REPORT

1026 COOKE BOULEVARD

BURLINGTON, ONTARIO

LAND-USE COMPATIBILITY/MITIGATION STUDY (AIR QUALITY AND NOISE)

RWDI # 2305839

July 17, 2023

SUBMITTED TO

Kathleen Dryden
kathleendryden@kdinstallations.ca

Halton Standard Condominium Corporation No. 416
c/o KD Installations
P.O. Box 71095 Maple Hurst Plaza
Burlington, Ontario, L7T 4J8

SUBMITTED BY

Jordan Gilmour, P.Eng.
Senior Project Manager
E: Jordan.Gilmour@rwdi.com

Gillian Redman, M.Sc., P.Eng.
Senior Noise Engineer
E: Gillian.Redman@rwdi.com

Tara Bailey, P.Eng.
Senior Air Quality Engineer
E: Tara.Bailey@rwdi.com

RWDI Inc.
600 Southgate Drive
Guelph, ON, N1G 4P6
T: 519.823.1311
F: 519.823.1316

CANADA'S BEST MANAGED COMPANIES Platinum member

This document is intended for the sole use of the party to whom it is addressed and may contain information that is privileged and/or confidential. If you have received this in error, please notify us immediately. Accessible document formats provided upon request.
® RWDI name and logo are registered trademarks in Canada and the United States of America

TABLE OF CONTENTS

1 INTRODUCTION 1

2 LAND USE COMPATIBILITY POLICIES AND GUIDELINES 1

2.1 Halton Region Land Use Compatibility Guidelines 1

2.2 Provincial Policy Statement 1

2.3 Provincial Compatibility Guidelines 2

3 METHODOLOGY 4

4 RESULTS 4

4.1 Existing and Proposed Industrial Uses 4

4.1.1 1500118 Ontario Inc. / Etratech Inc. 5

4.1.2 St. Mary's Cement Inc. (Canada) / CBM Ready Mix 6

4.1.3 King Paving & Construction Ltd. 7

4.1.4 Primary Fluid Systems Inc., Golden Gate Contracting and Deck'Umbs 8

4.1.5 Solid Gold 8

4.2 Future Industrial Uses 8

4.3 Transportation Facilities 9

4.3.1 Noise and Vibration 9

4.3.2 Air Quality 9

5 CONCLUSIONS 10

6 STATEMENT OF LIMITATIONS 11

LIST OF TABLES

Table 1: D-6 Industry Classification Scheme
Table 2: D-6 Separation Distances
Table 3: Facilities Potentially Influencing the Proposed Development

LIST OF FIGURES

Figure 1: Site Location
Figure 2: Wind Speed and Direction Frequencies for Hamilton Royal Botanical Gardens (2000-2014)
Figure 3: Facilities in the Study Area
Figure 4: Zoning Map of Surrounding Area
Figure 5: Official Plan in the Study Area

LIST OF APPENDICES

Appendix A: Architectural Drawings
Appendix B: Industrial Classifications

1 INTRODUCTION

RWDI was retained by Halton Standard Condominium Corporation No. 416 to undertake a land use compatibility/mitigation study for the proposed project which will consist of one 24-storey residential tower on top of a 5-storey podium. The project site is located at 1026 Cooke Boulevard in Burlington, Ontario. The location of the subject lands is shown on **Figure 1**. Detailed architectural drawings are included in **Appendix A**.

The subject lands are currently occupied by a commercial building at 1026 Cooke Boulevard. The surrounding land use consists primarily of residential uses immediately to the west and south, and commercial and industrial lands to the east, north and further to the west.

The scope of this study was to identify any existing and potential land use compatibility issues and evaluate options to achieve appropriate design, buffering and/or separation distances between the proposed sensitive land uses and nearby employment areas and/or major facilities. A detailed study of noise and vibration was completed concurrently for this property in the RWDI report "1026 Cooke Boulevard Noise and Vibration Impact Study" dated June 29, 2023. Conclusions from the Noise and Vibration Study are summarized within this report.

2 LAND USE COMPATIBILITY POLICIES AND GUIDELINES

2.1 Halton Region Land Use Compatibility Guidelines

Halton Region has created a guideline document to provide guidance and identify a process for assessing land use compatibility. The intent of the guideline is to "minimize adverse effects of "industrial, transportation and utility" uses that emit noise (vibration), odour or air pollution on sensitive uses (e.g., residential)". The Halton Region guidelines adopt the Ministry of the Environment, Conservation, and Park's D-6 Land-Use Compatibility Guidelines which are discussed in Section 2.3 below. Furthermore, some of the referenced documents have since been superseded, primarily the Provincial Policy Statement. For the purposes of this study, the latest versions of the referenced documents have been used.

2.2 Provincial Policy Statement

The following excerpts from the Provincial Policy Statement, 2020 (Ontario 2020) help identify the general intentions of land uses within Ontario with respect to air quality and noise effects for proposed residential developments:

- Section 1.2.6.1 of Part V states the following:
  "*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. "
- Section 1.2.6.2 of Part V states the following:

"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."

- Section 1.6.8.3 of Part V further states that:

  "New development proposed on adjacent lands to existing or planned corridors and transportation facilities should be compatible with, and supportive of, the long-term purposes of the corridor and should be designed to avoid, mitigate or minimize negative impacts on and from the corridor and transportation facilities."

2.3 Provincial Compatibility Guidelines

The Ministry of Environment, Conservation and Parks' (MECP) D-series guidelines deal with land use compatibility in Ontario. The most relevant guideline in the present case is D-6, Compatibility between Industrial Facilities (MOE 1995). It provides a classification scheme for industries based their potential for emissions that could cause adverse effects. The classification scheme is summarized in **Table 1**.

Table 1: D-6 Industry Classification Scheme

Class	Descriptors
I	• Small scale • Self-contained • Packaged product • Low probability of fugitive emissions • Daytime operations only • Infrequent and/or low intensity outputs of noise, odour, dust, vibration
II	• Medium scale • Outdoor storage of wastes or materials • Periodic outputs of minor annoyance • Low probability of fugitive emissions • Shift operations • Frequent movement of products and/or heavy trucks during daytime
III	• Large scale • Outside storage of raw and finished products • Large production volumes • Continuous movement of products and employees during shift operations • Frequent outputs of major annoyance • High probability of fugitive emissions

For each class of industry, the guideline provides an estimate of potential influence area and a minimum recommended separation distance, which are set out in **Table 2**.

Table 2: D-6 Separation Distances

Class	Potential Influence Area (m)	Minimum Separation Distance (m)
I	70	20
II	300	70
III	1,000	300

Guideline D-6 (MOE 1995) recommends the following:

1. In Section 4.3,
   "No incompatible development other than that identified in Section 4.10, Redevelopment, Infilling and Mixed-Use Areas should occur [within the recommended minimum separation distances]."
2. With respect to how separation distance should be measured:
   a. In Section 4.4.2,
      "Measurement shall normally be from the closest existing, committed and proposed property/lot line of the industrial land use to the property/lot line of the closest existing, committed or proposed sensitive land use."
   b. In Section 4.4.3,
      "Where site-specific zoning or site plan control precludes the use of the setback for any activity associated with the industrial use that could create an adverse effect … then the setback can be included as part of the measurement, rather than measuring from the industrial property line."
   3. In Section 4.4.5,
      "Where there is no existing industrial facility within the area designated/zoned for industrial land use, determination of the potential influence area shall be based upon a hypothetical "worst case scenario" for which the zoned area is committed."
   4. In Section 4.5.1,
      "…no sensitive land uses shall be permitted within the actual or potential influence areas of Class I, II or III industrial land uses, without evidence to substantiate the absence of a problem."
   5. In Section 4.10.3,
      "When a change in land use is proposed [in an area of urban redevelopment, infilling or transition to mixed use] for either industrial or sensitive land use, less than the minimum separation distance … may be acceptable subject to either the municipality or the proponent providing a justifying impact assessment (i.e., a use specific evaluation of the industrial processes and the potential for off-site impacts on existing and proposed sensitive land uses). Mitigation is the key to dealing with less than the minimum to the greatest extent possible."

