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NOISE IMPACT STUDY – **Project: 23143**

Elm Place Warehouse Distribution Centre
Land Use Compatibility Study and Noise Impact Study
Sudbury, Ontario

Prepared for:

Todd Robson & Associates

Prepared by:

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September 13, 2023

Revision History

Version	Description	Author	Reviewed	Date
- -	Initial Report	AM	DF	September 13, 2023

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1 Introduction

Todd Robson & Associates has retained the services of Aercoustics Engineering Limited (Aercoustics) to prepare a Land Use Compatibility Study and Noise Impact Study for the proposed Elm Place Warehouse Distribution Centre located at 40 Elm Street in Sudbury, Ontario (Site). The study is prepared in support a rezoning application. It is understood that the intent is to acquire Official Plan Amendment to permit light industrial uses in the Downtown Designation and rezoning from Downtown Commercial to Downtown Commercial Special.

This study provides a detailed feasibility assessment for land use zoning purposes that evaluates the potential compatibility with sensitive receptors in the area and is based on anticipated noise, air, odour and dust emissions due to the future operations of the proposed warehouse.

An aerial view of the Site is shown in Figure 1a and Figure 1b shows the configuration of the proposed facility. Figure 2 provides the extent of potential influence areas while Figure 3 provides information regarding existing zoning in the area of study.

This report provides a written description of the land use compatibility of sensitive land uses, including residential uses, where permitted or proposed outside of and adjacent to or near to the site or within the influence area of the proposed facility. The purpose of this study was to examine potential impact of the proposed development on the adjacent properties as well as properties within influence areas as defined in in the D-series Guidelines. Potential sources of pollution due to the subject development have been reviewed and mitigation measures identified/recommended as required.

2 Land Use Compatibility

2.1 Guidelines and Methodology

2.1.1 Guideline D-6

Ministry of Environment, Conservation and Parks (MECP) Guideline D-6 "*Compatibility Between Industrial Facilities (Guideline D-6)*" is a guide for land use planning authorities to decide what types of land uses are appropriate near industrial areas. Its intention is to inform land use planning decision making and to prevent or minimize problems due to the encroachment of sensitive land uses and industrial land use on one another.

The potential pollutants under consideration include odor, dust, noise and vibration due to the operation of the industrial facilities. Separation distance between sensitive land uses and the industry or 'influence areas' are also part of the review as per the guideline. For this purpose, Guideline D-6 defines three classes (I, II and II) of industry and associated with the Potential Influence Areas as well as Recommended Minimum Separation Distances. Table 1 below summarizes the recommendations:

Table 1 Potential Influence Areas and Minimum Separation Distances as per Guideline D-6

Class of Industry	Potential Influence Area	Recommended Minimum Separation Distance
Class I small scale, self-contained with low probability of fugitive emissions, infrequent outputs of noise, vibration dust, and/or odour, daytime operation only	70m	20m
Class II medium scale processing and manufacturing, outdoor storage of materials, periodic outputs of minor annoyance, shift operations with frequent movement of products and/or heavy trucks during daytime hours, occasional output of fugitive emissions such as noise, vibration, dust and/or odour,	300m	70m
Class III large scale processing and manufacturing, outdoor storage of products and raw materials, continuous movement of products and employees during shift operations, frequent output of major annoyance and high probability of fugitive emissions such as noise, vibration, dust and/or odour	1000m	300m

2.1.2 Methodology

To assess the potential impact of the Site on the sensitive/residential areas nearby, the following steps have been undertaken:

- Review of the proposed activities at the proposed facility and identification of potential fugitive emissions due to its future operation
- Review existing zoning and surrounding land uses aided by aerial photography,
- Site visit to identify sensitive land uses within Potential Influence Area of the Site
- The review of the site visit observations conducted in accordance with Guideline D-1 and its recommendations.

2.2 Review of Potential Sources of Pollution

The proposed industrial facility at the Elm Place is a warehouse distribution centre operation to be incorporated into the existing Elm Place building. It should be noted that the Elm Place complex also contains an office complex, the Radisson Hotel and Convention Centre, three-storey parking garage, a mall with retail and commercial spaces.

The loading docks to service the warehouse distribution centre are proposed to be located on the north and south facades of the building. The north loading dock faces existing residential zone adjacent to the north property line of the Site. The south loading dock faces existing downtown commercial zone adjacent to the south property line of the site.

There will not be any large-scale processing or manufacturing, outdoor storage of products or raw materials. The operations at the Site will be limited to deliveries and pickup of goods, and packaging/sorting activities inside the warehouse space. As a result, it's expected there may be frequent movement of products and/or heavy trucks with the majority of movements during daytime hours. Therefore, the proposed facility meets the requirements of **Class II Industry, and its Potential Influence area is 300 m**. The Recommended Minimum Separation Distance (as per Guideline D-6) between the facility and the sensitive receptors is 70 m.

There will not be any sources of odour, dust and/or vibration associated with the operation of the proposed warehouse operation. The only pollutant of concern is noise due to the operation of the facility. The following sources of noise within the project have been investigated and addressed in this study:

- Movement of delivery trucks (steady noise)

Impulsive noise from shunt trucks at loading bays are not expected to be part of normal operation. Impulsive noise from loading and unloading is expected to acoustically insignificant due to the existing ambient noise and the enclosed nature of the loading areas. Existing HVAC equipment and other baseline equipment for the Elm Place complex is expected to also service the proposed warehouse distribution centre.

Per Figure 1b, the truck loading docks, and associated routes are on St. Annes Road and Elm Street; delivery trucks will be traveling adjacent to the sensitive receptors along St. Anne Road and may impact traffic. This may need to be confirmed with a traffic study.

2.3 Review of Land Uses within Influence Area

2.3.1 Surrounding Land Uses

The Elm Place property includes an office complex, the Radisson Hotel and Convention Centre, three-storey parking garage, mall with retail and commercial spaces. The parcel's zoning designation is Downtown Commercial.

The surrounding land uses are as follows:

- Properties to the North of the Site (located on the north side of Ste Anne Road), are occupied by existing medium and high density residential and includes Suite Times Student Residences, City view Gardens apartment building (**Sensitive land use**),
- Properties to the East of the Site (located on the east side of Notre Dame Avenue), are occupied by existing residential and includes the Ukrainian senior's centre. **(Sensitive land use)**,
- Properties to the South of the Site (located on the south side of Elm Street), are occupied by downtown businesses commercial and includes the Transit Downtown Hub and other businesses.
- Properties to the West of the Site are occupied by places of worship and Christ the King Senior Citizen Centre. **(Sensitive land use)**.

It should be noted that the proponent is not aware of any complaints against the proposed development at this time, nor there were any communications between the existing land uses and the proponent. Figure 2 below shows the immediate area of the project as well as the extent of Potential Influence Area and minimum recommended separation distance.

2.3.2 Site Visit Observations

A site visit was conducted by Aercoustics personnel on Friday, August 10, 2023.

It was noted that none of the existing land uses in the area, other than Ste Anne Road, Notre Dame Avenue and Elm Street, were audible or discharging any fugitive emissions detectible at the Site.

The dominant sources of pollutants in the area are Ste Anne Road, Notre Dame Avenue and Elm Street. These roads are dominating the acoustic environment of the study area.

It was also noted that there are properties located in the proximity of the site that are considered sensitive receptors and might be impacted by the proposed development. These properties of concern are as follows:

- Existing medium and high-density residential dwellings located on the north side of Ste Anne Road and Suite Times Student Residences adjacent to Radisson Hotel. Specifically, the town houses located at 202-216 Ste Anne Road and City View Gardens Apartment building and apartment building at 250 Ste Anne Road.

All of the above listed properties/land uses have been addressed in the noise impact study section of this report.

As discussed in Section 2.2 of this document, only noise associated with the operation of the facility needs to be addressed as there will not be any expected sources of odour, dust and/or vibration due to the operation of the proposed warehouses that will result in excess emissions.

3 Noise Impact Study

3.1 Guidelines and Criteria

Sound levels are assessed at the noise-sensitive receptors around the site which are predicted to experience the highest sound impact from the proposed facility. A determination of compliance with the relevant sound level limits at these worst-case locations reflects compliance at noise-sensitive receptors located further away, as sound levels decrease with distance from the source.

The MECP guidelines require consideration of outdoor points of reception in backyards, such as the existing residential units to the north of the development. Receptors representing these outdoor points of reception have been considered in this study and are represented with a “g” at the end of the Receptor ID. The height and location of the receptors have been selected in accordance with NPC-300. The receptors considered in this study are detailed further in Table 1.

Table 2: Receptor Location Summary

Receptor ID	Description	Location[1]
R01	Existing 3-storey dwelling	60 m west
R02	Existing 3-storey dwelling	50 m north
R02g	Outdoor Receptor for R02	50m north
R03	Existing 12-storey dwelling	55 m north
R04	Existing 9-storey dwelling	120 m northeast
R05	Existing 3-storey dwelling	180 m east

1 – Distances from receptor to closest stationary source; directions from source to receiver.

