HGC ENGINEERING

Howe Gastmeier Chapnik Limited
2000 Argentia Road, Plaza One, Suite 203
Mississauga, Ontario, Canada L5N 1P7
t: 905.826.4044

Noise Feasibility Study
Proposed Mixed-Use Development
35 Plains Road East
Burlington, Ontario

Prepared for:

2816544 Ontario Inc.
1020 Lawrence Avenue West
Toronto, ON M0A 1CE

Prepared by:



Mandy Chan, PEng

Revised: July 25,2022

HGC Project No. 01501356

VERSION CONTROL

Noise Feasibility Study,
35 Plains Road East,
Burlington, Ontario.

Ver.	Date	Version Description / Changelog	Prepared By
0	Apr 11, 2016	Noise Feasibility Study in support of rezoning applications	M. Chan
1	Dec 15, 2016	Noise Feasibility Study in support of rezoning applications	M. Chan
2	May 17, 2017	Noise Feasibility Study in support of rezoning applications, rooftop amenity space design	M. Chan
3	Nov 12, 2021	Noise Feasibility Study in support of site plan applications	M. Chan
4	July 25, 2022	Updated Noise Feasibility Study in response to City's and CN's Comments	M. Chan

Limitations

This document was prepared solely for the addressed party and titled project or named part thereof, and should not be relied upon or used for any other project without obtaining prior written authorization from HGC Engineering. HGC Engineering accepts no responsibility or liability for any consequence of this document being used for a purpose other than for which it was commissioned. Any person or party using or relying on the document for such other purpose agrees, and will by such use or reliance be taken to confirm their agreement to indemnify HGC Engineering for all loss or damage resulting therefrom. HGC Engineering accepts no responsibility or liability for this document to any person or party other than the party by whom it was commissioned.

Any conclusions and/or recommendations herein reflect the judgment of HGC Engineering based on information available at the time of preparation, and were developed in good faith on information provided by others, as noted in the report, which has been assumed to be factual and accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented.

Table of Contents

1 INTRODUCTION AND SUMMARY 1

2 CRITERIA 2

2.1 Road & Rail Traffic Noise Criteria 2

2.2 Criteria Governing Stationary (Industrial) Noise Sources 4

2.3 MECP Guidelines for Land Use Compatibility and Distance Separation 5

3 SITE DESCRIPTION AND NOISE SOURCES 6

3.1 Description of the Adjacent Facilities 7

4 TRAFFIC NOISE ASSESSMENT 9

4.1 Road Traffic Data 9

4.2 Rail Traffic 10

4.3 Traffic Noise Predictions 11

4.4 Discussion and Recommendations 12

4.4.1 Outdoor Living Areas 12

4.4.2 Ventilation Requirements 13

4.4.3 Building Facade Constructions 13

4.4.4 Warning Clauses 15

4.5 Summary of Traffic Noise Control Recommendations for the Proposed Residential Uses 16

5 IMPACT OF THE DEVELOPMENT ON THE ENVIRONMENT 16

6 IMPACT OF THE DEVELOPMENT ON ITSELF 19

7 SUMMARY OF RECOMMENDATIONS 20

8 RECOMMENDATIONS FOR IMPLEMENTATION 21

Figure 1 – Key Plan
Figure 2 – Site Plan Showing Prediction Locations
Figure 3 – Aerial Photo Showing Proposed Site and Surrounding Land Uses

Appendix A – Architectural Plans
Appendix B – Road and Rail Traffic Volume Data
Appendix C – Predicted Traffic Sound Levels & Sample STAMSON
Appendix D – Measurement Results
Appendix E – Preliminary Stationary Noise Assessment
Appendix F – CN Mainline Requirements
Appendix G – Responses to City's and CN's Comments

1 INTRODUCTION AND SUMMARY

HGC Engineering was retained by 2816544 Ontario Inc. to conduct a noise feasibility study for a proposed mixed-use residential development to be located at the northwest corner of Plains Road and Cooke Boulevard, specifically at 35 Plains Road East in Burlington, Ontario. The surrounding area includes residential and commercial/industrial land uses. A noise study is required by the municipality as part of the approvals process, specifically for site plan approval. This study is conducted in accordance with the guidelines of the Ministry of Environment, Conservation and Parks (MECP).

The previous noise study was completed on November 12, 2021 and has been updated to incorporate comments from the City of Burlington dated April 26, 2022 and CN's peer reviewer, Jade Acoustics, dated June 21, 2022. Our responses to the comments are provided in Appendix F. A site visit in September 2021 was also conducted to confirm any significant changes in the surrounding uses since the completion of the 2017 noise study. Significant noise sources were not observed, and road traffic noise was the dominant noise source.

The primary noise sources affecting the site are road and rail traffic. The results from the study indicate that the development is feasible from an environmental noise perspective. The traffic sound level predictions indicate that noise control measures should be incorporated into the building envelope design such that indoor sound levels can comply with the MECP noise criteria. The recommended noise control measures include appropriate wall and window glazing assemblies, and air-conditioning of residential suites so that windows can be kept closed.

There are existing commercial and industrial areas near the subject site. Sounds from the commercial/industrial uses in the area were not audible over road traffic noise during the site visits. Warning clauses are also recommended to inform the residents of the building of the traffic noise impacts and the presence of nearby commercial and industrial facilities.

A preliminary stationary noise analysis was also conducted to determine the potential impact of noise from the building's rooftop mechanical equipment and parking garage exhaust fan on existing sensitive uses surrounding the proposed development. One cooling tower was assumed to be in a

cooling tower well on the roof of the proposed residential building. Detailed information regarding the type or model of the rooftop mechanical units was not available at the time of this study, but reasonable estimates of the size and tonnage have been used based on experience with similar projects. A 3D computer model of the area was created, using acoustic modelling software and manufacturer's sound power data. The model was used in the analysis to predict sound levels associated with the equipment. The results indicate that sound emissions from the proposed development at the closest sensitive receptors are anticipated to meet the MECP minimum exclusionary sound level limits.

2 CRITERIA

2.1 Road & Rail Traffic Noise Criteria

Guidelines for acceptable levels of road and rail traffic noise impacting residential developments are given in the MECP publication NPC-300, "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", release date October 21, 2013 and are listed in Table I below. The values in Table I are energy equivalent (average) sound levels [L_{EQ}] in units of A-weighted decibels [dBA]. The Railway Association of Canada/Federation of Canadian Municipalities "Report Research Phase 3: Proximity Guidelines and Best Practices" dated November 2006 and Guidelines for New Development in Proximity to Railway Operations dated May 2013 were also reviewed.

Table I: MECP Road Traffic Noise Criteria (dBA)

Area	Daytime L_{EQ} (16 hour) Road / Rail	Nighttime L_{EQ}(8 hour) Road / Rail
Outdoor Living Area	55 dBA	--
Inside Living/Dining Room	45 dBA / 40 dBA	45 dBA / 40 dBA
Inside Bedroom	45 dBA / 40 dBA	40 dBA / 35 dBA

Daytime refers to the period between 07:00 and 23:00, while nighttime refers to the period between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is used in reference to an outdoor patio, a backyard, a terrace or other area where passive recreation is expected to occur. OLA's include backyard and side yard areas of single family, semi-detached and townhouse dwellings, gardens, terraces and patios, balconies and elevated terraces (e.g. Rooftops) that are not enclosed with a

minimum depth of 4 meters provided they are the only outdoor amenity space and common outdoor areas associated with high-rise and other multi-unit buildings. Front yards areas are not OLA's.

The MECP guidelines allow the daytime sound levels in an Outdoor Living Area to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and tenancy agreements to the property. Where OLA sound levels exceed 60 dBA, physical mitigation is recommended to reduce the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible.

Indoor guidelines are 5 dBA more stringent for rail noise than for road noise, to account for the low frequency (rumbling) character of locomotive sound, and its greater potential to transmit through exterior wall/window assemblies.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels outside bedroom or living/dining room windows exceed 60 dBA or daytime sound levels outside bedroom or living/dining room windows exceed 65 dBA. Forced-air ventilation with ducts sized to accommodate the future installation of air conditioning is required when nighttime sound levels at bedroom or living/dining room windows are in the range of 51 to 60 dBA or when daytime sound levels at bedroom or living/dining room windows are in the range of 56 to 65 dBA.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the plane of window nighttime sound level is greater than 60 dBA or the daytime sound level is greater than 65 dBA due to road traffic noise or nighttime sound level is greater than 55 dBA or the daytime sound level is greater than 60 dBA due to rail traffic noise .

Warning clauses to notify future residents of possible excesses are also required when night-time sound levels exceed 50 dBA at the plane of the bedroom or living/dining room window and daytime sound levels exceed 55 dBA in the outdoor living area and at the plane of the bedroom or living/dining room window due to traffic noise.

In addition, the exterior walls of the first row of dwellings next to railway tracks are to be built to a minimum of brick veneer or masonry equivalent construction, from the foundation to the rafters when the rail traffic Leq (24-hour), estimated at a location of a nighttime receptor is greater than 60 dBA and the first row of dwellings is within 100 metres of the tracks.

The railways also provide minimum requirements for safety as well as sound for proposed residential developments located adjacent to their rights-of-way. These refer to minimum required setbacks, berms, fencing, and warning clauses. The reader is referred to a copy of CN requirements for a new development adjacent to a principal main line and rail yard, which is located in Appendix F.

2.2 Criteria Governing Stationary (Industrial) Noise Sources

In Ontario, the guidelines of the Ontario Ministry of the Environment, Conservation and Parks (MECP) form the basis of environmental noise assessment. MECP publication NPC-300, "*Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning",* release date October 21, 2013 provides criteria for assessing the noise impact of the rooftop equipment associated with the proposed residential building. The term Stationary Source is used to describe all noise sources at the site including mechanical equipment. The MECP guidelines assess the noise impact of fluctuating sounds on an hourly energy equivalent (average) sound level basis, rather than on short-duration maximum sound levels. Hourly equivalent sound levels are denoted as the $L_{EQ\text{-}1hr}$.

The MECP guidelines stipulate that the sound level impact during a "predicable worst-case hour" be considered. This is defined to be an hour when a typically busy "planned and predictable mode of operation" occurs at the subject facility coincident with a period of minimal background sound.

The criteria is based on the background sound level at sensitive points of reception (which are typically residences) in the quietest hour that the source can be in operation. Background sound includes sound from road traffic and natural sounds, but excludes the sources under assessment. For relatively quiet areas where background sound may fall to low levels during some hours, NPC-300

stipulates various minimum limits. The exclusionary sound level limit for a stationary noise source in a Class 1 urban area as stipulated by NPC-300 is shown in the table below.

Table II – NPC-300 Stationary Noise Exclusionary Limits for Class 1 Areas

Receiver	Daytime 07:00 – 19:00	Evening 19:00 – 23:00	Nighttime 23:00 – 07:00
Outdoor Points of Reception	50 dBA	50 dBA	--
Plane of Window	50 dBA	50 dBA	45 dBA

2.3 MECP Guidelines for Land Use Compatibility and Distance Separation

MECP Guidelines D-1, 'Land Use Compatibility' and D-6 'Compatibility Between Industrial Facilities and Sensitive Land Uses' were prepared to address the potential incompatibility of industrial land uses and noise sensitive land uses in relation to land use approvals under the Planning Act. The Halton Region has also developed Land Use Compatibility Guidelines which are based on the MECP D-Series guidelines. They recommend that studies be conducted to investigate the feasibility of providing sufficient mitigation when noise sensitive land uses are proposed within the potential zone of influence of an existing industry, or when industrial uses are proposed near noise sensitive receptors. The mitigation can be provided at the source, or can be incorporated on the development lands.

For planning purposes the potential zone of influence is 70 m for a Class I industrial use, 300 m for Class II industrial use and 1000 m for Class III industrial use. In addition, these guidelines recommend minimum distance setbacks for applications of 20 m, 70 m, and 300 m respectively. Smaller setbacks can be considered for infill developments such as this, on a site-specific basis.

3 SITE DESCRIPTION AND NOISE SOURCES

Figure 1 is a context plan of the site. Figure 2 is the site plan dated November 9, 2021 prepared by KFA Architects + Planners Inc. The site is located on the north side of Plains Road, west side of Cooke Boulevard and east of Waterdown Road. Highway 403 is located approximately 750 m to the north of the site. The CN Oakville subdivision is located approximately 550 m to the north of the site. Road traffic noise on Highway 403 and rail traffic noise have been included in the analysis as these sources may impact the upper floors. A Figure is provided in Appendix G showing the site and selected distances to the CN railway right-of-way and CN Aldershot Yard .

The proposed development is to consist of one 9-storey residential building. There are 2 levels of underground parking and retail uses on the ground floor. Preliminary elevations and floor plans are attached as Appendix A.

The subject site is located in a Class 1 (urban) acoustical environment where the background sound is primarily made up of the sounds of road and rail traffic and human activity (the urban hum). The dominant traffic noise source that will impact the proposed development is road traffic on Plains Road and secondary traffic noise sources are road traffic on Waterdown Road and Highway 403 and rail traffic on the CN Oakville Subdivision. Sound level measurements conducted on site found that road traffic noise was the dominant source as there was steady traffic on Plains Road. No significant stationary noise sources were observed. Results are provided in Appendix C. Introduction of new industrial noise sources is also not anticipated as this is an area in transition.

3.1 Description of the Adjacent Facilities

A recent site visit was conducted in September 2021 to make observations of the acoustical environment and note any significant changes or new sources of concern since completion of the 2017 noise study. It was observed that the uses near the subject site have not changed significantly, and new stationary noises of concern were not found. No vibration sources of concern were also observed.

Background road traffic noise was found to be dominant throughout the area. The lands immediate adjacent to the site are commercial offices. There are industrial facilities further west of the site, to the west of Waterdown Road. There are commercial and residential land uses on the south side of Plains Road. Further north, adjacent to the GO Station, are new 4 to 6 storey residential buildings. These buildings provided shielding for the proposed development from rail traffic noise, CN rail yard noise and Highway 403 traffic noise.

The industries are identified on the aerial photo included as Figure 3. The majority of businesses typically operate between 7 am to 7 pm. Some of the facilities/businesses are described in detail below.

Cooke Business Park – Cooke Boulevard

The facilities along Cooke Boulevard are generally commercial offices. There are some rooftop mechanical units as indicated by the aerial photo. The units were generally not in operation due to the cold weather at the time of the site visits. Based on the distance of the rooftop units to the site, the rooftop units are not expected to have a significant noise impact on the development. No other significant noise sources were observed.

King Paving & Materials Company (KPM) - 1077 Howard Rd

KPM operates several facilities located on the west side of Waterdown Road, north of Plains Road and east of Howard Road. The KPM Paving and Construction facility consist of an asphalt plant and a truck repair facility located approximately 560m and 500m away from the development, respectively. The asphalt plant has an MECP Environmental Compliance Approval and it is understood that noise control measures have been implemented such that the MECP Guideline limits are met at the existing residences which are located to the west of the proposed development. The

facility generally operates during the daytime hours only and is closed during the winter months. The KPM property is approximately 250 m from the proposed residential development and satisfies the minimum distance setback for a Class II facility. The facility is not expected to have a significant noise impact on the development.

CBM/St. Mary's Cement – 1093 Howard Road

The CBM/St.Mary's Cement facility consist of a ready-mix concrete batching plant and a trucking facility. The ready-mix concrete batching plant has an MECP Environmental Compliance Approval and it is understood that noise control measures have been implemented such that the MECP Guideline limits are met at the existing residences which are located in close proximity to the facility. The facility generally operates during the daytime hours only but is approved for 24 hours per day operation. The ready-mix concrete batching plant is located approximately 600 m to the west of the site. The CBM property is approximately 430 m from the proposed residential development and satisfies the minimum distance setback for a Class II facility. The facility is not expected to have a significant noise impact on the development.

Ippolito Group – 1032 Howard Road

The warehousing facilities is located approximately 630 m to the west of the site and satisfies the minimum distance setback for a Class I/II facility. There are loading bays located on the west side of the buildings, approximately 730m from the site. Based on the distance of the facility to the development, the warehousing facility is not expected to have a significant noise impact on the development

CN Aldershot Yard

The CN Aldershot Yard is located to the north of the site. The west end of the CN yard is located approximately 600 m to the north of the site and the middle of the CN yard is located approximately 1.07 km to the northeast of the site. The CN rail yard operates 24 hours per day. The proposed residential development satisfies the minimum distance setback for a Class III facility. Based on the distance of the rail yard to the development and intervening buildings, the activities associated with the CN Aldershot Yard are not expected to have a significant noise impact on the development.

During the site visit, sounds from these neighbouring commercial and industrial facilities were not audible as road traffic along with general urban hum were the dominant sources of noise. The facades of the proposed residential buildings with exposure to the nearby commercial facilities and industries are also subjected to elevated levels of background traffic noise and correspondingly lowered potential for industrial noise impacts.

Commercial activities such as the occasional movement of customer vehicles on the property, the infrequent delivery of goods to convenience stores, fast food restaurants etc. and garbage collection are not of themselves considered to be significant noise sources in the MECP guidelines.

Cursory calculations based on noise source information taken from HGC Engineering files and the distance separations indicate that significant industrial noise impacts are not expected. The introduction of new industrial noise sources is also not anticipated as this is an area in transition.

The nearby commercial/industrial facilities activities may be audible on the development site upon occasion. The use of the warning clause provided in Section 4.4.4 is recommended by the MECP Guidelines to identify the proximity of the nearby commercial and industrial facilities. This clause should be provided on all tenancy agreements for the residential units.

4 TRAFFIC NOISE ASSESSMENT

4.1 Road Traffic Data

Traffic data summaries for the key roads surrounding the site were obtained from City of Burlington and Ministry of Transportation (see Appendix B). The latest AADT volumes for Plains Road and Waterdown Road were obtained from the City of Burlington website. The data were provided in the form of 8-hour intersection turning counts and AADT/SADT counts. In order to obtain 24-hour traffic volumes to predict future sound levels during both the 16-hour daytime and 8-hour nighttime periods, the following assumptions were made:

- The prediction considered traffic that will exist in 10 years (2032) as required by the MECP, assuming a conservative annual traffic growth of 2.5% on all roadways;
- A commercial vehicle percentage of 3.4% was calculated for Plains Road; 2.1% were assumed to be heavy trucks, and 1.3 were assumed to be medium trucks;

- A commercial vehicle percentage of 5.4% was calculated for Waterdown Road; 2.1% were assumed to be heavy trucks, and 3.3% were assumed to be medium trucks;
- Daytime (7:00 – 23:00) vs nighttime (23:00 – 7:00) traffic volumes were determined based on an assumed 90% day / 10% night split,

Traffic data for the Highway 403 was obtained from the MTO in the form of Summer Average Daily Traffic (SADT) for the year 2016 and is also included in Appendix B. The following assumptions were made:

- The prediction considered traffic that will exist in 10 years (2032), assuming traffic annual growth of 2.5%, per MECP guidelines;
- A commercial vehicle percentage of 10% was provided; 7.5% were assumed to be heavy trucks, and 2.5% were assumed to be medium trucks;
- Daytime (7:00 – 23:00) vs night-time (23:00 – 7:00) traffic volumes were determined based on an assumed 67% day / 33% night split for Highway 403.

The resulting future road traffic volumes for the roads used in this assessment are listed in Table III, in addition to commercial vehicle (truck) percentages and the posted speed limit for each roadway.

Table III: 2032 Projected Road Traffic Data

Road Name	AADT	Day / Night Split (% / %)	Commercial Vehicle Percentages		Posted Speed Limit (km/h)
			Medium Truck %	Heavy Truck %	
Plains Road	28 467	90 / 10	1.3	2.1	60
Waterdown Road	22 766	90 / 10	2.1	3.3	50
QEW	244 795*	67 / 33	2.5	7.5	100

*SADT (Summer Average Daily Traffic)

4.2 Rail Traffic

Rail traffic data for typical operations of the CN Oakville Subdivision was obtained from CN and Metrolinx, and is provided in Appendix B. The CN Oakville Subdivision is classified as a principle main line. The maximum speeds and number of cars and locomotives per train were used. The train volumes on the CN Oakville Subdivision were projected to the year 2032 using a 2.5% per year growth rate and is summarized in Table IV. GO Train volumes are already projected. It is noted that the rail forecast from Metrolinx for GO Trains are reduced compared to the volumes used in the

2017 study.