3 METHODOLOGY

The tasks for this study consisted of reviewing the following items:

- The official plan and zoning by-laws for the surrounding area;
- Published satellite imagery and street-based photography;
- A site visit to the area by RWDI Personnel;
- MECP Environmental Compliance Approval (ECA) and Environmental Sector and Activity Registry (EASR) permits for existing industries within 1000 m of the subject lands;
- Pending applications for amendment to ECA's of any major facilities, posted on the Environmental Registry;
- Environment and Climate Change Canada's (ECCC) National Pollutant Release Inventory (NPRI) data for industries within 1000 m of the subject lands;
- Guidelines D-1 (Land Use Compatibility) and D-6 (Compatibility between Industrial Uses) from the MECP;
- Meteorological data for the study area; and,
- Any recent complaint history available from the applicable MECP District Office to determine if there are any air quality or noise concerns within the area.

RWDI reviewed wind data from the Hamilton Royal Botanical Gardens station, the nearest meteorological station to the subject lands, to assist in the assessment. A summary of the directional distribution of winds over a period from 2000-2014 is shown in **Figure 2**. The wind directions in the figure refer to the direction from which the wind blows, while the annual frequency of a given wind direction is shown as a distance radially from the centre. The most frequent winds originate from the southwest to northwest with winds from the south, east, and north less frequent.

The MECP Halton-Peel District office was previously contacted to request complaint history for industries in the vicinity of the subject lands. The MECP was unable to provide complaint related information directly and requested that the request be directed via the Ministry's Freedom of Information (FOI) office. While complaint history for the area is a helpful tool in the initial screening of industries, due to the length of time to complete the process as well as the existing character of the study area, we did not consider this task to be essential in completing the assessment for this site.

4 RESULTS

The review considered the influence of the conversion request and potential future residential development on industrial uses in the surrounding employment areas, including any proposed expansions or intensifications that are known. Potential future industrial uses in the employment areas that are not currently proposed are also considered, as well as the influence of transportation systems. The results of the review are outlined below.

4.1 Existing and Proposed Industrial Uses

The area within a 1000 m radius of the subject lands is, for the most part, residential, commercial, and industrial land use. The majority of the residential lands in the study area consist of one and two-storey residences with some high-rise developments to the south. Facilities with ECA and/or EASRs available on the MECP's Access Environment

website found within 1000 m of the subject lands were reviewed. There were no facilities within 1000 m of the subject lands that reported under Environment Canada's NPRI program between 2017 and 2021.

Table B-1 in **Appendix B** lists all identified Class I industries within 300m, and all Class II and III industries within 1000 m. Class I industries beyond 300 m were not documented as their potential influence areas fall far short of the subject lands. Facilities of that nature are considered low-risk and have small areas of influence. In addition to a review of available permits, a review of satellite images was conducted to verify there are no significant small industrial facilities that are not subject to environmental permits. None were noted in the immediate vicinity and were not expected given the current nature of the area. The locations of the identified industries are presented in **Figure 3**. More details on these industries are presented in **Appendix B**.

Five of the identified facilities have potential areas of influence that extend to the subject lands. These facilities are discussed in detail below and are summarized in **Table 3**. Additionally, one non-industrial use is located in very close proximity to the subject lands and was reviewed in detail.

Table 3: Facilities Potentially Influencing the Proposed Development

Industry Class	Industry	Potential Influence Area (m)	Actual Separation Distance (m)
I	Gentherm (Formerly 1500118 ONTARIO INC. / Etratech Inc.)	70	20
II	St. Marys Cement Inc. (Canada) operating as CBM Ready Mix	300	286
II	King Paving & Construction Ltd.	300	253
I	Primary Fluid Systems Inc.	70	44
N/A	Golden Gate Contracting and Deck'Umbs (outdoor furniture store/showroom)	70	0 (adjacent)
N/A	Solid Gold	70	23

4.1.1 1500118 Ontario Inc. / Etratech Inc.

Etratech Inc. is an electronic controls / control systems manufacturer. Etratech was purchased by Gentherm Electronics in 2017 and now operates under the Gentherm name. Etratech is located within an enclosed building with no evidence of outdoor operations or storage areas. Sources of noise and/or emissions to air from the facility are stacks related to solder machines, laser marking machines, cleaners, and coating machines, as well as a heating system. The facility operates under an Environmental Compliance Approval which included the evaluation of noise at surrounding existing noise sensitive receptors in an Acoustic Assessment Report prepared by HGC Engineering in 2016. During the site visit performed by RWDI personnel, the facility was not audible in the vicinity of the proposed development given the constant road traffic noise surrounding the site. Noting this, due to proximity and elevated nature of the development, sound from this facility has been evaluated in the detailed Noise and Vibration Impact Report.

All exhaust stacks listed in the ECA are relatively short – between 1 to 2.5 m above the roof. There is no evidence of outdoor operations or storage. Based on the nature of the facility's operations, no fugitive dust or odours are expected.

Etratech been designated as Class I, with a minimum separation distance of 20 m and a potential area of influence of 70 m. The separation distance between the facility and the subject lands is 20 m, based on their property lines, however, the separation distance from the Etratech building and nearest emission sources to the subject lands is approximately 65 meters. Etratech shares a property line with existing single residential homes to the northeast, with the nearest residences located approximately 30 m away. Furthermore, a mid-rise residential building, approximately 40 m to the north of Etratech was recently constructed and a high-rise to the northwest, at approximately the same distance as the subject lands, is being constructed. Based on this evidence, the subject lands are deemed to be compatible with the Etratech facility as they will not introduce a new type of receptor.

4.1.2 St. Mary's Cement Inc. (Canada) / CBM Ready Mix

St. Mary's Cement Inc. operating as CBM Ready Mix, is a ready-mix concrete operation. The facility operates under an Environmental Compliance Approval issued in 2020 that approves them for a maximum production of up to 1,375 cubic meters per day of ready-mix concrete. On-site sources include two batching plants with multiple baghouse dust collectors, a boiler and a loading point dust collection system. Frequent trucks movements are expected in and around the facility.

The ECA application included the evaluation of noise at surrounding existing noise sensitive receptors in an Acoustic Assessment Report prepared by HGC Engineering in 2019. During the site visit performed by RWDI personnel, the facility was not audible in the vicinity of the proposed development. There are intervening residences between the facility and the subject lands which would restrict the noise emissions from the facility. Although these intervening residences are one and two-storey residences and the subject lands would introduce a high-rise receptor, sources at the facility are located at-grade. Consequently, sound levels at the subject lands are expected to be less than those at existing receptors. Furthermore, there are existing applications for intervening high-rise buildings that would be closer to this site and would provide some acoustical shielding. The facility is expected to be in compliance with applicable sound level limits at the subject lands.

To obtain their ECA, the CBM facility would have been required to demonstrate compliance with MECP air criteria at their property line for process-related emissions to air. This facility has outdoor fugitive dust emissions, for which compliance at the property line does not need to be demonstrated; however, they are required to prepare and implement a Best Management Practices Plan (BMPP) for the control of fugitive dust emissions as a condition of their ECA. The implementation of the BMPP for dust would serve to reduce the potential for off-site dust impacts. Fugitive dust emission sources are generally low-lying, therefore worst-case impacts are expected to occur close to ground level, near the facility's property line. The subject lands are located 286 m from the CBM facility's northeastern boundary.

The CBM facility would be defined as a Class III facility under the D-6 classification scheme. However, the facility has controls in place under their ECA (dust collectors, BMPP requirement), which would serve to reduce the impacts from the site. There are existing residential uses within 300 m of the site, including a Long-Term Care facility which

shares a portion of its property line with CBM. The presence of these sensitive receptors within the Class III minimum separation distance provides an indication that actual impacts from the CBM operation are more consistent with a Class II operation.

The subject lands are deemed to be compatible with the CBM facility. There is sufficient separation distance between CBM's operations and the subject lands that fugitive dust impacts are not expected to be significant at the subject lands.

4.1.3 King Paving & Construction Ltd.

King Paving & Construction Ltd. Operates a batch and/or drum hot mix asphalt plant. The facility operates under an Environmental Compliance Approval which included the evaluation of noise at surrounding existing noise sensitive receptors in an Acoustic Assessment Report prepared by HGC Engineering in 2019.
The facility's processes and support units include:

- Aggregate and Recycled Asphalt Pavement recovering, storage, processing, and shipping;
- Asphalt cement receiving and storage;
- Aggregate drying; and
- Hot-mix asphalt production, storage, and shipping.

