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January 24, 2025

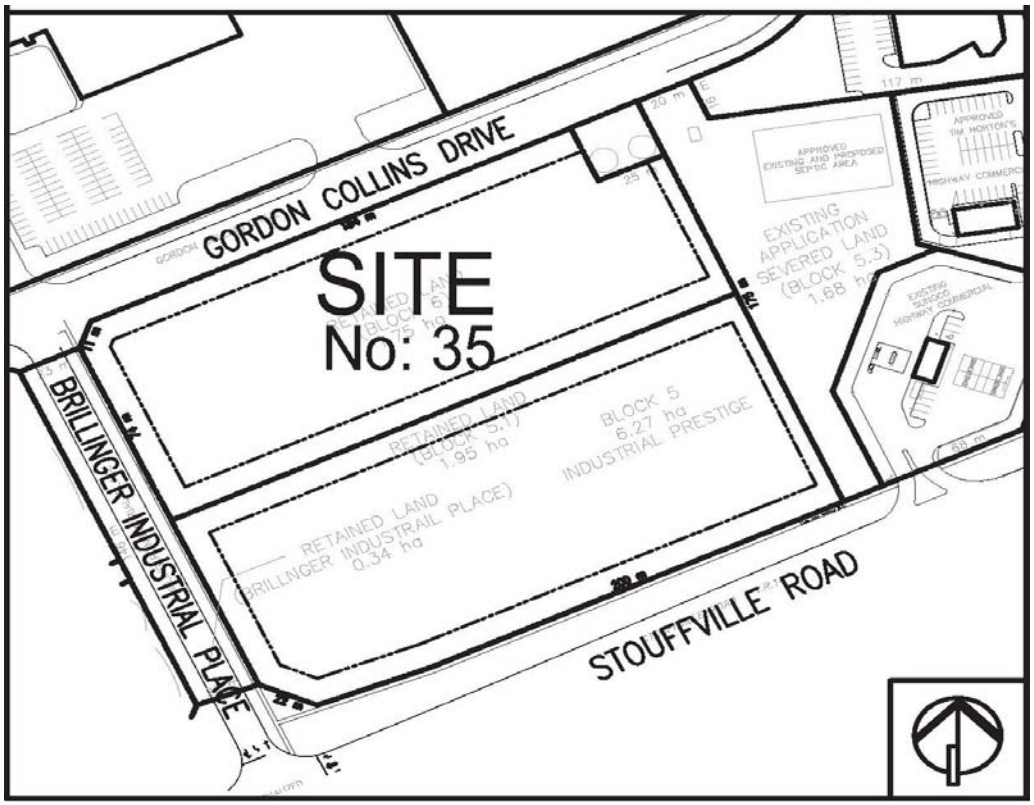
Town of Whitchurch-Stouffville
111 Sandiford Drive
Stouffville, ON
L4A 0Z8

Re: Noise Assessment
Proposed Industrial Building
Gormley Industrial Park
35 Gordon Collins Drive
Part of Lot 1, Concession 3
Town of Whitchurch-Stouffville
Project No. Y2503

1.0 INTRODUCTION

This noise assessment addresses the noise impact from the proposed industrial building noted above on the nearby sensitive receptors and recommends noise attenuation measures to meet the sound levels acceptable to the Ministry of Environment, Conservation and Parks and Town of Whitchurch-Stouffville.

The following Key Plan shows the site plan location.



2.0 SITE DESCRIPTION

The proposed development is located at 35 Gordon Collins Drive which is approximately 100m north of Stouffville Road, approximately 130m west of Woodbine Avenue and 500m east of Highway 404 in the Town of Whitchurch-Stouffville.

The proposed Site Plan (dated September 2024) is expected to consist of a 2 to 3 storey industrial building with 10 units and Parking and open storage area east of the site.

The industrial building area is approximately 4,069sq/m and the operating hours are expected to be daytime from 7:00 a.m. to 11:00p.m. Delivery hours are also expected to occur during the daytime and evening hours.

The potential noise sources are:

- Mechanical units/HVAC units at the ground level and roof;
- Potential Indoor noise due to maintenance activities
- Outdoor Storage and fork-lift movement on site;
- Truck Movements and delivery activities (Loading and unloading);
- The refuse and garbage pickup on site;

See the attached Figure 1 showing the proposed Site Plan layout and the Elevations and Floor Plans of the industrial building.

3.0 RECEPTOR LOCATIONS

The closest sensitive receptor locations are the existing 2 storey residential houses to the south (R1, R2, R3, R4 and R5).

The proposed Industrial Building is expected to be approximately 170m from the existing receptors (R1 and R2) with the back yards to the south and shielded by the houses.

The existing residential houses (R3 and R4) are approximately 150m from the proposed industrial development.

The existing residential house (R5) is located approximately 140m from the outdoor parking/storage area.

The attached Figure 2 indicates the surrounding land uses and the closest sensitive receptors R1, R2, R3, R4 and R5.

4.0 SOUND LEVEL CRITERIA

Sound level limits used in this noise assessment are provided in the latest M.E.C.P. publication NPC-300. The sound level limits for a Class 2 area due to stationary sources for an Outdoor Point of Reception is sound level (L_{EQ}), 50 dBA during daytime (0700-1900) and 45 dBA during evenings (1900-2300).

The sound level limits for a Class 2 area due to stationary sources for Plane of Window of Noise Sensitive Spaces is sound level (L_{EQ}), 50 dBA during daytime (0700-1900), 50 dBA during evenings (1900-2300) and 45 dBA during night-time (2300-0700).

It should be noted that the ambient sound levels are expected to be high and the dominant noise source due to road traffic from Stouffville Road, Highway 404 and Woodbine Avenue during the daytimes and the area classification is most likely a Class 1 area. However, for worst case scenario Class 2 area classification has been assumed.

