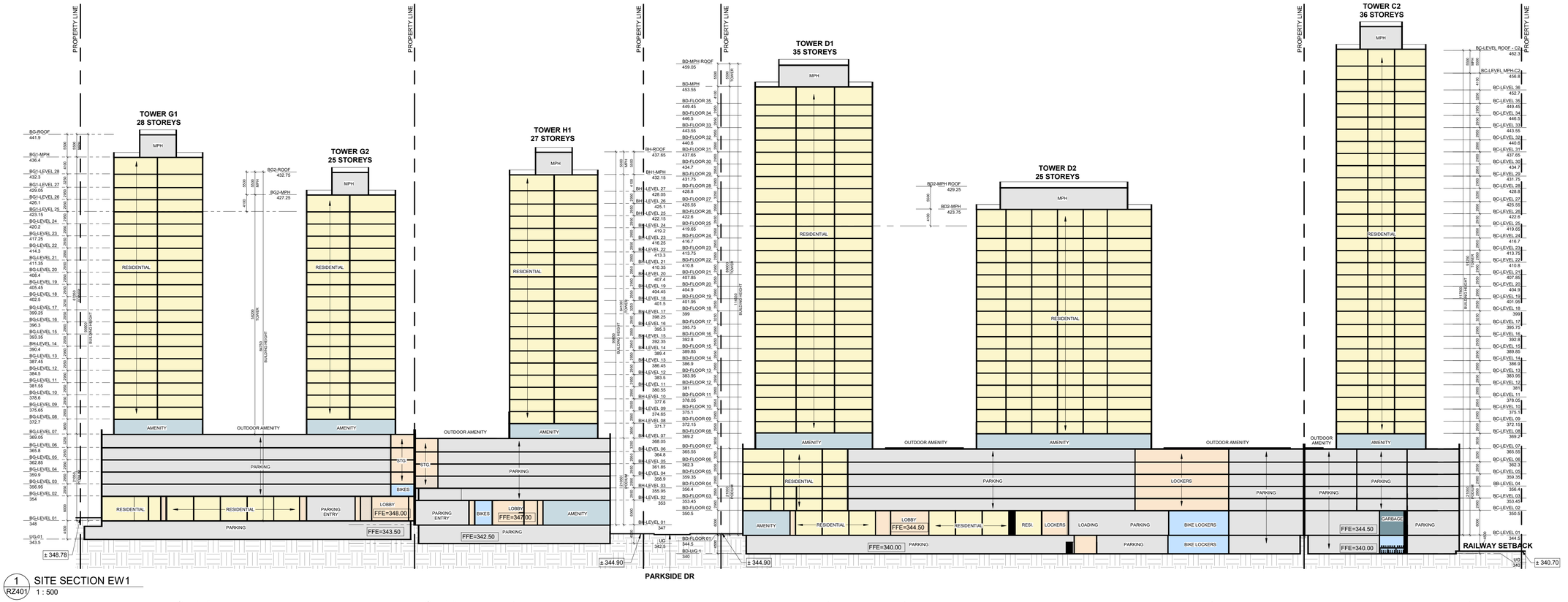
170 Northfield Drive West, Waterloo, Ontario

DRAWING
ELEVATIONS

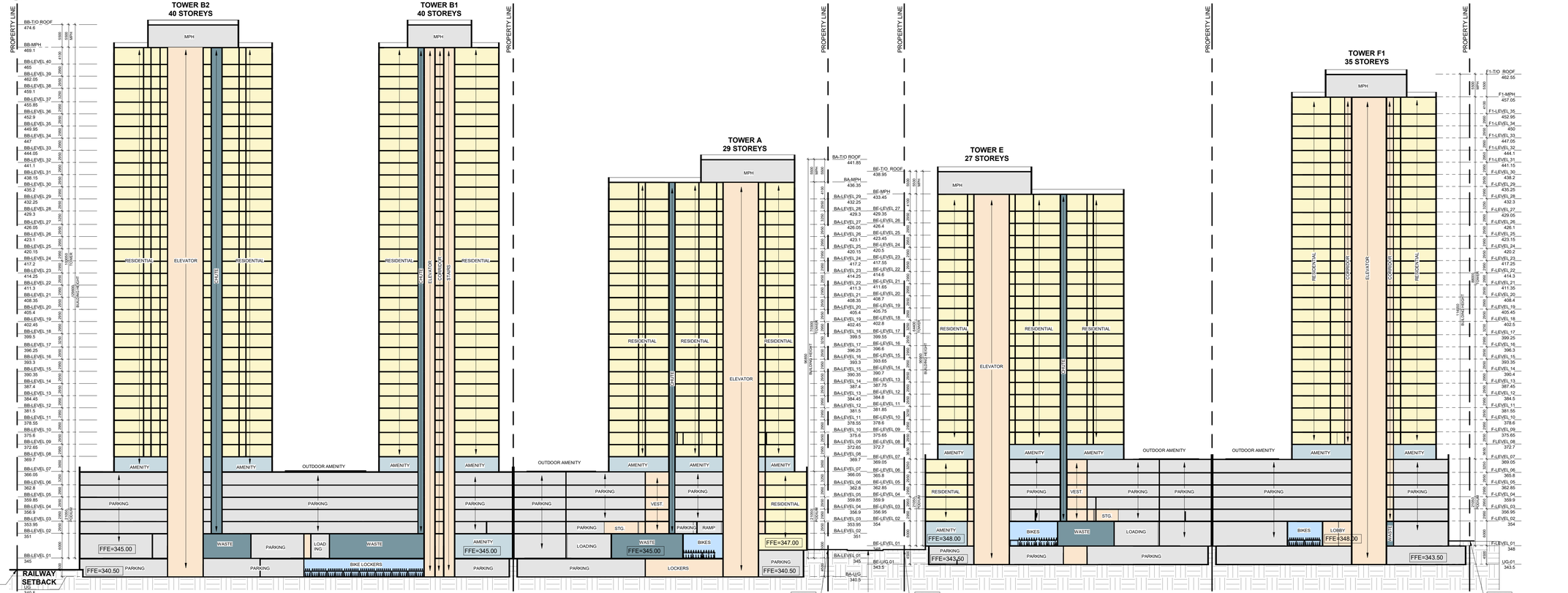
PROJECT NO.	22.237P01
PROJECT DATE	2024-02-28
DRAWN BY	DVI
CHECKED BY	RMM
SCALE	1 : 500

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R.RUSSELL L.FLEISCHER
LICENCE
5004

DRAWING NO. RZ304
REV. 1



1 RZ401 SITE SECTION EW1
1 : 500



2 RZ401 SITE SECTION EW2
1 : 500

2024-02-28 10:28:51 AM

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#	DATE	DESCRIPTION	BY
1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT

170 Northfield Drive West, Waterloo

170 Northfield Drive West, Waterloo, Ontario

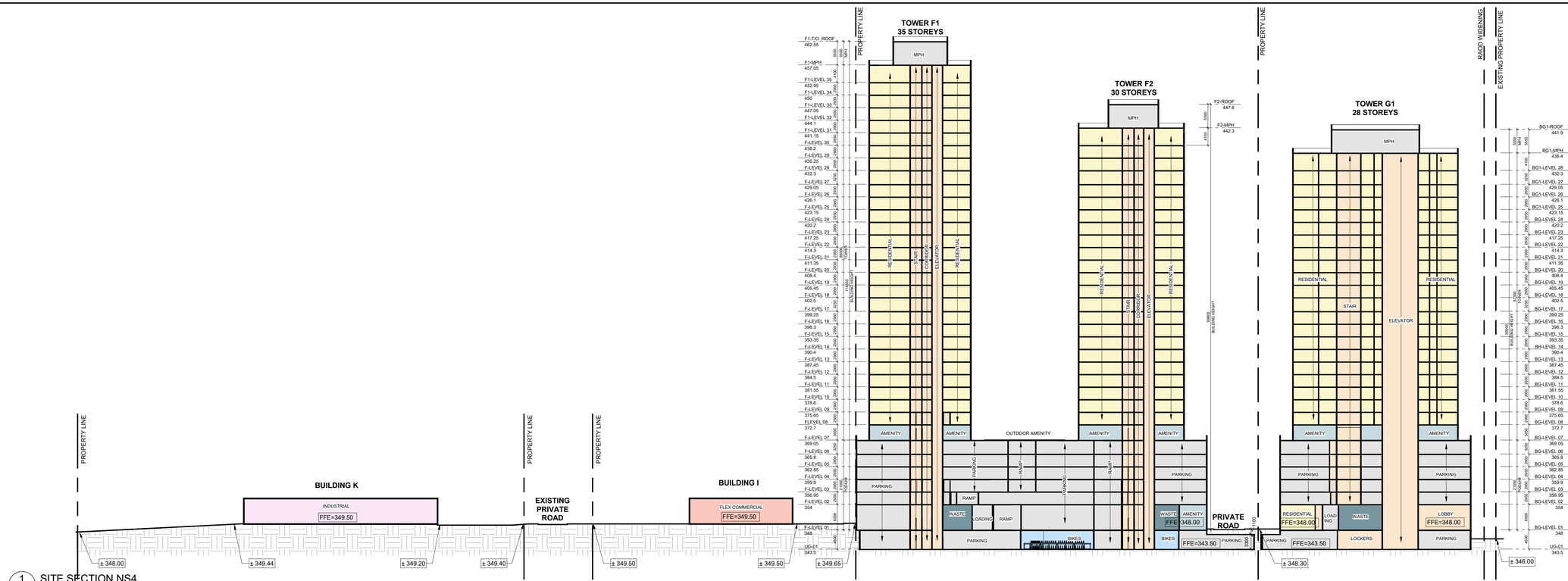
DRAWING

BUILDING SECTIONS

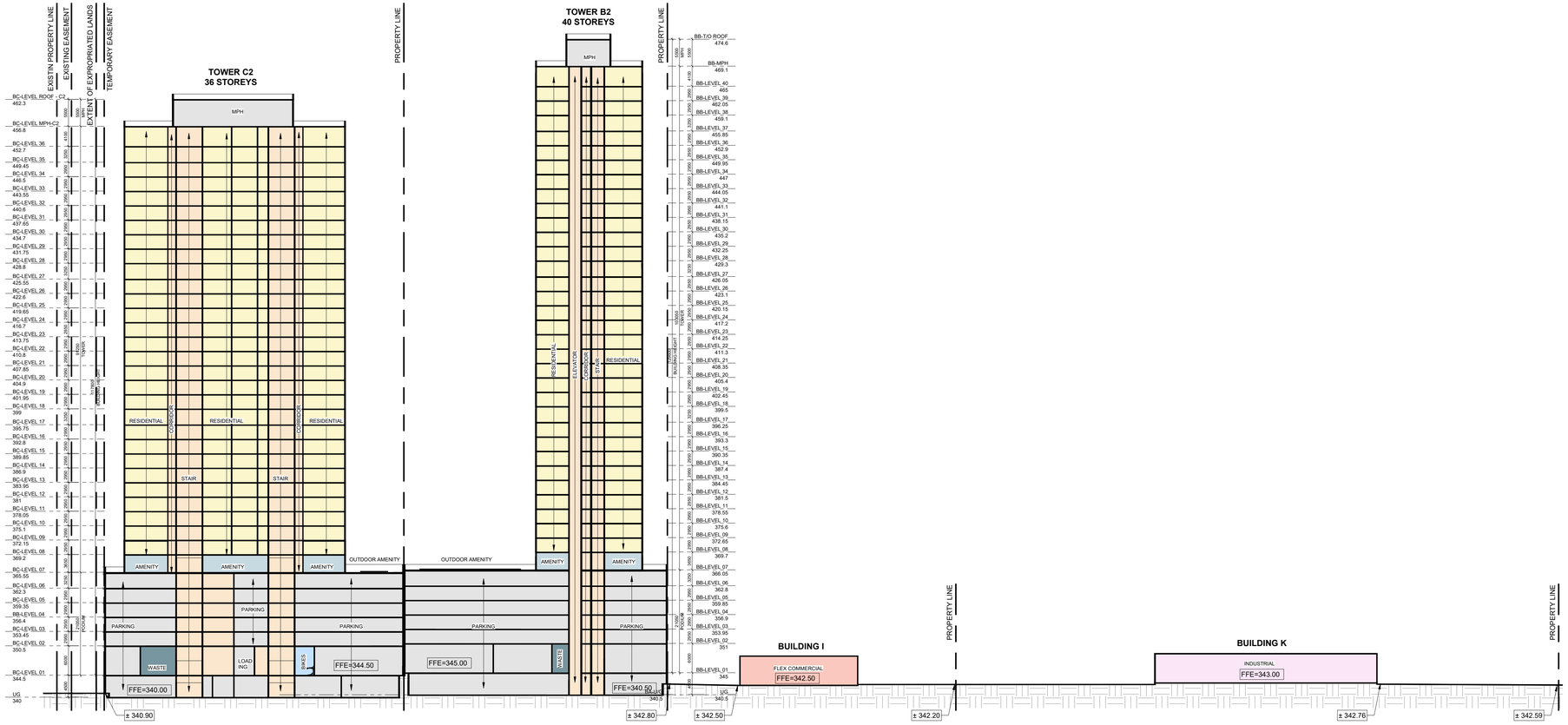
PROJECT NO. 22.237P01
PROJECT DATE 2024-02-28
DRAWN BY DVI
CHECKED BY RMM
SCALE 1 : 500

ONTARIO ASSOCIATION OF ARCHITECTS
RUSSELL L.FLEISCHER
LICENCE
5004

DRAWING NO. RZ401
REV. 1



1 SITE SECTION NS4
RZ402 1 : 500



2 SITE SECTION NS5
RZ402 1 : 500

2024-03-07 11:23:07 AM

TURNER FLEISCHER

Turner Fleischer Architects Inc.

67 Lesmill Road
Toronto, ON, M3B 2T8
T 416 425 2222
turnerfleischer.com

This drawing, as an instrument of service, is provided by and is the property of Turner Fleischer Architects Inc. The contractor must verify and accept responsibility for all dimensions and conditions on site and must notify Turner Fleischer Architects Inc. of any variations from the supplied information. This drawing is not to be scaled. The architect is not responsible for the accuracy of structural, mechanical or electrical drawings not prepared by this office. Refer to the drawings of appropriate consultant's drawings before proceeding with the work. Construction must conform to all applicable codes and requirements of authorities having jurisdiction. The contractor working from drawings not specifically marked 'For Construction' must assume full responsibility and bear costs for any corrections or damages resulting from his work.

#	DATE	DESCRIPTION	BY
1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT

170 Northfield Drive West, Waterloo

170 Northfield Drive West, Waterloo, Ontario

DRAWING

BUILDING SECTIONS

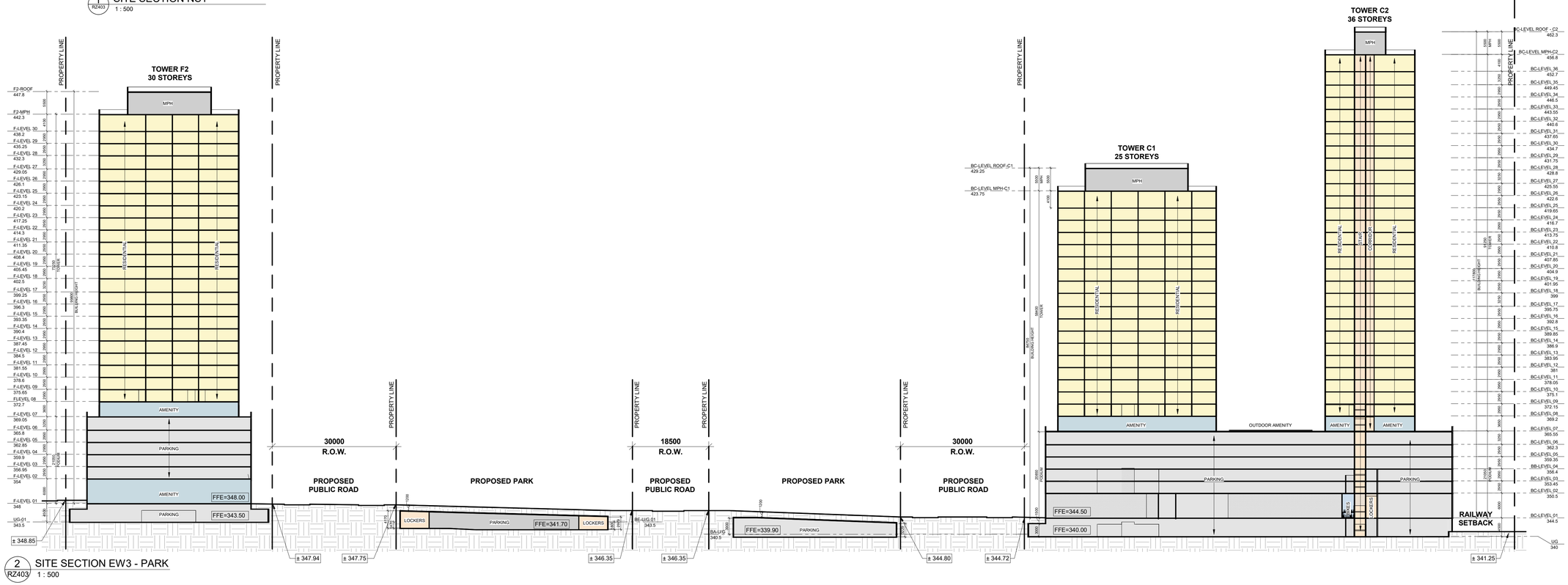
PROJECT NO.	22.237P01
PROJECT DATE	2024-02-28
DRAWN BY	DVI
CHECKED BY	RMM
SCALE	1 : 500