Frequent trucks movements are expected in and around the facility. During the site visit performed by RWDI personnel, the facility was not audible in the vicinity of the proposed development over the sound of road traffic. There are intervening one and two-storey residences between the facility and the subject lands along Waterdown Road which would restrict the noise emissions from the facility. Although not yet approved, there are also high-rise residential buildings proposed at 1029-1033 Waterdown Road and 1062-1074 Cooke Boulevard which would be in closer proximity to King Paving & Construction Ltd. Due to the relatively large separation distance, and the existing and proposed intervening residential uses, the facility is expected to be in compliance with applicable sound level limits at the subject lands.

To obtain their ECA, the King Paving facility would have been required to demonstration compliance with MECP air benchmarks at their property line for process-related emissions to air. Existing sensitive uses in the area include single family dwellings and low- to mid-rise residences. The proposed development would introduce new elevated receptors to the area, which would not have been considered when the facility was applying for their ECA. The facility does have an elevated exhaust stack, which may impact receptors at elevated locations on the subject lands. Although the separation distance between the exhaust stack and the subject lands is greater than the minimum separation distance for a Class III facility (at approximately 490 m), detailed modelling of emissions from the asphalt plant stack can be completed to confirm the absence of an issue at the elevated receptors on the subject lands. The modelling assessment can first consist of a comparative study using generic stack parameters; if the comparative study indicates the potential for higher impacts at the subject lands compared to ground level, then a detailed modelling assessment can be completed using actual emissions data from the King Paving facility obtained through a freedom of information request.

This facility has outdoor fugitive dust emissions; however, they are required to prepare and implement a BMPP for fugitive dust as a condition of their ECA. The implementation of the BMPP for dust would serve to reduce the potential for off-site dust impacts. Fugitive dust emission sources are generally low lying, therefore worst-case

impacts are expected to occur close to ground level, close to the property line. The subject lands are located within 170 m of the King Paving facility's northeastern boundary where piles of sand and aggregate are stored. These storage piles could result in potentially minor dust impacts at the southwestern section of the proposed development. However, there is an existing residence approximately 20 m from this same boundary.

Due to the nature of the operations, there is also a potential for odourous emissions. The main sources of odours are the hot mix asphalt plant itself, which is located approximately 380 m from the subject lands. The plant is located approximately 360 m from the Long Term Care Facility and 330 m from an existing residence. Therefore, no significant odour impacts are expected at this separation distance at the subject lands.

The King Paving facility would be defined as a Class III facility under the D-6 classification scheme. However, the facility has controls in place under their ECA (dust collectors, BMPP requirement), which would serve to reduce the impacts from the site. The facility shares a property line with an existing residential property and is located approximately 140 m away from a Long Term Care facility. The presence of these sensitive receptors within the Class III minimum separation distance provides an indication that actual impacts from the King Paving operation are more consistent with a Class II operation.

4.1.4 Primary Fluid Systems Inc., Golden Gate Contracting and Deck'Umbs

Immediately to the northwest of the subject lands are two small-scale, fully enclosed buildings which include a small manufacturing facility, offices, and an outdoor furniture showroom. The manufacturing facility is identified as Primary Fluid Systems Inc., which RWDI identified as a manufacturer of metering pump accessories through publicly available data. Golden Gate Contracting is a general contractor and Deck-Umbs is supplier of deck furniture. Sources of emission from these facilities include rooftop HVAC equipment. Sound from the facility was not audible during the site visit. However, due to the proximity, noise emissions from these buildings were evaluated in detail in the Noise and Vibration Impact Report. No significant air emission sources were identified.

4.1.5 Solid Gold

Solid Gold is a restaurant and adult entertainment facility located across Cooke Boulevard. Mechanical equipment at the facility is limited to three small HVAC units. No significant air emission sources were identified. There are existing residential uses located to the north, east, and south of the facility. Due to the small quantity and size of the HVAC units and existing residential uses, further study for noise is not required. Furthermore, the property has been approved for redevelopment into a high-rise mixed-use development. The facility is expected to be compatible with the subject lands.

4.2 Future Industrial Uses

The Environmental Registry of Ontario was reviewed; there are no pending applications for amendment to ECA's for any facilities within 1,000 meters of the subject lands. The zoning map for the surrounding area is provided in **Figure 4**. Immediately north, east, south and west is a mixed-use corridor. In close proximity to the area is also

lands with holding provisions west of Waterdown Road. Existing residential uses in the area are primarily one and two-storey detached homes and townhomes, however there are high rise developments to the south across Plains Road East. There are also a number of high-rise residential and mixed-use developments either proposed or approved in this area.

There is potential for some of the Class I uses in the mixed-use corridor in the area to transform into Class II uses. However, in most cases, these intensifications would be restricted by existing and approved future residential uses to the north, east and south of the employment area. Therefore, the potential future development on the subject lands is not expected to have a significant effect on the ability of new uses to locate in the employment area.

4.3 Transportation Facilities

The subject lands are located south of the Canadian National Railway (CN) Oakville Subdivision rail corridor. The Aldershot GO railway station and bus station is used by VIA Rail and GO Transit and located approximately 500 m to the north of the subject lands, servicing commuter rail. The subject lands are located immediately adjacent to Cooke Boulevard and approximately 700 m south of Highway 403. The facility is located approximately 75 m northwest of Plains Road and 70 m northeast of Waterdown Road.

4.3.1 Noise and Vibration

Elevated sound levels on the proposed development due to road and rail traffic are expected. However, due to separation distances from major roadways, upgraded façade components such as windows and doors are not expected. Outdoor living areas may in some cases need barriers to achieve acceptable sound levels. Details of these requirements are provided in the Noise and Vibration Impact Study.

Rail is located further than 75 m from the subject lands, therefore no vibration impacts are anticipated.

4.3.2 Air Quality

In order to assess the potential impacts from the rail corridors in the vicinity of the subject lands, the GO Rail Network Electrification Environmental Project Report Addendum – Lakeshore East Study (https://www.metrolinxengage.com/sites/default/files/appendix_f4_-_go_rail_network_electrification_lse_aq_report_18may21.pdf) was reviewed to get a sense of air quality effects around Metrolinx rail corridors. The Metrolinx Lakeshore East Study indicated that air quality impacts decrease sharply with distance and are generally low (within 50% of background) beyond 50 meters. Therefore, with a 500 m separation distance, the subject lands are more than sufficiently separated from the rail corridors to avoid adverse air quality effects. Therefore, the potential future development of the subject lands is considered compatible with the rail corridor.

The proposed development is located adjacent to Cooke Boulevard and at a minimum distance of approximately 70 meters from Waterdown Road, 75 meters from Plains Road, and 700 meters from Highway 403. Based on past experience with roadway modelling assessments and publicly available studies, such as The City of Toronto produced report: “Avoiding the TRAP: Traffic-Related Air Pollution in Toronto and Options for Reducing Exposure” (October 2017), the most widely reported mitigation strategy is separation distances or buffer zones. Some environmental agencies (California and British Columbia) recommend a setback of 500 ft (approx. 150m) from major highways and 100m from roads with annual average traffic volumes of 15,000 vehicles or more per day. Considering these buffer zones, elevated air pollutant levels on the subject lands are possible due to the proximity of Waterdown

Road and Plains Road. Therefore, mitigation measures should be considered for the subject lands, during detailed design of the proposed development.

In terms of land use planning at the site level, the following mitigation strategies may be considered:

- Locating residential units and outdoor use areas (particularly ones for prolonged use) as far as possible from the roadways and buffered by transitional uses;
- Vegetation that is designed as a barrier (as a complement to other mitigation measures);
- Physical barriers such as sound barriers;
- Mechanical rather than passive building ventilation with air particle filtration;
- Location of ventilation air intakes away from known pollution sources and roads;
- Optimizing timing and quantity of ventilation make-up air; and,
- Management of outdoor activities.