TABLE 1
Exclusion Limit Values of One-Hour Equivalent Sound Level (Leq dBA)
Outdoor Points of Reception

Time of Day	*Class 1 Area*	*Class 2 Area*	*Class 3 Area*	*Class 4 Area*
07:00-19:00	*50*	*50*	*45*	*55*
19:00 -23:00	*50*	*45*	*40*	*55*

TABLE 2
Exclusion Limit Values of One-Hour Equivalent Sound Level (Leq dBA)
Plane of Window of Noise Sensitive Spaces

Time of Day	*Class 1 Area*	*Class 2 Area*	*Class 3 Area*	*Class 4 Area*
07:00-19:00	*50*	*50*	*45*	*60*
19:00 -23:00	*50*	*50*	*40*	*60*
23:00-07:00	*45*	*45*	*40*	*55*

5.0 NOISE ASSESSMENT (STATIONARY NOISE SORCES)

Mechanical Units:

The mechanical units are expected to be a HVAC unit at ground levels and roof operating at 100% cycle duty during the daytime and evening hours and at 50% during the night-time hours. The mechanical HVAC units are taken to have a Sound Power Level of up to 95dBA which is higher than the average sound levels for this type of units.

Please note that the parapet walls have been taken into account for the mechanical roof top units noise analysis.

Potential Indoor noise due to Repair activities

Potential repair activities are expected within the building during daytime hours with fork-lift activities at the outdoor storage area at times. It has been assumed that the access doors are kept open with audible indoor activities for worst case scenario.

The Sound Power Levels for potential repair activities were taken to be 92dBA. An impulsive sound level of 100dBAI was taken into account.

Outdoor Storage:

Outdoor storage/parking area has been proposed at the east portion of the site approximately 140m from the closest receptor location. Fork-Lift movement activities are expected within the outdoor storage area.

Tuck Movements:

Truck movements and delivery activities are expected at several units within the industrial building. The Sound Power Level for the truck movement were based on sample sound measurements of similar equipment and based on the MTO publication Noise Emission Levels for Vehicles in Ontario for truck pass bys. The dump truck movements are taken to be 80dBA at 15m travelling at a speed of 30km/hr within the proposed site driveway.

Refuse and Garbage Pick-up

The refuse and garbage pick-ups are expected to occur during the daytime. The garbage pickup are generally excluded from the stationary source noise sources as well; however some activities may be audible at times.

The vehicular traffic in the parking area is expected to be insignificant, due to high ambient sound level from Stouffville Road, Highway 404 and Woodbine Avenue.

The sound levels were calculated using the CadnaA Version 2020 computer program using the International Standard ISO 9613-2.

TABLE 3 - STATIONARY SOURCES SOUND LEVELS (UMITIGATED)

RECEPTOR	SOUND LEVEL RESULTS (dBA)		EXCEEDANCE (dBA)
	DAYTIME/ EVENING (0700 -2300)	NIGHTTIME (2300 -0700)	
R1 (Existing Residential- Southwest) *	40.2	30.0	No
R2 (Existing Residential- Southwest) *	42.4	30.9	No
R3 (Existing Residential- South) *	49.7	36.6	No
R4 (Existing Residential-South) *	48.6	33.9	No
R5 (Existing Residential-Southeast) *	47.5	32.7	No

* Second floor windows have been taken to be 4.5m high above grade.

The total sound level results from all the stationary noise sources at the proposed development are expected to be below the sound level limits of 50dBA during the daytime/evenings and 45 dBA during the night-times. Therefore, noise attenuation measures are not required.

7.0 RECOMMENDATIONS

The following are recommended to ensure the sound levels are met at the nearest receptor locations:

1. The access doors to the building are recommended to be kept closed during noisy maintenance operations.

2. All equipment pick and drop off activities are recommended to occur during the daytime hours from 7:00a.m. to 7:00p.m.

3. The garbage pickup and infrequent deliveries for the proposed commercial development are recommended to occur during the daytime. The garbage pickup and infrequent/unscheduled deliveries are generally excluded from the stationary source noise sources; however some activities may be audible at times.

8.0 CONCLUSION

This investigation has determined that sound levels acceptable to the Ministry of Environment, Conservation and Parks and Town of Whitchurch-Stouffville are expected to be achieved at the nearest receptors.

The total sound level from all the mechanical equipment, truck movements, loading and outdoor storage activities at all the closest receptor locations are expected to meet 50dBA during the daytime/evening and 45dBA during the night-time meeting the MECP noise criteria.

In addition, it should be noted that the ambient sound levels are expected to be high and the dominant noise source due to road traffic from Stouffville Road, Highway 404 and Woodbine Avenue during the daytimes.

Should you have any questions regarding its contents, please contact the undersigned.