ONTARIO ASSOCIATION OF ARCHITECTS
RUSSELL L.FLEISCHER
LICENCE
5004

DRAWING NO. RZ402 | REV. 1



1 RZ403 SITE SECTION NS1
1 : 500



2 RZ403 SITE SECTION EW3 - PARK
1 : 500

2024-03-07 11:23:10 AM

TURNER FLEISCHER

Turner Fleischer Architects Inc.

67 Lesmill Road
Toronto, ON, M3B 2T8
T 416 425 2222
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#	DATE	DESCRIPTION	BY
1	2024-02-28	ISSUED FOR REZONING	DVI

PROJECT

170 Northfield Drive West, Waterloo

170 Northfield Drive West, Waterloo, Ontario

DRAWING

BUILDING SECTIONS

PROJECT NO.	22.237P01
PROJECT DATE	2024-02-28
DRAWN BY	DVI
CHECKED BY	RMM
SCALE	1 : 500

ONTARIO ASSOCIATION OF ARCHITECTS
RUSSELL L.FLEISCHER
LICENCE
5004

DRAWING NO. RZ403 | REV. 1

Appendix B Surrounding Industry List

Compatibility Mitigation Study, Air Quality, Dust and Odour

170 Northfield Drive West Waterloo, Ontario

Forgestone Capital Management L.P.

SLR Project No.: 241.030968.00001

March 25, 2024

Land Uses Surrounding 170 Northfield Drive

Name	Address	Description	MECP ECA or EASR No. (Date)	MECP Guideline D-6					
				Class	A of I	R M S	Actual Dist.	Within A of I?	Within R M S?
The Corporation of the City of Waterloo	150 Northfield Dr W	Standby generator at fire station	8495-7HMQZ5, 08/19/2008	I	70	20	0	Yes	Yes
Broil King	585 Kumpf Dr, Waterloo, ON N2V 1K3	BBQ assembly /warehouse	-	II	300	70	15	Yes	Yes
Heffner Cabinetry & Woodworking	145 Northfield Dr	Cabinet maker	5843-77LM2Z, 10/18/2007	I	70	20	25	Yes	-
Aecon Construction and Materials Limited and Peter Kiewit Infrastructure Co. operating as GrandLinq Contractors (ION LRT Maintenance & Storage Yard)	518 Dutton Dr	LRT Maintenance and Storage	3478-9YWNHR, 05/07/2016	II	300	70	300	Yes	-
Johnsonite Canada Inc.	560 Weber St N	Vinyl baseboard manufacturing	3482-8ESR5L, 03/30/2011	II	300	70	200	Yes	-
Waterloo Nissan	141 Northfield Drive	Automotive Dealership	-	I	70	20	25	Yes	-
Forbes Waterloo Mazda	115 Northfield Drive W	Automotive Dealership	-	I	70	20	80	-	-
AECON Construction and Materials Limited and Peter Kiewit Infrastructure Co. operating as GrandLinq Contractors	125 Northfield Dr W near the Intersection of Kumpf Drive and Northfield Drive West	Old ECA for what is now a finished commercial development	4579-AANLM9, 06/10/2016	n/a	n/a	n/a	n/a	n/a	n/a
Northfield Station	Waterloo, ON N2L 5A6	LRT Station	-	n/a	n/a	n/a	n/a	n/a	n/a
1340530 Ontario Inc.	496 Weber Street North	Auto body shop & painting	4956-5J5RJD, 02/06/2003	I	70	20	965	-	-
1438109 Ontario Inc.	611 Conrad Pl	Wood finishing	3666-53NJPE, 10/09/2001 7183-4R9J99, 11/20/2000	I	70	20	380	-	-
Ainsworth Inc.	612 Colby Drive	Technical trades services	7661-54NJ9U, 11/21/2001	I	70	20	590	-	-
Beresford Box Company Inc.	607 Kumpf Drive	Packaging company	4091-6MJLL4, 03/14/2006	I	70	20	300	-	-
BEZ Industries Inc.	109 Randall Dr	Furniture manufacturing	3013-A54RH7, 05/19/2016	I	70	20	160	-	-
Black Diamond Waterproof Clothing Ltd.	599 Colby Dr	Clothing manufacturing	5429-7TSS4S, 07/17/2009	I	70	20	350	-	-
Combined Telecom Inc.	34 Durward Place	Office space	6131-4QAR7P, 10/24/2000	I	70	20	710	-	-
CRA Developments (1999) Limited	34 Durward Pl	Office space	3430-7S2QRK, 05/20/2009	I	70	20	710	-	-

Name	Address	Description	MECP ECA or EASR No. (Date)	MECP Guideline D-6					
				Class	A of I	R M S	Actual Dist.	Within A of I?	Within R M S?
GE Betz Canada and General Electric Canada	560 Parkside Drive	Office space	4800-6W3QTC, 12/22/2006	I	70	20	190	-	-
Gibson's Pine & Oak Furniture Ltd.	25 Northfield Dr	Furniture manufacturing	6105-A9PPA9, 05/07/2016	I	70	20	770	-	-
Hammond Manufacturing Company Limited	485 Conestogo Rd	Manufacturing	2074-8MMGNF12/08/2011	I	70	20	980	-	-
Hammond Manufacturing Company Limited	505 Dutton Dr	Manufacturing	5565-8D7R4N, 07/23/2013	I	70	20	630	-	-
Japan Auto Leasing Inc.	545 King St N	Car dealership with paint booths	3921-6B2S4L, 04/05/2005	I	70	20	1000	-	-
Koebel's Collision Centre Inc.	661 Colby Drive	Auto shop & coatings (multiple paint/coating booths)	R-001-8232168179, 10/25/2012 2398-6LUQ3Q, 02/24/2006	I	70	20	750	-	-
Lubricor Inc.	475 Conestogo Rd	Chemical manufacturer	4239-ABVQRZ, 07/19/2016	I	70	20	1000	-	-
Nelson Ulises Hernandez	105 Randall Dr	Paint coating	7895-956J44, 02/22/2013	I	70	20	160	-	-
Numatech Industries Inc.	611 Conrad Place	Manufacturing	3429-78YTED, 11/17/2007	I	70	20	390	-	-
Quadro Engineering Incorporated	613 Colby Drive	Particle processing/milling	5113-54GPJE, 11/16/2001	I	70	20	570	-	-
RDM Corporation	608 Weber Street N.	Software company	3689-5TUMDC, 12/09/2003	I	70	20	180	-	-
RJB Machining Ltd.	668 Colby Drive	CNC machining	7042-53CS83, 10/26/2001 5073-AAHHTV, 08/08/2016	I	70	20	580	-	-
Ultra Finish Ltd.	589 Colby Dr	Tire rim refinishing (closed)	7765-7WDLQ8, 11/30/2009	I	70	20	330	-	-
Waterloo Electroplating & Metal Finishing Inc.	105 Randall Drive, Unit #3	Metal finishing	1540-59FR9E, 04/26/2002	I	70	20	160	-	-
Ontario Die Company	110 Randall Dr	Die manufacturing	R-010-9110581470, 09/14/2018	I	70	20	290	-	-
DC Foods (2001) Inc.	35 Northland Rd	Food processing	3075-76RPQD, 10/09/2007	II	300	70	980	-	-
JD Sweid Foods (2013) Ltd.	605 Kumpf Drive	Food processing	8275-C8LQ32, 11/22/2021	II	300	70	320	-	-
Tamming Foods Ltd.	650 Colby Drive	Food processing	5808-4ZVV2P, 09/06/2001	II	300	70	600	-	-
Ultra Manufacturing Limited	640 Conrad Pl	Injection molding	3762-ACMN3B, 09/22/2016 7094-6L7Q87, 03/17/2006	II	300	70	400	-	-
Waste Management of Canada Corporation	645 Conrad Place	Waste transfer station	2419-7EEQTZ, 05/19/2008 5939-CJK6D2, 11/04/2022	II	300	70	650	-	-
Westex Coatings Inc.	639 Colby Dr	Custom metal coating	6032-BWCMWW, 03/02/2021 7726-8RJR6F, 07/16/2014	II	300	70	710	-	-