RWDI have reviewed the preliminary drawings for the proposed development and note that the current design includes on-site roadways and parking area access at the ground level nearest to Waterdown Road. Traffic on Waterdown and Plains Road can be compatible with the proposed development, provided mitigation measures, such as those listed above, be considered during the detailed design phase. Of the measures listed above, RWDI recommends the provision of mechanical ventilation with particulate filtration and/or location of ventilation intakes away from known pollution sources. Such a system would provide occupants of these residential units with a way to ensure that their dwellings are provided with relatively clean, temperate air at all times, without any need to open their windows.

5 CONCLUSIONS

Mixed use development on the subject property is compatible with surrounding employment uses and the transportation corridors. The detailed Noise and Vibration Study dated June 29, 2023 outlines the recommendations for compatibility from an environmental noise and vibration perspective.

From an air quality perspective, mitigation measures should be considered during the detailed design phase to limit potential transportation-related impacts. A detailed air quality assessment is recommended to assess potential impacts from the elevated stack at King Paving.

6 STATEMENT OF LIMITATIONS

This report entitled 1026 Cooke Boulevard was prepared by Rowan William Davies & Irwin Inc. ("RWDI") for Halton Standard Condominium Corporation No. 416 ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein 1026 Cooke Boulevard ("Project"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared. Because the contents of this report may not reflect the final design of the Project or subsequent changes made after the date of this report, RWDI recommends that it be retained by Client during the final stages of the project to verify that the results and recommendations provided in this report have been correctly interpreted in the final design of the Project.

The conclusions and recommendations contained in this report have also been made for the specific purpose(s) set out herein. Should the Client or any other third party utilize the report and/or implement the conclusions and recommendations contained therein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

FIGURES



Site Location

Map Projection: NAD 1983 UTM Zone 17N

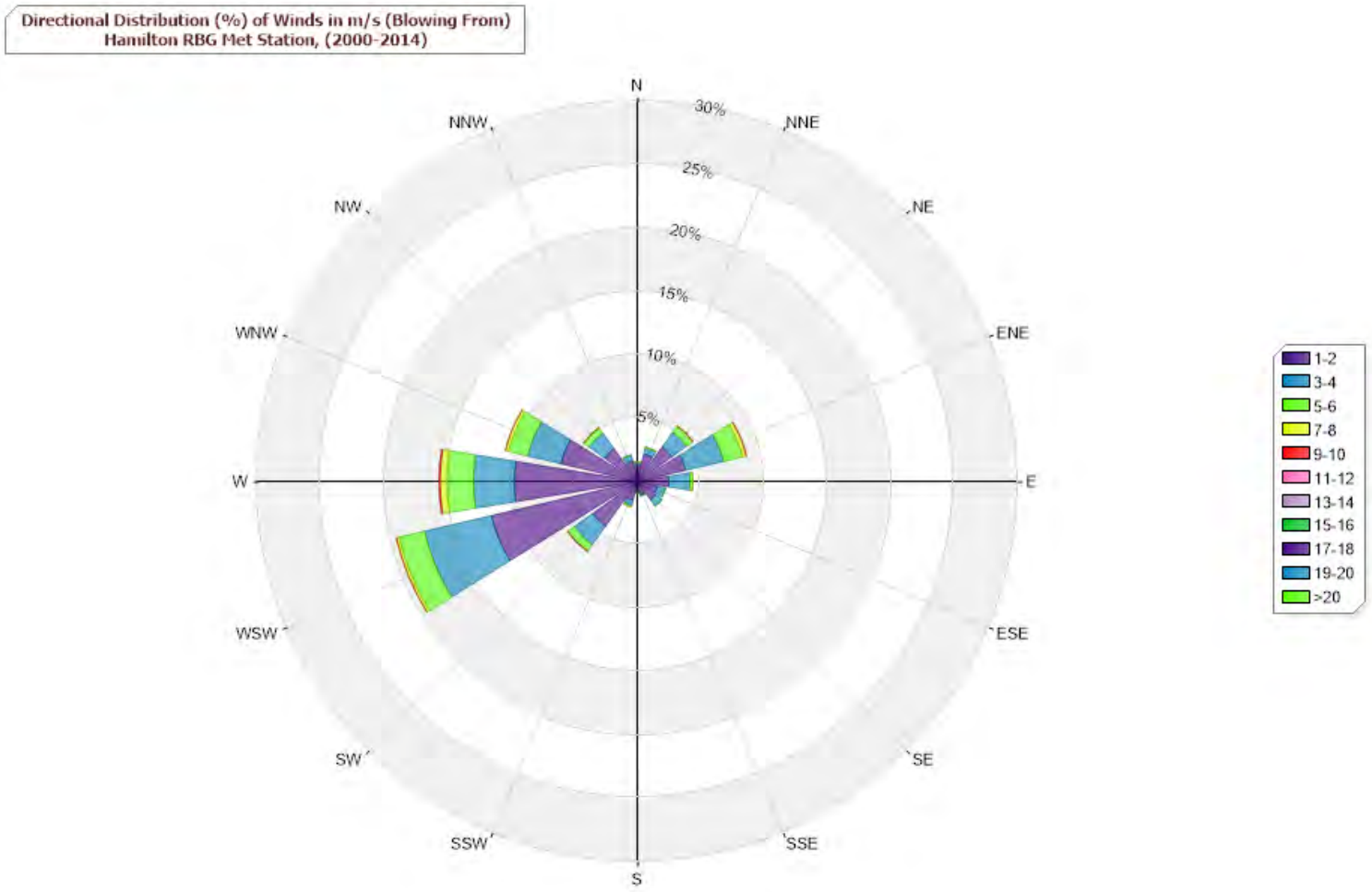
1026 Cooke Boulevard - Burlington, Ontario