Yours truly,

YCA Engineering Limited

Hava Jouharchi, P.Eng.
Senior Project Engineer

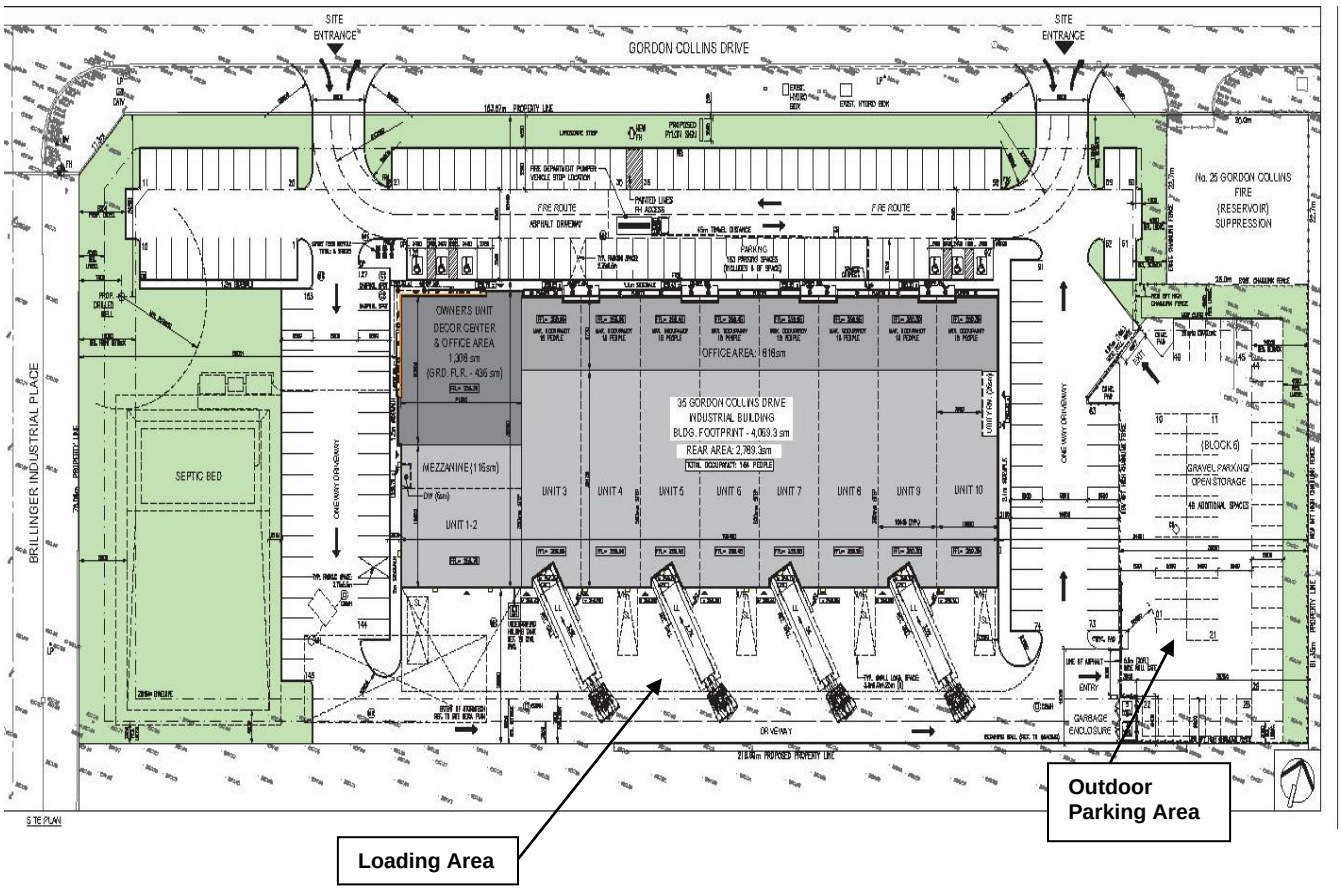
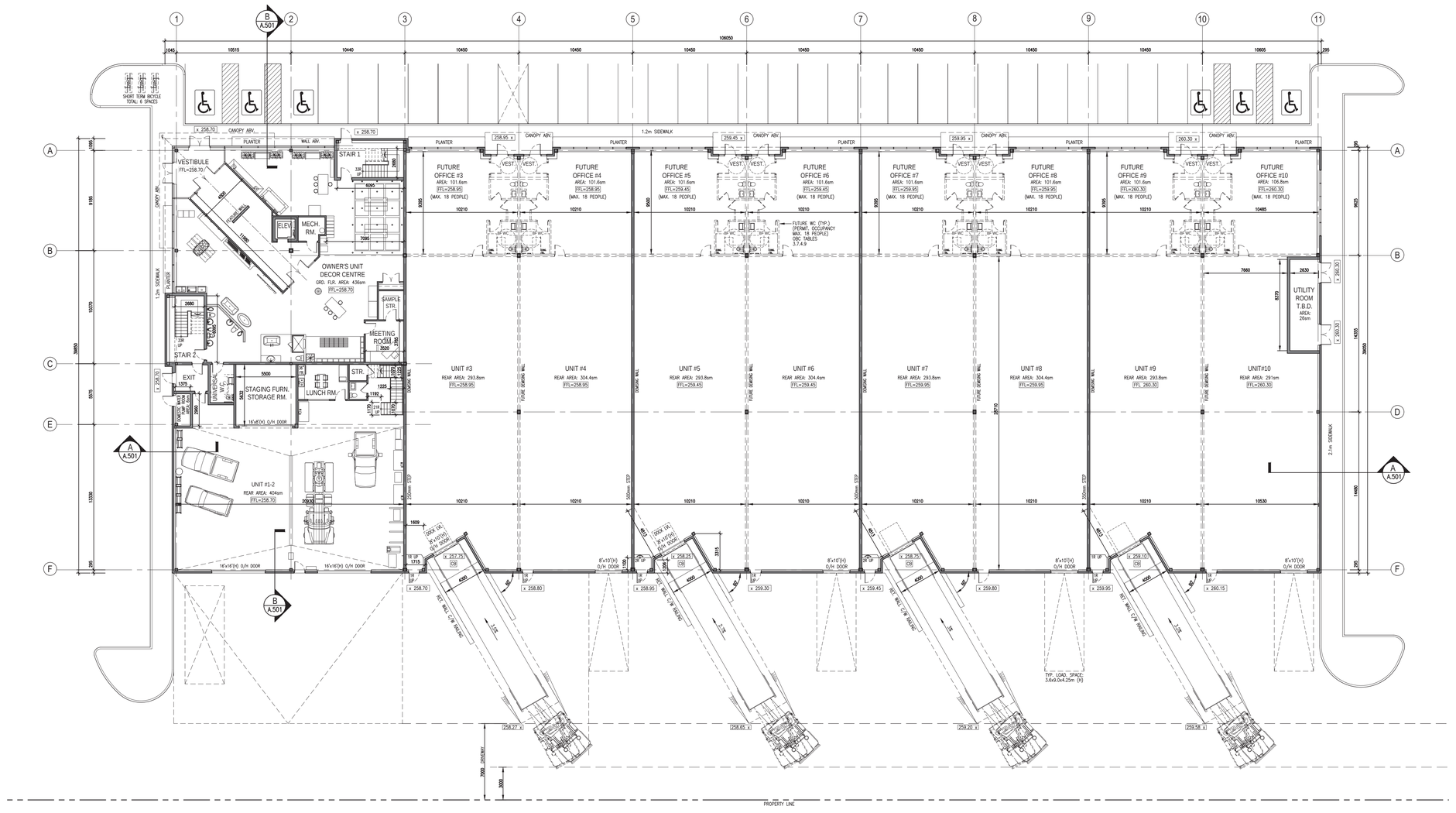