The noise level limits pertaining to stationary noise sources have been established based on the Ministry of the Environment, Conservation, and Parks (MECP) publication NPC-300. For sound from a stationary source, the sound level limit at a point of reception, expressed in terms of the one-hour equivalent sound level (L_{eq}-1hr), is the higher of the applicable exclusion limit value given in Table 3, or the background sound level for that point of reception.

Table 3: Noise Exclusion Limits – Stationary Noise Sources – Classes 1, 2, 3, and 4

Time of Day	Sound Level Exclusion Limit* Class 1 Area	Sound Level Exclusion Limit* Class 2 Area	Sound Level Exclusion Limit* Class 3 Area	Sound Level Exclusion Limit* Class 4 Area
	Outdoor Points of Reception			
Day (07:00 to 19:00)	50 dBA	50 dBA	45 dBA	55 dBA
Evening (19:00 to 23:00)	50 dBA	45 dBA	40 dBA	55 dBA
	Plane of Window of Noise Sensitive Spaces			
Day (07:00 to 19:00)	50 dBA	50 dBA	45 dBA	60 dBA
Evening (19:00 to 23:00)	50 dBA	50 dBA	40 dBA	60 dBA
Night (23:00 to 07:00)	45 dBA	45 dBA	40 dBA	55 dBA

*or the minimum existing hourly background sound level L_{eq}, whichever is higher

The applicable MECP sound level limit is determined by the exclusion limit listed above or the minimum hourly equivalent background sound level, whichever is higher. It is not expected that the background sound level will increase the sound level limit above the noise exclusion limits for the receptors in this study.

The proposed site and surrounding lands are considered MECP Class 1 areas. In a Class 1 area, the background sound level during the daytime (07:00 to 19:00), evening time (19:00 to 23:00) and nighttime (23:00 to 07:00) are defined by man-made sources; in this case, noise is generated primarily by road traffic on Ste Anne Road, Notre Dame Avenue and Elm Street.

The noise-sensitive receptors and associated sound level limits are outlined in Table 4, below.

Table 4: Applicable Sound Level Limits

Receptor ID	Applicable Sound Level Limit (dBA)		
	Daytime[1]	Evening[1]	Nighttime[1]
R01-R05	50	50	45
R02g	50	50	-

[1] – Daytime (07:00 – 19:00), Evening (19:00 – 23:00), Nighttime (23:00 – 07:00)

3.2 Noise Prediction Methodology

The stationary noise source prediction model was generated using Datakustik's CadnaA Noise Prediction Software. This model is based on established noise prediction methods outlined in the ISO 9613-2 standard "Acoustics - Attenuation of sound during propagation outdoors – Part 2: General method of calculation". Noise levels were predicted using

conditions of downwind propagation, generally with hard ground in paved areas or bodies of water.

This assessment was based on the facility operating 24 hours per day. For the sake of conservatism and operational flexibility, a worst-case daytime, evening, and nighttime operating scenario have been modelled using the truck counts shown in Table 5. In actuality, the total truck volumes active at the site may fall below those considered in this study. Truck movements were modelled conservatively by considering the worst-case truck counts for both the north and south loading docks. In practice, truck traffic will be distributed between both the north and south loading docks representing a lower noise impact than was considered in this study.

It is assumed that regular truck idling will be kept to a minimum such that the contribution can be considered acoustically insignificant. No refrigerated trucks are expected to be part of normal operation. The use of shunt trucks to relocate empty trailers is not planned.

Table 5: Worst-case truck counts

Truck Type	Daytime (07:00-19:00)	Evening (19:00-23:00)	Nighttime (23:00-7:00)
Regular Trucks	50	20	20

3.3 Noise Predictions

This report has been prepared in accordance with the MECP Guidelines which were the base for establishing the noise level limits, predicting the noise impact of the proposed facility, as well as recommendations of the noise controls.

Table 6 below provides the results of the maximum noise predictions at nearby noise-sensitive receptors based on a worst-case operating scenario.

Table 6: Maximum Predicted Sound Levels at Nearby Noise-Sensitive Receptors

Receptor	Time Period[1]	Predicted Noise Impact (dBA)	Sound Level Limit (dBA)	Compliance (Yes/No)
R01	Day	48	50	Yes
	Evening	48	50	Yes
	Night	44	45	Yes
R02	Day	49	50	Yes
	Evening	49	50	Yes
	Night	45	45	Yes
R02g	Day	49	50	Yes

Receptor	Time Period[1]	Predicted Noise Impact (dBA)	Sound Level Limit (dBA)	Compliance (Yes/No)
	Evening	49	50	Yes
	Night	-	-	Yes
R03	Day	47	50	Yes
	Evening	47	50	Yes
	Night	43	45	Yes
R04	Day	43	50	Yes
	Evening	43	50	Yes
	Night	39	45	Yes
R05	Day	39	50	Yes
	Evening	39	50	Yes
	Night	35	45	Yes

[1] – Daytime (07:00 – 19:00), Evening (19:00 – 23:00), Nighttime (23:00 – 07:00)

Per Table 6 above, the applicable MECP sound level limits are not exceeded at any of the noise-sensitive receptors most closely situated to the proposed development. Accordingly, the noise impact of the facility is predicted to meet the sound level limits at nearby receptors without the need for implementation of noise control measures. Figures 6 and 7 illustrate the predicted daytime and nighttime noise impact contours at a height of 7.5 m (approximate height at three storey window).

4 Conclusions

Aercoustics Engineering Limited was retained by Todd Robson and Associates to prepare and Land Use Compatibility Study and Noise Impact Study to support a rezoning application for the proposed Elm Place Warehouse Distribution Centre located at 40 Elm Street in Sudbury, Ontario.

Based on the information available, the conclusions of this report are accurate as of the date it was signed and sealed. The report and associated calculations underwent a comprehensive internal review process to ensure minimizations of errors and omissions.

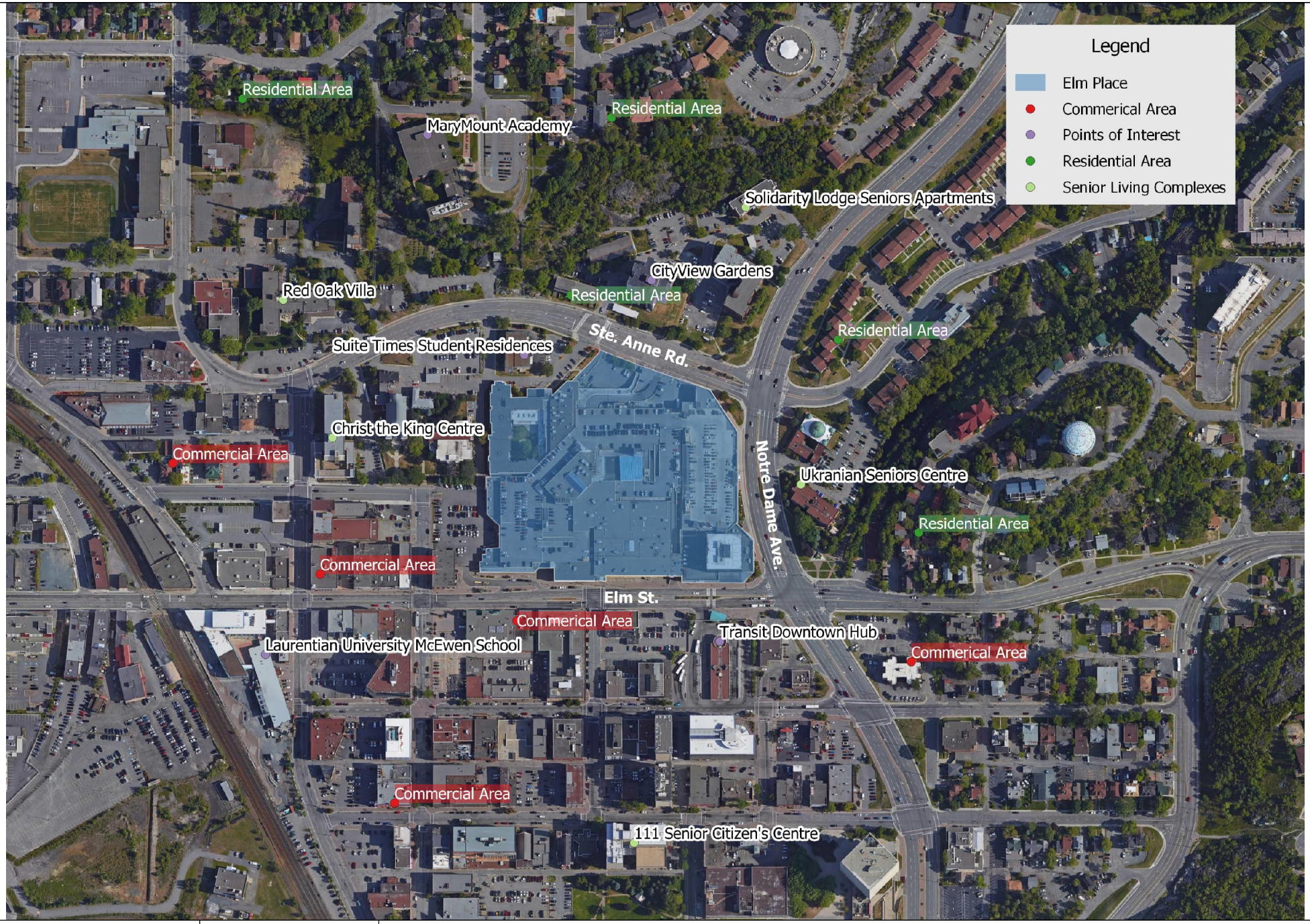
The sound levels at the nearby noise-sensitive receptors are predicted to comply with the noise guidelines of the MECP.