Appendix C LRT Maintenance Facility MECP Permit

Compatibility Mitigation Study, Air Quality, Dust and Odour

170 Northfield Drive West Waterloo, Ontario

Forgestone Capital Management L.P.

SLR Project No.: 241.030968.00001

March 25, 2024

Content Copy Of Original

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

ENVIRONMENTAL COMPLIANCE APPROVAL
NUMBER 3478-9YWNHR
Issue Date: June 7, 2016

Aecon Construction and Materials Limited and Peter Kiewit Infrastructure Co.
operating as GrandLinq Contractors
409 Weber Street West, No. 200
Kitchener, Ontario
N2H 4B1

Site Location: 518 Dutton Drive
Waterloo City, Regional Municipality of Waterloo
N2L 4C8

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act , R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

- one (1) paint spray booth for the application of solvent based coatings at a maximum rate of 2.5 litres per hour, equipped with one (1) natural gas fired air make up unit having a maximum thermal input of 1,055,055 kilojoules per hour and 8.82 square metres of dry type paint arrestor filters, exhausting into the atmosphere through two (2) identical stacks, each at a volumetric flow rate of 5.66 cubic metres per second, having an exit diameter of 0.76 metre, extending 4.0 metres above the roof and 12.0 metres above grade;
- one (1) exhaust system serving the paint shop, equipped with two (2) work benches and 1.83 square metres of dry type paint arrestor filters, exhausting into the atmosphere at a volumetric flow rate of 1.23 cubic metres per second, through a stack, having an exit diameter of 0.35 metre, extending 4.0 metres above the roof and 11.3 metres above grade;

- one (1) exhaust system serving one (1) dust collector for the sand silo, exhausting into the atmosphere at a volumetric flow rate of 0.52 cubic metres per second, through a stack, having an exit diameter of 0.56 metre, extending 3.8 metres above grade;

- one (1) exhaust system serving the battery charger area;

- one (1) exhaust system serving the part washer area;

- one (1) standby diesel generator having a rating of 400 kilowatts, to provide power for the facility during emergency situations; and

- natural gas fired comfort heating equipment consisting of fourteen (14) unit heaters, ten (10) HVAC units, two (2) air make up units, six (6) hot water tanks and two (2) heating water boilers, having a combined thermal input of 11.2 gigajoules per hour;

all in accordance with the Environmental Compliance Approval Application dated August 26, 2014 and signed by Victor Bragues, Project Manager, and all supporting information associated with the application the Emission Summary and Dispersion Modelling Report prepared by AECOM Canada Ltd., dated August 6, 2014 and signed by Danielle Arsenault and additional information provided by

Bob Felker and Danielle Arsenault, dated April 23, 2015, and by Danielle Arsenault, dated April 19, 2016.

For the purpose of this environmental compliance approval, the following definitions apply:

1. "Acoustic Assessment Report" means the report, prepared in accordance with Publication NPC-233 submitted in support of the application, that documents all sources of noise emissions and Noise Control Measures present at the Facility. It also means the acoustic assessment report prepared by AECOM, dated May 2016 and signed by Atif Bokhari, James Au, Alan Oldfield, and Alex Dundon;
2.
3. "Approval" means this Environmental Compliance Approval, including the application and supporting documentation listed above;
4. "Company" means Aecon Construction and Materials Limited and Peter Kiewit Infrastructure Co. operating as GrandLinq Contractors that is responsible for the construction or operation of the Facility and includes any successors and assigns;

5. "District Manager" means the District Manager of the appropriate local district office of the Ministry, where the Facility is geographically located;

6. "EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;

7. "Equipment" means equipment described in the Company's application, this Approval and in the supporting documentation submitted with the application, to the extent approved by this Approval;

8. "Facility" means the entire operation located on the property where the Equipment is located;

9. "Manual" means a document or set of documents that provide written instructions to staff of the Company;

10. "Ministry" means the ministry of the government of Ontario responsible for the EPA and includes all officials, employees or other persons acting on its behalf;

11. "Noise Control Measures" means measures to reduce the noise emissions from the Facility and/or Equipment including, but not limited to, silencers, acoustic louvres, enclosures, absorptive treatment, plenums and barriers. It also means the noise control measures outlined in the Acoustic Assessment Report;

12. "Publication NPC-207" means the Ministry draft technical publication "Impulse Vibration in Residential Buildings", November 1983, supplementing the Model Municipal Noise Control By-Law, Final Report, published by the Ministry, August 1978, as amended;

13. "Publication NPC-233" means the Ministry Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October, 1995 as amended; and

14. "Publication NPC-300" means the Ministry Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", August, 2013, as amended.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

GENERAL

1. Except as otherwise provided by these Conditions, the Company shall design, build, install, operate and maintain the Equipment in accordance with the description given in this Approval, application for approval of the Equipment and the submitted supporting documents and plans and specifications as listed in this Approval.

2. Where there is a conflict between a provision of any submitted document referred to in this Approval and the Conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

OPERATION AND MAINTENANCE

3. The Company shall ensure that the Equipment is properly operated and maintained at all times. The Company shall:

(1) prepare, not later than three (3) months after the date of this Approval, and update as necessary, a Manual outlining the operating procedures and a maintenance program for the Equipment, including:

(a) routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers;

(b) emergency procedures;

(c) procedures for any record keeping activities relating to operation and maintenance of the Equipment;

(d) the frequency of inspection and replacement of the filter material in the Equipment;

(e) procedures for recording and responding to environmental complaints; and

(f) appropriate measures to minimize odorous emissions from all potential sources.

(2) implement the recommendations of the operating and maintenance Manual.

NOTIFICATION OF COMPLAINTS

4. The Company shall notify the District Manager, in writing, of each environmental complaint within two (2) business days of the complaint. The notification shall include:

(1) a description of the nature of the complaint; and

(2) the time and date of the incident to which the complaint relates.

RECORD RETENTION

5. The Company shall retain, for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the recording activities required by this Approval,and make these records available for review by staff of the Ministry upon request. The Company shall retain:

(1) all records on the maintenance, repair and inspection of the Equipment; and

(2) all records of any environmental complaints; including:

(a) a description, time and date of each incident to which the complaint relates;

(b) wind direction at the time of the incident to which the complaint relates; and

(c) a description of the measures taken to address the cause of the incident to which the complaint relates and to prevent a similar occurrence in the future.

NOISE

6. The Company shall:

(1) implement the Noise Control Measures as described in the Acoustic Assessment Report prior to the commencement of operations of the Facility;

(2) ensure, subsequent to the full implementation of the Noise Control Measures, that the noise emissions from the Facility comply with the limits set in Ministry Publication NPC-300; and

(3) ensure that the Noise Control Measures are properly maintained and continue to provide the acoustical performance outlined in the Acoustic Assessment Report.

7. The Company shall ensure that the vibration emissions from the Facility comply with the limits set out in Ministry Publication NPC-207.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition Nos. 1 and 2 are imposed to ensure that the Equipment is built and operated in the manner in which it was described for review and upon which approval was granted. These conditions are also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.

2. Condition No. 3 is included to emphasize that the Equipment must be maintained and operated according to a procedure that will result in compliance with the EPA, the regulations, and this Approval.

3. Condition No. 4 is included to require the Company to notify staff of the Ministry so as to assist the Ministry with the review of the site's compliance.

