5525 8th Line

Compatibility & Mitigation Study
Air Quality, Dust, Odour, Noise & Vibration
Erin, ON

SLR Project No: 241.30348.0000

May 2022

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Compatibility & Mitigation Study
Air Quality, Dust, Odour, Noise and Vibration
5528 8th Line, Erin, ON

SLR Project No.: 241.30348.0000, Version 1

Prepared by
SLR Consulting (Canada) Ltd.
150 Research Lane, Suite 105
Guelph, ON N1G 4T2

for

EC (Erin) GP Inc.
C/o Jeffery Swartz
125 Villarboit Crescent
City of Vaught, ON L4K 4K2

May 18, 2022

Prepared by:

Aaron Haniff, P.Eng.
Acoustics Specialist

Reviewed By:

R. L. Scott Penton, P.Eng.
Principal, Technical Director

Distribution: 1 copy – EC (Erin) GP Inc.
1 copy – SLR Consulting (Canada) Ltd.

EXECUTIVE SUMMARY

SLR Consulting (Canada) Ltd. (SLR), was retained by EC (Erin) GP Inc. to undertake a Compatibility Study focusing on air quality, odour, dust, noise, and vibration for their proposed residential development, to be located at 5525 8th Line in Erin, Ontario ("the Project"). This assessment has been completed in support of a Draft Plan of Subdivision and Rezoning Application to the Town of Erin. This assessment has considered:

- Industrial air quality, odour, and dust emissions;
- Transportation-related air pollution;
- Industrial noise and vibration; and
- Transportation-related noise and vibration (road, rail, and air traffic).

The potential for impacts on and the proposed development, including air quality, dust, odour, noise and vibration, have been assessed. Based on the results of our studies, adverse impacts are not anticipated. Based on our assessment the Project will not affect surrounding industrial facilities' compliance with applicable Provincial environmental policies, regulations, approvals, authorizations, and guidelines, including the Town's Noise Bylaw.

There are no warning clauses recommended for this Project as the predicted results do not trigger the requirements.

Given the above, the Project is:

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

VERSIONS

Version	Date	Comment
1	May 18, 2022	• First Submission

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1. INTRODUCTION

SLR Consulting (Canada) Ltd. (SLR), was retained by EC (Erin) GP Inc. to undertake a Compatibility Study focusing on air quality, odour, dust, noise, and vibration for their proposed residential development, to be located at 5525 8th Line in Erin, Ontario ("the Project"). This assessment has been completed in support of a Draft Plan of Subdivision and Rezoning Application to the Town of Erin.

Potential environmental impacts from the following sources have been considered:

- Industrial air quality, odour, and dust emissions;
- Industrial noise; and
- Transportation-related noise and vibration (road, rail, and air traffic).

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

- The Provincial Policy Statement;
- Ministry of the Environment, Conservation and Parks ("MECP") Guidelines D-1 and D-6;
- Ontario Regulation 419/05: *Air Pollution – Local Air Quality* and its associated air quality standards and assessment requirements;
- The MECP's draft policies on odour impacts and assessment; and
- MECP Publication NPC-300 noise guidelines for industrial and transportation.

This report is intended to meet the requirements of the Compatibility Study Requirement of the Town of Erin. This report identifies existing and potential land use compatibility issues and identifies and evaluates options to achieve appropriate design, buffering and/or separation distances between the proposed sensitive land uses, including residential uses, and nearby employment areas and/or major facilities.

The nearest railway line is located more than 500 m from the proposed development, therefore, there are no concerns related to railway noise or vibration, and further assessments of these sources are not required.

There are no airports in the immediate vicinity of the proposed development, and an assessment of aircraft noise impacts is not required.

There are no existing or proposed significant industrial vibration sources within 75 m of the Project, such as large stamping presses or forges. Under applicable MECP Publication NPC-207 guidelines, a detailed vibration assessment is not required. Adverse impacts from industrial vibration are not anticipated.