FIGURE 1
SITE PLAN
35 GORDON COLLINS DRIVE
TOWN OF WHITCHURCH-STOUFFVILLE

FIGURE 2
NEAREST RECEPTORS LOCATIONS
35 GORDON COLLINS DRIVE
TOWN OF WHITCHURCH-STOUFFVILLE



GROUND FLOOR PLAN

PROJECT
GORMLEY INDUSTRIAL PARK
PROPOSED INDUSTRIAL BUILDING

35 GORDON COLLINS DRIVE
GORMLEY, ON

CLIENT
FAIRGATE HOMES
1065752 ONTARIO INC.
8 PAISLEY LANE
STOUFFVILLE, ON

CONSULTANTS

ARCHITECT
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LEGAL
This drawing, as an instrument of service, is provided by, and is the property of, Joseph N. Campitelli, Architect Inc., (the "Architect"). The contractor must verify and accept responsibility for all dimensions and conditions on site and must notify the Architect, of any variations from the supplied information. The Architect is not responsible for the accuracy of survey, structural, mechanical, electrical, engineering information, etc., which is shown on this drawing. Refer to the appropriate engineering drawings before proceeding with the work. Construction must conform to all applicable codes and requirements of the authorities having jurisdiction. Unless otherwise noted, no investigation has been undertaken of reported on by the Architect, in regards to the environmental condition of the site to which this drawing relates.
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This drawing is not to be scaled. All architectural symbols indicated on this drawing are graphic representations only.

COUNTERSIGNED
Joseph N. Campitelli, Architect
B.ARCH., O.A.A., M.R.A.I.C.

DATE

DWG. ISSUES

1. MAY.08.2023	ISSUED FOR CLIENT REVIEW	RD
2. MAY.12.2023	ISSUED FOR COORDINATION	RD
3. JUN.09.2023	ISSUED FOR COORDINATION	RD
4. JUN.29.2023	ISSUED FOR COORDINATION	RD
5. DEC.08.2023	ISSUED FOR SPA	RD
6. FEB.22.2024	ISSUED FOR SPA CMNTS. COORD.	RD
7. AUG.07.2024	ISSUED UPDATE FOR COORD.	RD
8. SEP.11.2024	ISSUED FOR SPA COORDINATION	RD