4. Condition No. 5 is included to require the Company to keep records and to provide information to staff of the Ministry so that compliance with the EPA, the regulations, and this Approval can be verified.

5. Condition Nos. 6 and 7 are included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the Facility.

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

1. The portions of the environmental compliance approval or each term or condition in the

environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1 of the Environmental Protection Act
Ministry of the Environment and Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** Further information on the Environmental Review Tribunal 's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-3717 or www.ert.gov.on.ca**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 7th day of June, 2016

Gregory Zimmer, P.Eng.
Director
appointed for the purposes of Part II.1 of
the *Environmental Protection Act*

TT/
c: District Manager, MOECC Guelph
Danielle Arsenault, AECOM Canada Ltd.

Appendix D Johnsonite MECP Permit

Compatibility Mitigation Study, Air Quality, Dust and Odour

170 Northfield Drive West Waterloo, Ontario

Forgestone Capital Management L.P.

SLR Project No.: 241.030968.00001

March 25, 2024

CONTENT COPY OF ORIGINAL

Ontario

Ministry of the Environment
Ministère de l'Environnement

AMENDED CERTIFICATE OF APPROVAL
AIR
NUMBER 3482-8ESR5L
Issue Date: March 30, 2011

Johnsonite Canada Inc.
560 Weber St N
Waterloo, Ontario
N2L 5C6

Site Location: 560 Weber Street North
560 Weber St N
Waterloo City, Regional Municipality Of Waterloo
N2L 5C6

You have applied in accordance with Section 9 of the Environmental Protection Act for approval of:

Description Section

A vinyl baseboard manufacturing facility, consisting of the following processes and support units:

- extrusion;
- blending;
- milling;

including the *Equipment* and any other ancillary and support processes and activities, **operating at a *Facility Production Limit* of up to 98,000,000 linear feet of vinyl baseboard per** year exhausting to the atmosphere as described in the *ESDM Report.*

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

1. *"Acoustic Assessment Report"* means the report, prepared in accordance with *Publication NPC-233* and Appendix A of the *Basic Comprehensive User Guide,* by Conestoga-Rovers and Associates and dated October 2009 submitted in support of the application, that documents all sources of noise emissions and *Noise Control Measures* present at the *Facility* and includes all up-dated *Acoustic Assessment Reports* as required by the Documentation Requirements conditions of this *Certificate* to demonstrate continued compliance with the *Performance Limits* following the implementation of any *Modification.*
2. *"Acoustic Assessment Summary Table"* means a table prepared in accordance with the *Basic Comprehensive User Guide* summarising the results of the *Acoustic Assessment Report,* up-dated as required by the Documentation Requirements conditions of this *Certificate.*

3. "Acoustic Audit" means an investigative procedure consisting of measurements of all noise emissions due to the operation of the Facility, assessed in comparison to the Performance Limits for the Facility regarding noise emissions, completed in accordance with the procedures set in Publication NPC-103 and reported in accordance with Publication NPC-233;

4. "Acoustic Audit Report" means a report presenting the results of an Acoustic Audit, prepared in accordance with Publication NPC-233;

5. "*Air Standards Manager*" means the Manager, Human Toxicology and Air Standards Section, Standards Development Branch, or any other person who represents and carries out the duties of the Manager, Human Toxicology and Air Standards Section, Standards Development Branch, as those duties relate to the conditions of this *Certificate.*

CONTENT COPY OF ORIGINAL

6. *"Basic Comprehensive User Guide"* means the *Ministry* document titled Basic Comprehensive Certificates of Approval (Air) User Guide" dated April 2004 as amended.

7. *"Certificate"* means this entire certificate of approval document, issued in accordance with section 9 of the *EPA* and includes all the *Schedules,* and the *Supporting Documentation.*

8. *"Company"* means Johnsonite Canada Inc. operating as Johnsonite Canada Inc. that is responsible for the construction or operation of the *Facility* and includes any successors and assigns.

9. *"Compound of Concern"* means a contaminant that, based on generally available information, may be emitted to the atmosphere in a quantity from any source at the *Facility* that is significant either in comparison to the relevant *Ministry Point of Impingement Limit* or if a *Ministry Point of Impingement Limit* is not available for the compound then, based on generally available toxicological information, the compound has the potential to cause an adverse effect as defined by the *EPA* at a *Point of Impingement.*

10. *"Description Section"* means the section on page one of the *Certificate* describing the *Company's* operations and the *Equipment* located at the *Facility* and specifying the *Facility Production Limit* for the *Facility.*

11. *"Director"* means any person appointed in writing by the Minister of the Environment pursuant to section 5 of the *EPA* as a Director for the purposes of section 9 of the *EPA*.

12. *"District Manager"* means the District Manager of the appropriate local district office of the *Ministry,* where the *Facility* is geographically located.

13. *"Emission Summary Table"* means the table prepared in accordance with O. Reg. 419/05 and the *Procedure Document* listing the appropriate *Point of Impingement* concentrations of each *Compound of Concern* from the *Facility* and providing comparison to the corresponding *Ministry Point of Impingement Limit* or *Maximum Concentration Level Assessment.*

14. *"Environmental Assessment Act"* means the Environmental Assessment Act, R.S.O. 1990, c.E.18.

15. *"EPA"* means the Environmental Protection Act, R.S.O. 1990, c.E.19.

16. *"Equipment"* means equipment or processes described in the *ESDM Report,* this *Certificate* and in the *Supporting Documentation* referred to herein and any other equipment or processes.

17. *"Equipment with Specific Operational Limits"* means any *Equipment* related to the thermal oxidation of waste or waste derived fuels, fume incinerators or any other *Equipment* that is specifically referenced in any published *Ministry* document that outlines specific operational guidance that must be considered by the *Director* in issuing of a Certificate of Approval.

18. *"ESDM Report"* means the Emission Summary and Dispersion Modelling Report prepared in accordance with the *Procedure Document* by Conestoga-Rovers & Associates Ltd. and dated October 6, 2010 submitted in support of the application, and includes any amendments to the ESDM Report listed in *Schedule A* and all up-dated ESDM Reports prepared as required by the Documentation Requirements conditions of this *Certificate.*

19. *"Facility"* means the entire operation located on the property where the *Equipment* is located.

20. *"Facility Production Limit"* means the production limit placed on the main product(s) or raw materials used by the *Facility* that represents the design capacity of the *Facility* and assists in the definition of the operations approved by the *Director.*

21. "Independent Acoustical Consultant**"** means an Acoustical Consultant not representing the Company, and not involved in the noise impact assessment or the design/implementation of noise control measures for the Facility/Equipment. The Independent Acoustical Consultant shall not be retained by the consultant involved in the noise/vibration impact assessment or the design/implementation of noise/vibration control measures for the Facility/Equipment.

22. *"Log"* means the up-to-date log that is used to track all *Modifications* to the *Facility* since the date of this *Certificate* as required by the Documentation Requirements conditions of this *Certificate.*

23. *"Maximum Concentration Level Assessment"* means the Maximum Concentration Level Assessment for the purposes of

a Basic Comprehensive Certificate of Approval, described in the *Basic Comprehensive User Guide,* prepared by a *Toxicologist* using currently available toxicological information, that demonstrates that the concentration at any *Point of Impingement* for a *Compound of Concern* that does not have a *Ministry Point of Impingement Limit* is not likely to cause an adverse effect as defined by the *EPA*. The concentration at *Point of Impingement* for a *Compound of Concern* must be calculated in accordance with O. Reg. 419/05.

24. *"Ministry"* means the ministry of the government of Ontario responsible for the *EPA* and includes all officials, employees or other persons acting on its behalf.

25. *"Ministry Point of Impingement Limit"* means the appropriate Standard from Schedule 1, 2 or 3 from O.Reg. 419/05 and if a standard is not provided for a *Contaminant of Concern* the appropriate criteria listed in the *Ministry* publication titled "Summary of Standards and Guidelines to support Ontario Regulation 419: Air Pollution - Local Air Quality (including Schedule 6 of O. Reg. 419 on Upper Risk Thresholds)", dated February 2008, as amended.

26. *"Modification"* means any construction, alteration, extension or replacement of any plant, structure, equipment, apparatus, mechanism or thing, or alteration of a process or rate of production at the *Facility* that may discharge or alter the rate or manner of discharge of a *Compound of Concern* to the atmosphere or discharge or alter noise or vibration emissions from the *Facility.*

27. *"Noise Control Measures"* means measures to reduce the noise emissions from the *Facility* and/or *Equipment* including, but not limited to, silencers, acoustic louvres, enclosures, absorptive treatment, plenums and barriers.