2. DESCRIPTION OF DEVELOPMENT AND SURROUNDINGS

2.1 PROPOSED DEVELOPMENT

The proposed development is located at 5525 8th Line located on the east side of the road between Erin Heights Drive and Sideroad 17 in Erin (the "Project"). The Project site currently part of the Erin Heights Golf Course.

The proposed Project will develop a section of the southwest lands of the golf course into multiple townhouse blocks and single dwelling properties. A total of 288 residential units are proposed for the Project.

The current context plan is shown in Figure 1. A copy of development drawings is provided in Appendix A.

2.2 SURROUNDINGS

The immediate area to the west, south and east are existing single dwelling residences. The existing golf course is located to the north of the Project. Further away from the Project site are agricultural lands, green space and commercial/industrial.

2.3 LAND USE DESIGNATIONS IN THE AREA

The Town of Erin Zoning Map for the area can be seen in Figure 2. The Project site is currently zoned as Future Development (FD) and is surrounded by Village Environmental Protection (EP1) and Residential One (R1). Additional Maps and details are found in Appendix B.

3. ASSESSMENT FRAMEWORK

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

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

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

3.1 ONTARIO PLANNING ACT

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

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

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

3.2 PROVINCIAL POLICY STATEMENT

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

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

> "1.2.6 Land Use Compatibility
>
> 1.2.6.1 Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures.
>
> 1.2.6.2 Where avoidance is not possible in accordance with policy 1.2.6.1, planning authorities shall protect the long-term viability of existing or planned industrial, manufacturing or other uses that are vulnerable to encroachment by ensuring that the planning and development of proposed adjacent sensitive land uses are only permitted if the following are demonstrated in accordance with provincial guidelines, standards and procedures:
>
> a) there is an identified need for the proposed use;
>
> b) alternative locations for the proposed use have been evaluated and there are no reasonable alternative locations;
>
> c) adverse effects to the proposed sensitive land use are minimized and mitigated; and

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

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

3.3 D-SERIES OF GUIDELINES

The D-series of guidelines were developed by the MECP in 1995 as a means to assess recommended separation distances and other control measures for land use planning proposals in an effort to prevent or minimize 'adverse effects' from the encroachment of incompatible land uses where a facility either exists or is proposed. D-series guidelines address sources including sewage treatment (Guideline D-2), gas and oil pipelines (Guideline D3), landfills (Guideline D-4), water services (Guideline D-5) and industries (Guideline D-6).

For this project, the applicable guideline is Guideline D-6 - Compatibility *between Industrial Facilities and Sensitive Land Uses* and *D-4 Land Use On or Near Landfills and Dumps*. The guidelines specifically address issues of air quality, odour, dust, noise, and litter.

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

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

3.3.1 GUIDELINE D-4 REQUIREMENTS

There is no methodology specified by the D-series guidelines to evaluate the impact of odour nuisances. Typically, dispersion modelling is used in the absence of monitoring or measured exceedances to determine if a facility is likely to exceed an MECP contaminant-specific standard or guideline. Dispersion modelling is completed using emission rates, which can be estimated based on source testing, emission factors and mass balance and engineering calculations.

3.3.2 GUIDELINE D-6 REQUIREMENTS

This guideline specifically addresses issues of air quality, odour, dust, noise and litter. To minimize the potential to cause an adverse effect, areas of influence and recommended minimum setback distances are included within the guidelines. The areas of influence and recommended separation distances from the guidelines are provided in the table below.

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

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

Industrial categorization criteria are supplied in Guideline D-6-2, and are shown in the following table:

Table 2: Guideline D-6 - Industrial Categorization Criteria

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

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

3.3.3 REQUIREMENTS FOR ASSESSMENTS

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

The D-series guidelines reference previous versions of the air quality regulation (Regulation 346) and noise guidelines (Publications NPC-205 and LU-131). However, the D-Series of guidelines are still in force, still represent current MECP policy and are specifically referenced in numerous other current MECP policies. In applying the D-series guidelines, the current policies, regulations, standards and guidelines have been used (e.g., Regulation 419, Publication NPC-300).