As such it has been concluded that the proposed warehouse distribution centre, which is classified as Class II Industry, is compatible with the surrounding land uses.

No potential air quality concerns regarding vibration, odour, or dust have been identified. Further, the proposed industrial development at the Site is aligned with the existing land uses of the area, specifically Employment zone/light industry located to the east of the Site.

5 References

- Ontario Ministry of Environment, “D-6 Compatibility Between Industrial Facilities”, Last revision date: 1995



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Project ID: 23143.00

Scale: As shown
Drawn by: AM
Reviewed by: DF
Date: Sept, 2023
Revision: 1

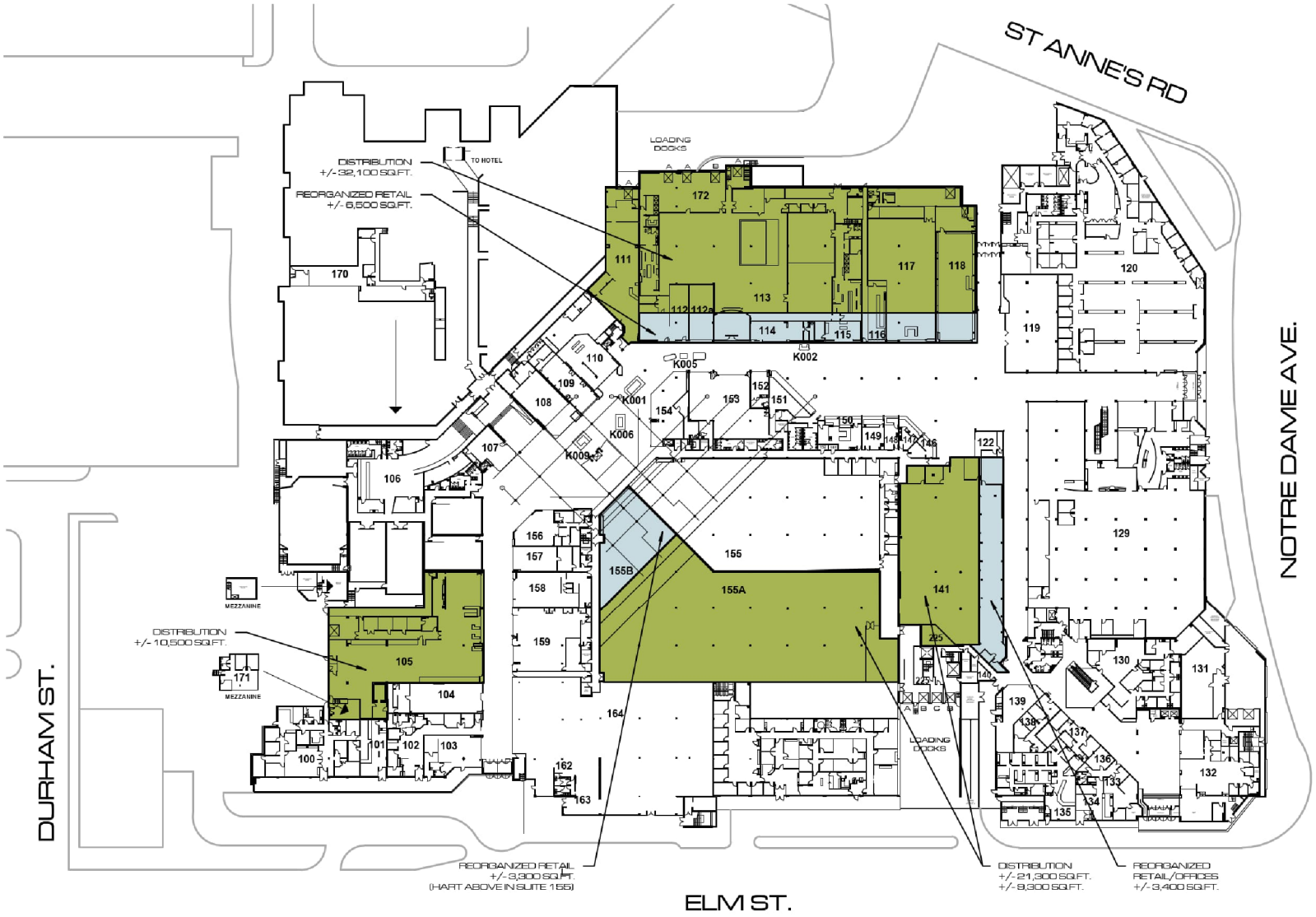
Project Name

Elm Place Warehouse Distribution Centre - Noise Impact Study

Figure Title

Key Plan

Figure 1a



Elm Place

DISTRIBUTION CENTRE 1B