DESCRIPTION

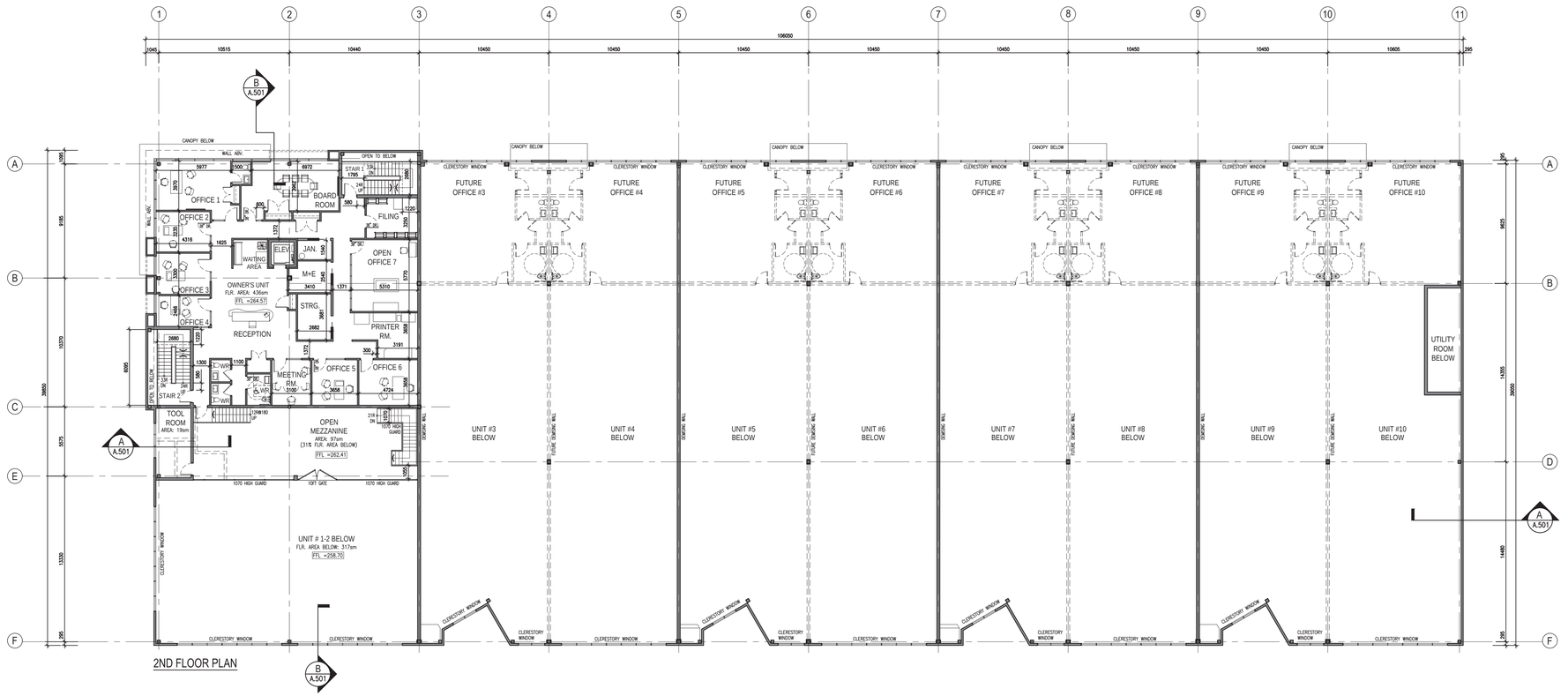
SPA File No: CAPP 23.005

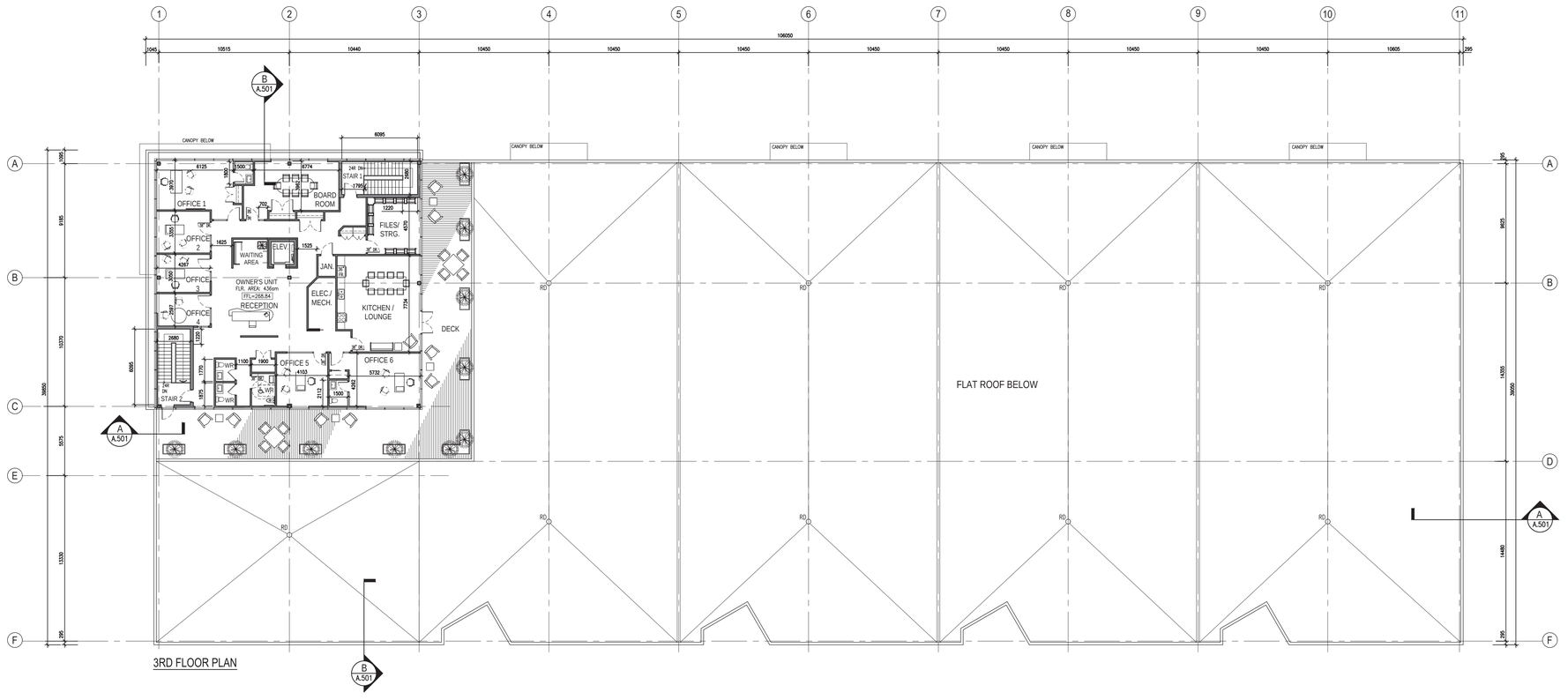
INFO
PROJECT ARCHITECT: J. CAMPITELLI
ASSISTANT DESIGNER:
DRAWN BY: R.D.
CHECKED BY: J.C.

DWG. TITLE
GROUND FLOOR PLAN

SCALE	DATE PRINTED	PROJECT NO.
1:200	SEP.11.2024	218.15-D

SHEET NO.
A.301





PROJECT

GORMLEY INDUSTRIAL PARK
PROPOSED INDUSTRIAL BUILDING

35 GORDON COLLINS DRIVE
GORMLEY, ON

CLIENT

FAIRGATE HOMES

1065752 ONTARIO INC.
8 PAISLEY LANE
STOUFFVILLE, ON

CONSULTANTS

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LEGAL

COUNTERSIGNED
Joseph N. Campitelli, Architect
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LEGAL

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INFO

PROJECT ARCHITECT:
J. CAMPITELLI
ASSISTANT DESIGNER:

DRAWN BY:
R.D.
CHECKED BY:
J.C.