Table IV: Projected Rail Traffic Data to Year 2032

Type of Train	Number of Trains Day/Night	Number of locomotives	Average Number of cars	Average Speed (KPH)
Freight	15 /11	4	147	97
Way Freight	10 / 4	2	25	97
Passenger	18 / 0	2	10	150
GO Trains[1]	60 / 8	1	12	150
GO Trains[1]	11 / 4	2	12	150

Note: 1 – Diesel Locomotives

4.3 Traffic Noise Predictions

To assess the levels of traffic noise that will impact the site, an acoustic model of the development was created, and predictions were made using a numerical computer modelling package (*CadnaA version 2021 MR1*). CadnaA was used to assess sound levels as it can account for the complexities of the site and surrounding areas such as the large distances to traffic noise sources, topography and intervening buildings. Existing topography of the site and surrounding areas was obtained from Ontario Geohub.

The model is based on the methods from ISO Standard 9613-2.2, "*Acoustics - Attenuation of Sound During Propagation Outdoors*", which accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures. The 0.7 m roof edge as shown in the building elevations and sections was included in the acoustic model of the proposed building.

The road and rail noise sources were included in the model as line sources producing equivalent sound pressure levels at a reference distance to those predicted by STAMSON 5.04, a computer algorithm developed by the MECP, based on the daytime and nighttime traffic volumes presented in Section 4.1 and 4.2. Sample calibration outputs from STAMSON are included as Appendix C.

The model was used to predict traffic noise levels on each floor at each of the residential building facades. Predicted daytime and nighttime sound levels at the façades are shown in Appendix C. A

summary of the highest sound levels from all floors are shown in Table V below for the general Prediction locations (Location [A] to [G]) as indicated on Figure 2.

Table V: Predicted Traffic Sound Levels, Without Mitigation, [dBA]

Prediction Location	Location	ROAD Day / Night	RAIL Day / Night	TOTAL Day / Night
[A]	North façade	56 / 54	53 / 57	58 / 59
[B]	West façade, North End	60 / 56	56 / 57	61 / 59
[C]	South façade	67 / 61	<40 / <40	67 / 61
[D]	East façade, South End	65 / 59	48 / 51	65 / 59
[E]	Rooftop Amenity Area 1	54 / --	47 / --	55 / --
[F]	Rooftop Amenity Area 2	53 / --	49 / --	55 / --
[G]	Rooftop Amenity Area 3	54 / --	50 / --	55 / --

4.4 Discussion and Recommendations

The sound level predictions indicate that traffic sound levels are expected to exceed MECP criteria during the daytime and nighttime at most of the building facades. Recommendations are provided below.

4.4.1 Outdoor Living Areas

The dwelling units will have balconies that are less than 4 m in depth. Such balconies are not considered to be outdoor living areas under MECP guidelines. They are therefore, exempt from traffic noise assessment and physical mitigation will not be required.

There is a common amenity space located on the rooftop. The west side of the rooftop are green spaces which are not accessible to the residents. At the north end of the rooftop is the mechanical penthouse and an indoor amenity space is located on the south end. The predicted daytime sound levels at the rooftop amenity spaces are 55 dBA or less. Additional mitigation measures are not required.

4.4.2 Ventilation Requirements

Due to the traffic sound levels at the building, central air conditioning is required for all units. It is understood that all dwelling units will be provided with central air conditioning which will satisfy the MECP ventilation requirements.

All rooftop mechanical equipment associated with the cooling system should comply with the criteria of MECP publication NPC-300. Preliminary assessment was conducted in Section 5.0.

4.4.3 Building Facade Constructions

Road traffic noise was the dominant source of sound. Calculations were performed to determine the building envelope constructions required to maintain indoor sound levels within MECP guidelines. The calculation methods were developed by the National Research Council (NRC). They are based on the predicted future sound levels at the building facades, and anticipated typical area ratios of the facade components (walls, windows, roofs and doors) and the floor area of the adjacent room.

4.4.3.1 Exterior Wall Constructions

The exterior walls may include spandrel glass or metal panels within an aluminum window system. Sufficient sound insulation can typically be achieved by using a drywall assembly on separate framing behind the spandrel panels. The recommended construction of this assembly depends on the details of the exterior spandrel panels as well as the relative wall areas versus the window areas in a given room. Further input regarding the design of the exterior walls can be provided during design development, if required. Test data from a typical spandrel panel insulated wall assembly can achieve a minimum of STC-48 and thus a spandrel window system with a layer of drywall on a separate frame and insulated is expected to achieve a higher STC rating.

4.4.3.2 Exterior Doors

There may be glazed exterior doors (sliding or swing) for entry onto the balconies from living/dining rooms and some bedrooms. The glazing areas on the doors should be counted as part of the total window glazing area. All exterior doors should include good weather seals to reduce air infiltration to the minimum achievable levels.

4.4.3.3 Glazing

A review of the floor plans was conducted. The window to floor areas were calculated to be up to 55% for the living rooms and bedrooms, the minimum acoustical requirement for the basic window glazing, including glass in fixed sections, swing or sliding doors, and operable windows, is provided based on sound entering through the windows and walls.

Based upon these assumptions and highest sound levels predicted at each facade, it was determined that the glazing along most of the building facades must achieve a sound transmission class (STC) rating of at least 28 in order to achieve the target indoor sound level criteria. However, in an urban environment such as this, we do not typically recommend less than STC-30, which can be achieved using standard glazing assemblies. If window areas are larger, more complex window constructions will be required; conversely, lower requirements would apply if window areas are smaller. Operable sections (doors and windows) typically achieve installed ratings 2 – 3 points lower than these targets.

Table V indicates the minimum acoustical requirement for the basic window glazing, including glass in fixed sections, doors, and operable windows for each building.

Table VI: Required Minimum Glazing STC for Specific Buildings

Prediction Locations	Building Facade	Space	Glazing STC[1, 2]
[A]	North	Living/Dining	30*
		Bedroom	30
[B]	West	Living/Dining	30*
		Bedroom	30
[C]	South	Living/Dining	30*
		Bedroom	30*
[D]	East	Living/Dining	30*
		Bedroom	30*

Note: [1] Based on 55% window to floor area ratio for living/dining rooms and bedrooms considering that operable elements are typically de-rated by 3 STC points. Wall construction is assumed to meet STC-48.
[2] Tight weather seals should be provided to reduce such leakage to the extent feasible.
* A minimum of STC-30 is recommended

4.4.4 Warning Clauses

The MECP guidelines and CN recommend that warning clauses be included in the property and tenancy agreements and offers of purchase for all dwelling units.

Suggested wording for future dwellings with sound level excesses.

Type A:

> Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling unit occupants as the sound levels exceed the Municipality's and the Ministry of the Environment, Conservation and Parks' noise criteria.

Suitable wording for future dwellings requiring central air conditioning systems is given below.

Type B:

> This dwelling unit has been supplied with a central air conditioning system which allows windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the noise criteria of the Municipality and the Ministry of the Environment, Conservation and Parks.

Suitable wording to inform future residents of the adjacent commercial facilities and that sounds from these facilities may at times be audible.

Type C:

> Purchasers/tenants are advised that due to the proximity of this development to nearby retail/commercial facilities, sound levels from the facilities may at times be audible.

These sample clauses are provided by the MECP as examples and can be modified by the Municipality as required.

This sample clause is provided by the MECP as an example and can be modified by the Municipality as required.

CN requires a warning clause for all units within 1000 m of a rail yard right-of-way and is provided below.

Type D:

> Warning: Canadian National Railway Company or its assigns or successors in interest has or have a rights-of-way within 1,000 meters from the land the subject hereof. There may be alterations to or expansions of the railway facilities on such rights-of-way in

> the future including the possibility that the railway or its assigns or successors as aforesaid may expand its operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwelling(s). CN will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid rights-of-way."

4.5 Summary of Traffic Noise Control Recommendations for the Proposed Residential Uses

The following recommendations are provided in regard to noise mitigation for road traffic noise for the proposed residential building.

1. Central air conditioning will be provided to all residential units which satisfy MECP ventilation requirements.

2. Upgraded glazing constructions will be required for all dwellings units.

3. Warning clauses should be included in the property and tenancy agreements and offers of purchase and sale to inform the future residents of the residential building of the noise issues and the presence of the roadways and nearby commercial and industrial facilities.

The reader is referred to the previous sections of the report where these recommendations are discussed in more detail.

5 IMPACT OF THE DEVELOPMENT ON THE ENVIRONMENT

Source sound levels for typical rooftop mechanical units and assumed operational information (outlined below) were used as input to a predictive computer model (*Cadna-A version 2021 MR2 build: 183.5163*), in order to estimate the sound levels from the proposed residential building at the existing neighbouring residences. The computer model is based on the methods from ISO Standard 9613-2.2, "Acoustic – Attenuation of Sound During Propagation Outdoors", which accounts for reduction in sound level with distance due to geometrical spreading, air absorption, ground attenuation and acoustical shielding by intervening structures. Assumptions regarding the operating

duty cycles of the equipment (100% during the daytime and evening, and 50% during the night-time) were included based on our experience with other projects.

Commercial (stationary noise) sources of sound are assessed separately from traffic sources under MECP Guidelines. It is expected that any increase in local traffic associated with the development will not be substantial enough to affect noise levels significantly.

There are no residences immediately adjacent to the proposed development. There are some residences approximately 90 m to the west of the development, along Waterdown Road, approximately 150 m to the northeast of the development, along Clearview Road, and on the south side of Plains Road. Residences located on the south side of Plains Road are subjected to high background sound levels due to road traffic on Plains Road and sound associated with this development is not expected to have a significant noise impact on those residences but have been included. As a conservative analysis, the exclusion minimum criteria are applied for the residential building to the south. It is likely that the criteria are higher due to traffic noise on Plains Road and Waterdown Road. Per the requirements of the City of Burlington, an additional receptor location was included for the office building to the north of the site.

At the time of this study, the mechanical design of the proposed building was in its initial stages, and the mechanical systems have not yet been developed. The proposed building is assumed to include one cooling tower located in a cooling tower well on the rooftop. Mechanical equipment located inside the mechanical penthouse are not expected to be significant noise sources. The source levels associated with the equipment are listed in Table VII below in terms of sound power level and shown in Appendix E.

Table VII: Source Sound Power Levels [dB re 10-12 W]

Source	Octave Band Centre Frequency [Hz]							
	63	125	250	500	1k	2k	4k	8k
Cooling Tower	106	102	100	95	94	91	90	89
Parking Garage Exhaust	78	80	76	74	72	69	66	60

The maximum predicted sound levels at the top storey plane of windows of existing residential homes to the west and south and closest office building are provided in the table below.

Table VIII –Predicted Steady Source Sound Levels at the Proposed Building Façades and Outdoor Points of Reception during a Typical Operation Scenario hour [dBA]

Receiver	Daytime 07:00 – 23:00 OLA	Daytime 07:00 – 23:00 At Facade	Nighttime 23:00 – 07:00 At Facade	Criteria Day/ /Night
R1 (1-Storey residence to the west)	38	37	<35	50 / 45
R2 (6-Storey residential building to south)	--	42	39	50 / 45
R3 (2-storey office to the north)	--	48	--	-*

Note: -- Not applicable *Commercial spaces are not considered noise sensitive in NPC-300, thus no limits are applicable

Daytime and nighttime results are also shown graphically in Figures 4 and 5. These predicted sound levels are less than the MECP minimum exclusionary limit during the daytime, evening and nighttime hours, based on a typical worst-case operating scenario.

The sound level limits for noise produced by emergency equipment (generator) operating in non-emergency situations, such as testing or maintenance of such equipment, are 5 dB greater than the sound level limits otherwise applicable to stationary sources. The testing of emergency generators is also accessed separately from other stationary noise sources. Based on the typical sound level of a generator (76 dBA at 7m), the predicted sound level due to the testing were found to be below the applicable limits at all receptors.

It is concluded that sounds from the rooftop mechanical equipment associated with the proposed residential building are anticipated to comply with the MECP guidelines at the neighbouring sensitive receptors and physical mitigation is not required.

The mechanical systems should be designed not to exceed the sound level assumptions mentioned above. A Professional Engineer qualified to perform acoustical engineering services should review the design of the mechanical building systems and the equipment selections when they have been determined, to ensure that the noise levels emitted by the development to the environment will meet the applicable MECP sound level limits.

6 IMPACT OF THE DEVELOPMENT ON ITSELF

Section 5.8.1.1 of the Ontario Building Code (OBC), released on January 1, 2020, specifies the minimum required sound insulation characteristics for demising partitions, in terms of Sound Transmission Class (STC) or Apparent Sound Transmission Class (ASTC) values. In order to maintain adequate acoustical privacy between separate suites in a multi-tenant building, inter-suite walls must meet or exceed STC-50 or ASTC-47. Suite separation from a refuse chute or elevator shaft must meet or exceed STC-55. In addition, it is recommended that the floor/ceiling constructions separating suites from any amenity or commercial spaces also meet or exceed STC-55. Tables 1 and 2 in Section SB-3 of the Supplementary Guideline to the OBC provide a comprehensive list of constructions that will meet the above requirements.

Information for the Builder/Developer

Tarion's Builder Bulletin B19R requires the internal design of condominium projects to integrate suitable acoustic features to insulate the suites from noise from each other and amenities in accordance with the OBC, and limit the potential intrusions of mechanical and electrical services of the buildings on its residents. If B19R certification is needed, an acoustical consultant is required to review the mechanical and electrical drawings and details of demising construction and mechanical/electrical equipment, when available, to help ensure that the noise impact of the development on itself is maintained within acceptable levels.

Preliminary calculations based on the methods outlined in Section 5.0 was also conducted to investigate the sound levels at the rooftop amenity spaces due to the building's rooftop ventilation equipment. The predicted sound levels at the rooftop amenity spaces were found to be 50 dBA or less, meeting the MECP applicable daytime limits.

7 SUMMARY OF RECOMMENDATIONS

In summary, HGC Engineering has reviewed the site plan and performed calculations to determine the impact of future traffic noise on the development and the potential noise impact of the proposed development at existing residences with respect to MECP guidelines. The following recommendations are provided in regard to noise mitigation for road traffic noise for the proposed residential building and summarized in Table IX.

1. Central air conditioning will be provided to all residential units which satisfy MECP ventilation requirements.

2. Upgraded glazing constructions will be required for all dwellings units.

3. Warning clauses should be included in the property and tenancy agreements and offers of purchase and sale to inform the future residents of the residential building of the noise issues and the presence of the roadways and nearby commercial and industrial facilities.

4. Tarion Builders Bulletin B19R requires that the internal design of condominium projects integrates suitable acoustic features to insulate the suites from noise from each other and amenities in accordance with the OBC, and limit the potential intrusions of mechanical and electrical services of the buildings on its residents. If B19R certification is to be sought, an acoustical consultant is required to review the mechanical and electrical drawings and details of demising constructions and mechanical/electrical equipment, when available, to help ensure that the noise impact of the development on itself are maintained within acceptable levels.

The reader is referred to the previous sections of the report where these recommendations are discussed in more detail.

Table IX: Summary of Noise Control Requirements and Noise Warning Clauses

Prediction Locations	Acoustic Barrier	Ventilation Requirements*	Type of Warning Clause	Glazing
All Units	--	Central A/C	A, B, C, D	STC-30

* The location, installation and sound rating of the air conditioning condensers must be compliant with MECP Guideline NPC-300, as applicable.

8 RECOMMENDATIONS FOR IMPLEMENTATION

To ensure that noise control recommendations outlined above are fully implemented, it is recommended:

1) Prior to the issuance of building permits for this development, a Professional Engineer qualified to perform acoustical engineer services in the Province of Ontario should review the exterior wall constructions, architectural plans and building elevations to ensure the building façade including wall and glazing constructions will provide sufficient sound insulation for the indoor spaces and that the outdoor mechanical equipment sound levels are in accordance with the assumptions outlined in the approved noise study or provide additional recommendations, as required.

2) After construction, a Professional Engineer qualified to perform acoustical engineering services in the Province of Ontario should certify that the noise control measures where required have been implemented and constructed in accordance with the detailed noise studies.

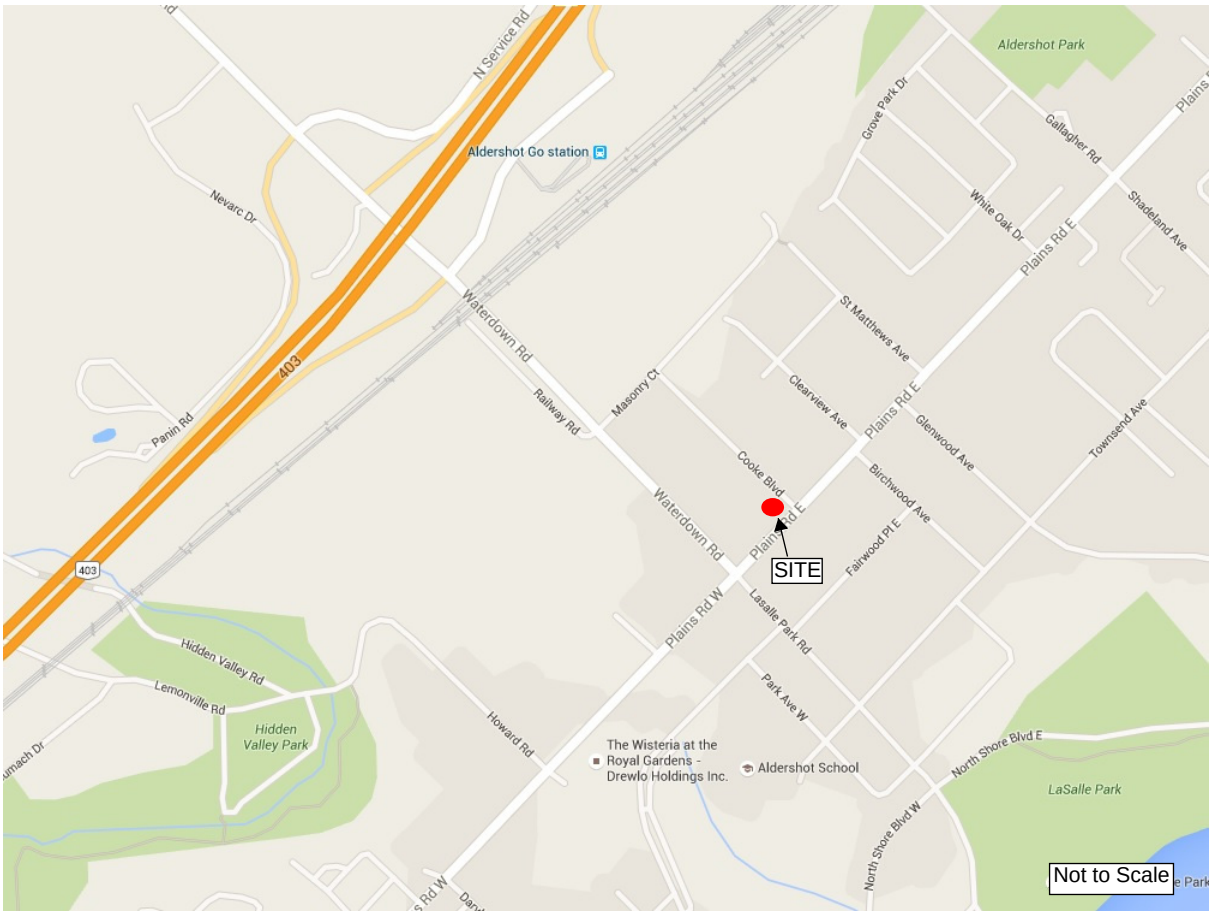
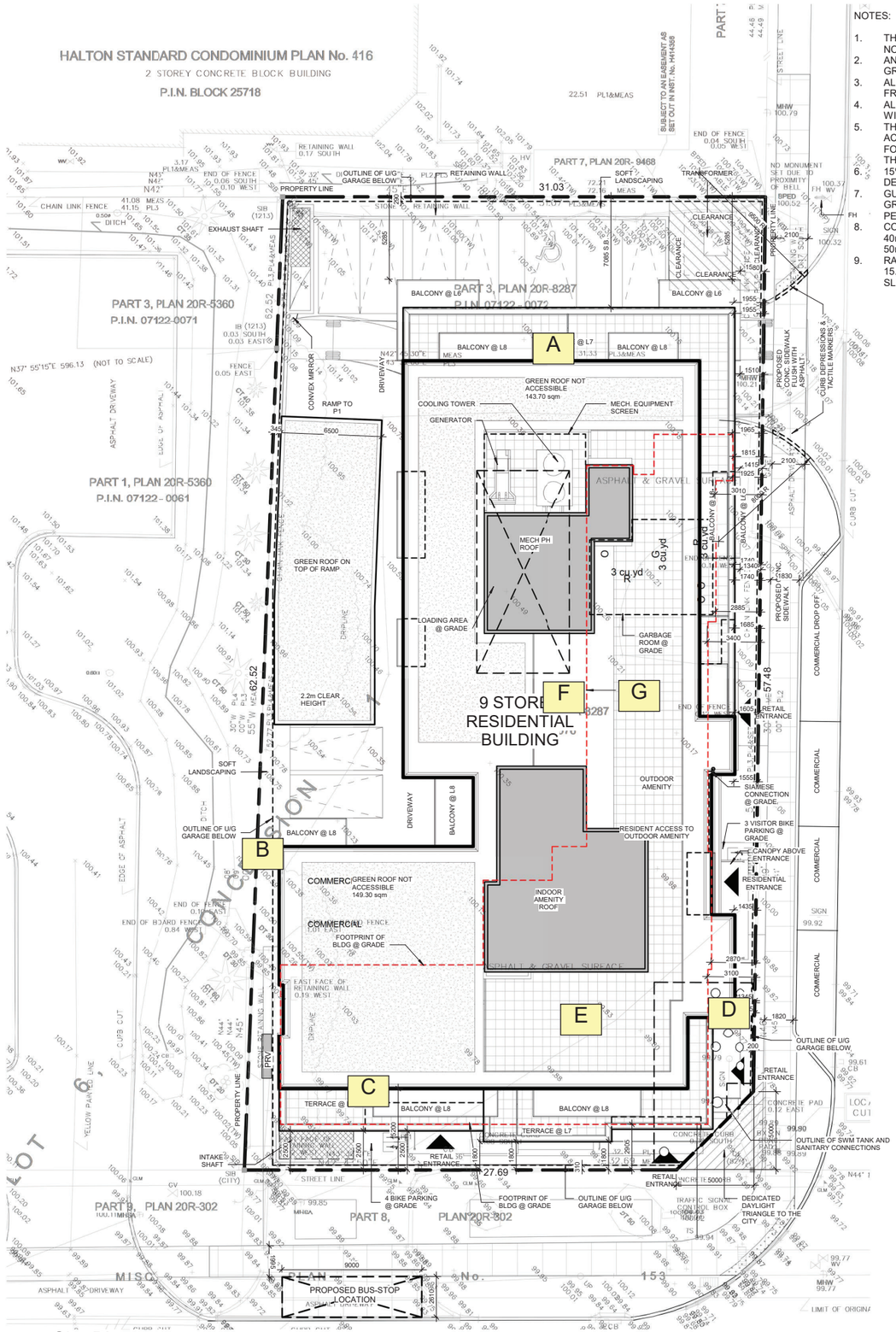