True North

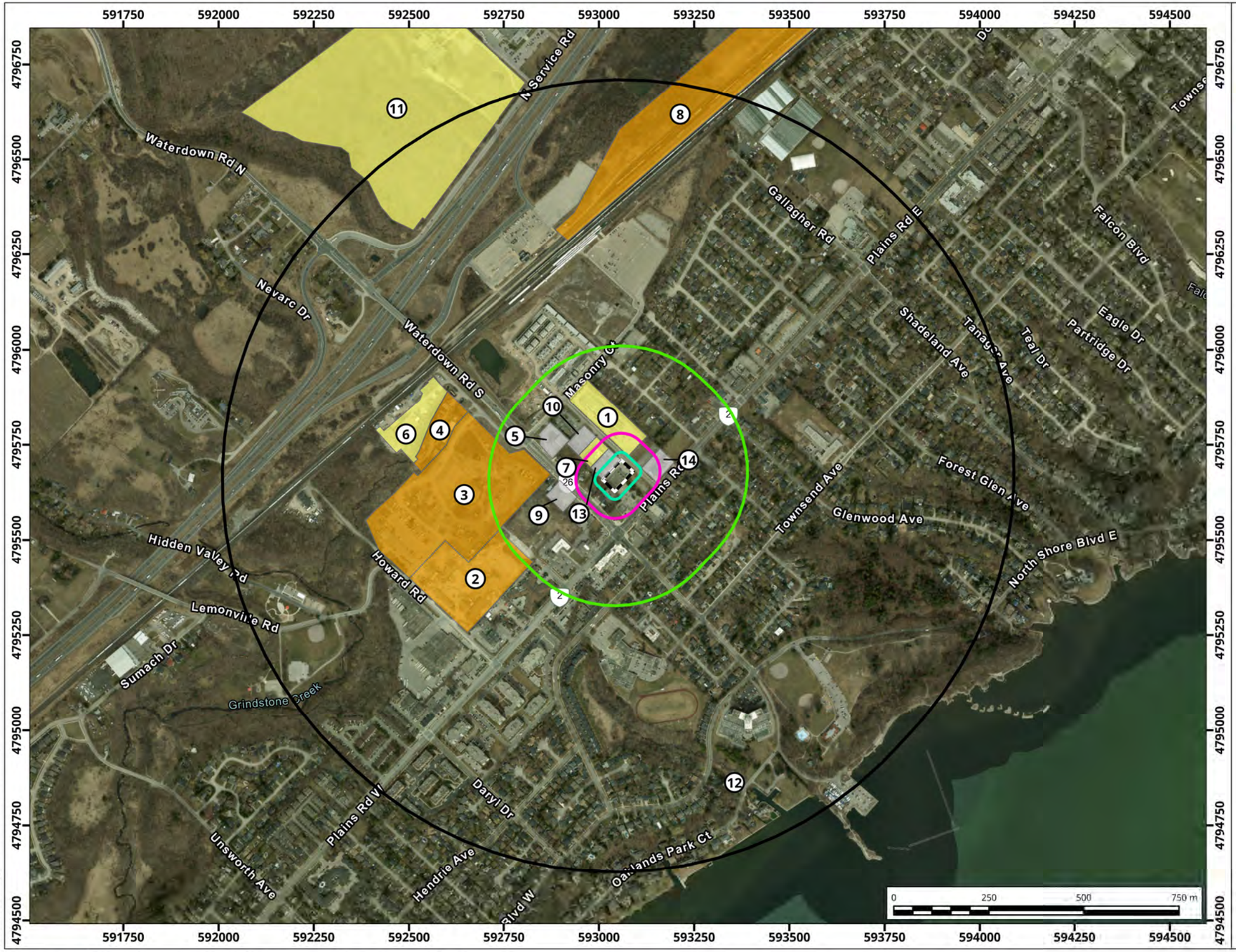
Project #: 2305839

Drawn by: PIP	Figure: 1
Approx. Scale:	1:1,000
Date Revised:	Jun 14, 2023

Map Document: (C:\Work\Projects\Jobs_Guelph_1\P2305839_1026CookeBlvd\P2305839_1026CookeBlvd.aprx



Directional Distribution (%) of Winds Blowing from Hamilton RBG Meteorological Station (Years 2000-2014)	Figure: 2	
Land-Use Compatibility/Mitigation Study 1026 Cooke Boulevard – Burlington, Ontario Project #2305839	Date: July 12, 2023	



Legend

- Property Line
- Class I
- Class II
- NA
- 20 m Setback
- 70 m Setback
- 300 m Setback
- 1,000 m Setback

ID	Business Name	Class
1	Gentherm (formerly 1500118 ONTARIO INC. - Etratech Inc.)	Class I
2	St. Marys Cement Inc. (Canada) operating as CBM Ready Mix	Class II
3	King Paving & Construction Ltd.	Class II
4	Bulkwood Products Inc.	Class II
5	Cougar Shoes Inc.	NA
6	A Cosmos Concrete and Paving	Class I
7	Primary Fluid Systems Inc.	Class I
8	CN Aldershot Yard	Class II
9	Corporation of the City of Burlington	NA
10	Category 5 Imaging Ltd.	NA
11	The Cumis Group Limited	Class I
12	The Regional Municipality of Halton	Class I
13	Golden Gate Contracting and Deck'Umbs (outdoor furniture store/showroom)	NA
14	Solid Gold	NA

Service Layer Credits: Hybrid Reference Layer (road and water labels only): Esri Community Maps Contributors, City of Burlington, City of Hamilton, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada
World Imagery: Town of Oakville, Earthstar Geographics

Proposed Development and Surrounding Sites of Interest

Map Projection: NAD 1983 UTM Zone 17N
1026 Cooke Blvd - Burlington, Ontario

True North

Project #: 2305839

Drawn by:	PIP	Figure:	3
Approx. Scale:	1:11,000		
Date Revised:	Jul 14, 2023		

Map Document: C:\Working\Folder\jobs_Guelph_1\2305839_1026CookeBlvd\P2305839_1026CookeBlvd.aprx



Legend

- Property Boundary
- 1,000m
- Zoning Bylaw

Residential Zones – Low Density	Holding Zone
R1, R2, R3, R4, R5	H (prefix)
Residential Zones – Medium Density	**Mixed-Use Corridor Zones**
RM1, RM2, RM3, RM4, RM5	MXG, MXC, MXE, MXT
Residential Zones – High Density	**Downtown Centre Zones**
RH1, RH2, RH3, RH4, RH5	DC, DW, DL-A, DL-B, DL-C, DRH, DRM, DRL, DI
Residential Zones – Orchard Community	**Uptown Centre Zones**
RO1, RO2, RO3, RO4	UCR1, UCR2, UC, UE, UCR3, URH, UMXE, UOP, URM
Residential Zones – Alton Community	**Rural Zones**
RAL1, RAL2, RAL3, RAL4	RA, RG, ME
Employment Zones	**North Aldershot Zones**
BC1, BC2, GE1, GE2	RNA1, RNA2, RNA3, SNA, MRNA, CNA, ONA, DNA
Commercial Zones	**Development Zone**
CR, CC1, CC2, CE, CN1, CN2	D
Park Zones	**Utility Services Zone**
P, PC	S
Open Space Zones	
O1, O2, O3	

Service Layer Credits: Burlington Zoning: City of Burlington
Hybrid Reference Layer (road and water labels only): Esri Community Maps Contributors, City of Burlington, City of Hamilton, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada

Zoning in the Study Area

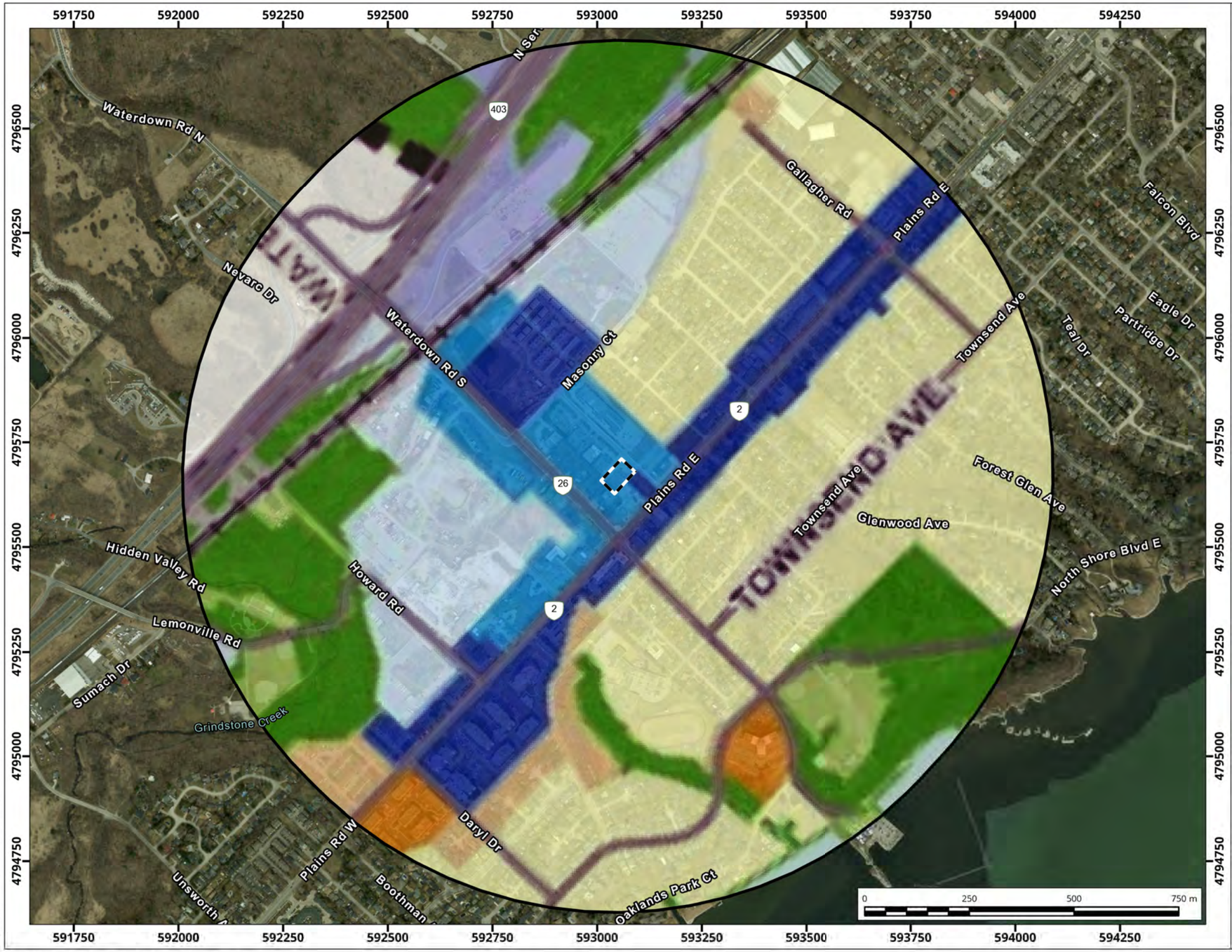
Map Projection: NAD 1983 UTM Zone 17N
1026 Cooke Boulevard - Burlington, Ontario