DWG. TITLE

2ND & 3RD FLOOR PLANS

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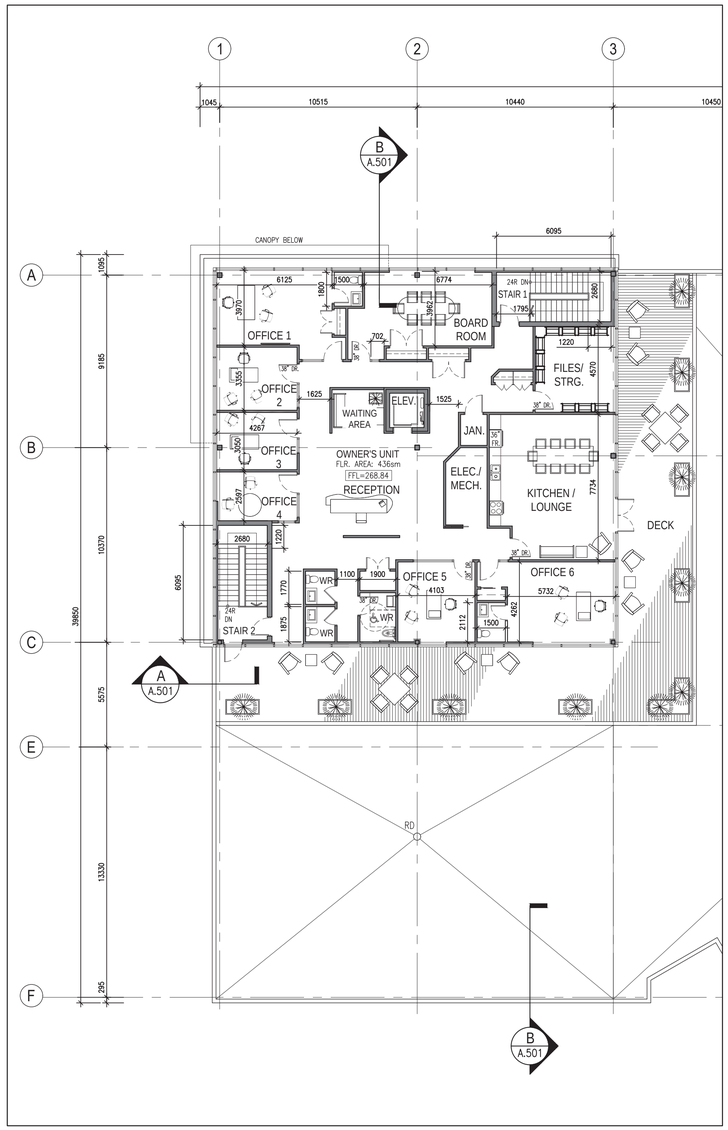
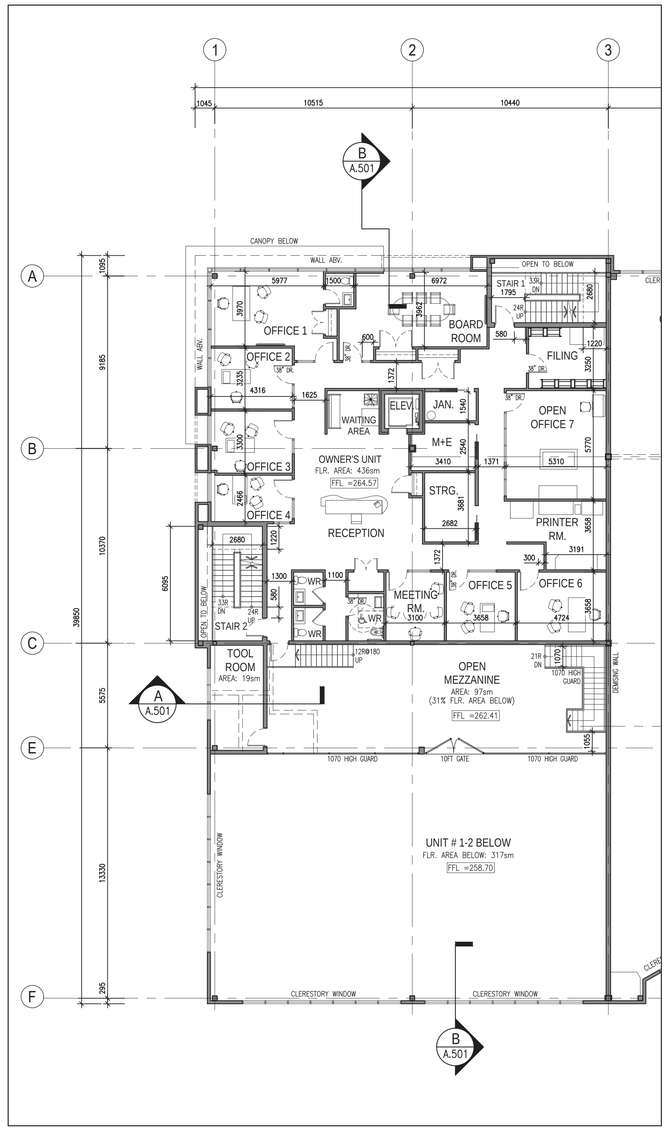
1:200	SEP.11.2024	218.15.0

SHEET NO.

A.302



3RD FLOOR PLAN



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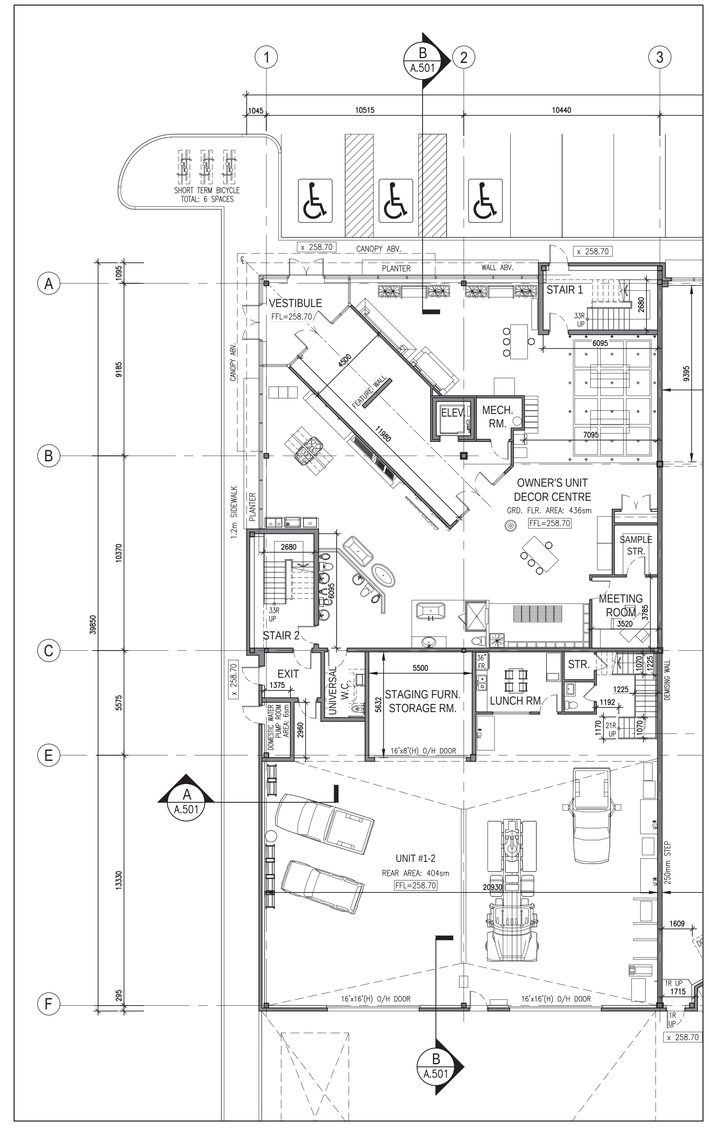

GROUND FLOOR PLAN

PROJECT

GORMLEY INDUSTRIAL PARK
PROPOSED INDUSTRIAL BUILDING

35 GORDON COLLINS DRIVE
GORMLEY, ON

CLIENT

FAIRGATE HOMES

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DESCRIPTION

LEGAL

SPA File No: CAPP 23.005

INFO

PROJECT ARCHITECT:
J. CAMPITELLI
ASSISTANT DESIGNER

DRAWN BY
R.D.
CHECKED BY
J.C.