Figure 1 - Key Plan



1 Site Plan
1 : 150

NOTES:

1. THIS SITE PLAN HAS BEEN PREPARED IN ACCORDANCE TO THE ZONING BY-LAW NO. 2020.384 OF THE CITY OF BURLINGTON
2. ANY GRADE ELEVATIONS ARE SHOWN FOR REFERENCE ONLY. REFER TO GRADING AND SITE SERVICING PLAN FOR GRADING AND U/G SERVICES.
3. ALL SITE AREA LIGHTING TO BE DIRECTED DOWNWARD AND DEFLECTED AWAY FROM ADJACENT LOTS, ROADS AND STREETS.
4. ALL CURBING AND DRIVEWAY ENTRANCES TO BE DESIGNED IN ACCORDANCE WITH THE CITY'S MATERIALS STANDARDS AND SPECIFICATIONS MANUAL
5. THE BUILDING AND THE SITE HAS BEEN DESIGNED TO BE BARRIER FREE IN ACCORDANCE WITH THE REQUIREMENTS OF BILL 118 AND 126, ACCESSIBILITY FOR ONTARIANS WITH DISABILITY ACT, 2005 AND IN THE GENERAL CONTENTS OF THE ONTARIO BUILDING CODE
6. 15% OF ALL RESIDENTIAL SUITES SHALL BE PROVIDED WITH BARRIER-FREE DESIGN REQUIREMENTS IN ACCORDANCE WITH OBC 3.7.2.1.(1)
7. GUARD RAILS IN ACCORDANCE TO OBC 2006 SHALL BE PROVIDED WHEREVER GRADE DIFFERENCE EXCEEDS 600mm. DETAILS TO BE SUBMITTED AT BUILDING PERMIT STAGE
8. CONSTRUCTION OF ASPHALT PAVING ALONG SERVICE ROUTE:
   40mm COMPACTED HL-3 ASPHALT
   50mm COMPACTED HL-8 ASPHALT
9. RAMP TO THE U/G GARAGE SHALL BE DESIGNED WITH A SLOPE NOT EXCEEDING 15.0% AND WITH TRANSITION AREAS AT THE TOP AND BOTTOM HAVING MAXIMUM SLOPES OF 7.5% FOR A MINIMUM DISTANCE OF 6.0m.



2 CONTEXT PLAN

PROJECT STATISTICS
35 PLANS ROAD EAST RESIDENTIAL DEVELOPMENT
September 27, 2021

PROJECT NO. 21024

1.0	**LOT AREA**	**sq.m.**	**sq. ft.**	**acres**		**hectares**
	Lot	1,992.6	21,441.5	0.49		0.20
	Land conveyed to the City as daylight triangle	12.5				
	Lot (minus Daylight Triangle)	1,979.1	21,306.9	0.49		0.20
1.1	**LOT FRONTAGE**	**metres**	**feet**			
	Lot Frontage (Measured 7.5m from Property Line on Plains Road East)	32.51	106.72			
1.2 & 4	**PROPOSED BUILDING HEIGHT**	**metres**	**feet**	**BUILDING SETBACKS**		
	Measured FROM Est. Grade from Plains Road East	32.91	108.2	Cooke Blvd. Plains Road	3.5 max. GF, 1.3m other storeys 3.5 max. GF, 1.8m other storeys	
1.3	**MAXIMUM SITE DENSITY**	**Units per Hectare**				
		363.9				

2.0 GBFA
Includes all the areas above and below grade with the exception of parking areas above and below grade.

2.1	**RESIDENTIAL CONDOMINIUM GBFA PROPOSED**		**sq.m.**	**sq. ft.**
	P2 - LEVEL	1 x	193.8	2100
	P1 - LEVEL	1 x	255.7	2752
	L1	1 x	199.3	2145
	L2	1 x	960.6	10340
	L3	1 x	1,158.8	12473
	L4	1 x	1,158.8	12473
	L5	1 x	1,158.8	12473
	L6	1 x	1,137.0	12239
	L7	1 x	990.2	10659
	L8	1 x	990.2	10659
	L9	1 x	175.5	1889
	Total GFA		**8380.8**	**90210**
2.2	**NON-RESIDENTIAL GBFA**		**sq.m.**	**sq. ft.**
	Retail - L1	1 x	381.96	4111
	Total GBFA		**381.96**	**4111**
2.3	**GRAND TOTAL GBFA**		**8762.76**	**94322**

3.0	**FLOOR AREA RATIO** (Grand total GBFA divided by LOT AREA)				**FAR 4.40**		Total Allowable Area 8764.7	94343
4.0	**UNIT COUNT**	**1-BED**	**1-BED + D**	**2-BED**	**2-BED + D**	**3-BED**	**3-BED - D**	**TOTAL**
	L2	0	1	2	2	4	0	9 Units
	L3	0	2	3	4	3	0	12 Units
	L4	0	1	1	4	5	0	11 Units
	L5	0	1	1	4	5	0	11 Units
	L6	0	1	1	4	5	0	11 Units
	L7	0	0	2	2	4	1	9 Units
	L8	0	0	2	2	4	1	9 Units
	Total Units	**6**	**12**	**22**	**30**	**2**		**72 Units**
	Ratio	8%	17%	31%	42%	3%	100%	

5.0 AMENITY AREA

5.1 AMENITY AREA REQUIRED

Bylaw Number 2020.384	**sq.m.**	**sq. ft.**
Total	1240.0	13,347.2

5.2 AMENITY AREA PROVIDED

	Level	Outdoor - sq.m.	Indoor - sq.m.	sq.m.	sq. ft.
Level 1	x		0.0	0.0	0.0
Level 2 (Balconies)	x	106.3	0.0	106.3	1,163.3
Level 3 (Balconies)	x	131.4	0.0	131.4	1,414.5
Level 4 (Balconies)	x	131.4	0.0	131.4	1,414.5
Level 5 (Balconies)	x	131.4	0.0	131.4	1,414.5
Level 6 (Balconies)	x	153.6	0.0	153.6	1,653.4
Level 7 (Balconies)	x	244.1	0.0	244.1	2,627.8
Level 8 (Balconies)	x	112.7	0.0	112.7	1,213.5
Level 9 (Indoor and Outdoor Amenity)	x	587.3	80.4	667.7	7,186.8
Total Amenity Area Provided		1,600.3	80.4	1,680.7	18,090.4

6.0 PARKING

6.1 PARKING REQUIRED

Bylaw Number 2020.384	Total
Residential	86 spaces *
Visitor and Non-Residential Shared Parking Spaces	6 spaces **
Total Parking Required	**92 spaces**

* including 4 accessible spaces ** including 2accessible spaces

6.2 TOTAL PARKING PROVIDED

Residential	Resident	Accessible	Visitor	Total
P2 Level	42	2	0	44 spaces
P1 Level	35	2	0	37 spaces
At Grade	6	0	0	6 spaces
Total Residential Parking				87 spaces
Parking Ratio for Residential Scope	1.21 Parking Ratio			

Visitor and Non-Residential Parking Spaces	Commercial/Visitor	Accessible	Car Share	Total
At Grade	4	2	2	9 spaces
On Street	0	0	0	0 spaces
Total Commercial Parking				9 spaces
6.3 GRAND TOTAL PARKING PROVIDED				**96 Parking Spaces**

6.4 BIKE PARKING	Visitor	Resident	Resident
At Grade	7	0	7 spaces
P1 Level	0	34	34 spaces
	0	34	34 spaces
G PROVIDED			**75 spaces**

35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepencies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH

STAMP

CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

PROJECT NO:	21024
SCALE:	As indicated
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

SITEPLAN, CONTEXT PLAN & STATS

DRAWING NO

A001

PLAINS ROAD EAST

Figure 2: Site Plan Showing Traffic Noise Prediction Locations

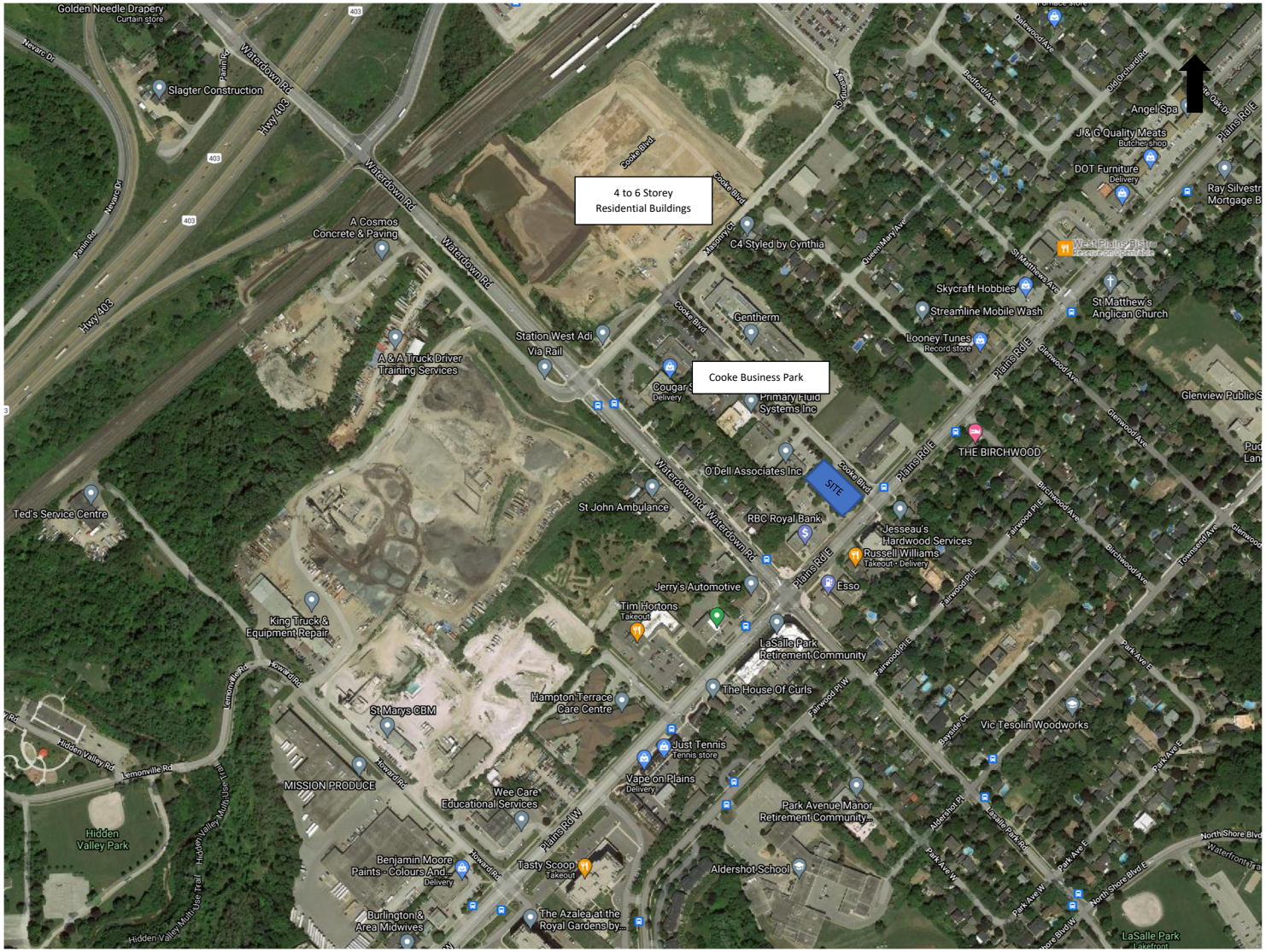
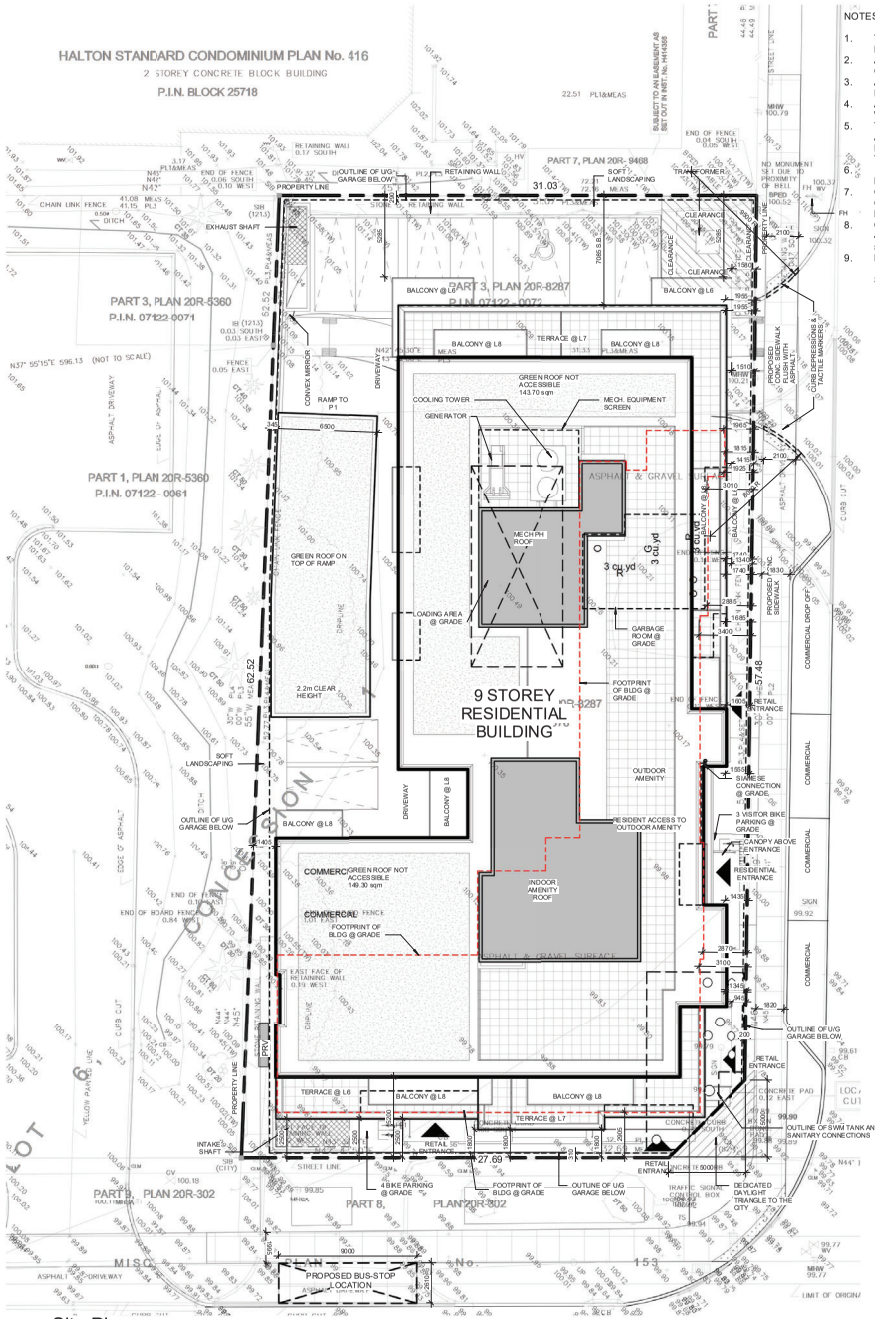


Figure 3: Aerial Photo

APPENDIX A
ARCHITECTURAL PLANS



1 Site Plan
1 : 150

NOTES:

1. THIS SITE PLAN HAS BEEN PREPARED IN ACCORDANCE TO THE ZONING BY-LAW NO. 2020.384 OF THE CITY OF BURLINGTON
2. ANY GRADE ELEVATIONS ARE SHOWN FOR REFERENCE ONLY. REFER TO GRADING AND SITE SERVICING PLAN FOR GRADING AND U/G SERVICES.
3. ALL SITE AREA LIGHTING TO BE DIRECTED DOWNWARD AND DEFLECTED AWAY FROM ADJACENT LOTS, ROADS AND STREETS.
4. ALL CURBING AND DRIVEWAY ENTRANCES TO BE DESIGNED IN ACCORDANCE WITH THE CITY'S MATERIALS STANDARDS AND SPECIFICATIONS MANUAL
5. THE BUILDING AND THE SITE HAS BEEN DESIGNED TO BE BARRIER FREE IN ACCORDANCE WITH THE REQUIREMENTS OF BILL 118 AND 126, ACCESSIBILITY FOR ONTARIANS WITH DISABILITY ACT, 2005 AND IN THE GENERAL CONTENTS OF THE ONTARIO BUILDING CODE
6. 15% OF ALL RESIDENTIAL SUITES SHALL BE PROVIDED WITH BARRIER-FREE DESIGN REQUIREMENTS IN ACCORDANCE WITH OBC 3.7.2.1.(1)
7. GUARD RAILS IN ACCORDANCE TO OBC 2006 SHALL BE PROVIDED WHEREVER GRADE DIFFERENCE EXCEEDS 600mm. DETAILS TO BE SUBMITTED AT BUILDING PERMIT STAGE
8. CONSTRUCTION OF ASPHALT PAVING ALONG SERVICE ROUTE:
   40mm COMPACTED HL-3 ASPHALT
   50mm COMPACTED HL-8 ASPHALT
   RAMP TO THE U/G GARAGE SHALL BE DESIGNED WITH A SLOPE NOT EXCEEDING 15.0% AND WITH TRANSITION AREAS AT THE TOP AND BOTTOM HAVING MAXIMUM SLOPES OF 7.5% FOR A MINIMUM DISTANCE OF 6.0m.