28. *"O. Reg. 419/05"* means the Ontario Regulation 419/05, Air Pollution – Local Air Quality.

29. *"Operating Envelope"* means the limits on the *Company's* approved operations set out in Conditions 2.3 to 2.7 of this *Certificate.*

30. *"Performance Limits"* means the performance limits specified in the section of this *Certificate* titled Performance Limits.

31. *"Point of Impingement"* means any point outside the facility in the natural environment and as defined by s.2 of O. Reg. 419/05.

32. *"Point of Reception"* means Point of Reception as defined by *Publication NPC-205* and/or *Publication NPC-232,* as applicable.

33. *"Procedure Document"* means *Ministry* Procedure titled "Procedure for Preparing an Emission Summary and Dispersion Modelling Report" dated July 2005, as amended.

34. *"Processes with Significant Environmental Aspects"* means the *Equipment* which, during regular operation or if not properly operated or maintained, may cause or are likely to cause an adverse effect.

35. *"Publication NPC-205"* means the *Ministry* Publication NPC-205, “Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)”, October, 1995 as amended.

36. *"Publication NPC-207"* means the *Ministry* draft technical publication “Impulse Vibration in Residential Buildings”, November 1983, supplementing the Model Municipal Noise Control By-Law, Final Report, August 1978, published by the *Ministry.*

37. *"Publication NPC-232"* means the *Ministry* Publication NPC-232, "Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)", October, 1995 as amended.

38. *"Publication NPC-233"* means the *Ministry* Publication NPC-233, "Information to be Submitted for Approval of Stationary Sources of Sound", October, 1995 as amended.

39. "Publication NPC-103" means Publication NPC-103, Procedures , August 1978;

40. *"Schedules"* means the following schedules attached to the *Certificate* and forming part of the *Certificate* namely: Schedule A - Supporting Documentation;

41. *"Supporting Documentation"* means the documents listed in Schedule A of this *Certificate* which forms part of this *Certificate.*

42. *"Toxicologist"* means a qualified professional currently active in the field of risk assessment, risk management and toxicology that has a combination of formal university education, training and experience necessary to assess the *Compound of Concern* in question.

43. *"Written Summary"* means the written summary that must be submitted annually to the *Ministry* as required by the Section titled Reporting Requirements of this *Certificate.*

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL

1.1 Except as otherwise provided by this *Certificate,* the *Facility* shall be designed, developed, built, operated and maintained in accordance with the terms and conditions of this *Certificate* and in accordance with the application, the *ESDM Report,* the *Acoustic Assessment Report,* plans, specifications and *Supporting Documentation* submitted and the following *Schedules* attached hereto:

Schedule A - Supporting Documentation

2. OPERATIONAL FLEXIBILITY

2.1 The *Company* may make *Modifications* to the *Facility* in accordance with this *Certificate.*

2.2 Despite Condition 2.1, all *Modifications* made by the *Company* shall be within the *Operating Envelope* of the *Facility* as defined by conditions 2.3 to 2.7.

2.3 Despite Condition 2.1, the *Company* shall not make *Modifications* to the *Facility* that are outside the scope of the intended operations of the *Facility* as described in the *Description Section.*

2.4 Despite Condition 2.1, the *Company* shall not make *Modifications* to the *Facility* that result in an increase of the *Facility Production Limit* above the level specified in this *Certificate.*

2.5 Despite Condition 2.1, the *Company* shall not make *Modifications* to the *Facility* that would add any *Equipment with Specific Operational Limits.* The *Company* shall operate *Equipment with Specific Operational Limits* approved by this *Certificate* in accordance with the original *ESDM Report* and Conditions in the *Certificate.*

2.6 Despite Condition 2.1, the *Company* shall only make *Modifications* to the *Facility* which comply with the *Performance Limits.*

2.7 Despite Condition 2.1, the *Company* shall not make *Modifications* to the *Facility* if the *Modifications* would be subject to the *Environmental Assessment Act.*

2.8 Condition 2.1 of this *Certificate* shall expire five (5) years from the date of this *Certificate,* unless this *Certificate* is revoked prior to this date. Upon expiry of Condition 2.1 of this *Certificate,* the Company shall apply for amendment to include the current *ESDM Report* and the current *Acoustic Assessment Report* in Schedule A as *Supporting Documentation* to this *Certificate.*

3. PERFORMANCE LIMITS

3.1 The *Company* shall, at all times, ensure that all *Equipment* that are a source of a *Compound of Concern* from the *Facility* are operated to comply with the following *Performance Limits:*

(a) the maximum concentration of any *Compound of Concern* at a *Point of Impingement* shall not exceed the

corresponding *Ministry Point of Impingement Limit;*

(b) for any *Compound of Concern* that does not have a *Ministry Point of Impingement Limit,* the maximum concentration of any *Compound of Concern* at a *Point of Impingement* shall not be greater than a level assessed as part of the original *ESDM Report; or*

(c) for any *Compound of Concern* that does not have a *Ministry Point of Impingement Limit,* the maximum concentration of any *Compound of Concern* at a *Point of Impingement* shall not be greater than the *Maximum Concentration Level Assessment* submitted to the *Ministry* and accepted by the *Air Standards Manager.*

3.2 The *Company* shall, no later than thirty (30) days prior to:

(a) the introduction of a new *Compound of Concern* that does not have a *Ministry Point of Impingement Limit;*

(b) an increase to the concentration at a *Point of Impingement* of a *Compound of Concern* that does not have a *Ministry Point of Impingement Limit* such that the resulting concentration at a *Point of Impingement* will be greater than the level that was reviewed as part of the original *ESDM Report;* or

(c) an increase to the concentration at a *Point of Impingement* of a *Compound of Concern* that does not have a *Ministry Point of Impingement Limit* such that the resulting concentration at a *Point of Impingement* will be greater than the corresponding *Maximum Concentration Level Assessment* previously accepted by the *Air Standards Manager;*

submit a proposed or revised *Maximum Concentration Level Assessment* for the *Compound of Concern* to the *Director* for review by the *Air Standards Manager.*

3.3 The *Company* may not use the *Maximum Concentration Level Assessment* prior to thirty (30) days from the date of an acknowledgment letter from the *Ministry* unless the *Company* receives written acceptance by the *Director.*

3.4 If the *Air Standards Manager* does not accept the proposed *Maximum Concentration Level Assessment,* the *Company* shall not introduce or increase the emission rate of the *Compound of Concern* without approval from the *Director.*

3.5 The *Company* shall, at all times, ensure that the noise emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-205.*

3.6 The *Company* shall, at all times, ensure that the vibration emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-207.*

4. DOCUMENTATION REQUIREMENTS

4.1 The *Company* shall, at all times, maintain documentation that describes the current operations of the *Facility,* including but not limited to:

(a) a current *ESDM Report* that demonstrates compliance with the *Performance Limits* for the *Facility* regarding all *Compounds of Concern;*

(b) a current *Acoustic Assessment Report* that demonstrates compliance with the *Performance Limits* for the *Facility* regarding noise emissions;

(c) an up-to-date *Log* that describes each *Modification* to the *Facility;* and

(d) a record of the changes to the *ESDM Report* and *Acoustic Assessment Report* that documents how each *Modification* is in compliance with the *Performance Limits.*

4.2 The *Company* shall, during regular business hours, make the current *Emission Summary Table* and *Acoustic Assessment Summary Table* available for inspection at the *Facility* by any interested member of the public.

5. REPORTING REQUIREMENTS

5.1 The *Company* shall provide the *District Manager* and the *Director* no later than April 15 of each year, a *Written Summary* of activities undertaken in the previous calendar year that shall include the following:

(a) a signed statement that the *Facility* was in compliance with the *Performance Limits;*

(b) a summary of each *Modification* that took place in the previous calendar year and resulted in a change in the previously calculated concentration at the *Point of Impingement* for any *Compound of Concern* or resulted in a change in the sound levels reported in the *Acoustic Assessment Summary Table* at any *Point of Reception;*

(c) a list of each *Compound of Concern* submitted to the *Air Standards Manager* for review in the previous calendar year;

(d) a review of any changes to a *Ministry Point of Impingement Limit* undertaken in the previous calendar year that affect a *Compound of Concern* emitted from the *Facility;*

(e) a tabulated summary of the changes in the emission rate of any *Compound of Concern* and the resultant increase or decrease in the *Point of Impingement* concentration reported in the *ESDM Report* over the previous calendar year; and

(f) the *Emission Summary Table* and *Acoustic Assessment Summary Table* for the *Facility* as of December 31 from the previous calendar year.