3.3.4 REQUIREMENTS FOR MINIMUM SEPARATION DISTANCES

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

4. NEARBY INDUSTRIES AND ENGAGEMENT

The Guideline D-6 setback distances from the Project site are shown in Figure 3. SLR personnel conducted site visits to the area on February 15, 2022. Local industries within 1 km of the Project site were inventoried and summarized in Appendix C.

Typically industries within 300 m of the Project site are approached to discuss their operations and potential for future expansion. However, the site visits were conducted during the Covid-19 pandemic, therefore, onsite activities may have differed from typical or normal operations and access to all buildings was not available.

Within Ontario, facilities which emit significant amounts of contaminants to the environment are required to obtain and maintain an Environmental Compliance Approval (an "ECA") from the MECP or submit an Environmental Activity and Sector Registry ("EASR"). ECA's/ EASRs within 1 k m of the Project were obtained from the MECP's *Access Environment* website.

4.1 CLASS III HEAVY INDUSTRIES

The area within 1 km of the Project was reviewed. There was one Class III Heavy industrial use within 1 km of the Project site.

4.1.1 SNOW BROTHERS CONTRACTING

ADDRESS	9581 Sideroad 17
DISTANCE TO PROJECT:	660
D-6 CLASSIFICATION:	Class III heavy industry

Snow Brother Contracting is an aggregate and landscaping material supply company. The closest source on the Snow Brother Contracting site is at least 660m to the north of the Project property line. A quick search did not find a MECP Environmental Compliance of Approvals (ECAs) or and Environmental and Activity Sector Registry (EASR) for their operations. Though not found, the facility may still have either permit for their operations. The Snow Brothers Contracting site has large excavation and material moving equipment that can cause noise and potentially air quality concerns.

Based on the size and nature of the facility operations, The Snow Brother Contracting site would be considered a Class III heavy industry, with a minimum Recommended Separation Distance of 300 m and a Potential Area of Influence of 1000 m. The Project's site is within the minimum Potential Area of Influence, but outside the Recommended Separation Distance.

4.2 CLASS I LIGHT AND CLASS II MEDIUM INDUSTRIES

There are no Class I light industries within 70m of the Project, as well as no Class II medium industries within 300m of the Project.

VACANT LOTS

Under Guideline D-6 the use of vacant buildings must be considered in land use compatibility studies. Additional lands surrounding the proposed Project are anticipated to be converted into more dense residential uses. The remainder of the area is environmentally protected or existing residential areas.

In addition, if a new industrial facility were to occupy any of the surrounding lands, the new facility would be required to obtain an approval from the MECP (either EASR or ECA). In accordance with the MECP permit, the facility would be required to meet the applicable guidelines of O. Reg 419/05 at the facility property line and to meet the applicable requirements of MECP NPC 300. As part of the permitting process, the facility would be required to meet applicable guidelines at existing and approved residential locations.

4.3 SUMMARY

A single Class III heavy industry was identified to require further analysis for either air quality and/or noise.

Provided below are preliminary comments and findings with respect to predicted impacts at the proposed development from the identified industrial facilities nearby.

5. AIR QUALITY, DUST AND ODOUR ASSESSMENT

5.1 INDUSTRIAL SOURCES

5.1.1 GUIDELINES AND REGULATIONS

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

5.1.1.1 Air Quality Contaminants

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

5.1.1.2 Odour

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

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

- Frequency – How often the odour occurs. The MECP typically allows odours to exceed 1 OU with a 0.5 % frequency.
- Intensity – The strength of the odour, in odour units. 1 OU is often used in odour assessments in Ontario.
- Duration – How long the odour occurs.
- Offensiveness – How objectionable the odour is. The MECP may allow for a higher concentration of pleasant smells such as baking as opposed to off-putting smells such as rotting garbage or rancid meat.
- Location – Where the odour occurs. The MECP assesses at odours where human activity is likely to occur.