2 CONTEXT PLAN

PROJECT STATISTICS
35 PLANS ROAD EAST RESIDENTIAL DEVELOPMENT
September 27, 2021 — PROJECT NO: 21024

1.0	**LOT AREA**	sq.m.	sq. ft.		acres		hectares	
	Lot	1,992.1	21,441.5		0.49		0.20	
	Land conveyed to the City as daylight triangle	12.1						
	Lot (minus Daylight Triangle)	1,979.1	21,306.9		0.49		0.20	
1.1	**LOT FRONTAGE**	metres	feet					
	Lot Frontage (Measured 7.5m from Property Line on Plains Road East)	32.5	106.72					
1.2 & 4	**PROPOSED BUILDING HEIGHT**	metres	feet	**BUILDING SETBACKS**				
	Measured FROM Est. Grade from Plains Road East	32.9	108.2	Cooke Blvd.	3.5 max. GF, 1.3m other storeys			
				Plains Road	3.5 max. GF, 1.8m other storeys			
1.3	**MAXIMUM SITE DENSITY**	Units per Hectare						
		363.9						
2.0	**GBFA**							
	Includes all the areas above and below grade with the exception of parking areas above and below grade.							
2.1	**RESIDENTIAL CONDOMINIUM GBFA PROPOSED**						sq.m.	sq. ft.
	P2 - LEVEL				1 x		193.8	2086
	P1 - LEVEL				1 x		255.7	2752
	L1				1 x		199.3	2145
	L2				1 x		960.6	10340
	L3				1 x		1,158.8	12473
	L4				1 x		1,158.8	12473
	L5				1 x		1,158.8	12473
	L6				1 x		1,137.0	12239
	L7				1 x		990.2	10659
	L8				1 x		990.2	10659
	L9				1 x		175.5	1889
	Total GFA						8380.8	90210
2.2	**NON-RESIDENTIAL GBFA**						sq.m.	sq. ft.
	Retail - L1				1 x		381.96	4111
	Total GBFA						381.96	4111
2.3	**GRAND TOTAL GBFA**						8762.76	94322
3.0	**FLOOR AREA RATIO** (GFBA/ TOTAL LOT AREA divided by LOT AREA)				FAR 4.40		Total Allowable Area 8769.7	94363
4.0	**UNIT COUNT**	1-BED	1-BED + D	2-BED	2-BED + D	3-BED	3-BED + D	TOTAL
	L2	0	1	2	2	4	0	9 Units
	L3	0	2	3	4	3	0	12 Units
	L4	0	1	1	4	5	0	11 Units
	L5	0	1	1	4	5	0	11 Units
	L6	0	1	1	4	5	0	11 Units
	L7	0	0	2	2	4	1	9 Units
	L8	0	0	2	2	4	1	9 Units
	Total Units	**6**	**12**	**22**	**30**	**2**		**72 Units**
	Ratio	8%	17%	31%	42%	3%		100%
5.0	**AMENITY AREA**							
5.1	**AMENITY AREA REQUIRED**							
	Bylaw Number 2020.384						sq.m.	sq. ft.
	Total						1240.0	13,347.2
5.2	**AMENITY AREA PROVIDED**	Level		Outdoor - sq.m.		Indoor sq.m.	sq.m.	sq. ft.
	Level 1	x		0.0		0.0	0.0	0.0
	Level 2 (Balconies)	x		106.0		0.0	106.0	1,140.9
	Level 3 (Balconies)	x		131.4		0.0	131.4	1,414.5
	Level 4 (Balconies)	x		131.4		0.0	131.4	1,414.5
	Level 5 (Balconies)	x		131.4		0.0	131.4	1,414.5
	Level 6 (Balconies)	x		153.6		0.0	153.6	1,653.4
	Level 7 (Balconies)	x		244.1		0.0	244.1	2,627.8
	Level 8 (Balconies)	x		112.7		0.0	112.7	1,213.5
	Level 9 (Indoor and Outdoor Amenity)	x		587.3		80.4	667.7	7,186.8
	Total Amenity Area Provided			1,600.3		80.4	1,680.7	18,090.4
6.0	**PARKING**							
6.1	**PARKING REQUIRED**							
	Bylaw Number 2020.384						Total	
	Residential						86 spaces *	
	Visitor and Non-Residential Shared Parking Spaces						6 spaces **	
	Total Parking Required						**92 spaces**	
	* including 4 accessible spaces	** including 2accessible spaces						
6.2	**TOTAL PARKING PROVIDED**							
	Residential	Resident	Accessible	Visitor			Total	
	P2 Level	42	2	0			44 spaces	
	P1 Level	35	2	0			37 spaces	
	At Grade	6	0	0			6 spaces	
	Total Residential Parking						87 spaces	
	Parking Ratio for Residential Scope	1.21 Parking Ratio						
	Visitor and Non-Residential Parking Spaces	Commercial/Visitor	Accessible	Car Share			Total	
	At Grade	4	2	2			9 spaces	
	On Street	0	0	0			0 spaces	
	Total Commercial Parking						9 spaces	
6.3	**GRAND TOTAL PARKING PROVIDED**						**96 Parking Spaces**	
6.4	**BIKE PARKING**	Visitor	Resident				Resident	
	At Grade	7	0				7 spaces	
	P1 Level	0	34				34 spaces	
	P2 Level	0	34				34 spaces	
	TOTAL BIKE PARKING PROVIDED						**75 spaces**	

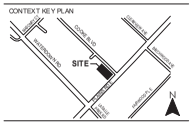
35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical, photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepancies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH



STAMP

CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

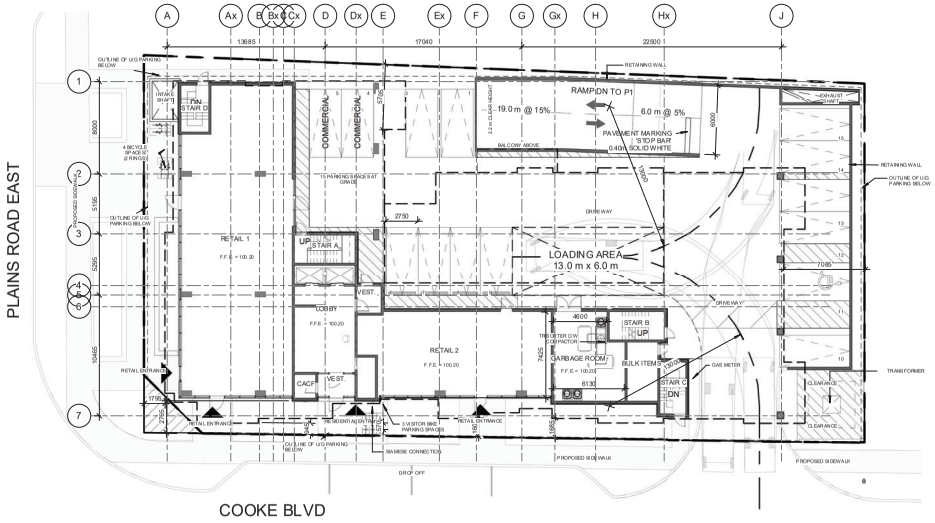
PROJECT NO:	21024
SCALE:	As indicated
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

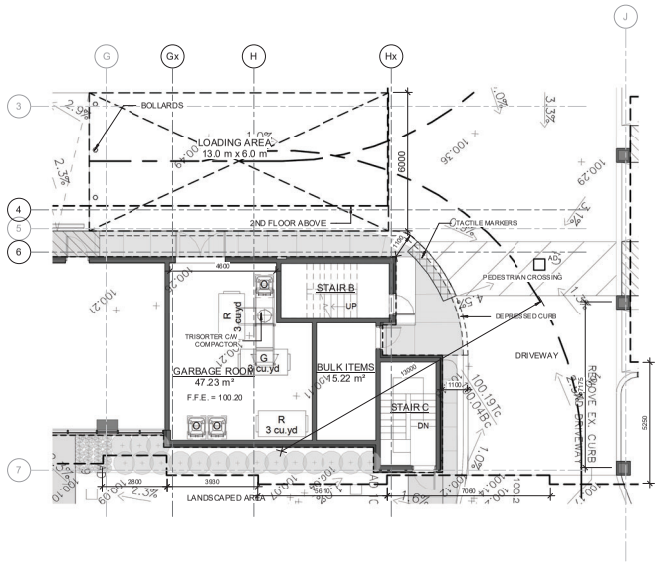
SITEPLAN, CONTEXT PLAN & STATS

DRAWING NO

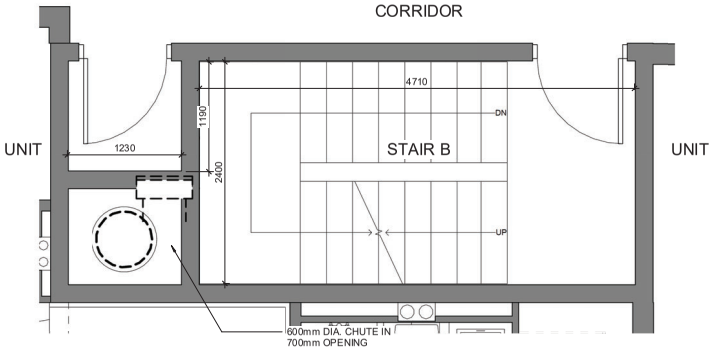
A001



2 WASTE MANAGEMENT PLAN
1 : 200



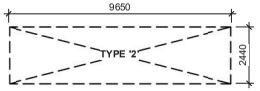
1 GARBAGE AREA LOADING PLAN
1 : 100



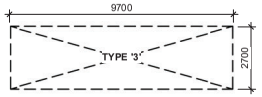
3 TYP. GARBAGE CHUTE PLAN
1 : 25

WASTE COLLECTION VEHICLE STANDARDS

TYPE '2' RECYCLING:
LENGTH: 9.65m
WIDTH: 2.44m
HEIGHT: 3.69m (BUCKET UP TO 5.08m)
TURNING RADIUS: 13.00m



TYPE '3' RECYCLING:
LENGTH: 9.70m
WIDTH: 2.70m
HEIGHT: 3.80m
TURNING RADIUS: 11.50m



WASTE COLLECTION REQUIREMENTS

RESIDENTIAL UNITS	TOTAL 72 UNITS ON 7 FLOORS
COMMERCIAL AREA	2 UNITS ON GROUND FLOOR

GARBAGE

Number of Units	15 - 80 (72 Total Units)
Total Cubic Yards Required	3 Cu.Yd Compacted
Number of Containers	1 Container
Number of Pickups Per Week	1 Container
Maximum Cubic Yards Per Week	3 Cu.Yd Compacted

Dimensions for Front End Garbage Receptacles

Container Size	Width	Height	Depth
3 Cu.Yd	2.03 m	1.22 m	1.12 m

RECYCLABLE MATERIAL

*For "Multi-Residential Apartment Buildings", one Semi-Automated Cart will be provided for every seven (7) residential units.**

Recycling Receptacles Required:	10	Semi-Automated Carts
Recycling Receptacles Provided:	2	3-Cu.Yd Front End Bins

*Per Section 1.8.1.2.2

ORGANIC WASTE

*For "Multi-Residential Apartment Buildings", one Semi-Automated Cart will be provided for every Twenty-Five (25) residential units.***

Organic Waste Receptacles Required:	3	Semi-Automated Carts
Organic Waste Receptacles Provided:	3	Semi-Automated Carts***

**Per Section 1.8.1.3.2

BULK WASTE

A temporary area within the property, with direct access, will be required.
Bulk Waste Storage Area Provided: 10 sq.m

***A space allotment of 0.80 metres wide by 1.0 metres deep for each Semi-Automated Cart shall be indicated

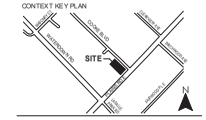
35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepancies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH



STAMP

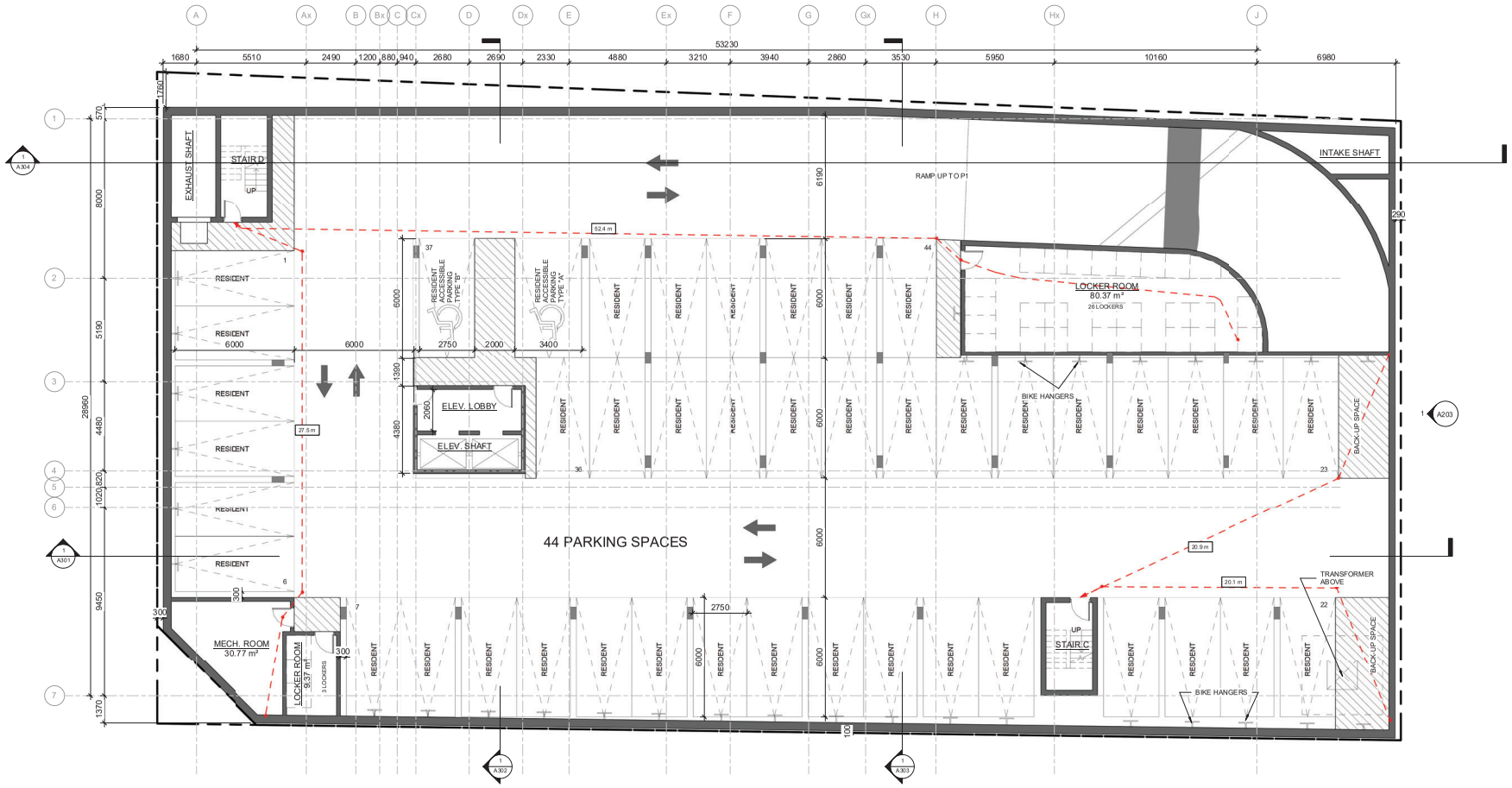
CLIENT
JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

PROJECT NO:	21024
SCALE:	As indicated
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE
WASTE MANAGEMENT PLAN

DRAWING NO
A004



1 Level P2
1 : 100

GROSS FLOOR AREA - LEVEL P2			
Area	Count	Name	Comments
14.17 m²	1	ELEV. LOBBY	GFA
11.81 m²	1	ELEV. SHAFT	GFA
15.40 m²	1	EXHAUST SHAFT	GFA
14.61 m²	1	INTAKE SHAFT	GFA
89.74 m²	2	LOCKER ROOM	GFA
30.77 m²	1	MECH. ROOM	GFA
14.41 m²	1	STAIR C	GFA
15.66 m²	1	STAIR D	GFA
206.56 m²			

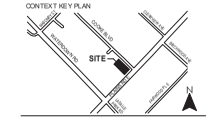
35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepencies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH

STAMP

CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

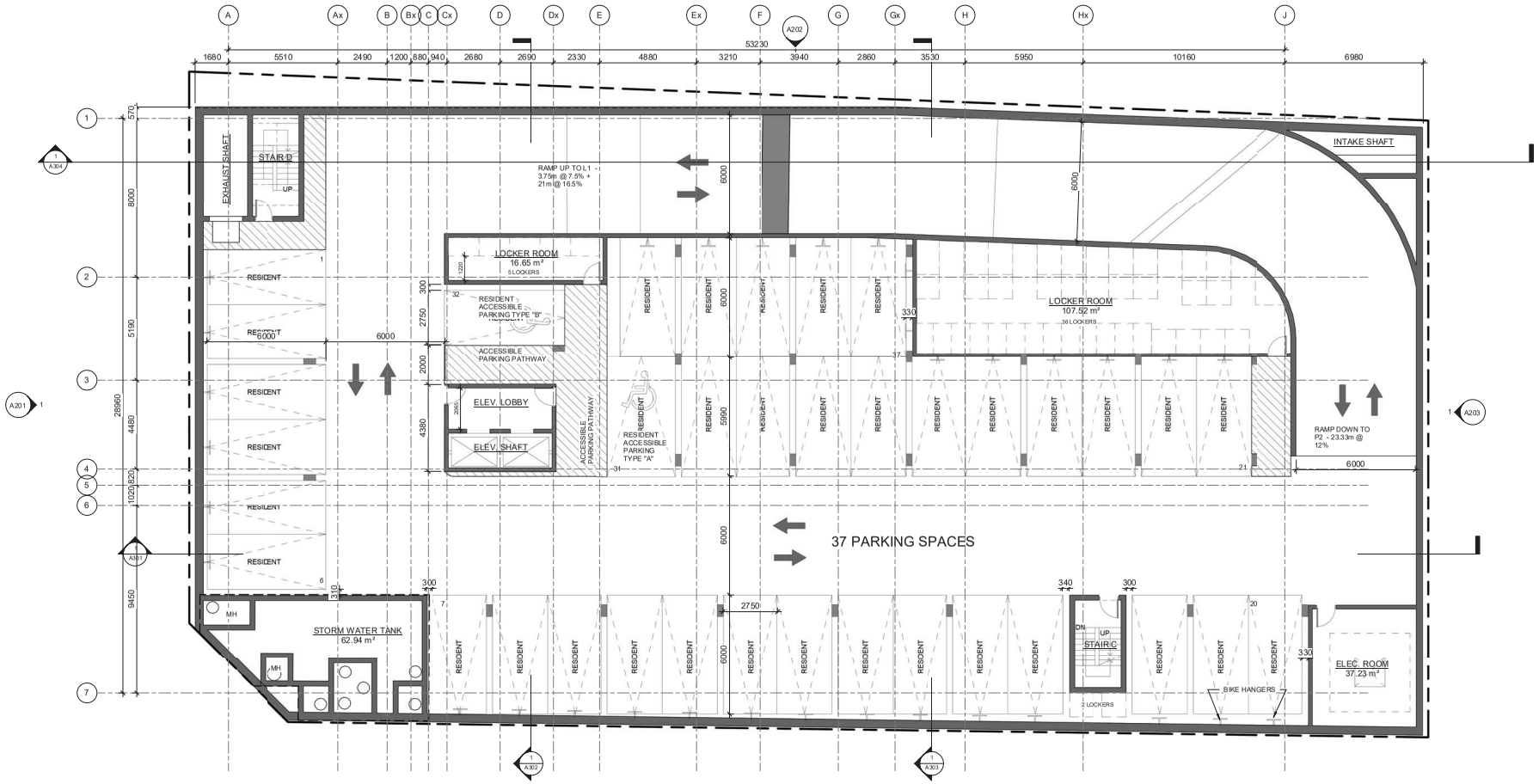
PROJECT NO:	21024
SCALE:	1 : 100
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

P2 FLOOR PLAN

DRAWING NO

A101



1 Level P1
1 : 100

GROSS FLOOR AREA - LEVEL P1			
Area	Count	Name	Comments
37.23 m²	1	ELEC. ROOM	GFA
15.01 m²	1	ELEV. LOBBY	GFA
11.80 m²	1	ELEV. SHAFT	GFA
124.16 m²	2	LOCKER ROOM	GFA
14.41 m²	1	STAIR C	GFA
15.61 m²	1	STAIR D	GFA
62.94 m²	1	STORM WATER TANK	GFA
281.16 m²			

35 PLAINS ROAD EAST

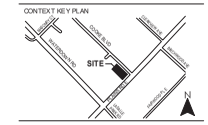
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepencies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH

STAMP

CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

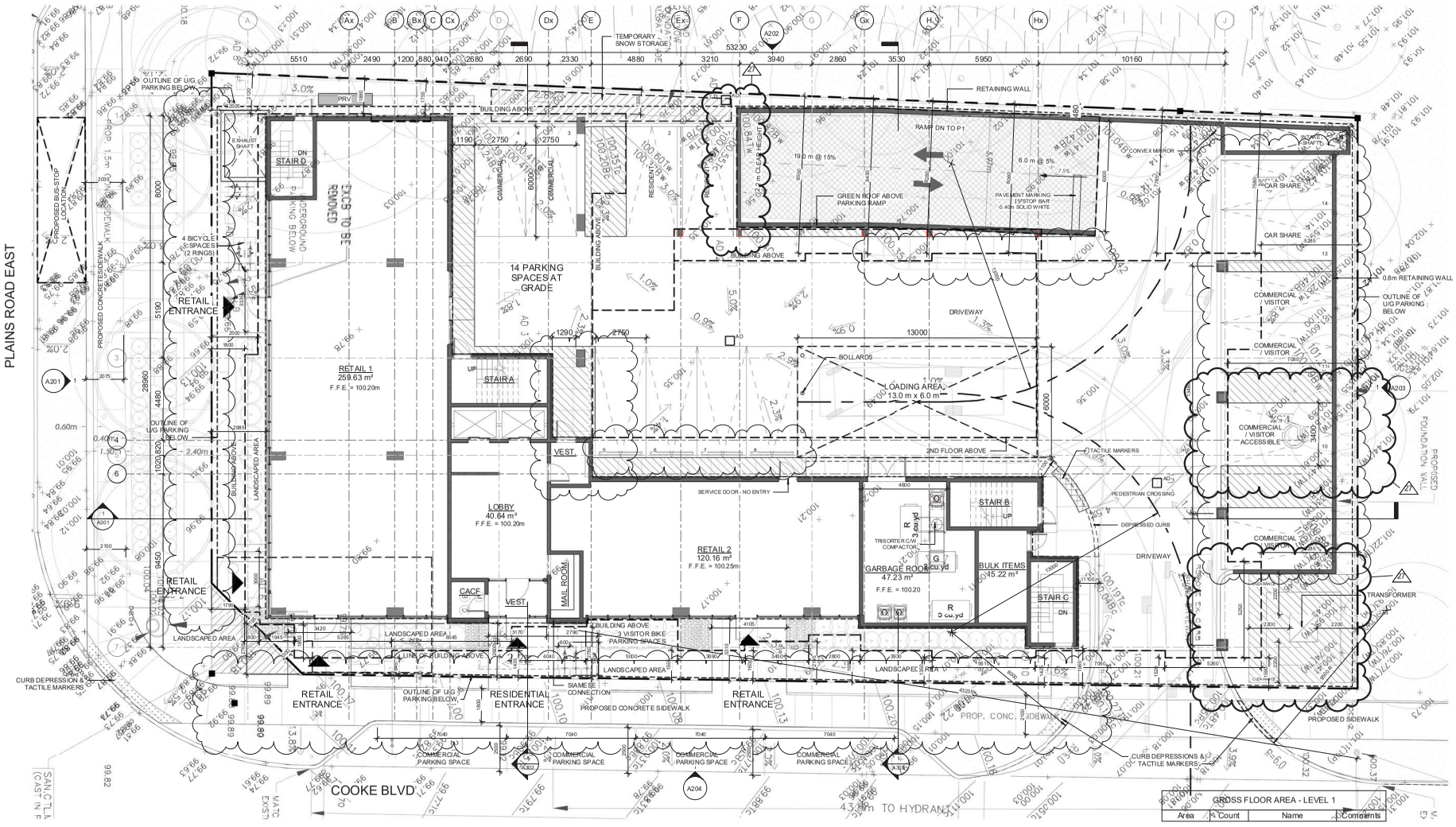
PROJECT NO:	21024
SCALE:	1 : 100
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

P1 FLOOR PLAN

DRAWING NO

A102



GROSS FLOOR AREA - LEVEL 1			
Area	Count	Name	Comments
15.22 m²	1	BULK ITEMS	GFA
4.78 m²	1	CACF	GFA
10.50 m²	1	ELEV. SHAFT	GFA
47.23 m²	1	GARBAGE ROOM	GFA
40.64 m²	1	LOBBY	GFA
6.76 m²	1	MAIL ROOM	GFA
259.63 m²	1	RETAIL 1	GFA
120.16 m²	1	RETAIL 2	GFA
14.74 m²	1	STAIR A	GFA
15.45 m²	1	STAIR B	GFA
14.10 m²	1	STAIR C	GFA
13.94 m²	1	STAIR D	GFA
13.87 m²	2	VEST.	GFA
577.02 m²			

35 PLAINS ROAD EAST

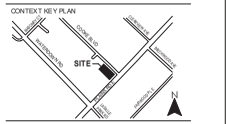
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepencies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09
26	Issued for Review	2022-04-07
27	Issued for Coordination	2022-07-11

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH

STAMP



CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

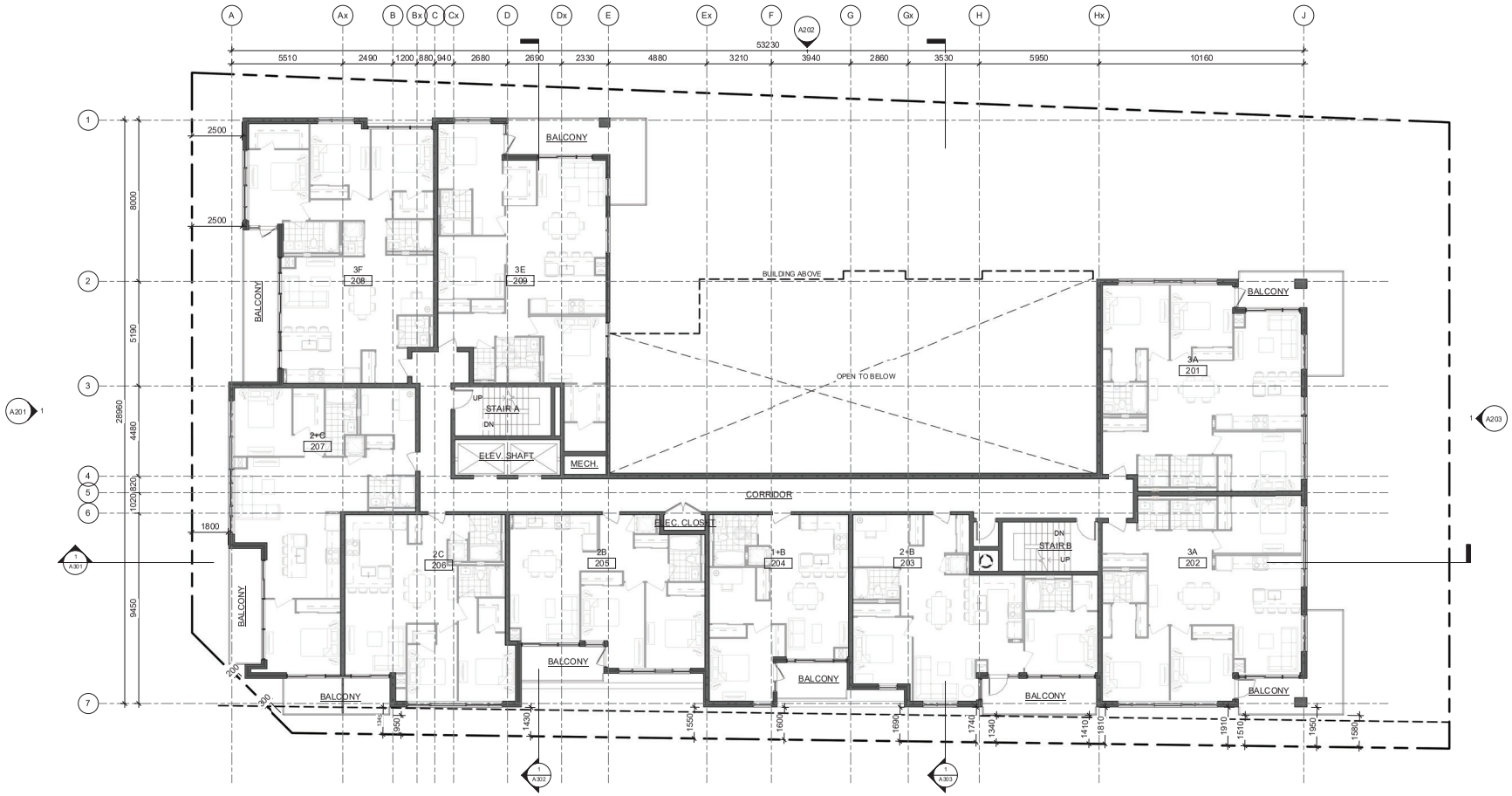
PROJECT NO:	21024
SCALE:	1 : 100
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

GROUND FLOOR PLAN

DRAWING NO

A103



1 Level 2
1 : 100

GROSS FLOOR AREA - LEVEL 2			
Area	Count	Name	Comments
60.98 m²	1	1B+D	GFA
147.86 m²	2	2B	GFA
186.38 m²	2	2B+D	GFA
429.42 m²	4	3B	GFA
3.72 m²	1	CHUTE	GFA
86.45 m²	1	CORRIDOR	GFA
2.19 m²	1	ELEC. CLOSET	GFA
10.39 m²	1	ELEV. SHAFT	GFA
2.75 m²	1	MECH.	GFA
13.95 m²	1	STAIR A	GFA
12.82 m²	1	STAIR B	GFA
106.82 m²	9	BALCONY	AMENITY
1063.72 m²			

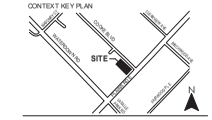
35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepancies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH

STAMP

CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

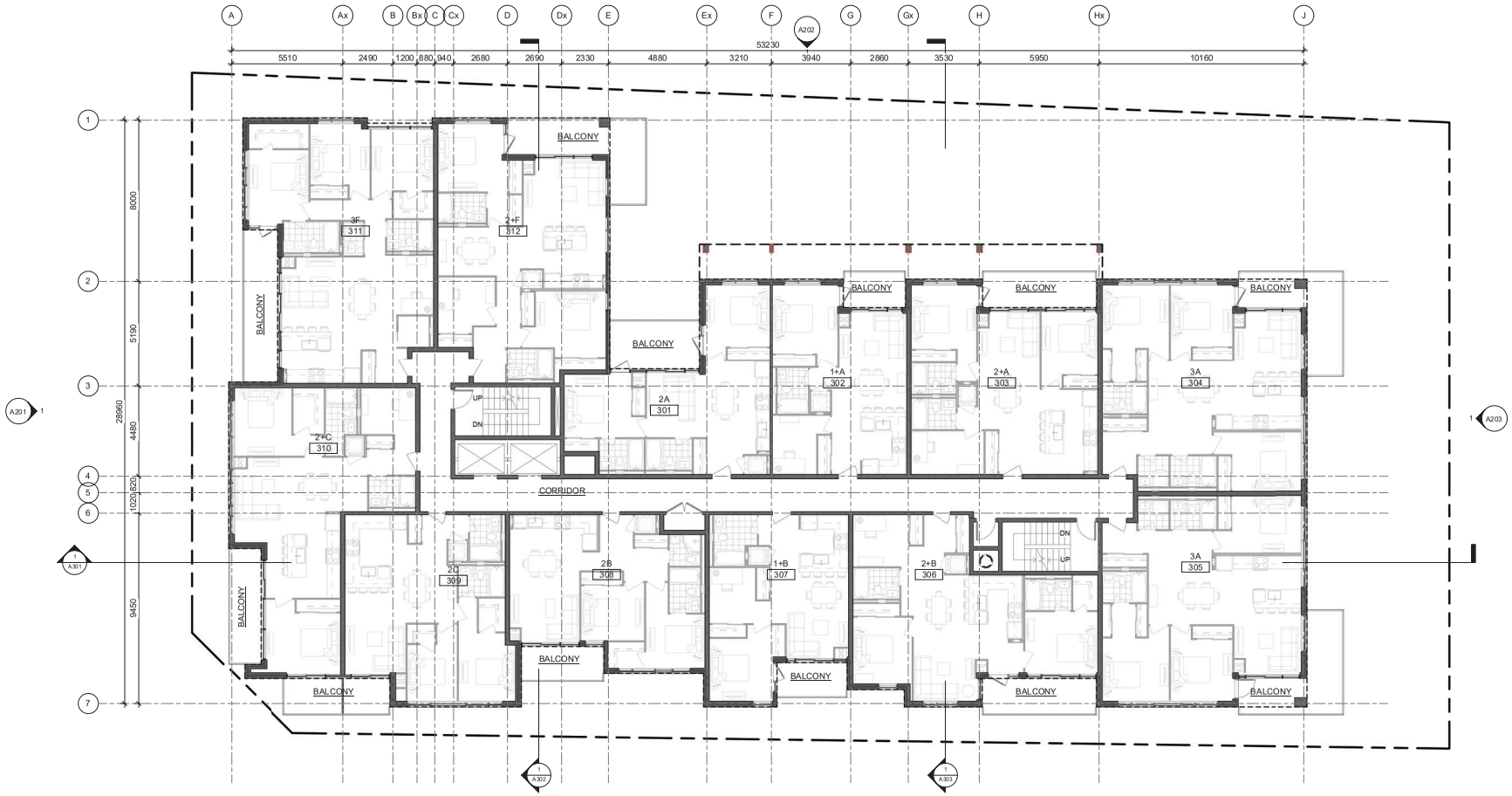
PROJECT NO:	21024
SCALE:	1 : 100
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

2ND FLOOR PLAN

DRAWING NO

A104



1 Level 3
1 : 100

GROSS FLOOR AREA - LEVEL 3			
Area	Count	Name	Comments
61.99 m²	1	1B+D	GFA
68.96 m²	1	2B	GFA
466.45 m²	5	2B+D	GFA
325.55 m²	3	3B	GFA
109.64 m²	1	3B+D	GFA
3.67 m²	1	CHUTE	GFA
82.24 m²	1	CORRIDOR	GFA
2.19 m²	1	ELEC. CLOSET	GFA
10.31 m²	1	ELEV. SHAFT	GFA
1.94 m²	1	MECH.	GFA
13.95 m²	1	STAIR A	GFA
11.58 m²	1	STAIR B	GFA
131.62 m²	12	BALCONY	AMENITY
1290.09 m²			

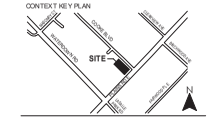
35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepancies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH



STAMP

CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

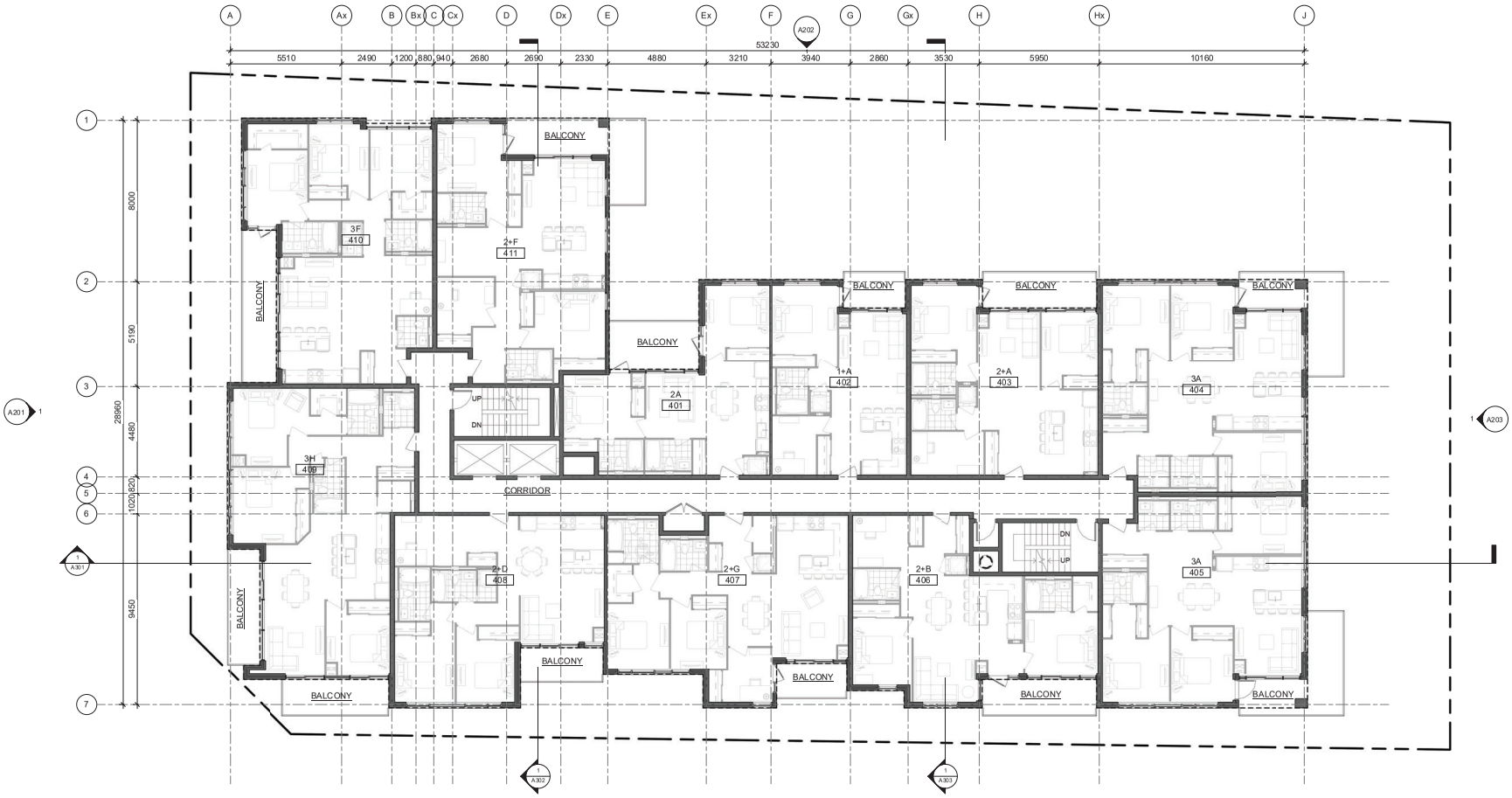
PROJECT NO:	21024
SCALE:	1 : 100
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

3RD FLOOR PLAN

DRAWING NO

A105



1 Level 4
1 : 100

GROSS FLOOR AREA - LEVEL 4			
Area	Count	Name	Comments
61.99 m²	1	1B+D	GFA
68.96 m²	1	2B	GFA
466.45 m²	5	2B+D	GFA
325.55 m²	3	3B	GFA
109.64 m²	1	3B+D	GFA
3.67 m²	1	CHUTE	GFA
82.24 m²	1	CORRIDOR	GFA
2.19 m²	1	ELEC. CLOSET	GFA
10.31 m²	1	ELEV. SHAFT	GFA
1.94 m²	1	MECH.	GFA
13.95 m²	1	STAIR A	GFA
11.58 m²	1	STAIR B	GFA
131.62 m²	12	BALCONY	AMENITY
1290.09 m²			

GROSS FLOOR AREA - LEVEL 5			
Area	Count	Name	Comments
61.99 m²	1	1B+D	GFA
68.96 m²	1	2B	GFA
367.29 m²	4	2B+D	GFA
534.15 m²	5	3B	GFA
3.67 m²	1	CHUTE	GFA
82.24 m²	1	CORRIDOR	GFA
2.19 m²	1	ELEC. CLOSET	GFA
10.31 m²	1	ELEV. SHAFT	GFA
1.94 m²	1	MECH.	GFA
13.95 m²	1	STAIR A	GFA
11.58 m²	1	STAIR B	GFA
131.64 m²	12	BALCONY	AMENITY
1289.91 m²			

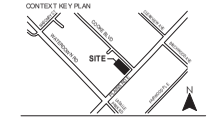
35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepancies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH

STAMP



CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

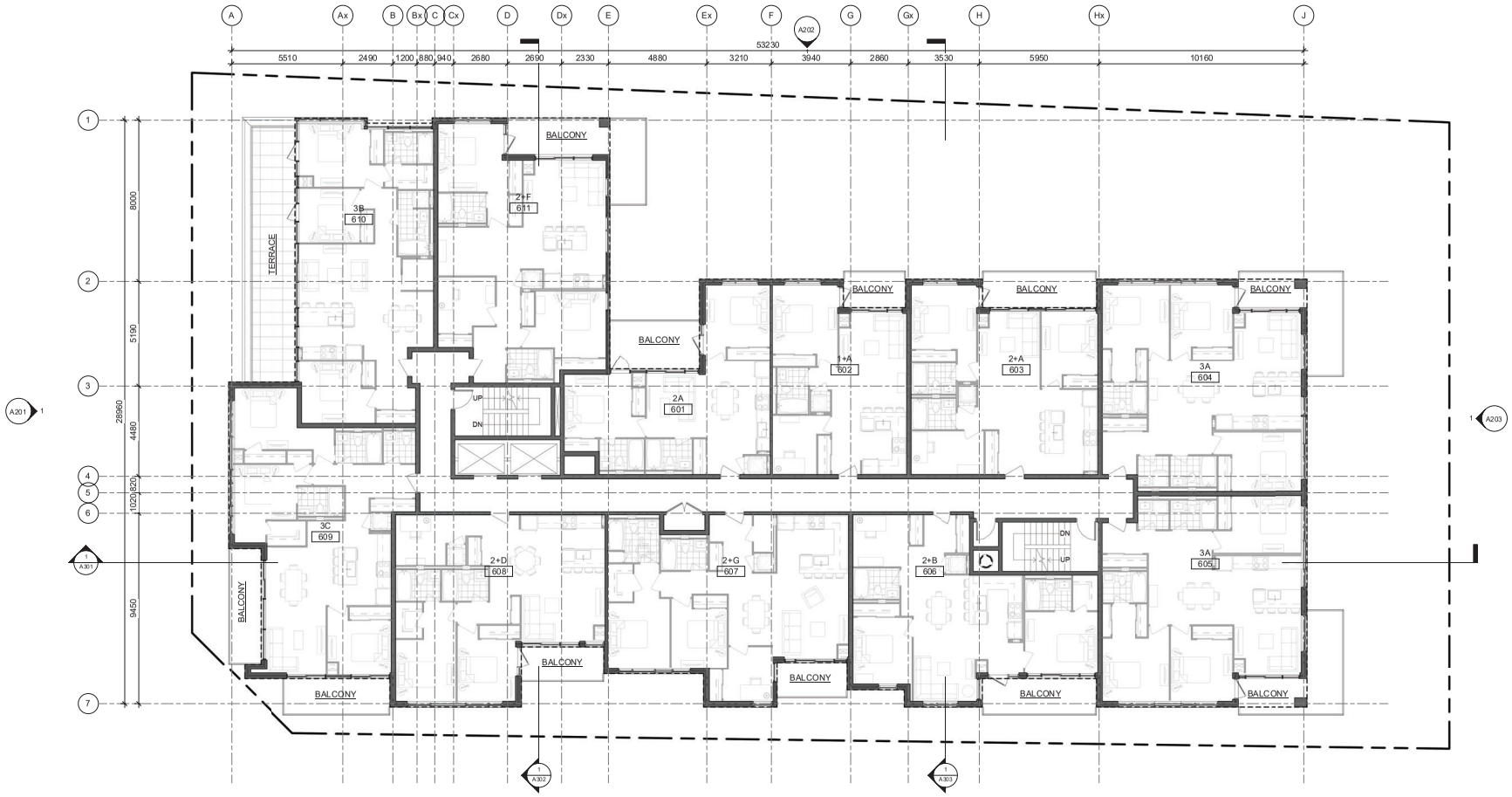
PROJECT NO:	21024
SCALE:	1 : 100
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

4TH & 5TH FLOOR PLAN

DRAWING NO

A106



1 Level 6
1 : 100

GROSS FLOOR AREA - LEVEL 6			
Area	Count	Name	Comments
61.99 m²	1	1B+D	GFA
68.96 m²	1	2B	GFA
367.40 m²	4	2B+D	GFA
512.43 m²	5	3B	GFA
3.67 m²	1	CHUTE	GFA
82.23 m²	1	CORRIDOR	GFA
2.19 m²	1	ELEC. CLOSET	GFA
10.31 m²	1	ELEV. SHAFT	GFA
1.94 m²	1	MECH.	GFA
13.95 m²	1	STAIR A	GFA
11.58 m²	1	STAIR B	GFA
118.15 m²	11	BALCONY	AMENITY
29.57 m²	1	TERRACE	AMENITY

1284.36 m²

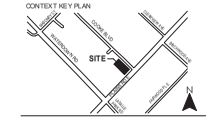
35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepencies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH

STAMP

CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

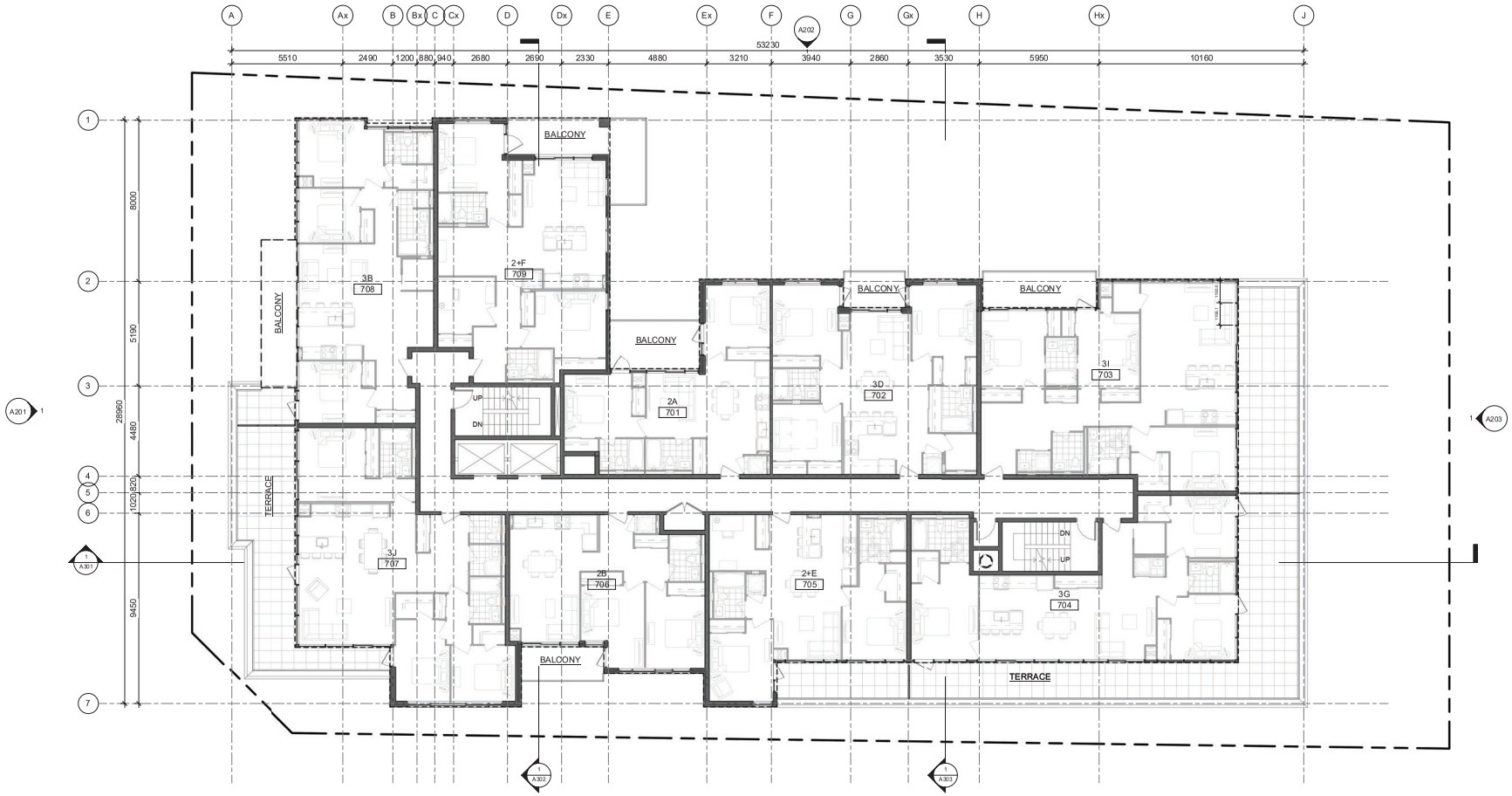
PROJECT NO:	21024
SCALE:	1 : 100
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

6TH FLOOR PLAN

DRAWING NO

A107



1 Level 7
1 : 100

GROSS FLOOR AREA - LEVEL 7			
Area	Count	Name	Comments
139.08 m²	2	2B	GFA
184.18 m²	2	2B+D	GFA
539.67 m²	5	3B	GFA
4.79 m²	1	CHUTE	GFA
82.49 m²	1	CORRIDOR	GFA
2.19 m²	1	ELEC. CLOSET	GFA
10.23 m²	1	ELEV. SHAFT	GFA
1.94 m²	1	MECH.	GFA
13.95 m²	1	STAIR A	GFA
11.53 m²	1	STAIR B	GFA
94.81 m²	7	BALCONY	AMENITY
103.66 m²	2	TERRACE	AMENITY
1188.52 m²			

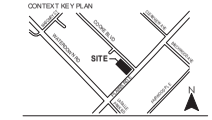
35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepancies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH

STAMP

CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

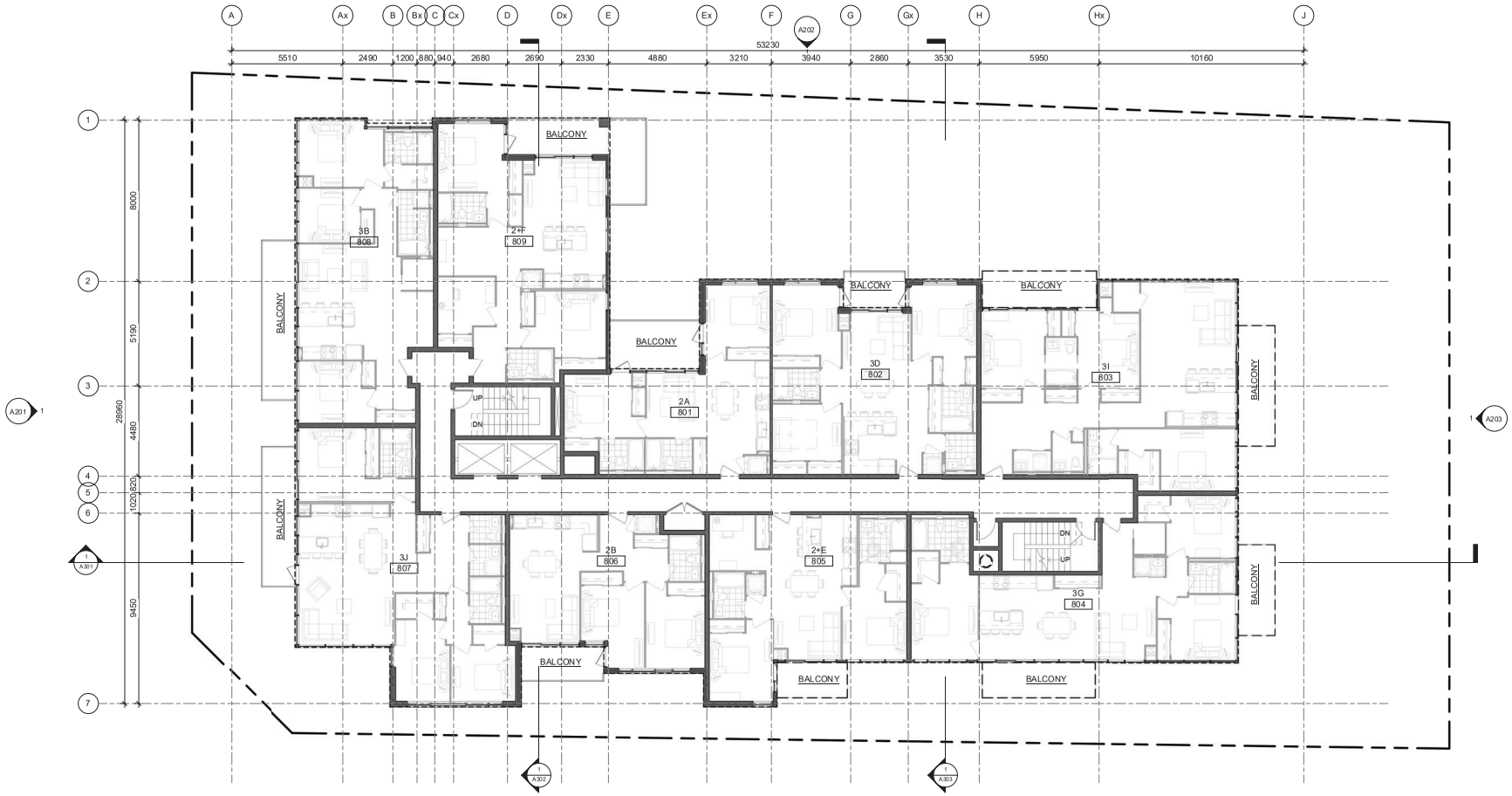
PROJECT NO:	21024
SCALE:	1 : 100
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

7TH FLOOR PLAN

DRAWING NO

A108



1 Level 8
1 : 100

GROSS FLOOR AREA - LEVEL 8			
Area	Count	Name	Comments
139.08 m²	2	2B	GFA
184.19 m²	2	2B+D	GFA
540.58 m²	5	3B	GFA
3.69 m²	1	CHUTE	GFA
82.20 m²	1	CORRIDOR	GFA
2.19 m²	1	ELEC. CLOSET	GFA
10.23 m²	1	ELEV. SHAFT	GFA
1.94 m²	1	MECH.	GFA
13.95 m²	1	STAIR A	GFA
11.65 m²	1	STAIR B	GFA
112.84 m²	11	BALCONY	AMENITY
1102.54 m²			

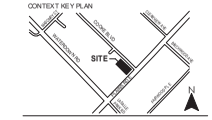
35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepancies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH



STAMP

CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

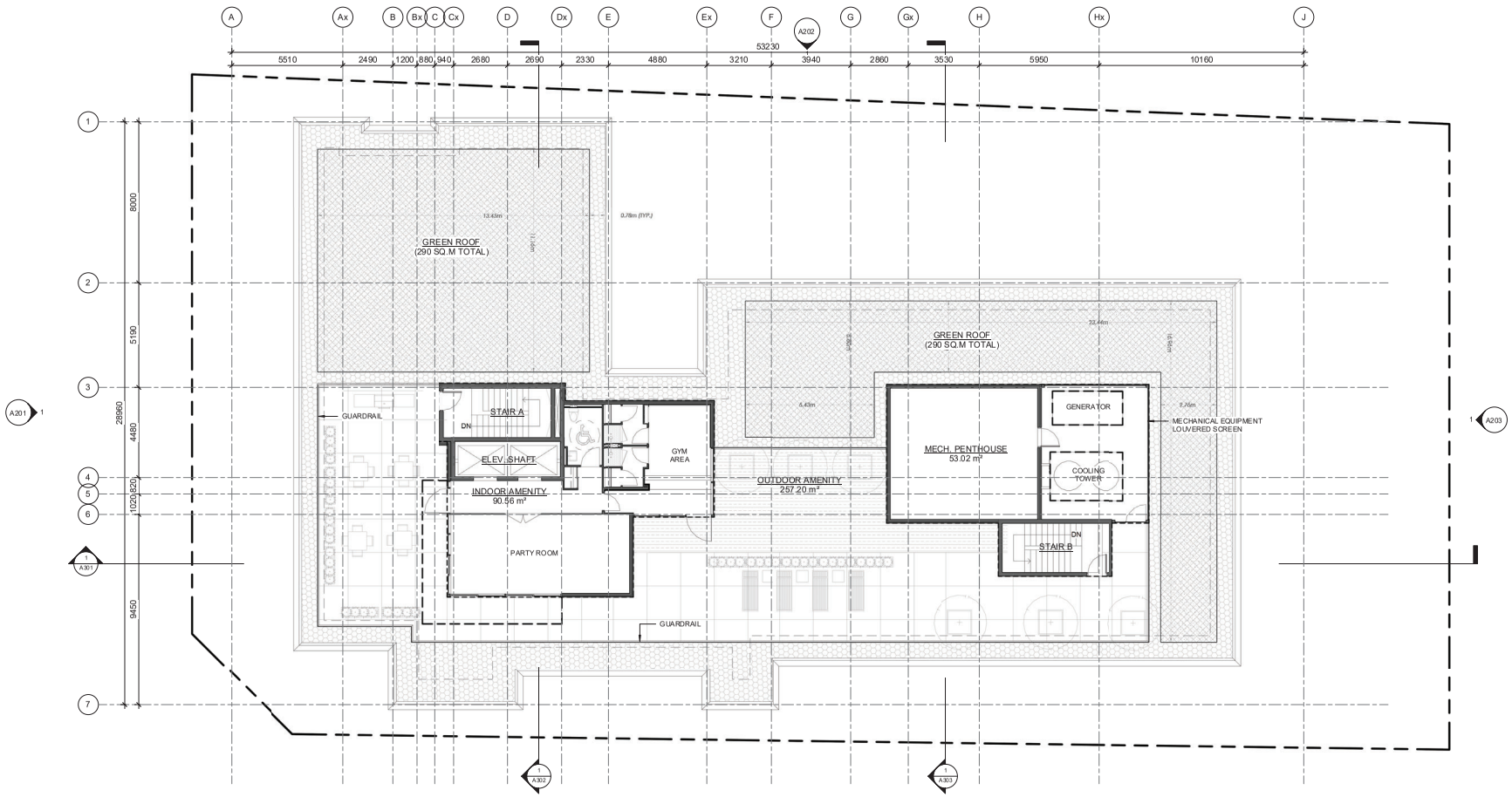
PROJECT NO:	21024
SCALE:	1 : 100
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

8TH FLOOR PLAN

DRAWING NO

A109



1 Level 9
1 : 100

GROSS FLOOR AREA - LEVEL 9			
Area	Count	Name	Comments
12.20 m²	1	ELEV. SHAFT	GFA
53.02 m²	1	MECH. PENTHOUSE	GFA
14.86 m²	1	STAIR A	GFA
12.19 m²	1	STAIR B	GFA
90.56 m²	1	INDOOR AMENITY	AMENITY
257.20 m²	1	OUTDOOR AMENITY	AMENITY
440.03 m²			

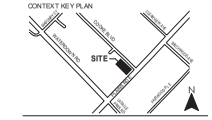
35 PLAINS ROAD EAST
BURLINGTON, ONTARIO

© Copyright KFA Architects and Planners Inc., all rights reserved. No part of this document whether printed form or supplied as digital data may be reproduced, stored in a retrieval system or transmitted in any form or by any means, mechanical photocopying, recording or otherwise without the prior written permission of KFA Architects and Planners Inc.
All dimensions to be checked on site by the contractor. Drawings are not to be scaled, any discrepancies are to be reported to the Architect before proceeding with the work.

No.	Description	Date
12	Issued for Coordination	2021-08-16
13	Issued for Coordination	2021-08-17
15	Issued for Coordination	2021-08-20
21	Issued for Coordination	2021-09-29
22	Issued for Coordination	2021-10-07
25	Issued for SPA	2021-11-09

DRAFT

CONTEXT KEY PLAN



PROJECT NORTH

STAMP



CLIENT

JANIK GROUP
1020 Lawrence Ave West, Suite 302
Toronto, Ontario
M6A 1C8

KFA architects + planners inc.