40 Elm Street
Sudbury, ON

LUCIW BOUDREAU ARCHITECTURE

FLOOR PLAN - LEVEL 1 - OPTION 1B
1" = 80'-0"
December 17, 2021

SD-02

aercoustics

Project ID: 23143.00

Scale: As shown
Drawn by: AM
Reviewed by: DF
Date: Sept, 2023
Revision: 1

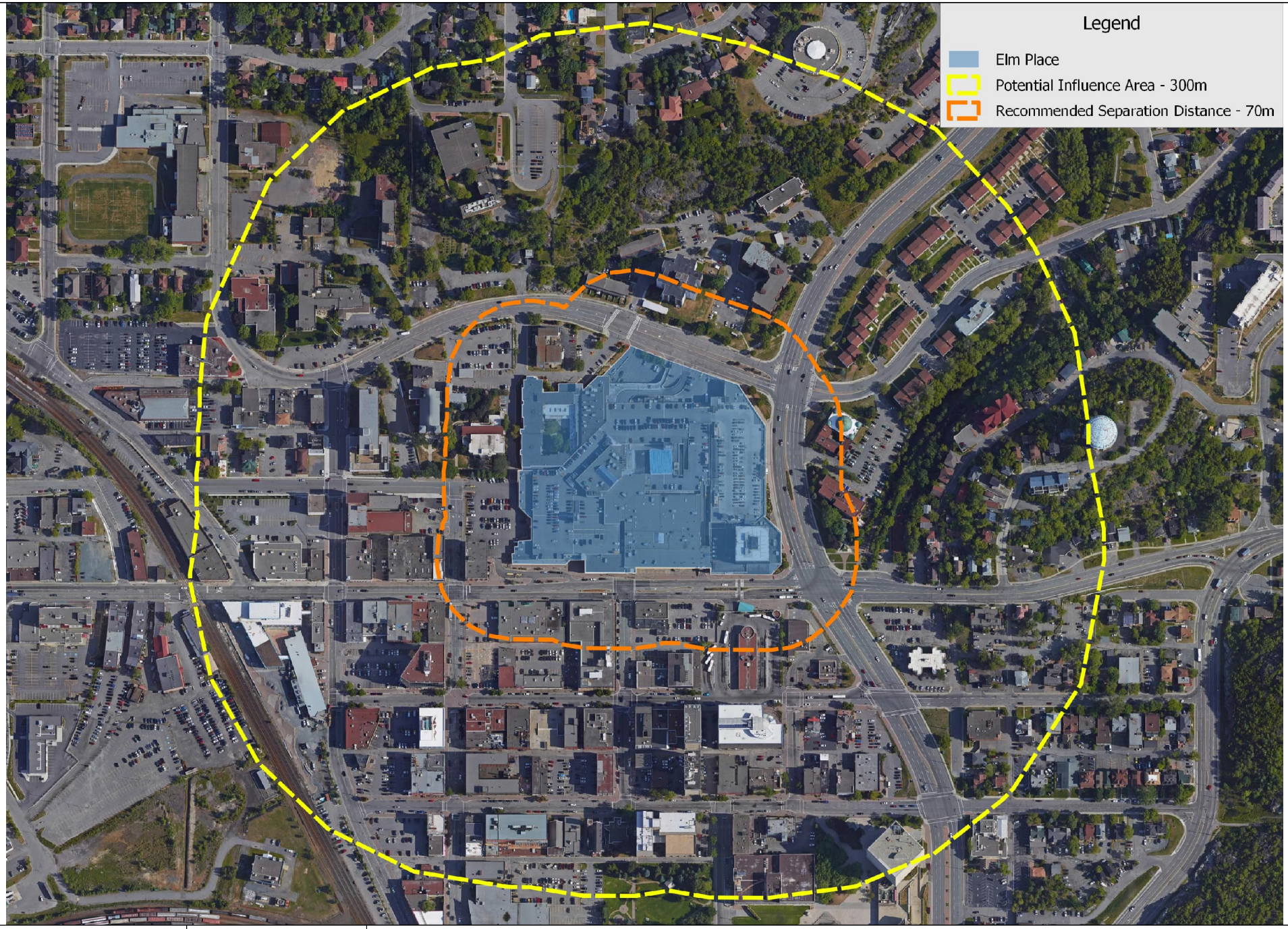
Project Name

Elm Place Warehouse Distribution Centre - Noise Impact Study

Figure Title

Proposed Site Plan

Figure 1b



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Revision: 1

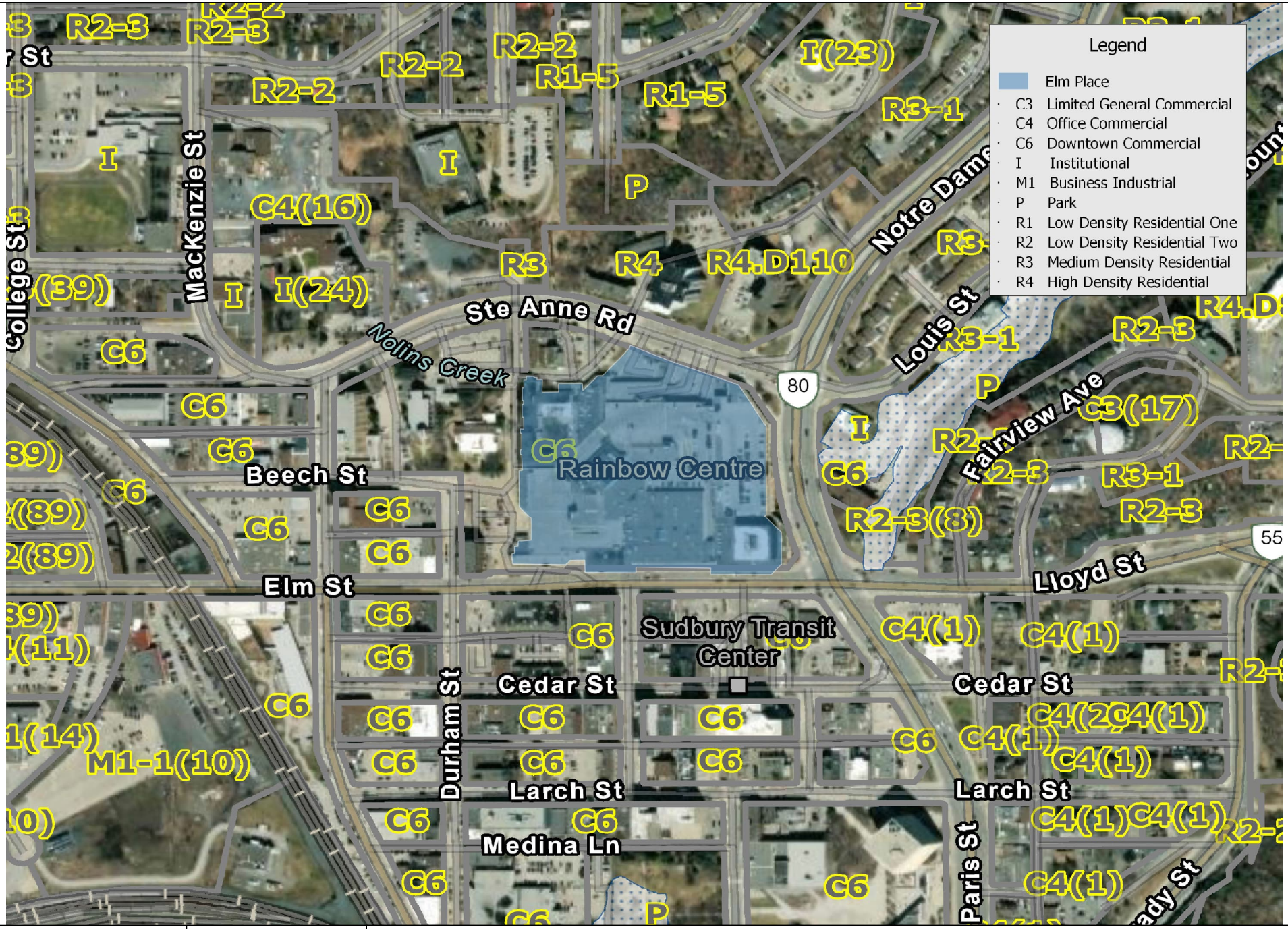
Project Name

Elm Place Warehouse Distribution Centre - Noise Impact Study

Figure Title

Study Area Showing Extent of Potential Influence Area

Figure 2



aercoustics	Project ID: 23143.00 Scale: As shown Drawn by: AM Reviewed by: DF Date: Sept, 2023 Revision: 1	**Project Name** Elm Place Warehouse Distribution Centre - Noise Impact Study **Figure Title** Zoning Map of the Surrounding Area