The MECP has decided to apply odour-based standards to locations "where human activities regularly occur at a time when those activities regularly occur," which is generally accepted to be places that would be considered sensitive such as residences and public meeting places. As a guide, the MECP has provided proposed clarification of human odour receptors, as shown in the following table:

Table 3: Proposed Clarification of Human Receptors (MECP 2008)

Receptor Category	Examples	Exposure Type	Type of Assessment
Permanent potential 24-hour sensitivity	Anywhere someone could sleep including any resident or house, motels, hospitals, senior citizen homes, campgrounds, farmhouse, etc.	Individual likely to receive multiple exposures	Considered sensitive 24 hours per day
Permanent daily hours but with definite periods of shutdown/closure	Schools, daycares, community centres, soccer fields, farmland, churches, bicycle paths, hiking areas, lakes, commercial or institutional facilities (with consideration of hours of operation such as night clubs, restaurants, etc.)	Individual could receive multiple exposures	Nighttime or daytime exclusion only (consider all other hours)
Seasonal variations with clear restrictions on accessibility during the off season	Golf courses, amusement parks, ski hills, other clearly seasonal private property	Short term potential for exposure	Exclusions allowed for non-seasonal use
Transient	Open fields, roadways, easements, driveways, parking lots, pump houses	Very short term potential for exposure, may not be a single resident exposed to multiple events	Generally would not be included as human receptors unless otherwise specified.

5.1.1.3 Dust

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

5.1.1.4 Cumulative Assessments

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

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

5.1.2 LOCAL METEOROLOGY

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

5.1.3 PROJECT SITE VISITS AND ODOUR AND DUST OBSERVATIONS

A project site visit was conducted to the area on February 15, 2022 by SLR personnel to identify significant sources of air quality emissions and to identify any significant sources of noise, vibration, odour or dust in the Project neighbourhood. During the site visit, the staff members observed existing industries from the publicly accessible areas. Wind conditions during the site visit were noted as:

- February 15, 2020: westerly winds, 15 km/h, -8°C, 75%RH.

During the February 15th site visit to the area, no visible dust or noticeable odours were detected.

5.1.4 SNOW BROTHERS CONTRACTING

Snow Brother Contracting is an aggregate and landscaping material supply company. The closest source on the Snow Brother Contracting site is at least 660m to the north of the Project property line. The Snow Brothers Contracting site has large excavation and material moving equipment that can cause noise and potentially air quality concerns.

On February 15, 2022 SLR personnel conducted a site visit to the area. There was no noise, odour, or visible dust observed from the facility at the time of the site visit.

Based on the size and nature of the facility operations, The Snow Brother Contracting site would be considered a Class III heavy industry, with a minimum Recommended Separation Distance of 300 m and a Potential Area of Influence of 1000 m.

Based on a review of the wind frequency distribution diagram illustrated in Figure 4, potential winds come from the north direction less than 12% of the time.

There are existing residential trailers located immediately south of the facility, on Laurel Line. These existing sensitive receptors are approximately 70 m from Snow Brothers Contracting and, therefore, are much closer proximity to the Snow Brothers Contracting site, then the Project site. If the applicable air quality standards and guidelines from the Snow Brother Contracting operations are met at the existing residences, it is expected they would be met at the Project site.

Given the above, adverse air quality impacts from Snow Brother Contracting are not anticipated at the Project site.

5.2 SUMMARY OF AIR QUALITY, DUST AND ODOUR CONCLUSIONS AND RECOMMENDATIONS

The potential for air quality impacts on and the proposed development, including dust and odour, have been assessed. Based on the results of our studies:

- Adverse air quality impacts from industrial sources are not anticipated at the Project; and
- Adverse air quality impacts from transportation-related air pollution are not anticipated.

6. NOISE ASSESSMENT

6.1 INDUSTRIAL (STATIONARY) SOURCES

6.1.1 GUIDELINES

6.1.1.1 MECP Publication NPC-300 Guidelines for Stationary Noise

The applicable MECP noise guidelines for new sensitive land uses adjacent to existing industrial commercial uses are provided in MECP Publication NPC-300. NPC-300 revokes and replaces the previous noise assessment guideline, Publication LU-131 and Publication NPC-205, which was previously used for assessing noise impacts as part of Certificates of Approval / Environmental Compliance Approvals granted by the MECP for industries.