DWG TITLE

UNIT 1&2
PARTIAL FLOOR PLANS

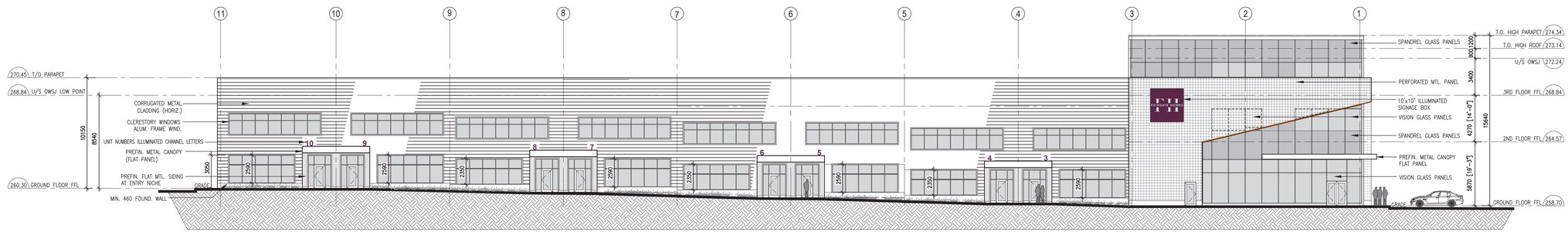
SCALE	DATE PRINTED	PROJECT NO.
1:150	SEP.11.2024	218.15.D

SHEET NO.

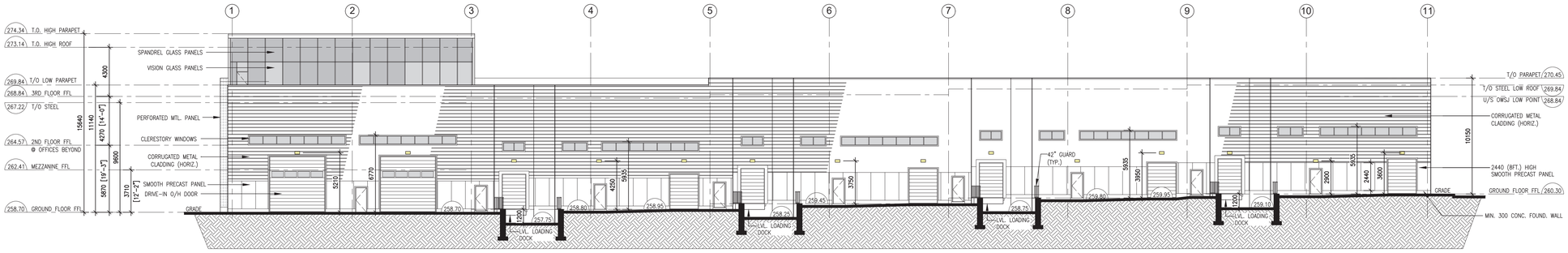
A.303

LEGEND

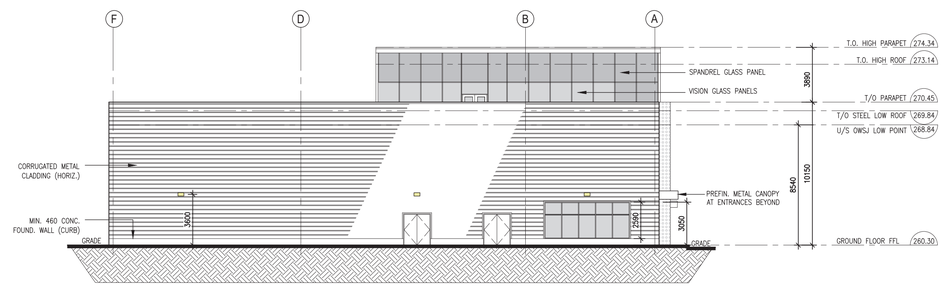
- BACKLIT SOFFIT / LED STRIP LIGHT T.B.C.
- WALL MOUNTED EXTERIOR LIGHT FIXTURE



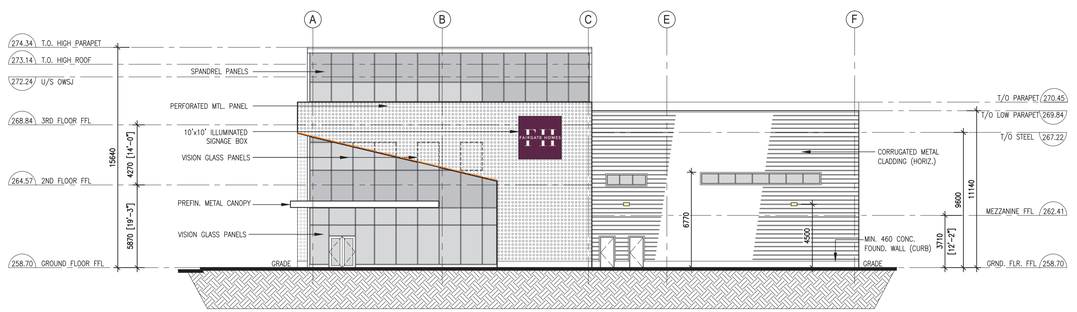
NORTH ELEVATION



SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION

PROJECT

GORMLEY INDUSTRIAL PARK
PROPOSED INDUSTRIAL BUILDING

35 GORDON COLLINS DRIVE
GORMLEY, ON

CLIENT

1065752 ONTARIO INC.
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B.ARCH., O.A.A., M.R.A.I.C.

DATE

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8. SEP.11.2024	ISSUED FOR SPA COORDINATION	RD

DESCRIPTION

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SPA File No: CAPP 23.005

INFO

PROJECT ARCHITECT:
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DWG. TITLE

BUILDING ELEVATIONS

SCALE	DATE PRINTED	PROJECT NO.
1:200	SEP.11.2024	218.15.D

SHEET NO.