Figure 3

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Revision: 1

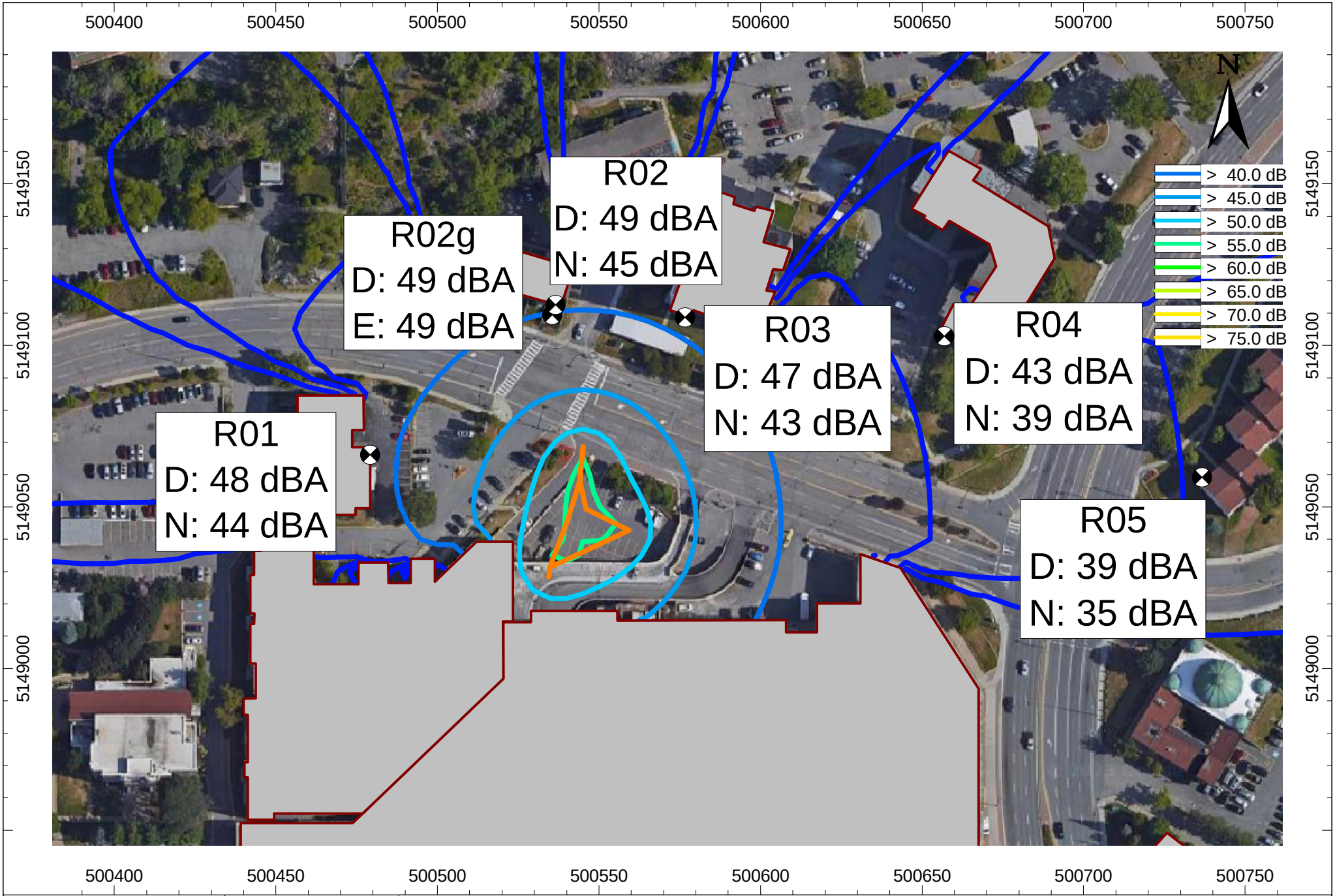
Project Name

Elm Place Warehouse Distribution Centre - Noise Impact Study

Figure Title

Site Plan Showing Location of Noise Sources

Figure 5



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Date: Aug, 2023
Revision: 1

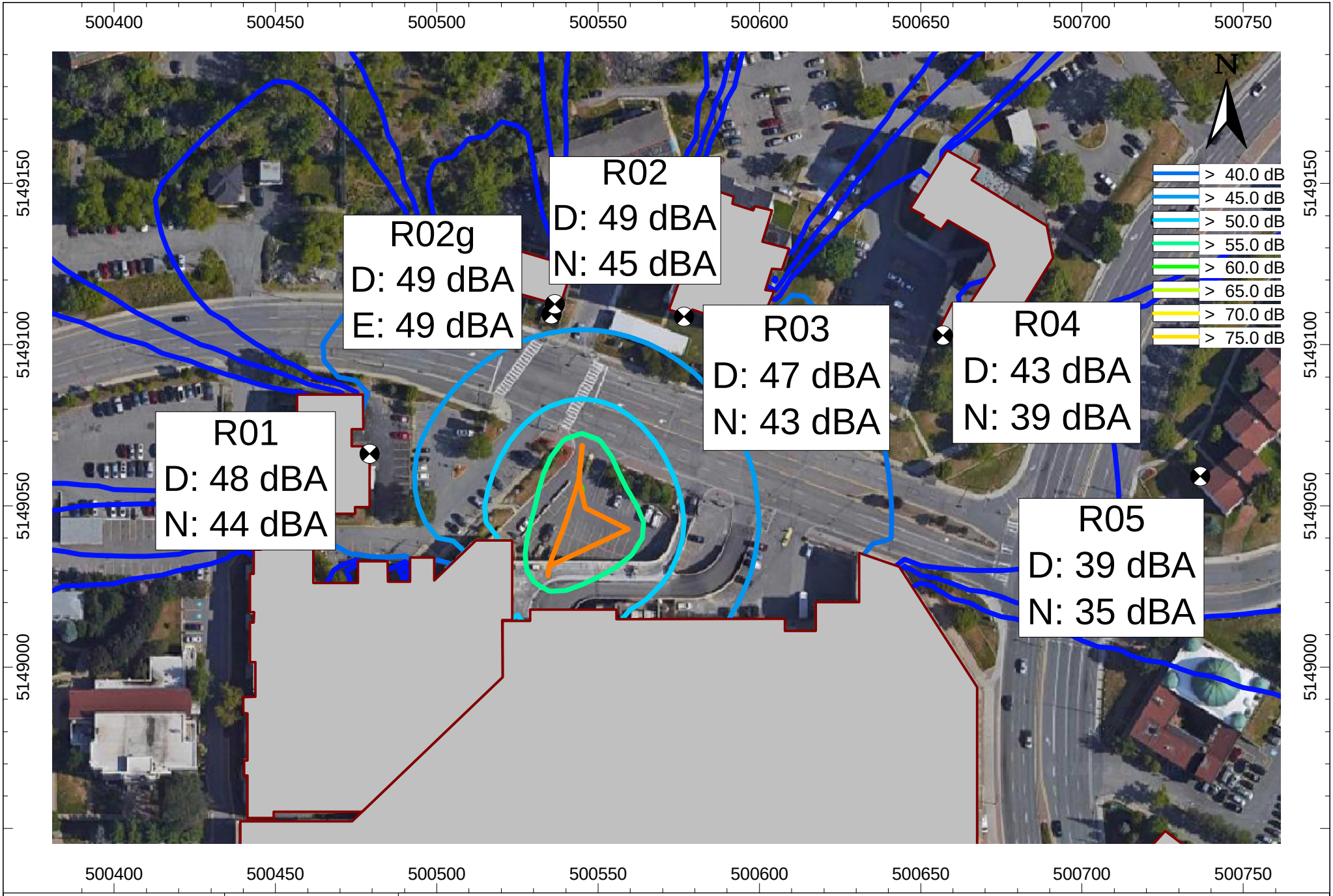
Project Name

Elm Place Warehouse Distribution Centre - Noise Impact Study

Figure Title

North Loading Dock - Noise Impact Contours at 4.5m height - Nighttime

Figure 6



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Date: Aug, 2023
Revision: 1

Project Name

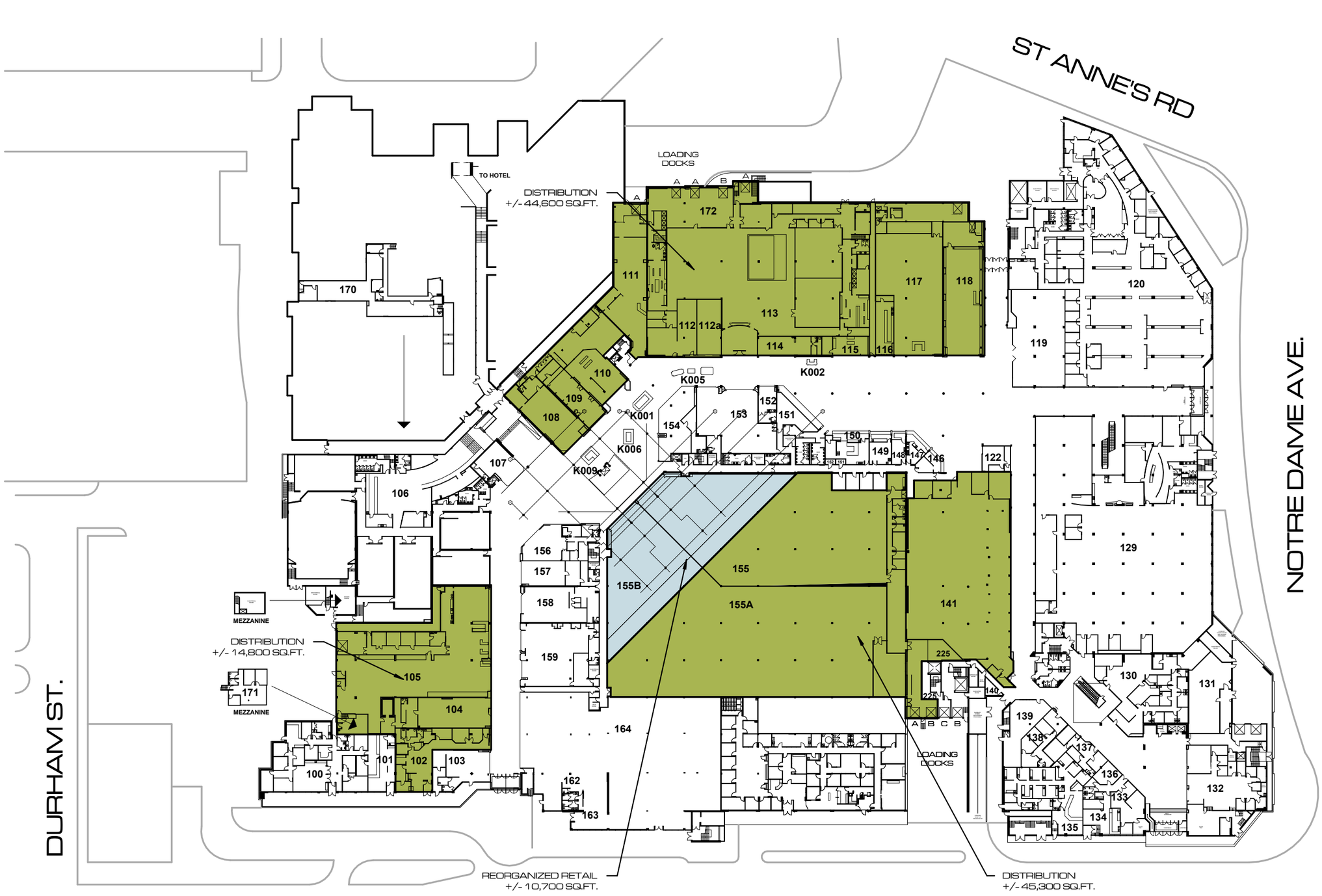
Elm Place Warehouse Distribution Centre - Noise Impact Study