6. OPERATION AND MAINTENANCE

6.1 The *Company* shall prepare and implement, not later than three (3) months from the date of this *Certificate,* operating procedures and maintenance programs for all *Processes with Significant Environmental Aspects.* The *Company* shall ensure that all *Processes with Significant Environmental Aspects* are operated and maintained at all times in accordance with this *Certificate,* the operating procedures and maintenance programs. The operating procedures and maintenance programs shall specify as a minimum:

(a) frequency of inspections and scheduled preventative maintenance;

(b) procedures to prevent upset conditions;

(c) procedures to minimize all fugitive emissions;

(d) procedures to prevent and/or minimize odorous emissions; and

(e) procedures for record keeping activities relating to the operation and maintenance programs.

7. COMPLAINTS RECORDING PROCEDURE

7.1 If at any time, the *Company* receives any environmental complaints from the public regarding the operation of the *Equipment* approved by this *Certificate,* the *Company* shall respond to these complaints according to the following procedure:

(a) the *Company* shall record and number each complaint, either electronically or in a log book, and shall include the following information: the time and date of the complaint and incident to which the complaint relates, the nature of the complaint, wind direction at the time and date of the incident to which the complaint relates and the address of the complainant, if known;

(b) the *Company,* upon notification of a complaint, shall initiate appropriate steps to determine all possible causes of the complaint, and shall proceed to take the necessary actions to appropriately deal with the cause of the subject matter of the complaint; and

(c) the *Company* shall complete and retain on-site a report written within one (1) week of the complaint date, listing the actions taken to appropriately deal with the cause of the subject matter of the complaint and any recommendations for remedial measures, and managerial or operational changes to reasonably avoid the recurrence of similar incidents**.**

8. RECORD KEEPING REQUIREMENTS

8.1 Any information requested by the *Ministry* concerning the *Facility* and its operation under this *Certificate,* including, but not limited to, any records required to be kept by this *Certificate,* shall be provided to the *Ministry,* upon request**,** in a timely manner.

8.2 The *Company* shall retain, for a minimum of seven (7) years from the date of their creation, except as noted below, all reports, records and information described in this *Certificate* and shall include but not be limited to:

(a) the current *ESDM Report;*

(b) the *Acoustic Assessment Report;*

(c) supporting information used in the emission rate calculations performed in the *ESDM Report* and *Acoustic Assessment Report* to document compliance with the *Performance Limits* (superseded information must be retained for a period of three (3) years after *Modification);*

(d) the *Log* that describes each *Modification* to the *Facility;*

(e) the *Written Summaries* provided to the *Ministry;*

(f) the operating procedures and maintenance programs, including records on the maintenance, repair and inspection of the *Equipment* related to all *Processes with Significant Environmental Aspects;* and

(g) the complaints recording procedure, including records related to all environmental complaints made by the public as required by the section titled Complaints Recording Procedure of this *Certificate.*

9. REVOCATION OF PREVIOUS CERTIFICATES OF APPROVAL(Air & Noise)

9.1 This *Certificate* replaces and revokes all Section 9 Certificates of Approval issued to the *Facility* and dated prior to the date of this *Certificate.*

10. NOISE AND ACOUSTIC AUDIT

10.1 The use of truck-mounted blowers on site to deliver materials shall be limited to the hours of 0700-1300 hours.

10.2 The Company shall carry out the Acoustic Audit measurements of the Facility in accordance with procedures in Publication NPC-103, and submit an Acoustic Audit Report on the Acoustic Audit, prepared by an Independent Acoustical Consultant in accordance with Publication NPC-233 to the District Manager and the Director, not later than three (3) months following the issue date of this Certificate.

10.3 If the Director does not accept the results of the acoustic audit the Director may:

(a) require the Company to repeat the acoustic audit, and/or
(b) revoke this Certificate, or
(c) impose additional conditions to the Company's Certificate of Approval, or
(d) exercise other options as detailed in the Environmental Protection Act.

SCHEDULE "A"

Supporting Documentation

(a) Application dated October 6, 2009, signed by Scott Lackenbauer and submitted by the C*ompany* for a Certificate of Approval (Air & Noise);

(b) Emission Summary and Dispersion Modelling Report, dated October 6, 2009;

(c) Letter dated February 23, 2011, signed by Kaitlin Ryan and submitted by Conestoga-Rovers & Associates;

(d) **AAR entitled** "Acoustic Assessment Report, Johnsonite Inc., Waterloo Ontario" **prepared by Conestoga-Rovers & Associates dated October 2009.**

The reasons for the imposition of these terms and conditions are as follows:

1. GENERAL

Condition No. 1 is included to require the *Certificate* holder to build, operate and maintain the *Facility* in accordance with the *Supporting Documentation* considered by the *Director* in issuing this *Certificate.*

2. OPERATIONAL FLEXIBILITY AND PERFORMANCE LIMITS

Condition Nos. 2 and 3 are included to limit *Modifications* and define the operating envelope permitted by this *Certificate.* The holder of the *Certificate* is approved for operational flexibility for the *Facility* that is consistent with the description of the operations included with the application up to the *Facility Production Limit.* In return for the operational flexibility the *Certificate* places performance based limits that can not be exceeded under the terms of this *Certificate. Certificate* holders will still have to obtain other relevant approvals required to operate the *Facility,* including requirements under other environmental legislation such as the *Environmental Assessment Act.*

3. DOCUMENTATION REQUIREMENTS

Condition No. 4 is included to require the *Company* to maintain ongoing documentation that demonstrates compliance with the *Performance Limits* of this *Certificate* and allows the *Ministry* to monitor on-going compliance with these *Performance Limits.* The *Company* is required to have an up to date *ESDM Report* and *Acoustic Assessment Report* that describe the *Facility* at all times and make the *Emission Summary Table* and *Acoustic Assessment Summary Table* from these reports available to the public on an ongoing basis in order to maintain public communication with regard to the emissions from the *Facility.*

4. REPORTING REQUIREMENTS

Condition No. 5 is included to require the *Company* to provide a yearly *Written Summary* to the *Ministry.*

5. OPERATION AND MAINTENANCE

Condition No. 6 is included to require the *Company* to properly operate and maintain the *Processes with Significant Environmental Aspects* to minimize the impact to the environment from these processes.

6. COMPLAINTS RECORDING PROCEDURE

Condition No. 7 is included to require the *Company* to respond to any environmental complaints regarding the operation of the *Equipment,* according to a procedure that includes methods for preventing recurrence of similar incidents and a requirement to prepare and retain a written report.

7. RECORD KEEPING REQUIREMENTS

Condition No. 8 is included to require the *Company* to retain all documentation related to this *Certificate* and provide access to *Ministry* staff, upon request, so that the *Ministry* can determine if a more detailed review of compliance with the *Performance Limits* is necessary.

8. REVOCATION OF PREVIOUS CERTIFICATES OF APPROVAL (Air and Noise)

Condition No. 9 is included to confirm that this *Certificate* replaces all Section 9 Certificate(s) of Approval that have been previously issued for this *Facility.*

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9. NOISE AND ACOUSTIC AUDIT

1. Condition No. 10.1 is included to ensure that noise emissions from facility remain compliant with MOE guidelines.

2. Condition No. 10.2 is included to require the Company to gather accurate information so that the environmental impact and subsequent compliance with the Act, the regulations and this Certificate can be verified.

3. Condition No. 10.3 is included to ensure that the acoustic audit is carried out in accordance with procedures set in the Ministry's Noise Guidelines.

This Certificate of Approval revokes and replaces Certificate(s) of Approval No. 4807-4VJRB8 issued on April 10, 2001

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, S.O. 1993, Chapter 28, the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary* Environmental Review Tribunal 655 Bay Street, 15th Floor Toronto, Ontario M5G 1E5	AND	The Environmental Commissioner 1075 Bay Street, 6th Floor Suite 605 Toronto, Ontario M5S 2B1	AND	The Director Section 9, *Environmental Protection Act* Ministry of the Environment 2 St. Clair Avenue West, Floor 12A Toronto, Ontario M4V 1L5

*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca**

This instrument is subject to Section 38 of the Environmental Bill of Rights, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at www.ene.gov.on.ca, you can determine when the leave to appeal period ends.