The new guideline sets out noise limits for two main types of noise sources:

- Non-impulsive, "continuous" noise sources such as ventilation fans, mechanical equipment, and vehicles while moving within the property boundary of an industry. Continuous noise is measured using 1-hour average sound exposures (L_{eq} (1-hr) values), in dBA; and
- Impulsive noise, which is a "banging" type noise characterized by rapid rise time and decay. Impulsive noise is measured using a logarithmic mean (average) level (L_{LM}) of the impulses in a one-hour period, in dBAI.

Furthermore, the guideline requires an assessment at, and provides separate guideline limits for:

- Outdoor points of reception (e.g., back yards, communal outdoor amenity areas); and
- Façade points of reception such as the plane of windows on the outdoor façade which connect onto noise sensitive spaces, such as living rooms, dens, eat-in kitchens, dining rooms and bedrooms.

The applicable noise limits at a point of reception are the higher of:

- The existing ambient sound level due to road traffic, or
- The exclusion limits set out in the guideline.

The following tables set out the exclusion limits from the guideline.

Table 4: NPC-300 Exclusion Limits for Non-Impulsive Sounds (L_{eq} (1-hr), dBA)

Time of Day	Class 2 Area	
	Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception
7 am to 7 pm	50	50
7 pm to 11 pm	50	45
11 pm to 7 am	45	n/a

Table 5: NPC-300 Exclusion Limits for Impulsive Sounds (L_{LLM}, dBAI)

Time of Day	No. of Impulses in a 1-hour Period	Class 1 Area	
		Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception
7 am to 11 pm	9 or more	50	50
	7 to 8	55	55
	5 to 6	60	60
	4	65	65
	3	70	70
	2	75	75
	1	80	80
11 pm to 7 am	9 or more	45	n/a
	7 to 8	50	n/a
	5 to 6	55	n/a
	4	60	n/a
	3	65	n/a
	2	70	n/a
	1	75	n/a

Notes:

n/a Not Applicable. Outdoor points of reception are not considered to be noise sensitive during the overnight period.

The applicable guideline limits for infrequent events such as emergency generator set testing are +5 dB higher than the values above.

6.1.2 APPLICATION OF THE NPC-300 GUIDELINES

The stationary noise guidelines apply only to residential land uses and to noise-sensitive commercial and institutional uses, as defined in NPC-300 (e.g., schools, daycares, hotels). For the Project, the stationary noise guidelines only apply to the residential portions of the development, including:

- Individual residences;
- Balconies and terraces, if they are more than 4m in depth; and
- Communal outdoor amenity areas, if applicable.

Where applicable, the above have been considered as noise-sensitive points of reception in the analysis.

6.1.2.1 Guideline Summary and Interpretation

The following presents a summary of the guidelines and settlements presented above.

- The applicable Ministry of the Environment noise guideline for assessing new residential development applications is Publication NPC-300. Noise levels from applicable surrounding industries meeting NPC-300 requirements; and
- The Class 2 limits have been adopted in this study.

6.1.3 NOISE RESULTS

The Project site will contain a mix of detached and block townhouses. There is planned to be approximately 288 total units.

Based on the site visit conducted on February 15, 2022 the only potential sources of surrounding noise from applicable sources are the industrial lands located about 600m to the north of the Project. These lands are already obligated to meet the required Provincial NPC-300 noise guideline at the existing

residences located directly south of them. Given the above, additional assessment of noise impacts on the proposed development is not warranted.

6.2 TRANSPORTATION SOURCES

6.2.1 TRANSPORTATION NOISE SOURCES

Transportation sources of interest with the potential to produce noise at the proposed development are limited to 8th Line. Sound exposure levels at the development have been predicted, and this information has been used to identify potential façade, ventilation, and warning clause requirements.

The nearest railway line is located more than 500 m from the proposed development, therefore, there are no concerns related to railway noise or vibration, and further assessments of these sources are not required.

There are no airports in the immediate vicinity of the proposed development, and an assessment of aircraft noise impacts is not required.