Figure Title

North Loading Dock - Noise Impact Contours at 4.5m height - Daytime

Figure 7

Appendix A
Site Plan Drawings



Elm Place

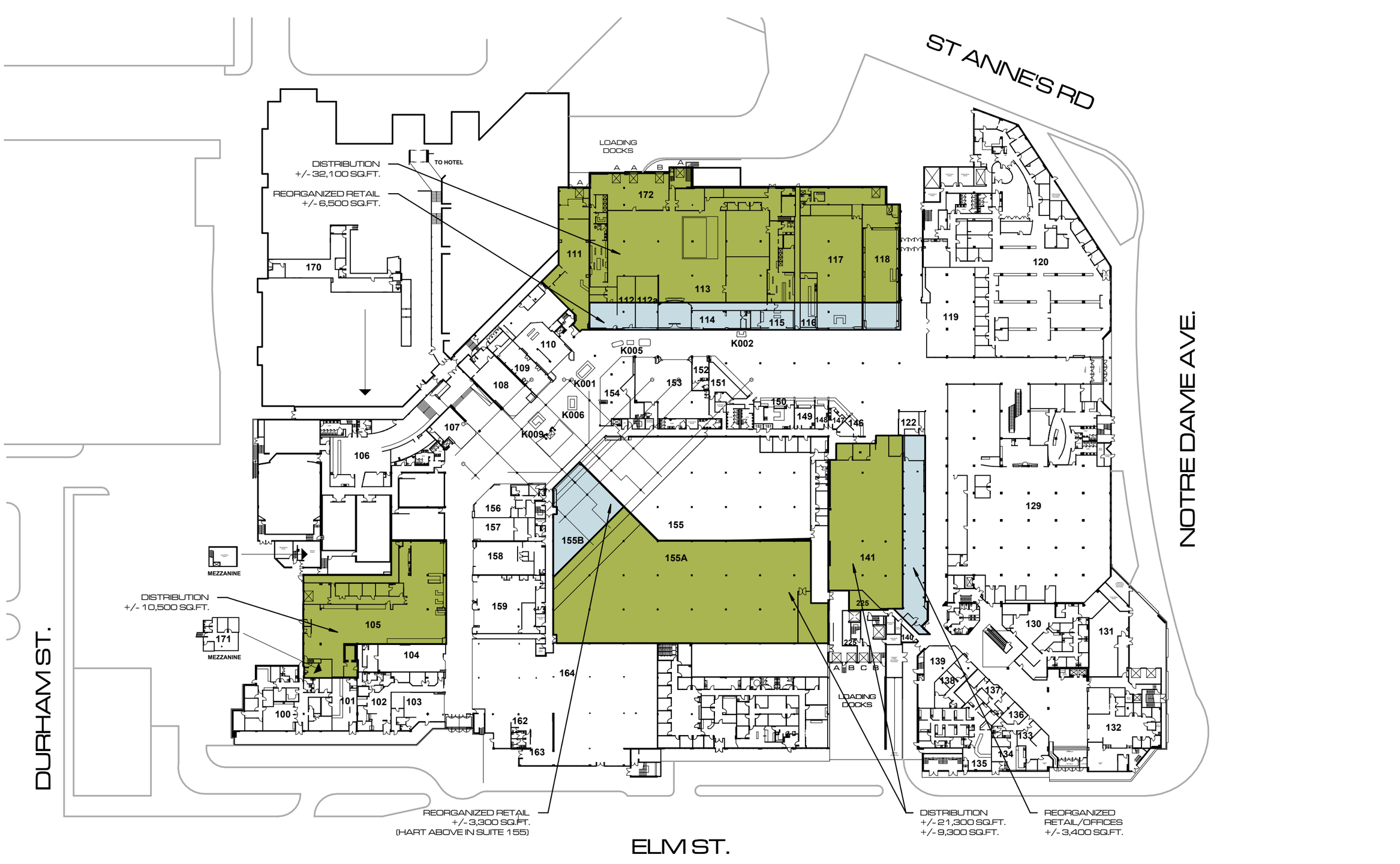
DISTRIBUTION CENTRE 1A

40 Elm Street
Sudbury, ON

LUCIW BOUDREAU ARCHITECTURE

FLOOR PLAN - LEVEL 1 - OPTION 1A
1" = 80'-0"
December 17, 2021

SD-01



Elm Place

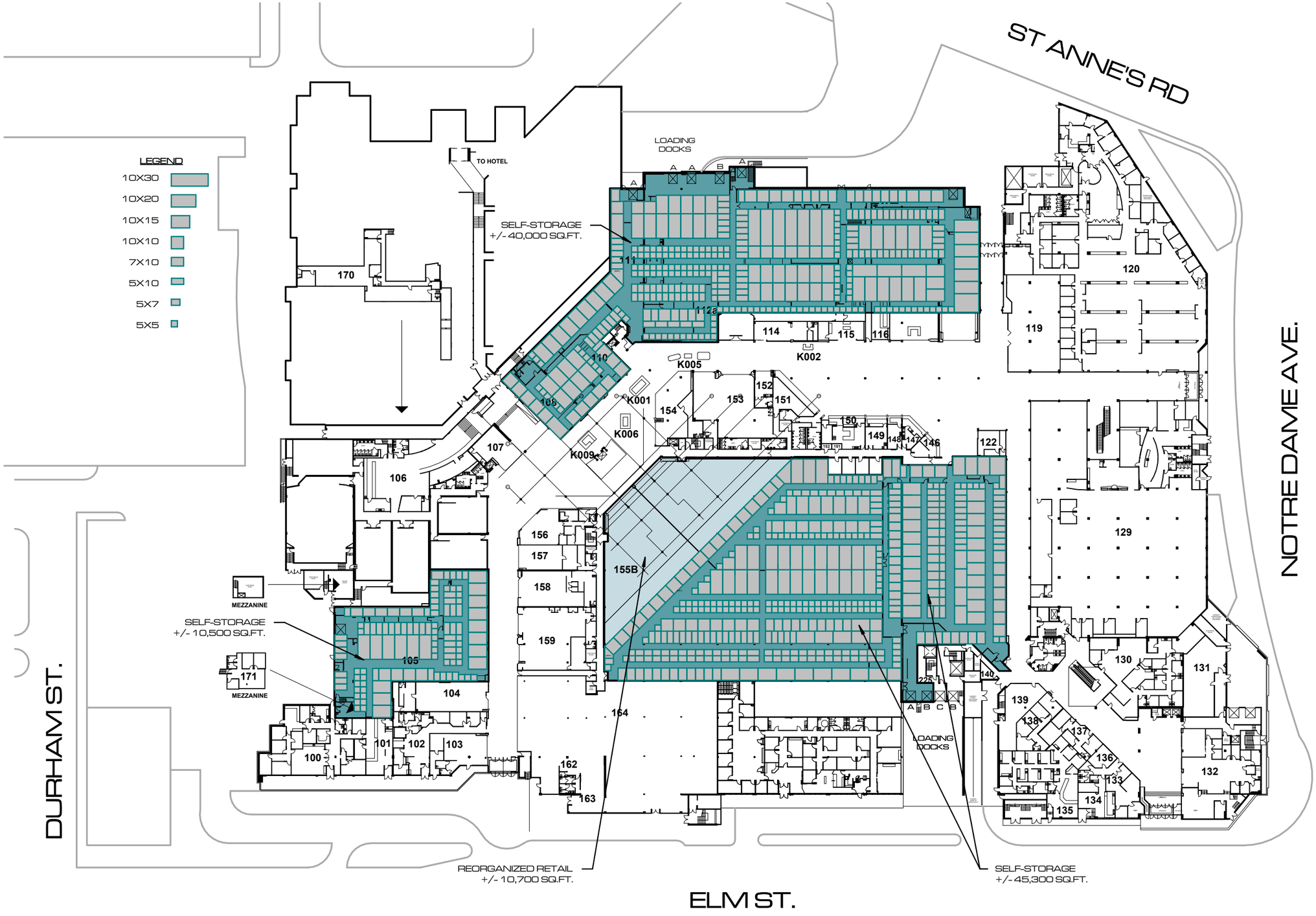
DISTRIBUTION CENTRE 1B

40 Elm Street
Sudbury, ON

LUCIW BOUDREAU ARCHITECTURE

FLOOR PLAN - LEVEL 1 - OPTION 1B
1" = 80'-0"
December 17, 2021

SD-02



Elm Place

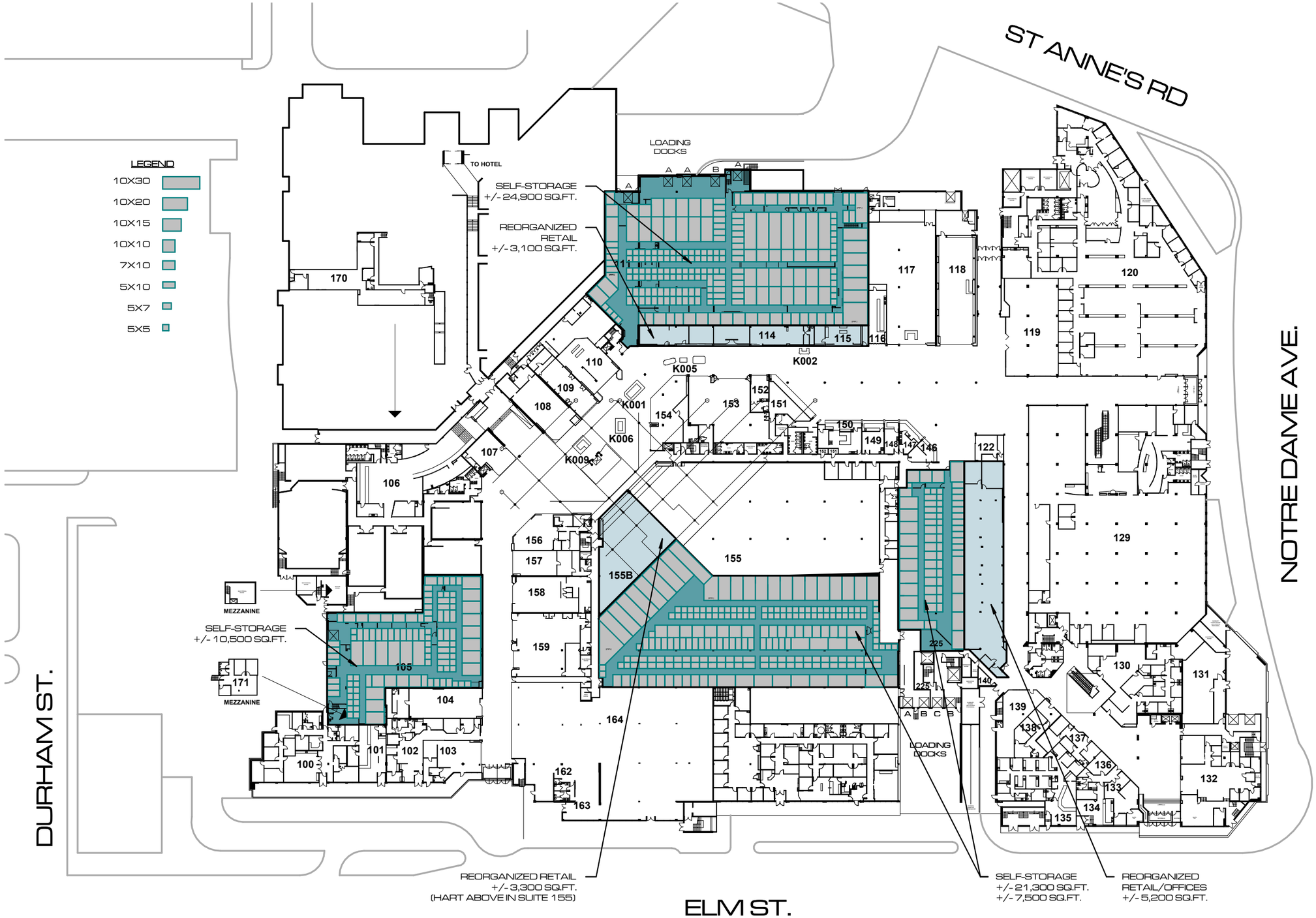
40 Elm Street
Sudbury, ON

SELF-STORAGE 2A

LUCIW BOUDREAU ARCHITECTURE

FLOOR PLAN - LEVEL 1 - OPTION 2A
1" = 80'-0"
December 17, 2021

SD-03



Elm Place

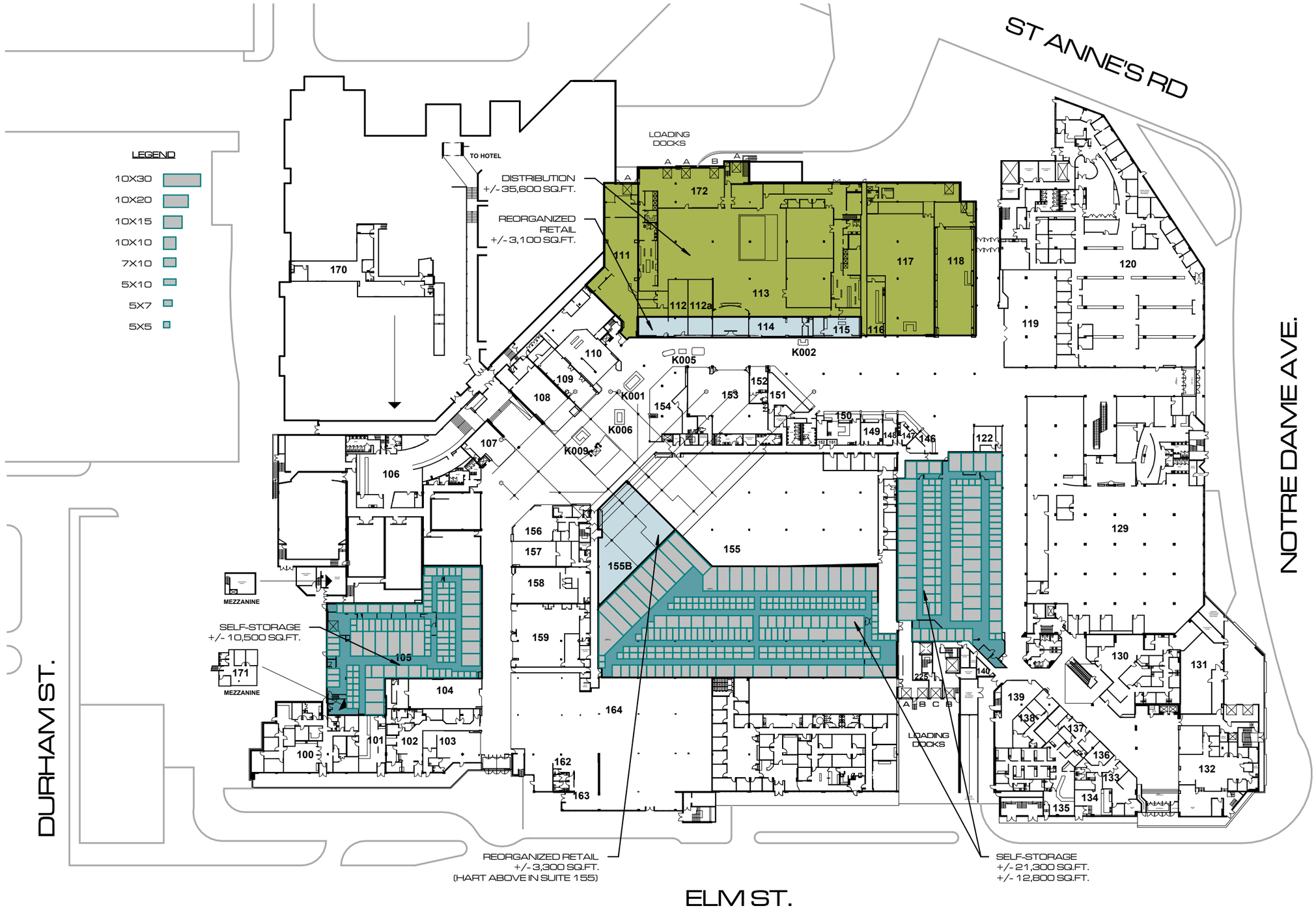
SELF-STORAGE 2B

40 Elm Street
Sudbury, ON

LUCIW BOUDREAU ARCHITECTURE

FLOOR PLAN - LEVEL 1 - OPTION 2B
1" = 80'-0"
December 17, 2021

SD-04



Elm Place

DISTRIBUTION CENTRE &
SELF-STORAGE MIX 3

40 Elm Street
Sudbury, ON

LUCIW BOUDREAU
ARCHITECTURE

FLOOR PLAN - LEVEL 1 - OPTION 3
1" = 80'-0"
December 17, 2021

SD-05

Appendix B
Sound Power Data and Sample Calculations

Sound Power Data

Source ID	Source Description	Octave Band Centre Frequency (Hz)								Overall Level	
		63	125	250	500	1000	2000	4000	8000	**dBA**	**dB**
T01, T02	Regular Truck	97	101	100	97	93	90	83	76	**99**	**106**

Receiver: R01

Project: Elm Place Distribution Centre

Project Number: 22329

Time Period	Total (dBA)
Day	48

Receiver Name	Receiver ID	X	Y	Z
	R01	500479.23 m	5149066.15 m	274.56 m