The above noted works are approved under Section 9 of the Environmental Protection Act.

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DATED AT TORONTO this 30th day of March, 2011

Victor Low, P.Eng.
Director
Section 9, *Environmental Protection Act*

FC/
c: District Manager, MOE Guelph
Matthew Costigane, Conestoga-Rovers & Associates Ltd.

Appendix E Waterloo Fire Station MECP Permit

Compatibility Mitigation Study, Air Quality, Dust and Odour

170 Northfield Drive West Waterloo, Ontario

Forgestone Capital Management L.P.

SLR Project No.: 241.030968.00001

March 25, 2024

CONTENT COPY OF ORIGINAL

Ontario

Ministry of the Environment
Ministère de l'Environnement

CERTIFICATE OF APPROVAL
AIR
NUMBER 8495-7HMQZ5
Issue Date: August 19, 2008

The Corporation of the City of Waterloo
470 Columbia Street West
Waterloo, Ontario
N2T 2Y6

Site Location: 150 Northfield Drive West
City of Waterloo, Regional Municipality of Waterloo

You have applied in accordance with Section 9 of the Environmental Protection Act for approval of:

- one (1) standby natural gas generator set, having a rating of 35 kilowatts, to provide power for the facility during emergency situations;

all in accordance with the Application for Approval (Air & Noise) dated June 16, 2008 and signed by Michael Smith, Project Manager, The Corporation of the City of Waterloo, and all supporting information associated with the application provided by Tim Wiens, Conestoga-Rovers & Associates.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

(1) "Act" means the *Environmental Protection Act;*

(2) "Certificate" means this Certificate of Approval issued in accordance with Section 9 of the Act;

(3) "Equipment" means the natural gas generator set described in the Owner's application, this Certificate and in the supporting documentation submitted with the application, to the extent approved by this Certificate;

(4) "Manual" means a document or a set of documents that provide written instructions to staff of the Owner;

(5) "Ministry" means the Ontario Ministry of the Environment; and

(6) "Owner" means The Corporation of the City of Waterloo, and includes its successors and assignees.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

GENERAL

1. Except as otherwise provided by these Conditions, the Owner shall design, build, install, operate and maintain the Equipment in accordance with the description given in this Certificate, application for approval of the Equipment and the submitted supporting documents and plans and specifications as listed in this Certificate.

2. Where there is a conflict between a provision of any submitted document referred to in this Certificate and the Conditions of this Certificate, the Conditions in this Certificate shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

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OPERATION AND MAINTENANCE

3. The Owner shall ensure that the Equipment is properly operated and maintained at all times. The Owner shall:

(1) prepare, not later than three (3) months after the date of this Certificate or the date of commissioning of the Equipment, and update, as necessary, a Manual outlining the operating procedures and a maintenance program for the Equipment, including:

(a) routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the Equipment suppliers;

(b) emergency procedures;

(c) procedures for any record keeping activities relating to operation and maintenance of the Equipment;

(d) all appropriate measures to minimize noise and odorous emissions from all potential sources;

(2) implement the recommendations of the Manual; and

(3) retain, for a minimum of two (2) years from the date of their creation, all records on the maintenance, repair and inspection of the Equipment, and make these records available for review by staff of the Ministry upon request.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition Nos. 1 and 2 are imposed to ensure that the Equipment is built and operated in the manner in which it was described for review and upon which approval was granted. These conditions are also included to emphasize the precedence of Conditions in the Certificate and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.

2. Condition No. 3 is included to emphasize that the Equipment must be maintained and operated according to a procedure that will result in compliance with the Act, the regulations and this Certificate. In addition the Owner is required to keep records and provide information to staff of the Ministry so that compliance with the Act, the regulations and this Certificate can be verified.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;

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5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto, Ontario
M5G 1E5

AND

The Director
Section 9, *Environmental Protection Act*
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

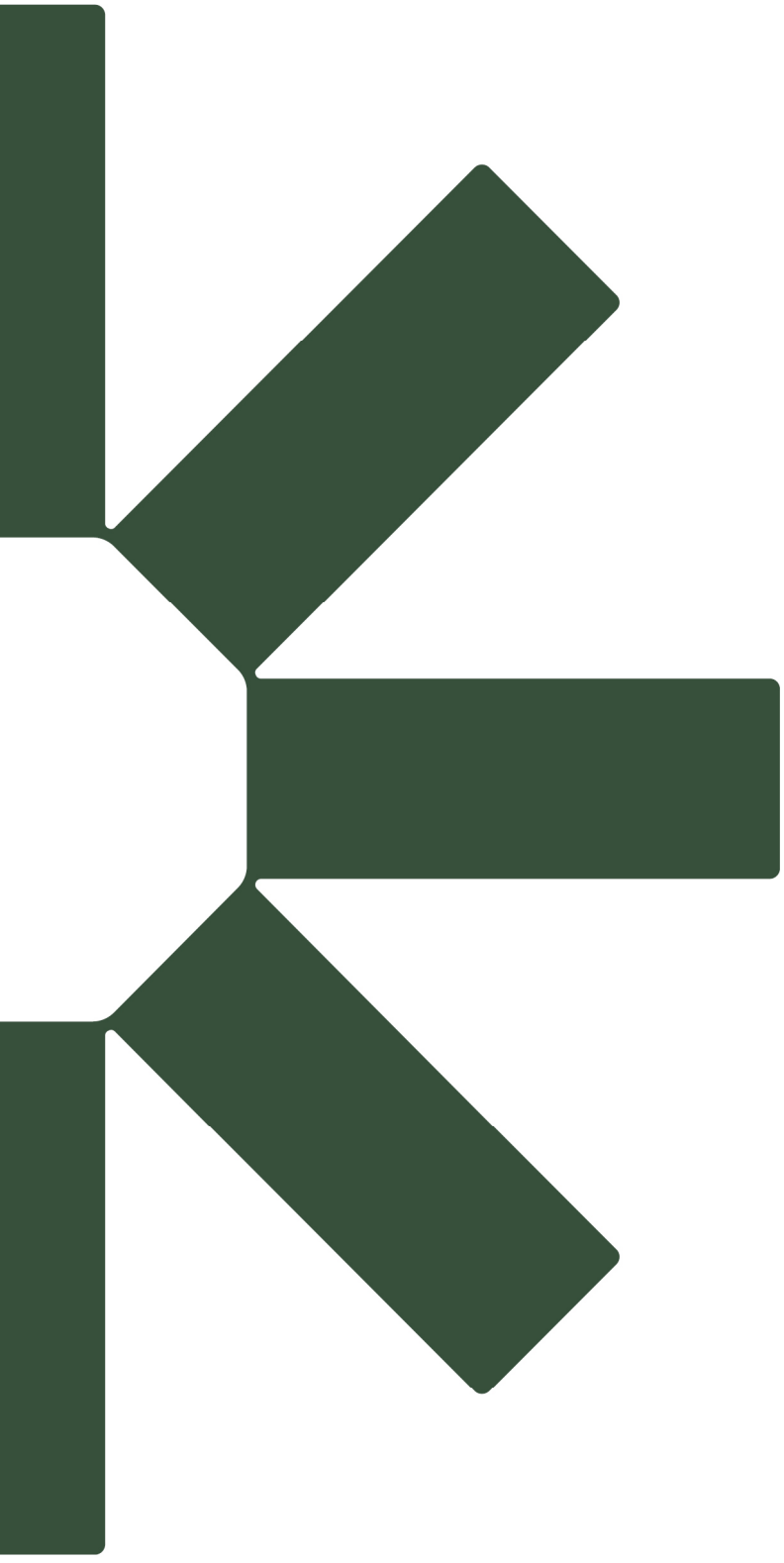
*** Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca**

The above noted works are approved under Section 9 of the Environmental Protection Act.

DATED AT TORONTO this 19th day of August, 2008

Zafar Bhatti, P.Eng.
Director
Section 9, *Environmental Protection Act*

MT/
c: District Manager, MOE Guelph
Tim Wiens, Conestoga-Rovers & Associates



Making Sustainability Happen