True North

Project #: 2305839

Drawn by:	PIP	Figure:	4
Approx. Scale:	1:10,000		
Date Revised:	Jun 14, 2023		

Map Document: (...\Working\mxd\Location_Guelph_11\P2305839_1026CookeBlvd\P2305839_1026CookeBlvd.aprx)



Legend

- Property Boundary
- 1,000m

MIXED USE INTENSIFICATION AREAS

- **Urban Centres**
- **Mixed Use Nodes and Intensification Corridors**
  - Mixed Use Commercial Centre
  - Neighbourhood Centre
  - Local Centre
  - Employment Commercial Centre
  - Urban Corridor
  - Urban Corridor - Employment

RESIDENTIAL NEIGHBOURHOOD AREAS

- Residential - Low Density
- Residential - Medium Density
- Residential - High Density

EMPLOYMENT LANDS

- General Employment
- Business Corridor

NATURAL HERITAGE SYSTEM AND MAJOR PARKS AND OPEN SPACE

- City's Natural Heritage System
- Major Parks and Open Space

MINERAL RESOURCE EXTRACTION AREA

INFRASTRUCTURE AND TRANSPORTATION CORRIDORS

Service Layer Credits: Burlington Official Plan: City of Burlington, Hybrid Reference Layer (road and water labels only): Esri Community Maps Contributors, City of Burlington, City of Hamilton, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada

Official Plan in the Study Area

Map Projection: NAD 1983 UTM Zone 17N

1026 Cooke Boulevard - Burlington, Ontario

True North

Project #: 2305839

Drawn by:	PIP	Figure:	5
Approx. Scale:			1:10,000
Date Revised:			Jun 14, 2023

Map Document: (...\Work\mxd\Intensification_Guelph_1\P2305839_1026CookeBlvdP2305839_1026CookeBlvd.aprx

APPENDIX A



1026 COOKE BLVD, BURLNGTON, ON

Feasibility Study

22.255 2022-10-25

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER

CONTENT

	PAGE
STATISTICS	A-2
ROOF PLAN	A-3
U/G PLAN	A-4
FLOOR 1/ SITE PLAN	A-5
FLOOR 3~5	A-6
FLOOR TYPICAL	A-7
SECTION A-A	
3D IMAGE	A-10
3D IMAGE	A-11
3D IMAGE	A-12

PRELIMINARY

SHEET TITLE:
SCALE: 1: 200
DATE: 2022-10-25

1026 COOKE BLVD, BURLNGTON, ON
22.255

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER

STATISTICS	M2	SF
SITE AREA	3,200	
NEW PROPOSAL GFA	28,061	302,049
FSI	8.77	
NEW RESIDENTIAL UNIT#	334	
NET AVERAGE UNIT SIZE	60	642

GFA CALCULATION

		DESCRIPTION		RESIDENTIAL					RETAIL GFA		TOTAL GFA	
				TOTAL GFA		NET SALEABLE						
		TYPE	FLOORS #	m2	ft2	m2	ft2	UNIT#(3)	m2	ft2	m2	ft2
	U/G PARKING		3	591	6362						591	6,362
0	BASE(F1~F5)	RESIDENTIAL BASE	5	9,527	102,549	4,541	48,879	70	375	4,037	9,902	106,585
	TOWER(F6~F29)	RESIDENTIAL TOWER	24	17,568	189,102	15,360	165,335	264			17,568	189,102
TOTAL			29	27,686	298,012	19,901	214,214	334	375	4,037	28,061	302,049

PARKING REQUIRED(1)(2)(3)

	VISITOR	RESIDENTIAL	RETAIL	TOTAL
RATIO	0.10	0.75	5/250m2	
	33	250	8	291

1) RESIDENTIAL PARKING RATIO= 0.75/ UNIT
2) VISITIR PARKING RATIO= 0.1/ UNIT
3) RETAIL PARKING RATIO= 5/ 250m2

PARKING PROVIDED

SURFACE	UG1	UG2	UG3	UG4		TOTAL
	77	77	77	77		308

AMENITY REQUIRED

	RATIO	TOTAL
	15M2 (INDOOR+OUTDOOR) / UNIT	5,008

Amenity Area
The area situated within the boundaries of a project and intended for recreational purposes, which may include open spaces, patios, balconies, communal play areas, lounges, sundecks, and roofdecks, but shall not include the area occupied at grade by the buildings, service areas, parking, and driveways.

AMENITY PROVIDED

	OUTDOOR(M2)	INDOOR(M2)	BALCONIES(M2)	TOTAL
F1/ GRADE	200	250		
F2	272	1,565		
F3~F5			349	
F6	1074	0	1,320	
TOTAL	1,546	1,815	1,669	**5,030**

15 m2/ unit

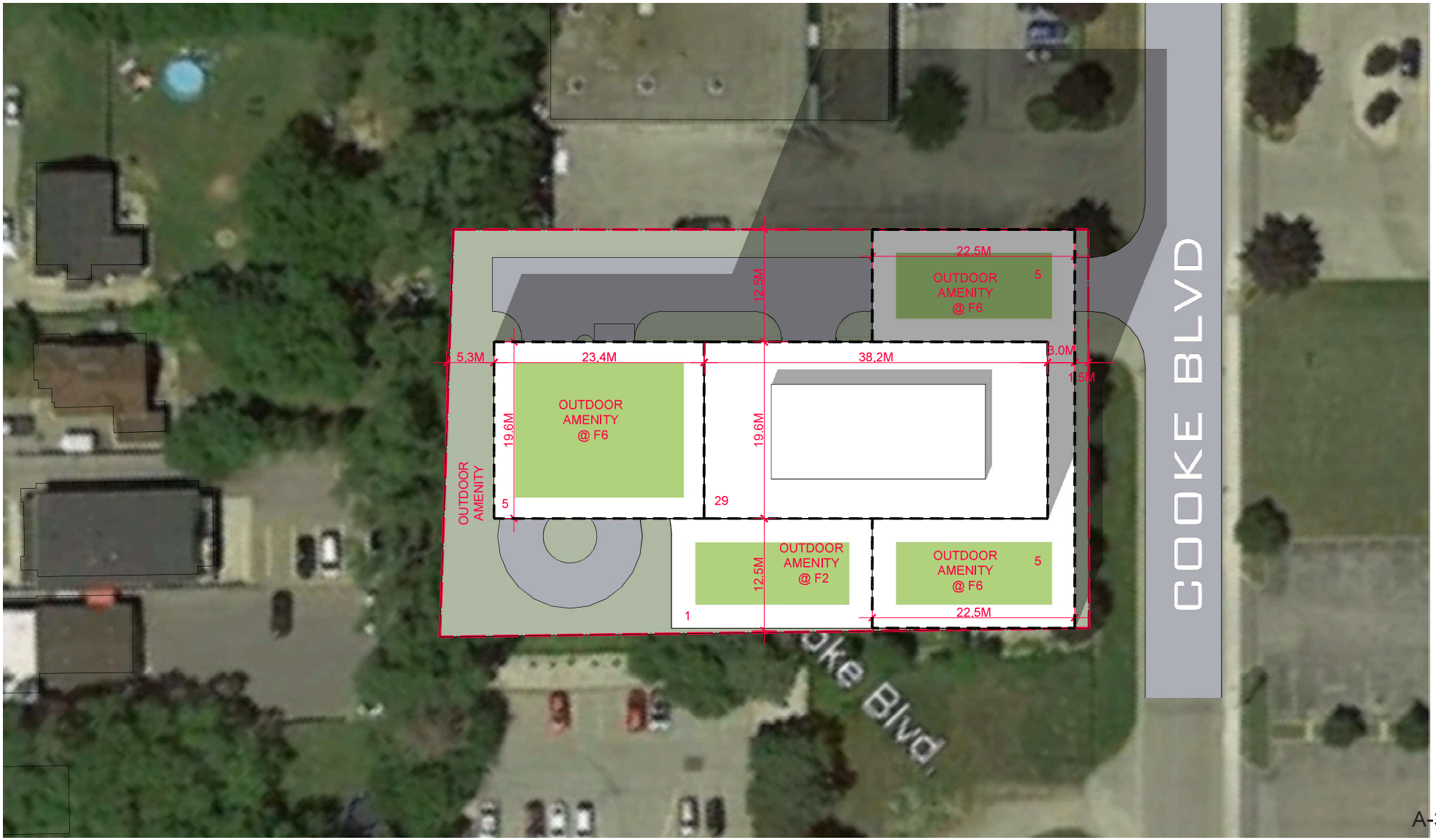
Floor Area, Gross
The sum of the areas of each floor of a building but shall include a basement or cellar when used for commercial purpose. Measurement shall be from the exterior face of outside walls, or from the centre line of partition and common walls. Gross Floor Area shall not include floor space devoted to:
- Vehicle Parking
- Storage
- Air Handling Equipment
- Enclosed mall and hallways, excluding kiosk, stairways
- Elevators and associated equipment
- Washrooms
- Foyers, lobbies, but not waiting areas/rooms