PROJECT NO:	21024
SCALE:	1 : 100
DATE:	2021-06-03
DRAWN BY:	AC

DRAWING TITLE

9TH FLOOR PLAN

DRAWING NO

A110

APPENDIX B
ROAD & RAIL TRAFFIC VOLUME DATA

AADT Counts 2018

OBJECTID	102
TES ID	225460
Street Name	WATERDOWN RD.
AADT Year	2018
Source	Intersection average
Volume	16112
Shape__Length	346.3378620778081

AADT Counts 2018

OBJECTID	28
TES ID	228410
Street Name	PLAINS RD. E
AADT Year	2018
Source	Single intersection
Volume	20147
Shape__Length	157.61295417547112

Obtained from City of Burlington Opendata website

Plains Rd @ Waterdown Rd

Annual Average Daily Traffic Diagram

Total Factor = Monthly Factor(1.02) x Daily Factor(0.93) x 24 Hour Factor(1.85) = 1.754910

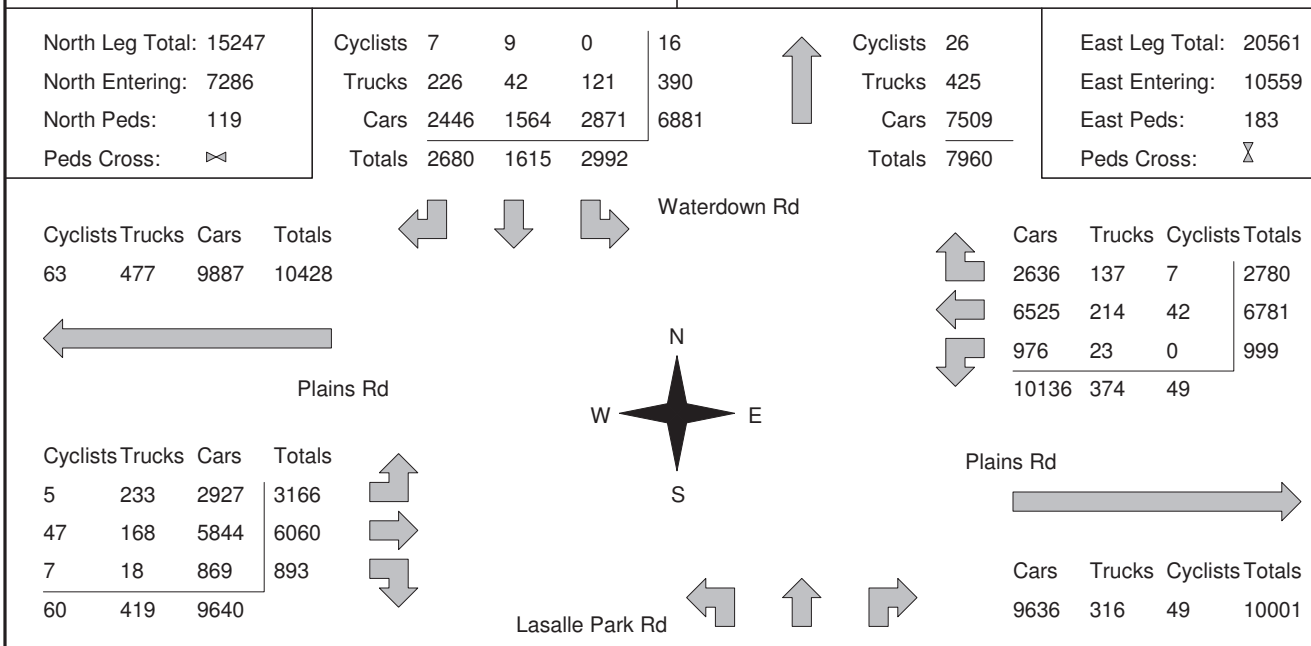
Municipality: Burlington
Site #: 0000201468
Intersection: Plains Rd & Waterdown Rd
TFR File #: 2
Count date: 30-Apr-2013

Weather conditions:
Overcast/Dry

Person(s) who counted:
Rick W

**** Signalized Intersection ****

Major Road: Plains Rd runs W/E



Comments

Highway	Location Description	Dist. (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT	AR
			1998	C	97,200	103,400	113,700	92,300	0.4
			1999	C	95,600	101,700	111,900	90,800	0.3
			2000	C	100,200	106,600	118,000	94,200	0.4
			2001	C	104,000	111,300	122,700	97,800	0.6
			2002	C	106,100	113,000	124,800	99,300	0.6
			2003	C	107,500	113,900	126,800	101,100	0.4
			2004	C	113,000	119,400	132,400	106,700	0.3
			2005	C	113,300	119,900	132,500	106,300	0.3
			2006	C	120,000	126,900	140,200	112,900	0.3
			2007	C	119,300	126,500	138,100	111,900	0.4
			2008	C	122,300	129,200	121,300	114,400	0.5
			2009	C	117,400	124,000	136,800	110,500	0.4
			2010	C	128,300	135,600	149,300	120,600	0.4
			2011	C	131,300	131,300	135,200	124,700	N/A
			2012	C	126,900	126,900	135,800	120,500	N/A
			2013	C	135,800	135,800	137,100	129,000	N/A
			2014	C	123,000	135,300	131,600	110,700	N/A
			2015	C	138,600	152,500	148,300	124,700	N/A
			2016	C	141,300	155,400	151,100	127,100	N/A
403	WATERDOWN RD IC-BURLINGTON	3.3	1988	C	68,500	71,800	77,300	64,300	0.3
			1989	C	68,700	72,100	77,600	65,200	0.5
			1990	C	69,400	74,200	80,500	65,900	0.5
			1991	C	72,300	76,600	83,100	70,100	0.4
			1992	C	75,100	79,600	86,400	72,100	0.5
			1993	C	78,000	82,700	88,100	71,800	0.4
			1994	C	86,800	92,000	97,200	79,900	0.4
			1995	C	89,700	95,100	99,600	82,500	0.4
			1996	C	92,700	98,600	108,500	88,100	0.4
			1997	C	94,700	99,400	110,800	89,000	0.5
			1998	C	98,600	104,900	115,400	93,700	0.4
			1999	C	107,500	114,400	125,800	102,100	0.4
			2000	C	115,500	129,900	130,400	104,100	0.4
			2001	C	117,900	133,200	133,200	106,100	0.3

Highway	Location Description	Dist. (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT	AR
			2002	C	121,600	136,200	137,200	109,400	0.5
			2003	C	126,300	141,500	142,700	113,700	0.5
			2004	C	131,000	146,300	147,300	118,200	0.4
			2005	C	124,000	138,100	139,200	111,400	0.6
			2006	C	125,400	139,300	140,400	112,800	0.6
			2007	C	128,200	142,500	144,400	115,200	0.6
			2008	C	131,000	144,600	142,600	117,500	0.5
			2009	C	133,800	147,700	149,100	120,400	0.5
			2010	C	116,900	128,800	130,000	105,200	0.6
			2011	C	139,400	153,400	154,800	125,500	N/A
			2012	C	122,000	134,200	131,800	109,800	N/A
			2013	C	145,000	145,000	146,500	137,800	N/A
			2014	C	147,800	162,600	158,200	133,000	N/A
			2015	C	147,300	162,000	157,600	132,600	N/A
			2016	C	149,900	164,900	160,400	134,900	N/A
403	E JCT HWY 6 IC	1.4	1988	UC	68,300	71,700	77,100	64,200	0.5
			1989	UC	68,800	72,200	77,700	65,300	1.5
			1990	UC	69,800	74,600	80,900	66,300	1.1
			1991	UC	71,900	76,200	82,600	69,700	1.5
			1992	UC	72,100	76,400	82,900	69,200	1.3
			1993	UC	72,400	76,700	81,800	66,600	1.6
			1994	UC	72,600	77,000	81,300	66,800	1.5
			1995	UC	72,600	77,000	80,600	66,800	1.0
			1996	UC	72,600	77,200	84,900	69,000	1.7
			1997	UC	77,600	81,500	90,800	72,900	1.7
			1998	UC	88,300	94,000	103,300	83,900	0.6
			1999	UC	87,700	93,300	102,600	83,300	1.4
			2000	UC	91,300	97,100	107,600	85,800	1.0
			2001	UC	94,900	101,500	112,000	89,200	0.7
			2002	UC	98,600	105,100	116,000	92,300	0.9
			2003	UC	102,200	108,300	120,600	96,100	0.8
			2004	UC	105,900	111,900	124,100	100,000	1.1
			2005	UC	109,500	115,900	128,100	102,700	0.9

Mandy Chan

From: Rail Data Requests <RailDataRequests@metrolinx.com>
Sent: August 30, 2021 3:05 PM
To: Mandy Chan
Subject: RE: Rail Traffic Data Request - 35 Plains Road, Burlington

Hi Mandy

Further to your request dated August 30, 2021, the subject lands (35 Plains Road, Burlington) are located in proximity to 300 metres of the CN Oakville Subdivision (which carries Lakeshore West GO rail service).

It's anticipated that GO rail service on this Subdivision will be comprised of diesel trains. The GO rail fleet combination on this Subdivision will consist of up to 2 locomotives and 12 passenger cars. The typical GO rail weekday train volume forecast near the subject lands, including both revenue and equipment trips is in the order of 83 trains. The planned detailed trip breakdown is listed below:

	1 Diesel Locomotive	2 Diesel Locomotives		1 Diesel Locomotive	2 Diesel Locomotives
Day (0700-2300)	60	11	Night (2300-0700)	8	4

The current track design speed near the subject lands is 95 mph (153 km/h).

There are no *anti-whistling by-laws* in affect near the subject lands.

Operational information is subject to change and may be influenced by, among other factors, service planning priorities, operational considerations, funding availability and passenger demand.

It should be noted that this information only pertains to Metrolinx rail service. It would be prudent to contact other rail operators in the area directly for rail traffic information pertaining to non-Metrolinx rail service.

I trust this information is useful. Should you have any questions or concerns, please do not hesitate to contact me.

Regards,

Lyndsy You, B.Eng.
Project Manager
Third Party Projects Review, Capital Projects Group
Metrolinx|30 Wellington St. W |Toronto, Ontario|M5J 2N8
C: 416.399.8284
METROLINX

From: Mandy Chan <machan@hgcengineering.com>
Sent: August 30, 2021 2:41 PM
To: Rail Data Requests <RailDataRequests@metrolinx.com>
Subject: Rail Traffic Data Request - Burlington

EXTERNAL SENDER: Do not click any links or open any attachments unless you trust the sender and know the content is safe.
EXPÉDITEUR EXTERNE: Ne cliquez sur aucun lien et n'ouvrez aucune pièce jointe à moins qu'ils ne proviennent d'un expéditeur fiable, ou que vous ayez l'assurance que le contenu provient d'une source sûre.

Good afternoon,

HGC has been retained to update the noise study for 35 Plains Road in Burlington and would like to request the latest data for the rail line to the north. I note the site is located outside 300m but rail noise was included as there were impacts to the upper floors. Thanks.

Google Map Link: https://goo.gl/maps/L2AX8AWKqmio9QNu5

Regards,

Mandy Chan, PEng
Senior Engineer, Associate

HGC Engineering **NOISE** | **VIBRATION** | **ACOUSTICS**
Howe Gastmeier Chapnik Limited
2000 Argentia Road, Plaza One, Suite 203, Mississauga, Ontario, Canada L5N 1P7
t: 905.826.4044 x239 **e**: machan@hgcengineering.com
Visit our website: www.hgcengineering.com **Follow Us** – LinkedIn | Twitter | YouTube

This e-mail and any attachments may contain confidential and privileged information. If you are not the intended recipient, please notify the sender immediately by return e-mail, delete this e-mail and destroy any copies. Any dissemination or use of this information by a person other than the intended recipient is unauthorized and may be illegal. Any conclusions or recommendations provided by HGC Engineering in this e-mail or any attachments have limitations.

This e-mail is intended only for the person or entity to which it is addressed. If you received this in error, please contact the sender and delete all copies of the e-mail together with any attachments.

Date: 2016/04/07 Project Number: OAK-34.80 – 35 Plains Road, Burlington, ON

Dear Mandy:

Re: Train Traffic Data – CN Oakville Subdivision near Waterdown Road in Burlington, ON

The following is provided in response to Mandy's 2016/03/23 request for information regarding rail traffic in the vicinity of Waterdown Road in Burlington at approximately Mile 34.80 on CN's Oakville Subdivision.

Typical daily traffic volumes are recorded below. However, traffic volumes may fluctuate due to overall economic conditions, varying traffic demands, weather conditions, track maintenance programs, statutory holidays and traffic detours that when required may be heavy although temporary. For the purpose of noise and vibration reports, train volumes must be escalated by 2.5% per annum for a 10-year period.

Typical daily traffic volumes at this site location are as follows:

***Maximum train speed is given in Miles per Hour**

	0700-2300			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	12	140	60	4
Way Freight	8	25	60	4
Passenger	14	10	95	2

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	9	140	60	4
Way Freight	3	25	60	4
Passenger	0	10	95	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN's Oakville Subdivision.

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There is no at-grade crossing in the immediate vicinity of the study area at Mile 33.80 (Waterdown Road). Anti-whistling bylaws are in effect at this crossing. Please note that engine warning whistles may be sounded in cases of emergency, as a safety and or warning precaution at station locations and pedestrian crossings and occasionally for operating requirements.

With respect to equipment restrictions, the gross weight of the heaviest permissible car is 286,000 lbs.

The triple mainline track is considered to be continuously welded rail throughout the study area. The presence of 1 switches located at Mile 34.34 may exacerbate the noise and vibration caused by train movements.

The Canadian National Railway continues to be strongly opposed to locating developments near railway facilities and rights-of-way due to potential safety and

environmental conflicts. Development adjacent to the Railway Right-of-Way is not appropriate without sound impact mitigation measures to reduce the incompatibility. For confirmation of the applicable rail noise, vibration and safety standards, Mr. Raymond Beshro, Canadian National Railway Properties at 514-399-7627 should be contacted directly.

I trust the above information will satisfy your current request.

Sincerely,

Derek Basso
Engineering Technician
Derek.Basso@cn.ca

cc. Raymond Beshro – CN – via e-mail

APPENDIX C
Predicted Traffic Sound Levels & Figures



Figure C1: Traffic Sources modeled in CadnaA
(Shown in green lines)

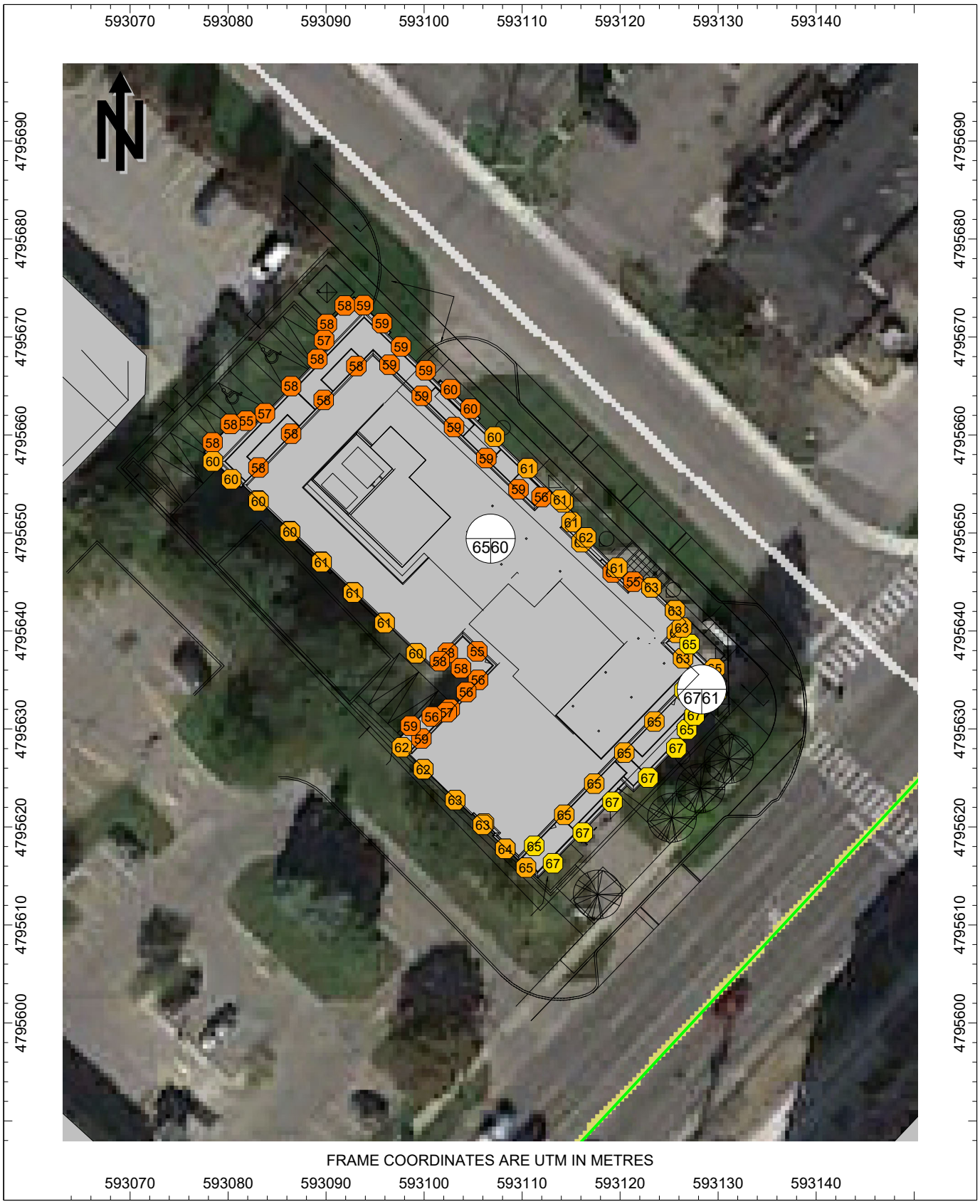


Figure C2: Predicted Daytime Traffic Sound Levels, Leq [dBA]
(Highest levels from all floors shown in the circles for that specific location)

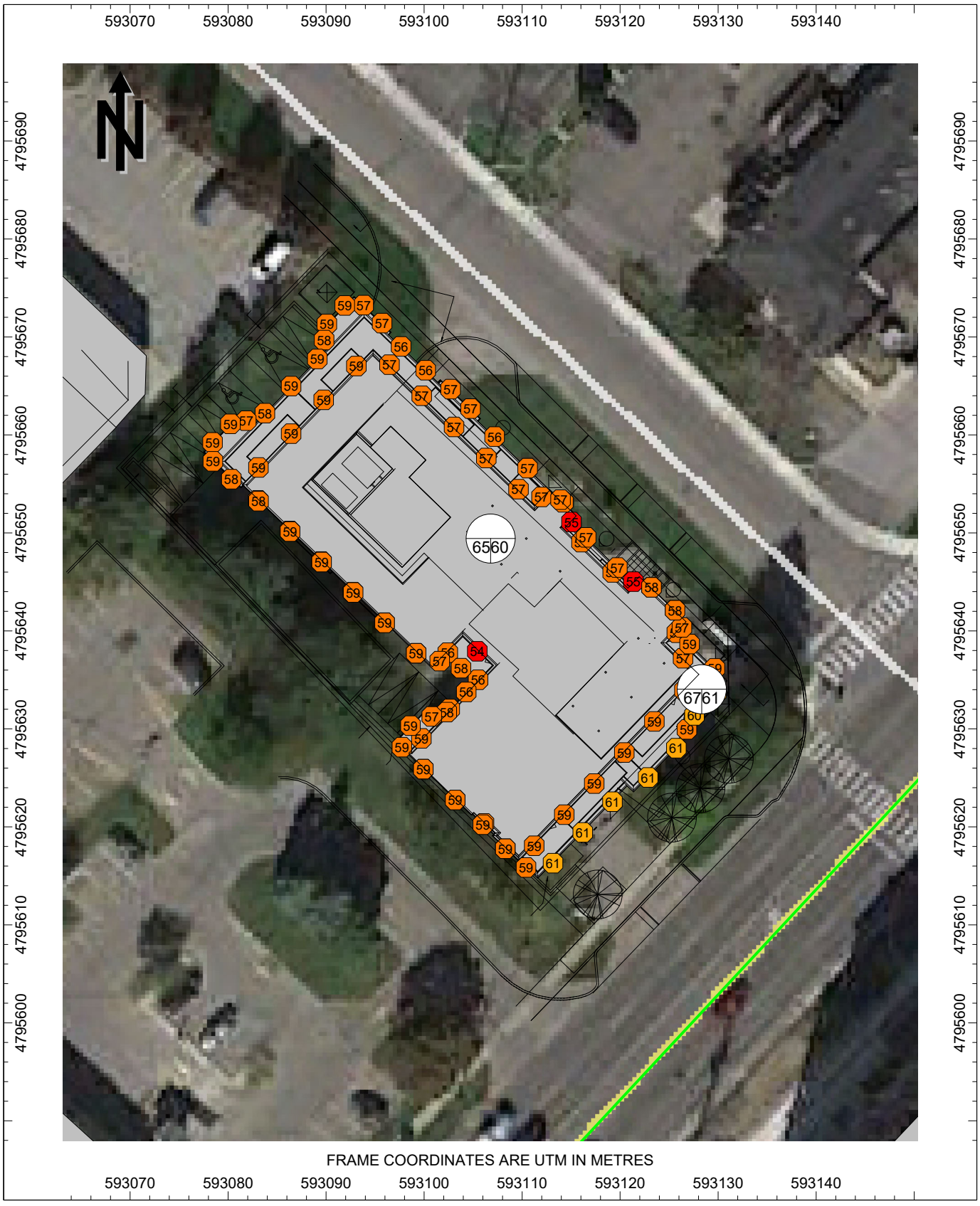


Figure C3: Predicted Nighttime Sound Levels, Leq [dBA]
(Highest levels from all floors shown in the small circles for that specific location)

Table C1: Summary of Predicted Sound Levels per Traffic Source

Location	Façade	Daytime Sound Levels (dBA)			
		403	Plains	Waterdown	Rail
[A]	North	53	45	52	53
[B]	West	53	57	55	53
[C]	South	33	67	50	36
[D]	East	44	65	41	48
[E]	Roof	41	53	43	47
[F]	Roof	46	51	46	49
[G]	Roof	48	52	44	50

Location	Façade	Nighttime Sound Levels (dBA)			
		403	Plains	Waterdown	Rail
[A]	North	54	39	45	57
[B]	West	53	51	48	57
[C]	South	34	60	43	40
[D]	East	49	56	26	53

STAMSON 5.0 NORMAL REPORT Date: 12-11-2021 13:44:28
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: roadcal.te Time Period: Day/Night 16/8 hours
Description: Predicted daytime and nighttime sounds from Plains Road, use for calibration of CadnaA Model

Road data, segment # 1: Plains (day/night)

Car traffic volume : 24749/2750 veh/TimePeriod *
Medium truck volume : 333/37 veh/TimePeriod *
Heavy truck volume : 538/60 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)
* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 20147
Percentage of Annual Growth : 2.50
Number of Years of Growth : 14.00
Medium Truck % of Total Volume : 1.30
Heavy Truck % of Total Volume : 2.10
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Plains (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 25.00 / 25.00 m
Receiver height : 25.20 / 25.20 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: Plains (day)

Source height = 1.20 m

ROAD (0.00 + 67.52 + 0.00) = 67.52 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	69.74	0.00	-2.22	0.00	0.00	0.00	0.00	67.52

Segment Leq : 67.52 dBA

Total Leq All Segments: 67.52 dBA

Results segment # 1: Plains (night)

Source height = 1.20 m

ROAD (0.00 + 60.99 + 0.00) = 60.99 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	63.21	0.00	-2.22	0.00	0.00	0.00	0.00	60.99

Segment Leq : 60.99 dBA

Total Leq All Segments: 60.99 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 67.52
(NIGHT): 60.99

APPENDIX D
Sound Level Measurements

Attended Sound Level Measurement

Date	Time	L_{EQ} [dBA]	L_{90} [dBA]	Comments
September 28, 2021	10:21	57	52	Traffic on Plains Road steady and dominant, Cars (53 to 62), Trucks (60 to 70 dBA)

Note: The values in brackets indicate the highest momentary sound levels (dBA) reached during the measurement period that were attributable to particular identifiable sources.