6.2.2 MECP PUBLICATION NPC-300 GUIDELINES FOR TRANSPORTATION SOURCES

6.2.2.1 Indoor Criteria

The following table summarizes the criteria in terms of energy equivalent sound exposure (L_{eq}) levels for specific indoor noise-sensitive locations. These indoor criteria vary with sensitivity of the space. As a result, sleep areas have more stringent criteria than Living / Dining room space.

Table 6: NPC-300 Sound Level Criteria for Road and Rail Noise

Type of Space	Time Period	Energy Equivalent Sound Exposure Level L_{eq} (dBA) [1]		Assessment Location
		Road	Rail [2]	
Criteria for Residential Units				
Living / Dining Room	Daytime (7 am to 11 pm)	45	40	Indoors
	Night-time (11 pm to 7 am)	45	40	Indoors
Sleeping Quarters	Daytime (7 am to 11 pm)	45	40	Indoors
	Night-time (11 pm to 7 am)	40	35	Indoors

Notes: [1] Road and Rail noise impacts are to be combined for assessment of impacts.
[2] Whistle/warning bell noise is excluded for OLA noise assessments and included for indoor assessments, where applicable.

6.2.2.2 Ventilation and Warning Clauses

The following table summarizes requirements for ventilation where windows potentially would have to remain closed as a means of noise control. Despite the implementation of ventilation measures where required, some occupants may choose not to use the ventilation means provided, and as such, warning clauses advising future occupants of the potential excess over the indoor guideline limits are required.

Table 7: NPC-300 Ventilation and Warning Clause Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} (dBA)		Ventilation and Warning Clause Requirements [2][3]
		Road	Rail [1]	
Plane of Window	Daytime (7am to 11 pm)	≤ 55		None
		56 to 65 incl.		Forced Air Heating with provision to add AC + Applicable Warning Clause(s)
		> 65		Central AC + Applicable Warning Clause(s)
	Night-time (11 pm to 7 am)	51 to 60 incl.		Forced Air Heating with provision to add AC+ Applicable Warning Clause(s)
		> 60		Central AC + Applicable Warning Clause(s)

Notes: [1] Whistle/warning bell noise is excluded.
[2] Road and Rail noise is combined for determining Ventilation and Warning Clause requirements.

6.2.2.3 Building Shell Requirements

The following table provides sound exposure (L_{eq}) thresholds which if exceeded, require the building shell and components (i.e., wall, windows) to be designed and selected accordingly to ensure that the indoor location criteria are met.

Table 8: NPC-300 Building Component Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} (dBA)		Component Requirements
		Road	Rail [1]	
Facade	Daytime (7am to 11 pm)	> 65	> 60	Designed/ Selected to Meet Indoor Requirements [2]
	Night-time (11 pm to 7 am)	> 60	> 55	

Notes: [1] Including whistle/warning bell noise.
[2] The resultant sound isolation parameter from Road and Rail are to be combined for determining the overall acoustic parameter.

6.2.2.4 Outdoor Sound Level Criteria

The following table summarizes criteria in terms of energy equivalent sound exposure (L_{eq}) levels for the outdoor noise-sensitive locations, with a focus of outdoor areas being amenity spaces (called Outdoor Living Areas (OLAs) per NPC-300).

Table 9: NPC-300 Outdoor Sound Level Criteria for Road and Rail Noise

Type of Space	Time Period	Energy Equivalent Sound Exposure Level L_{eq} (dBA) [1, 2]	Assessment Location
OLA	Daytime (0700-2300h)	55	Outdoors

Notes: [1] Excluding whistle/warning bell noise for OLA noise assessments
[2] Road and Rail noise impacts are to be combined for assessment of OLA impacts.

6.2.2.5 Mitigation and Warning Clauses

The following table summarizes mitigation and warning clause requirements for outdoor amenity spaces.

Table 10: NPC-300 Outdoor Living Area Mitigation & Warning Clause Requirements

Assessment Location	Time Period	Energy Equivalent Sound Exposure Level - L_{eq} [1][2] (dBA)	Mitigation and Warning Claus Requirements [3]
OLA	Daytime (0700-2300h)	≤ 55	None
		56 to 60 incl.	Noise Control Measures may be applied, **and/or** Applicable Warning Clause(s)
		> 60	Noise barrier to reduce noise to 55 dBA, **or** Noise barrier to reduce noise to 60 dBA and Applicable Warning Clause(s)

Notes: [1] Whistle/warning bell noise is excluded.
[2] Road and Rail noise is combined for determining Ventilation and Warning Clause requirements.