SHEET TITLE: STATISTICS
SCALE: 1:
DATE: 2022-10-25

1026 COOKE BLVD, BURLNGTON, ON
22.255

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER



A-3

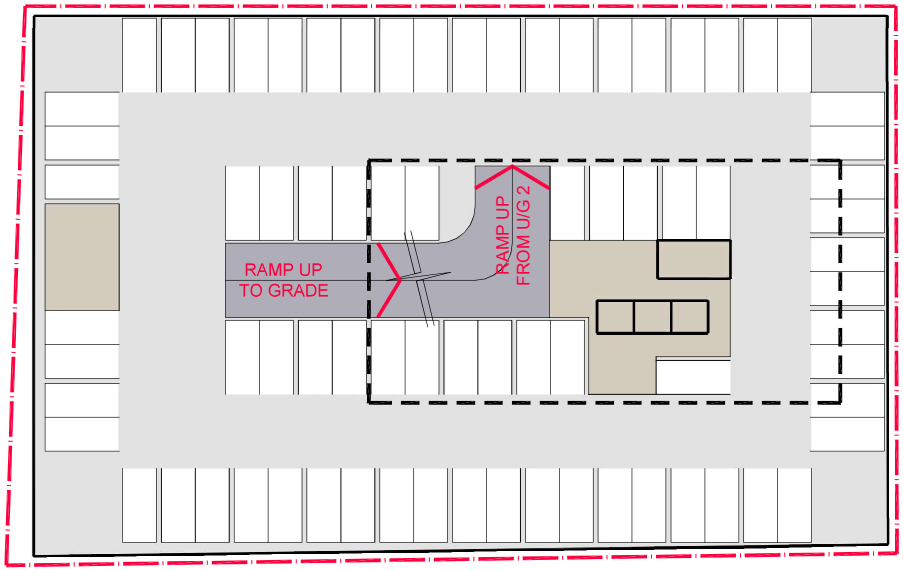
PRELIMINARY

SHEET TITLE: ROOF PLAN
SCALE: 1: 200
DATE: 2022-10-25

1026 COOKE BLVD, BURLNGTON, ON
22.255

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER



A-4

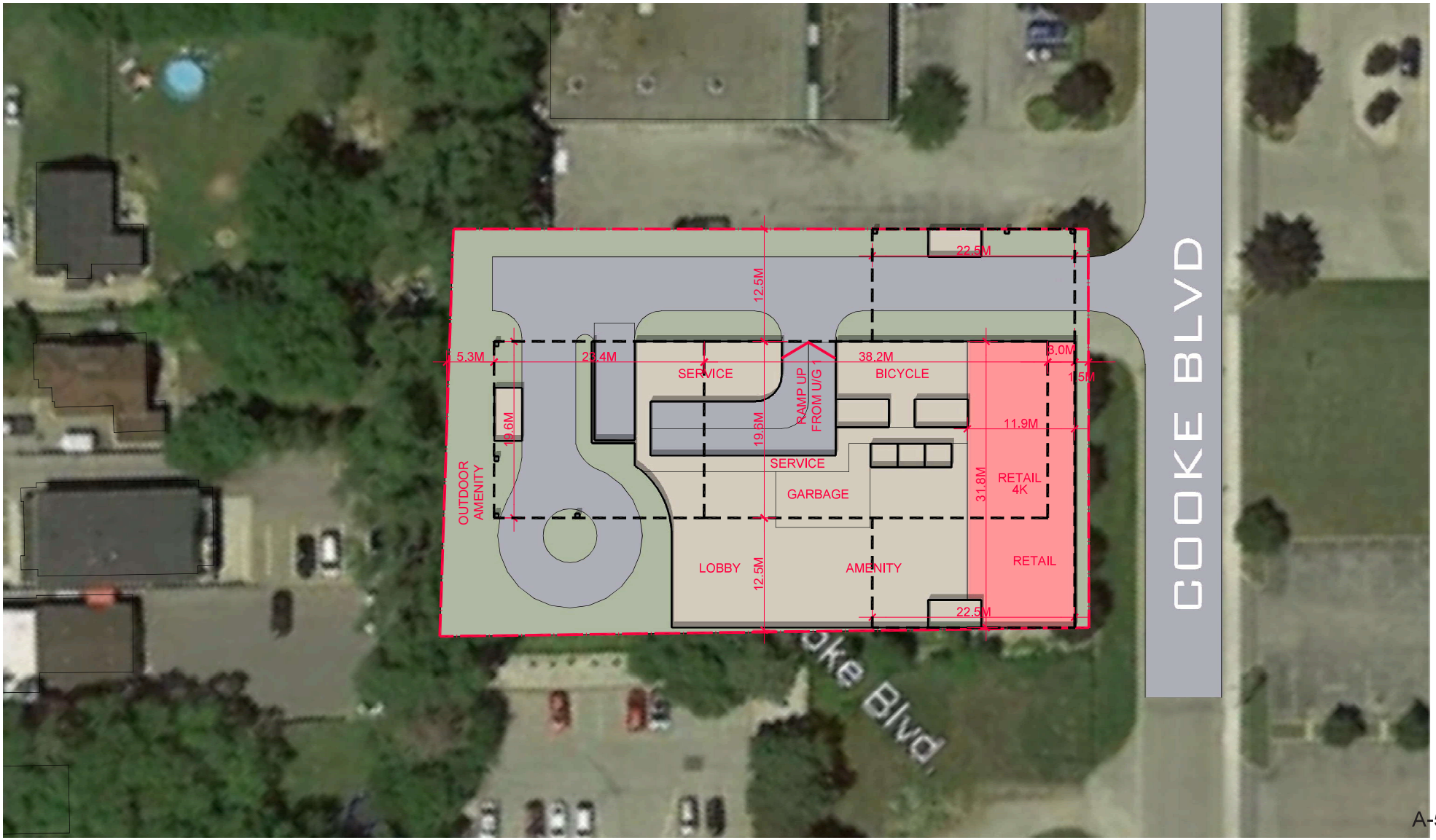
PRELIMINARY

SHEET TITLE: U/G PLAN
SCALE: 1: 200
DATE: 2022-10-25

1026 COOKE BLVD, BURLNGTON, ON
22.255

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER



A-5

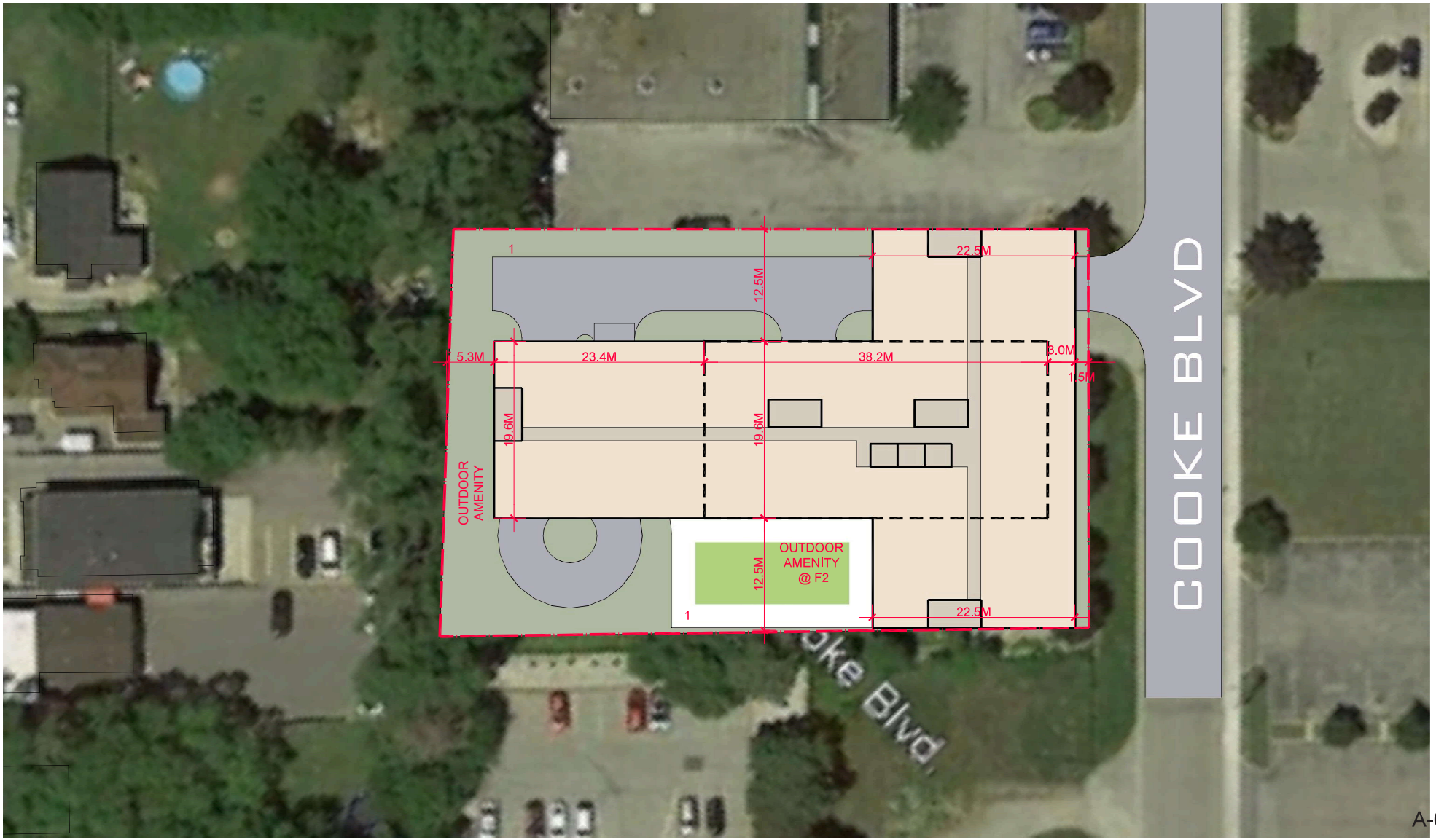
PRELIMINARY

SHEET TITLE: FLOOR 1/ SITE PLAN
SCALE: 1: 200
DATE: 2022-10-25

1026 COOKE BLVD, BURLNGTON, ON
22.255

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER



A-6

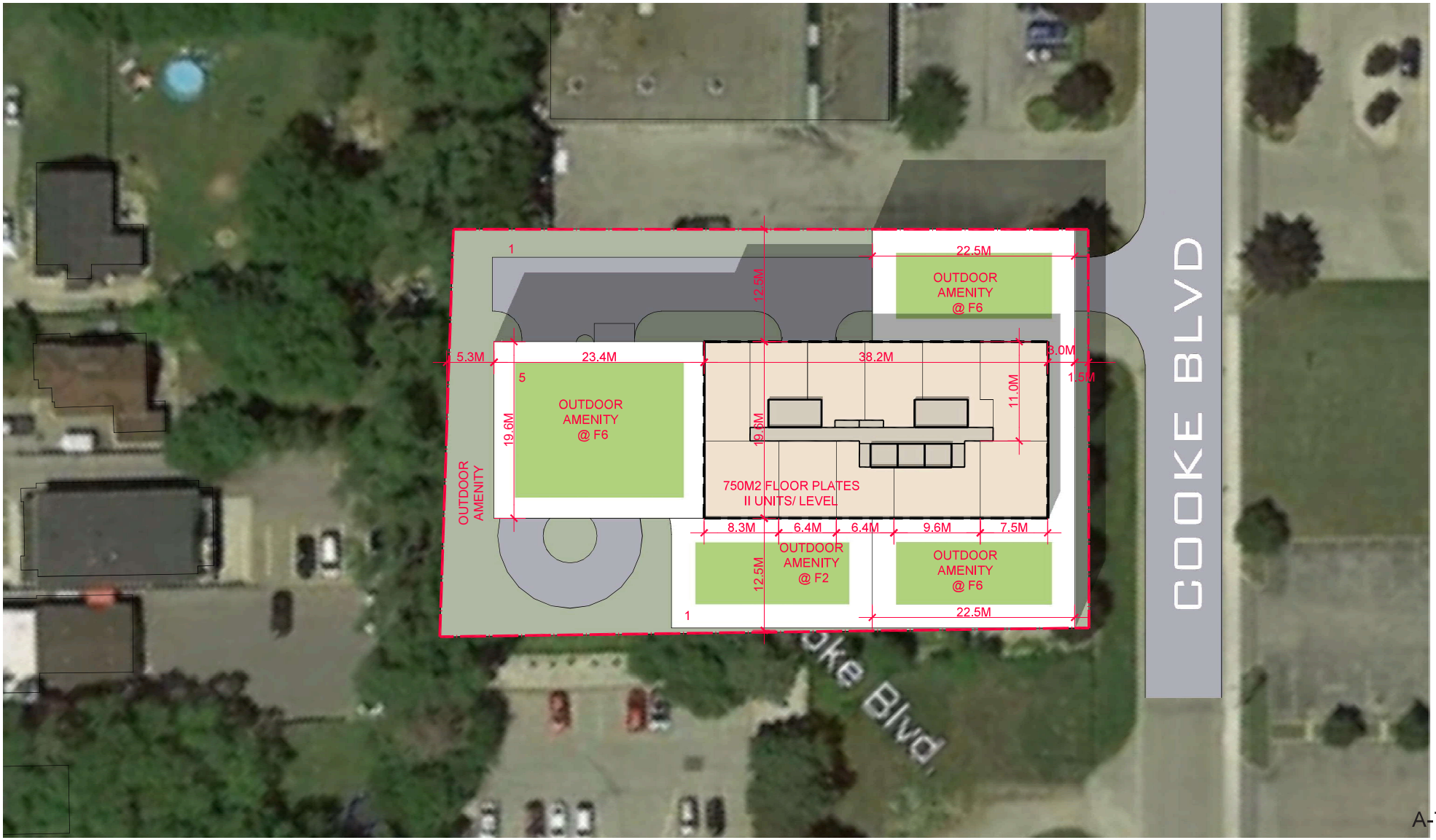
PRELIMINARY

SHEET TITLE: FLOOR 3~5
SCALE: 1: **200**
DATE: **2022-10-25**

1026 COOKE BLVD, BURLNGTON, ON
22.255

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER



A-7

PRELIMINARY

SHEET TITLE: FLOOR TYPICAL
SCALE: 1: 200
DATE: 2022-10-25

1026 COOKE BLVD, BURLNGTON, ON
22.255

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER



A-10

PRELIMINARY

SHEET TITLE: 3D IMAGE VIEW TO NORTH
SCALE: 1:
DATE: 2022-10-25

1026 COOKE BLVD, BURLNGTON, ON
22.255

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER



A-11

PRELIMINARY

SHEET TITLE: 3D IMAGE VIEW TO SOUTHEAST
SCALE: 1:
DATE: 2022-10-25

1026 COOKE BLVD, BURLNGTON, ON
22.255

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER



A-12

PRELIMINARY

SHEET TITLE: 3D IMAGE VIEW TO SOUTHWEST
SCALE: 1:
DATE: 2022-10-25

1026 COOKE BLVD, BURLNGTON, ON
22.255

This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.

TURNER FLEISCHER