Source ID	Source Name	X	Y	Z	Refl.	Lw	L/A	Freq	Adiv	K0	Agr	Abar	Aatm	Afol	Ahous	Cmet	Dc	RL	Lr
T01_Reg	Truck Route 1	500535.3	5149031.5	266.8	0	73	0.3	A	47.4	0.0	-3.0	5.0	0.3	0.0	0.0	0.0	0.0	0.0	24
T01_Reg	Truck Route 1	500547.6	5149037.3	266.7	0	73	14.2	A	48.5	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	41
T01_Reg	Truck Route 1	500537.5	5149038.5	266.9	0	73	11.3	A	47.3	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	40
T01_Reg	Truck Route 1	500534.9	5149031.8	266.8	0	73	-0.4	A	47.4	0.0	-3.0	5.0	0.3	0.0	0.0	0.0	0.0	0.0	23
T01_Reg	Truck Route 1	500543.3	5149055.7	267.3	0	73	7.0	A	47.3	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	35
T01_Reg	Truck Route 1	500541.2	5149049.1	267.2	0	73	9.5	A	47.2	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	38
T01_Reg	Truck Route 1	500552.7	5149046.1	266.8	0	73	11.7	A	48.7	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	39
T01_Reg	Truck Route 1	500544.6	5149063.5	267.5	0	73	10.3	A	47.4	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	38
T01_Reg	Truck Route 1	500544.5	5149063.4	267.5	0	73	10.2	A	47.4	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	38
T01_Reg	Truck Route 1	500545.7	5149051.1	267.1	0	73	5.4	A	47.7	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	33
T01_Reg	Truck Route 1	500544.7	5149055.5	267.3	0	73	7.5	A	47.5	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	36
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.9	A	47.5	0.0	-3.0	8.6	0.3	0.0	0.0	0.0	0.0	0.0	24
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.8	A	47.5	0.0	-3.0	8.6	0.3	0.0	0.0	0.0	0.0	0.0	24