As indicated in NPC-300, noise control measures may be applied to reduce sound levels to 55 dBA. If measures are not provided, potential purchasers/tenants are required to be informed of potential noise problems with the applicable Warning Clause(s).

If noise impacts are predicted to be greater than 60 dBA, noise control measures are required to reduce noise levels to 55 dBA. If noise control measures are not technically feasible for meeting 55 dBA, an excess of up to 5 dBA is allowed, with the inclusion of the applicable Warning Clause(s).

6.2.3 TRAFFIC DATA AND FUTURE PROJECTIONS

Road traffic data was provided by R.V. Anderson Associates Limited in the form of 2031 AM and PM Peak traffic. Though 2031 is not quite 10 years in the future, it was assumed to equivalent for this study. Traffic was converted to AADT. The percentage of vehicle splits was based on SLR database for similar arterial roadway in an industrial area. The day/ night split was based on SLR database values for sub-urban areas. Copies of applicable traffic data and calculations can be found in Appendix D. The following Table 11 summarizes the road traffic volumes used in the analysis.

Table 11: Summary of Road Traffic Data Used in the Transportation Analysis

Roadway Link	2031 Traffic Levels (AADT)	% Day/ Night Volume Split [1]		Commercial Traffic Breakdown [2]		Vehicle Speed (km/h)
		Daytime	Night-time	% Medium Trucks	% Heavy Trucks	
8th Line	2,850	90	10	2.0	2.3	40

Notes: [1] The Day/Night split was determined from historic data at SLR for urban areas.
[2] Commercial Traffic Breakdowns were taken from the SLR data for industrial arterial roadways.
[3] The worst-case volumes were assumed based on provided turning movement counts.

6.2.4 PROJECTED SOUND LEVELS

Future roadway sound levels at the proposed development were predicted using Cadna/A, a commercially available noise propagation modelling software. Roadways were modelled as line sources of sound, with sound emission rates calculated using ORNAMENT algorithms, the road traffic noise model of the MECP. These predictions were validated and are equivalent to those made using the MECP's ORNAMENT or STAMSON v5.04 road traffic noise models.

Ground absorption was assessed as reflective surfaces, as the majority of the intervening ground is asphalt or concrete. In calculating road traffic noise levels to determine façade and outdoor amenity areas, no reflections from building surfaces were accounted for, in keeping with NPC-300 requirements (order of reflection set to 0).

Sound levels were predicted along the facades of the 1st row of receptors of the proposed development using the "building evaluation" feature of Cadna/A. This feature allows for noise levels to be predicted across the entire façade of a structure. The predicted worst case façade level of the proposed design would be 55 dBA and 48 dBA during the daytime and night-time, respectively. The transportation sound levels at the development, showing the ranges of predicted daytime and night-time sound levels are shown in Figure 5.

The façade roadway sound levels are predicted to be below 65 dBA and 60 dBA during the daytime and nighttime periods, respectively. Therefore, an assessment of building components is not required.

6.2.5 OUTDOOR LIVING AREAS

Outdoor living areas (OLAs) of the proposed development will be included in the design. All receptors backing on to 8th Line will have OLA facing the interior of the Project and screened by the building structure. As a result, the predicted levels will be less than 55 dBA (as the closest Façade during daytime was predicted to be 55 dBA). As sound levels are predicted to be below 55 dBA at the outdoor amenity space, physical noise control measures and additional warning clauses are not required.

6.2.6 VENTILATION REQUIREMENTS

There are no warning clauses recommended for this Project as the predicted results do not trigger the requirements.