A.401

Project Name: 35 Gordon Collins Drive
Project No: Y2503
Date: January 2025

Receiver Table

Name	M.	ID	Level Lr		Limit. Value		Height		Coordinates		
			Day	Night	Day	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(m)		(m)	(m)	(m)
R1		R1	40.2	30.0	50.0	45.0	4.50	r	378.73	195.81	4.50
R2		R2	42.4	30.9	50.0	45.0	4.50	r	478.36	191.70	4.50
R3		R3	49.7	36.6	50.0	45.0	4.50	r	583.42	218.42	4.50
R4		R4	48.6	33.9	50.0	45.0	4.50	r	662.44	222.88	4.50
R5		R5	47.5	32.7	50.0	45.0	4.50	r	755.30	208.38	4.50

Point Source Table

Name	Result. PWL			Lw / Li		Operating Time			Freq.	Height		Coordinates		
	Day	Evening	Night	Type	Value	Day	Special	Night				X	Y	Z
	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)	(Hz)	(m)		(m)	(m)	(m)
Repair3	92.1	92.1	92.1	Lw	Repair	60.00	0.00	0.00		1.50	r	649.97	378.69	2.50
Repair1	92.1	92.1	92.1	Lw	Repair	60.00	30.00	0.00		1.50	r	586.67	379.51	2.50
Repair2	92.1	92.1	92.1	Lw	Repair	60.00	30.00	0.00		1.50	r	609.08	380.14	2.50
Repair4	92.1	92.1	92.1	Lw	Repair	60.00	30.00	0.00		2.00	r	668.74	379.87	3.00
AC4	85.0	85.0	85.0	Lw	AC	60.00	45.00	30.00		1.20	r	579.17	379.07	2.20
S1	90.2	90.2	90.2	Lw	RTU2	60.00	45.00	30.00		1.20	g	613.76	409.09	12.20
S2	93.7	93.7	93.7	Lw	RTU3	60.00	45.00	30.00		1.20	g	613.36	394.02	12.20
S3	87.0	87.0	87.0	Lw	RTU1	60.00	45.00	30.00		1.20	g	638.27	394.02	12.20
S4	93.7	93.7	93.7	Lw	RTU3	60.00	45.00	30.00		1.20	g	663.82	394.07	12.20
S5	90.2	90.2	90.2	Lw	RTU2	60.00	45.00	30.00		1.20	g	637.51	409.82	12.20
S6	87.0	87.0	87.0	Lw	RTU1	60.00	45.00	30.00		1.20	g	664.31	409.77	12.20
Impulse	109.5	109.5	109.5	Lw	100	10.00	2.00	0.00		1.20	r	710.49	406.21	2.20
S7	93.7	93.7	93.7	Lw	RTU3	10.00	2.00	0.00		1.20	g	577.26	408.57	16.50
S8	90.2	90.2	90.2	Lw	RTU2	10.00	2.00	0.00		1.20	g	587.52	408.07	16.50
S9	87.0	87.0	87.0	Lw	RTU1	10.00	2.00	0.00		1.20	g	577.71	416.91	16.50
S10	93.7	93.7	93.7	Lw	RTU3	10.00	2.00	0.00		1.20	g	587.84	416.87	16.50

Line Source Table

Name	Result. PWL			Result. PWL'			Lw / Li		Operating Time			Freq.	Moving Pt. Src			
	Day	Even	Night	Day	Even	Night	Type	Value	Day	Special	Night		Number			Speed
	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			(min)	(min)	(min)	(Hz)	Day	Even	Night	(km/h)
T1	101.4	98.4	-8.6	76.8	73.7	-33.2	PWL-Pt	TruckTravel	30.00	15.00	0.00		10.0	5.0	0.0	30.0
F1	81.9	-28.1	-28.1	67.0	-43.0	-43.0	PWL-Pt	Forklift	240.00	0.00	0.00		10.0	0.0	0.0	20.0
F2	78.0	-32.0	-32.0	65.2	-44.8	-44.8	PWL-Pt	ForkLift	240.00	0.00	0.00		10.0	0.0	0.0	30.0
F3	81.8	-28.2	-28.2	65.2	-44.8	-44.8	PWL-Pt	ForkLift	240.00	0.00	0.00		10.0	0.0	0.0	30.0

Partial Level Result Table

Source			Partial Level Day				
Name	M.	ID	R1	R2	R3	R4	R5
Repair3		Repair3	26.7	34.3	29.1	38.7	36.4
Repair1		Repair1	24.1	27.0	40.6	31.2	35.0
Repair2		Repair2	32.1	26.6	39.7	38.1	35.6
Repair4		Repair4	27.0	32.7	38.0	39.9	37.1
AC4		AC4	14.3	18.0	33.2	20.9	27.1
S1		S1	25.0	25.0	29.3	27.2	25.3
S2		S2	29.3	29.4	34.0	31.9	29.7
S3		S3	18.8	21.2	26.1	24.5	22.7
S4		S4	26.0	28.3	33.4	32.2	30.8
S5		S5	24.4	24.5	29.1	27.3	25.8
S6		S6	17.9	20.2	25.1	23.7	22.6
Impulse		Impulse	32.9	38.6	45.8	45.0	44.5
S7		S7	22.1	22.0	26.1	23.4	20.8
S8		S8	17.9	17.9	22.3	19.7	17.1
S9		S9	14.2	14.0	17.8	15.2	12.9
S10		S10	21.6	21.4	25.5	23.1	20.8
T1		T1	35.2	32.3	41.7	38.6	37.2
F1		F1	19.2	20.8	31.8	31.8	31.3
F2		F2	15.5	16.9	27.7	27.5	26.8
F3		F3	13.8	15.9	29.7	29.7	28.9

Result Table

Receiver	Limiting Value		rel. Axis			Lr w/o Noise Control		dL req.		Lr w/ Noise Control	
Name	Day	Night	Station	Distance	Height	Day	Night	Day	Night	Day	Night
	dB(A)	dB(A)	m	m	m	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
R1	50	45	196	252.23	1.00	40.2	30.0	-	-	0.0	0.0
R2	50	45	196	196.99	1.00	42.4	30.9	-	-	0.0	0.0
R3	50	45	247	146.64	1.00	49.7	36.6	-	-	0.0	0.0
R4	50	45	282	145.66	1.00	48.6	33.9	-	-	0.0	0.0
R5	50	45	31	173.86	1.50	47.5	32.7	-	-	0.0	0.0