APPENDIX E
Preliminary Stationary Noise Assessment

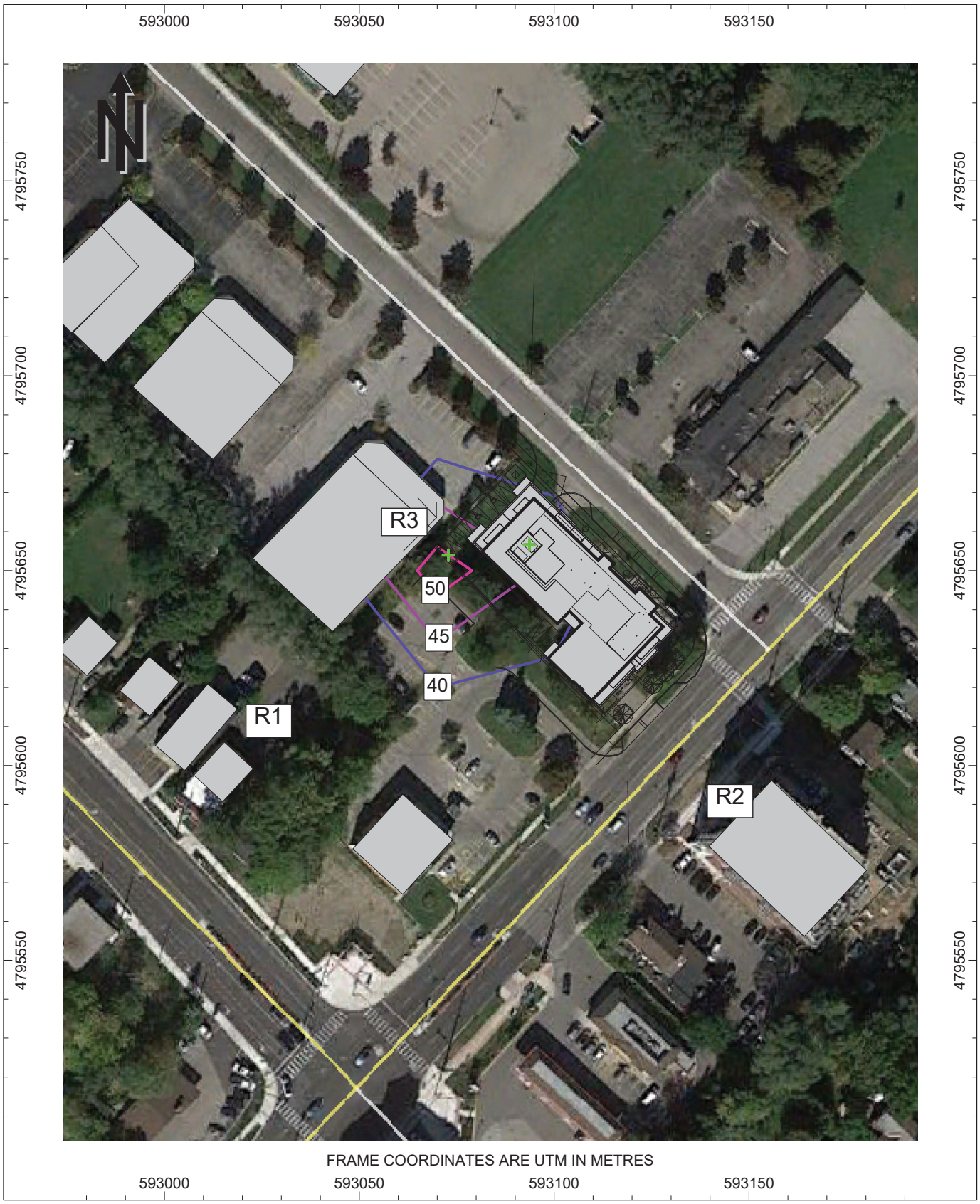


Figure E1: Predicted Daytime Sound Level Contours at Neighbouring Receptors, Leq [dBA]

APPENDIX F
CN Mainline Requirements

Canadian National Railway Properties Inc.
Propriétés ferroviaires du Canadien National Inc.

277 Front Street West
Floor 8
Toronto, Ontario
M5V 2X7

Telephone: (416) 217-6961
Facsimile: (416) 217-6743

277, rue Front ouest
8e étage
Toronto (Ontario)
M5V 2X7

Téléphone: (416) 217-6961
Télécopieur: (416) 217-6743

PRINCIPAL MAIN LINE REQUIREMENTS

A. Safety setback of dwellings from the railway rights-of-way to be a minimum of 30 metres in conjunction with a safety berm. The safety berm shall be adjoining and parallel to the railway rights-of-way with returns at the ends, 2.5 metres above grade at the property line, with side slopes not steeper than 2.5 to 1.

B. The Owner shall engage a consultant to undertake an analysis of noise. At a minimum, a noise attenuation barrier shall be adjoining and parallel to the railway rights-of-way, having returns at the ends, and a minimum total height of 5.5 metres above top-of-rail. Acoustic fence to be constructed without openings and of a durable material weighing not less than 20 kg. per square metre of surface area. Subject to the review of the noise report, the Railway may consider other measures recommended by an approved Noise Consultant.

C. Ground-borne vibration transmission to be evaluated in a report through site testing to determine if dwellings within 75 metres of the railway rights-of-way will be impacted by vibration conditions in excess of 0.14 mm/sec RMS between 4 Hz and 200 Hz. The monitoring system should be capable of measuring frequencies between 4 Hz and 200 Hz, ±3 dB with an RMS averaging time constant of 1 second. If in excess, isolation measures will be required to ensure living areas do not exceed 0.14 mm/sec RMS on and above the first floor of the dwelling.

D. The Owner shall install and maintain a chain link fence of minimum 1.83 metre height along the mutual property line.

E. The following clause should be inserted in all development agreements, offers to purchase, and agreements of Purchase and Sale or Lease of each dwelling unit within 300m of the railway right-of-way: "Warning: Canadian National Railway Company or its assigns or successors in interest has or have a rights-of-way within 300 metres from the land the subject hereof. There may be alterations to or expansions of the railway facilities on such rights-of-way in the future including the possibility that the railway or its assigns or successors as aforesaid may expand its operations, which expansion may affect the living environment of the residents in the vicinity, notwithstanding the inclusion of any noise and vibration attenuating measures in the design of the development and individual dwelling(s). CNR will not be responsible for any complaints or claims arising from use of such facilities and/or operations on, over or under the aforesaid rights-of-way."

F. Any proposed alterations to the existing drainage pattern affecting railway property must receive prior concurrence from the Railway and be substantiated by a drainage report to the satisfaction of the Railway.

G. The Owner shall through restrictive covenants to be registered on title and all agreements of purchase and sale or lease provide notice to the public that the safety berm, fencing and vibration isolation measures implemented are not to be tampered with or altered and further that the Owner shall have sole responsibility for and shall maintain these measures to the satisfaction of CN.

H. The Owner enter into an Agreement stipulating how CN's concerns will be resolved and will pay CN's reasonable costs in preparing and negotiating the agreement.

I. The Owner may be required to grant CN an environmental easement for operational noise and vibration emissions, registered against the subject property in favour of CN.

A wholly owned subsidiary of Canadian National Railway Company / Une filiale en propriété exclusive de la Compagnie des chemins de fer nationaux du Canada

RAIL NOISE, VIBRATION AND SAFETY IMPACT POLICY

A. New residential development and other sensitive land uses should not be permitted within 300 metres of a rail yard.

B. All residential development and other sensitive land uses located between 300 m and 1000 metres of a rail yard will be required to undertake noise and vibration studies, to the satisfaction of the Municipality and the appropriate railway, to support its feasibility of development and, if feasible, shall undertake appropriate measures to mitigate any adverse effects from noise and vibration that were identified.

C. All proposed development within 300 metres of a railway right-of-way may be required to undertake noise studies, to the satisfaction of the Municipality and the appropriate railway, and shall undertake appropriate measures to mitigate any adverse effects from noise that were identified.

D. All proposed development within 75 metres of a railway right-of-way may be required to undertake vibration studies, to the satisfaction of the Municipality and the appropriate railway, and shall undertake appropriate measures to mitigate any adverse effects from vibration that were identified.

E. All proposed development adjacent to railways shall ensure that appropriate safety measures such as setbacks, berms and security fencing are provided, to the satisfaction of the Municipality in consultation with the appropriate railways.

APPENDIX G
Responses to Comments

Comments from the City of Burlington dated April 26, 2022 were reviewed. Our responses to the comments are provided below in the same order and includes the comments.

1. The Limitations section excludes any third party from relying on the report, please provide a letter of reliance to the City of Burlington.

The report was prepared on behalf of the client for submission to the City of Burlington in support of their application for the development, as such, it does not exclude the City.

2. Sections 3 and 4.2 refer to "Oakville" subdivision, should this be "Burlington" or "Aldershot"?

The name of the CN railway line is the CN Oakville subdivision, as per the data provided by CN and Metrolinx.

3. Section 3.1, what day of the week was the site visit conducted? A weekday?

The measurements were conducted on a weekday, on Tuesday, September 21, 2021.

4. Table III, please include the correspondence or website information for the QEW traffic data in Appendix C.

Traffic volumes were obtained from Ministry of Transportation website:
https://www.library.mto.gov.on.ca/SydneyPLUS/TechPubs/Portal/tp/tvSplash.aspx

Truck percentages for Highway 403 was provided by City of Burlington personnel in the comments dated July 11, 2016 for the original noise study.

5. As recommended in Section 8, a condition of Site Plan approval will be that HGC Engineering provide written confirmation that they have reviewed the building plans and confirm their recommendations have been incorporated, i.e. upgraded window glazing, exterior wall construction, façade, mechanical equipment, etc. Please be advised that a site visit after construction to take noise measurements and to confirm the recommendations were implemented, will be required to confirm the as-constructed noise levels are below the estimated levels in the report, as the report includes 10 year forecasted traffic.

Noted.

6. Please provide a revised Noise Impact Study or addendum to address the above comments.

Noted.

Comments from Jade Acoustics dated June 21, 2022 were reviewed. Our responses are provided in the same order as the comments.

1. A figure is attached which shows the distance of the site to the railway and yard right-of-way as well as the distance to the west end of the rail yard.

2. The FCM and RAC guidelines were reviewed for the preparation of the noise study. Information about FCM and RAC guidelines has been included in the revised report in Section 2.1.

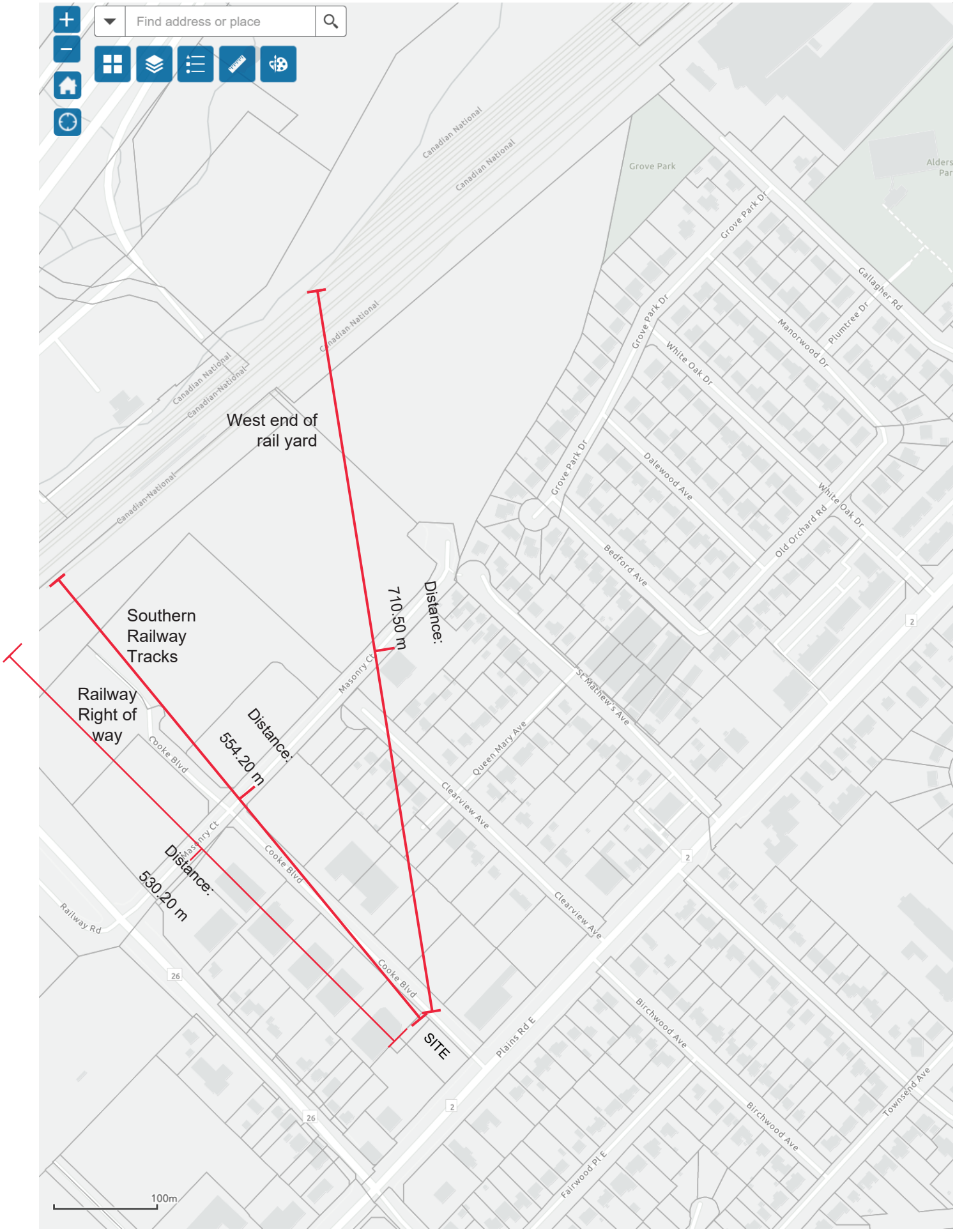
3. Noted. The railway criteria has been outlined in the revised report in Section 2.1.

4. An email was sent to CN on June 28, 2022 with subsequent followup emails and HGC Engineering has yet to receive a response regarding the traffic data. A review of recent data on file for properties to the east (close to subject site) and west of the subject site, as attached, indicate that the traffic volumes used for this assessment is higher and therefore is considered conservative and applicable for use. The Metrolinx data was obtained in August 2021 just prior to the completion of the noise study in November 2021 and therefore is valid.

5. A review of the glazing requirements including a consideration of the wall constructions indicate the STC-28 would be sufficient. As such, glazing constructions with a minimum of STC-30 are still recommended for all units.

6. Noted. A warning clause regarding the Aldershot Yard has been included in Section 4.4.4 as provided by CN.

Central air conditioning will be provided to all dwelling units.



https://burlington.maps.arcgis.com/apps/MapSeries/index.html

Distances from site to Railway right-of-way and CN Yard

Date: 2019/01/16 Project Number: OAK-32.23 - Plains Rd, Burlington, ON

Dear Victor:

Re: Train Traffic Data – CN Oakville Subdivision near Plains Road in Burlington, ON

The following is provided in response to Victor's 2018/12/19 request for information regarding rail traffic in the vicinity of Plains Road in Burlington, ON at approximately Mile 32.23 on CN's Oakville Subdivision.

Typical daily traffic volumes are recorded below. However, traffic volumes may fluctuate due to overall economic conditions, varying traffic demands, weather conditions, track maintenance programs, statutory holidays and traffic detours that when required may be heavy although temporary. For the purpose of noise and vibration reports, train volumes must be escalated by 2.5% per annum for a 10-year period.

Typical daily traffic volumes at this site location are as follows:

***Maximum train speed is given in Miles per Hour**

	0700-2300			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	60	4
Way Freight	4	25	60	4
Passenger	13	10	80	2

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	0	140	60	4
Way Freight	2	25	60	4
Passenger	0	10	80	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN's Oakville Subdivision.

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There are no at-grade crossing in the immediate vicinity of the study area at Mile 32.23 (Plains Road). Please note that engine warning whistles may be sounded in cases of emergency, as a safety and or warning precaution at station locations and pedestrian crossings and occasionally for operating requirements.

With respect to equipment restrictions, the gross weight of the heaviest permissible car is 286,000 lbs.

The triple mainline track is considered to be continuously welded rail throughout the study area. The presence of eleven (11) switches located at Mile 32.08, 32.15, 32.17,

32.18, 32.25, 32.33, 32.40, 32.48, 33.18, 33.23 and 33.31 may exacerbate the noise and vibration caused by train movements.

The Canadian National Railway continues to be strongly opposed to locating developments near railway facilities and rights-of-way due to potential safety and environmental conflicts. Development adjacent to the Railway Right-of-Way is not appropriate without sound impact mitigation measures to reduce the incompatibility. For confirmation of the applicable rail noise, vibration and safety standards, Adjacent Development, Canadian National Railway Properties at Proximity@cn.ca should be contacted directly.

I trust the above information will satisfy your current request.

Sincerely,

Michael Vallins P.Eng
Manager of Public Works
public_works_gld@cn.ca

Dear Victor:

Re: Train Traffic Data – CN Oakville Subdivision near Cornwall Rd in Oakville, ON

The following is provided in response to Victor's 2021/02/16 request for information regarding rail traffic in the vicinity of Cornwall Rd in Oakville at approximately Mile 21.20 on CN's Oakville Subdivision.

Typical daily traffic volumes are recorded below. However, traffic volumes may fluctuate due to overall economic conditions, varying traffic demands, weather conditions, track maintenance programs, statutory holidays and traffic detours that when required may be heavy although temporary. For the purpose of noise and vibration reports, train volumes must be escalated by 2.5% per annum for a 10-year period.

Typical daily traffic volumes at this site location are as follows:

***Maximum train speed is given in Miles per Hour**

	0700-2300			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	2	140	60	4
Way Freight	0	25	60	4
Passenger	12	10	95	2

	2300-0700			
Type of Train	Volumes	Max.Consist	Max. Speed	Max. Power
Freight	2	140	60	4
Way Freight	0	25	60	4
Passenger	1	10	95	2

The volumes recorded reflect westbound and eastbound freight and passenger operations on CN's Oakville Subdivision.

Except where anti-whistling bylaws are in effect, engine-warning whistles and bells are normally sounded at all at-grade crossings. There is one (1) at-grade crossing in the immediate vicinity of the study area at Mile 21.97 Kerr St. Anti-whistling bylaws are in effect at this crossing. Please note that engine warning whistles may be sounded in cases of emergency, as a safety and or warning precaution at station locations and pedestrian crossings and occasionally for operating requirements.

With respect to equipment restrictions, the gross weight of the heaviest permissible car is 286,000 lbs.

The four mainline tracks are considered to be continuously welded rail throughout the study area. The presence of four (4) switches located at Mile 21.85, 21.99, 22.07, and 22.20 may exacerbate the noise and vibration caused by train movements.

The Canadian National Railway continues to be strongly opposed to locating developments near railway facilities and rights-of-way due to potential safety and environmental conflicts. Development adjacent to the Railway Right-of-Way is not appropriate without sound impact mitigation measures to reduce the incompatibility. For confirmation of the applicable rail noise, vibration and safety standards, Adjacent Development, Canadian National Railway Properties at Proximity@cn.ca should be contacted directly.

I trust the above information will satisfy your current request.

Sincerely,



Michael Vallins P.Eng
Manager Public Works- Eastern Canada
Permits.gld@cn.ca