Receiver: R02

Project: Elm Place Distribution Centre

Project Number: 22329

Time Period	Total (dBA)
Day	49

Receiver Name	Receiver ID	X	Y	Z
	R02	500536.54 m	5149112.58 m	275.39 m

Source ID	Source Name	X	Y	Z	Refl.	Lw	L/A	Freq	Adiv	K0	Agr	Abar	Aatm	Afol	Ahous	Cmet	Dc	RL	Lr
T01_Reg	Truck Route 1	500544.6	5149063.5	267.5	0	73	10.3	A	45.0	0.0	-3.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	41
T01_Reg	Truck Route 1	500544.5	5149063.4	267.5	0	73	10.2	A	45.1	0.0	-3.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	41
T01_Reg	Truck Route 1	500547.1	5149037.0	266.7	0	73	14.3	A	48.7	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	41
T01_Reg	Truck Route 1	500542.0	5149051.5	267.2	0	73	11.4	A	46.8	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	40
T01_Reg	Truck Route 1	500552.7	5149046.1	266.8	0	73	11.7	A	47.8	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	40
T01_Reg	Truck Route 1	500537.3	5149038.1	266.9	0	73	11.6	A	48.5	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	39
T01_Reg	Truck Route 1	500545.1	5149053.8	267.2	0	73	9.6	A	46.6	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	39
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.9	A	49.4	0.0	-3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	31
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.8	A	49.4	0.0	-3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	31
T02_Reg	Truck Route 2	500598.4	5148868.6	263.8	0	73	15.0	A	59.0	0.0	-3.0	15.7	1.0	0.0	0.0	0.0	0.0	0.0	15

Receiver: R02g

Project: Elm Place Distribution Centre

Project Number: 22329

Time Period	Total (dBA)
Day	49

Receiver Name	Receiver ID	X	Y	Z
	R02g	500535.51 m	5149109.42 m	269.24 m

Source ID	Source Name	X	Y	Z	Refl.	Lw	L/A	Freq	Adiv	K0	Agr	Abar	Aatm	Afol	Ahous	Cmet	Dc	RL	Lr
T01_Reg	Truck Route 1	500544.6	5149063.5	267.5	0	73	10.3	A	44.4	0.0	-3.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	42
T01_Reg	Truck Route 1	500544.5	5149063.4	267.5	0	73	10.2	A	44.4	0.0	-3.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	41
T01_Reg	Truck Route 1	500547.1	5149037.0	266.7	0	73	14.3	A	48.3	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	42
T01_Reg	Truck Route 1	500542.0	5149051.5	267.2	0	73	11.4	A	46.3	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	41
T01_Reg	Truck Route 1	500552.7	5149046.1	266.8	0	73	11.7	A	47.3	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	40
T01_Reg	Truck Route 1	500537.3	5149038.1	266.9	0	73	11.6	A	48.1	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	39
T01_Reg	Truck Route 1	500545.1	5149053.8	267.2	0	73	9.6	A	46.0	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	39
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.9	A	49.0	0.0	-3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	31
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.8	A	49.0	0.0	-3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	31

Receiver: R03

Project: Elm Place Distribution Centre

Project Number: 22329

Time Period	Total (dBA)
Day	47

Receiver Name	Receiver ID	X	Y	Z
	R03	500576.69 m	5149108.66 m	301.13 m

Source ID	Source Name	X	Y	Z	Refl.	Lw	L/A	Freq	Adiv	K0	Agr	Abar	Aatm	Afol	Ahous	Cmet	Dc	RL	Lr
T01_Reg	Truck Route 1	500536.7	5149032.2	266.8	0	73	6.2	A	50.4	0.0	-3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	31
T01_Reg	Truck Route 1	500549.0	5149037.9	266.7	0	73	13.6	A	49.4	0.0	-3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	40
T01_Reg	Truck Route 1	500544.6	5149063.5	267.5	0	73	10.3	A	47.2	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	39
T01_Reg	Truck Route 1	500544.5	5149063.4	267.5	0	73	10.2	A	47.2	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	39
T01_Reg	Truck Route 1	500542.0	5149051.5	267.2	0	73	11.4	A	48.5	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	39
T01_Reg	Truck Route 1	500552.7	5149046.1	266.8	0	73	11.7	A	48.5	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	39
T01_Reg	Truck Route 1	500537.3	5149038.1	266.9	0	73	11.6	A	49.9	0.0	-3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	37
T01_Reg	Truck Route 1	500545.1	5149053.8	267.2	0	73	9.6	A	48.1	0.0	-3.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	37
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.9	A	50.6	0.0	-3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	30
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.8	A	50.6	0.0	-3.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	30
T02_Reg	Truck Route 2	500598.4	5148868.6	263.8	0	73	15.0	A	58.7	0.0	-3.0	13.3	0.9	0.0	0.0	0.0	0.0	0.0	18
T02_Reg	Truck Route 2	500597.7	5148871.0	263.8	0	73	14.3	A	58.7	0.0	-3.0	14.3	0.9	0.0	0.0	0.0	0.0	0.0	16

Receiver: R04

Project: Elm Place Distribution Centre

Project Number: 22329

Time Period	Total (dBA)
Day	43

Receiver Name	Receiver ID	X	Y	Z
	R04	500656.87 m	5149102.81 m	286.44 m

Source ID	Source Name	X	Y	Z	Refl.	Lw	L/A	Freq	Adiv	K0	Agr	Abar	Aatm	Afol	Ahous	Cmet	Dc	RL	Lr
T01_Reg	Truck Route 1	500547.1	5149037.0	266.7	0	73	14.3	A	53.2	0.0	-3.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	36
T01_Reg	Truck Route 1	500552.7	5149046.1	266.8	0	73	11.7	A	52.6	0.0	-3.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	34
T01_Reg	Truck Route 1	500542.0	5149051.5	267.2	0	73	11.4	A	53.1	0.0	-3.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	34
T01_Reg	Truck Route 1	500537.3	5149038.1	266.9	0	73	11.6	A	53.8	0.0	-3.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	33
T01_Reg	Truck Route 1	500544.6	5149063.5	267.5	0	73	10.3	A	52.6	0.0	-3.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	33
T01_Reg	Truck Route 1	500544.5	5149063.4	267.5	0	73	10.2	A	52.6	0.0	-3.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	33
T01_Reg	Truck Route 1	500545.1	5149053.8	267.2	0	73	9.6	A	52.8	0.0	-3.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	32
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.9	A	54.2	0.0	-3.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	26
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.8	A	54.2	0.0	-3.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	26
T02_Reg	Truck Route 2	500598.4	5148868.6	263.8	0	73	15.0	A	58.7	0.0	-3.0	14.7	0.9	0.0	0.0	0.0	0.0	0.0	17
T02_Reg	Truck Route 2	500597.7	5148871.0	263.8	0	73	14.3	A	58.6	0.0	-3.0	15.5	0.9	0.0	0.0	0.0	0.0	0.0	15
T02_Reg	Truck Route 2	500593.3	5148852.5	263.7	0	73	10.1	A	59.3	0.0	-3.0	10.4	1.0	0.0	0.0	0.0	0.0	0.0	15

Receiver: R05

Project: Elm Place Distribution Centre

Project Number: 22329

Time Period	Total (dBA)
Day	39

Receiver Name	Receiver ID	X	Y	Z
	R05	500736.69 m	5149059.20 m	268.50 m

Source ID	Source Name	X	Y	Z	Refl.	Lw	L/A	Freq	Adiv	K0	Agr	Abar	Aatm	Afol	Ahous	Cmet	Dc	RL	Lr
T01_Reg	Truck Route 1	500547.1	5149037.0	266.7	0	73	14.3	A	56.6	0.0	-3.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	33
T01_Reg	Truck Route 1	500552.7	5149046.1	266.8	0	73	11.7	A	56.3	0.0	-3.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	31
T01_Reg	Truck Route 1	500542.0	5149051.5	267.2	0	73	11.4	A	56.8	0.0	-3.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	30
T01_Reg	Truck Route 1	500537.3	5149038.1	266.9	0	73	11.6	A	57.0	0.0	-3.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	30
T01_Reg	Truck Route 1	500544.6	5149063.5	267.5	0	73	10.3	A	56.7	0.0	-3.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	29
T01_Reg	Truck Route 1	500544.5	5149063.4	267.5	0	73	10.2	A	56.7	0.0	-3.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	29
T01_Reg	Truck Route 1	500545.1	5149053.8	267.2	0	73	9.6	A	56.7	0.0	-3.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	28
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.9	A	57.2	0.0	-3.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	23
T01_Reg	Truck Route 1	500534.6	5149029.8	266.8	0	73	4.8	A	57.2	0.0	-3.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	23

End of Report