6.3 SUMMARY OF NOISE CONCLUSIONS AND RECOMMENDATIONS

The potential for noise impacts on and the proposed development have been assessed. Based on the results of our studies:

- SLR staff completed a site visit on February 15, 2022, to the development lands and surrounding area. Based on the site visit observations, no industries were identified to have potential stationary noise impacts at the proposed building of the Project.
- An assessment of transportation noise impacts has been completed for the surrounding roadways. Based on predicted sound levels, upgraded glazing and noise barriers are not required.
- No warning clauses are recommended for this Project.

7. VIBRATION ASSESSMENT

7.1 INDUSTRIAL (STATIONARY) SOURCES

There are no existing or proposed significant industrial vibration sources within 75 m of the Project, such as large stamping presses or forges. Under applicable MECP Publication NPC-207 guidelines, a detailed vibration assessment is not required. Adverse impacts from industrial vibration are not anticipated.

7.2 TRANSPORTATION SOURCES

There are no railway corridors in the study area, therefore, a detailed vibration assessment of transportation is not required. Adverse impacts from transportation vibration are not anticipated.

7.3 SUMMARY OF VIBRATION CONCLUSIONS AND RECOMMENDATIONS

The potential for vibration impacts on the proposed development have been assessed. Based on the setback distances to industry and transportation sources, adverse vibration impacts from industrial facilities are not anticipated at the Project. The requirements of MECP Guideline D-6 are met.

8. CONCLUSIONS

A Compatibility assessment has been completed, examining the potential for air quality, dust, odour, noise, and vibration impacts from road sources and from nearby industrial land uses to affect the proposed development Project. The assessment has included a review of the major industrial facilities in the area. Their MECP approvals have been reviewed. Based on our assessment the Project will not affect the industrial facilities' compliance with applicable Provincial environmental policies, regulations, approvals, authorizations, and guidelines.

The potential for impacts on and the proposed development, including air quality, dust, odour, noise and vibration, have been assessed. Based on the results of our studies, adverse impacts are not anticipated.

No warning clauses or receptor-based mitigation is recommended for this Project.

Given the above, the Project is:

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

9. REFERENCES

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

Ontario Ministry of the Environment, Conservation & Parks (MECP), 1989, *ORNAMENT Ontario Road Noise Analysis Method for Environment and Transportation – Technical Document*.

Ontario Ministry of the Environment, Conservation & Parks (MECP), 1993, Publication NPC-207: *Impulse Vibration in Residential Buildings (Draft)*

Ontario Ministry of the Environment, Conservation & Parks (MECP), 1993, Publication NPC-216: *Residential Air Conditioning Devices*

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

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1996), Guideline D-2: *Compatibility Between Sewage Treatment and Sensitive Land Uses*

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1994) Guideline D-3: *Environmental Considerations For Gas Or Oil Pipelines And Facilities*

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1994), Guideline D-4: *Land Use On or Near Landfills and Dumps*

Ontario Ministry of the Environment, Conservation & Parks (MECP, 1996), Guideline D-5: *Planning for Sewage & Water Services*

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

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

Ontario Ministry of the Environment, Conservation & Parks (MECP), 2013, Publication NPC-300: *Environmental Noise Guideline: Stationary and Transportation Sources – Approval and Planning*

Ontario Ministry of Municipal Affairs and Housing (MMAH, 2014). *Provincial Policy Statement*

Ontario Ministry of Municipal Affairs and Housing (MMAH, 2019). Draft *Provincial Policy Statement.*

Ontario Regulation 419/01 – *Local Air Quality.*

10. STATEMENT OF LIMITATIONS

This report has been prepared and the work referred to in this report has been undertaken by SLR Consulting (Canada) Ltd. (SLR) for EC (Erin) GP Inc., hereafter referred to as the "Client". It is intended for the sole and exclusive use of the Client. The report has been prepared in accordance with the Scope of Work and agreement between SLR and the Client. Other than by the Client and as set out herein, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted unless payment for the work has been made in full and express written permission has been obtained from SLR.

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Opinions and recommendations contained in this report are based on conditions that existed at the time the services were performed and are intended only for the client, purposes, locations, time frames and project parameters as outlined in the Scope or Work and agreement between SLR and the Client. The data reported, findings, observations and conclusions expressed are limited by the Scope of Work. SLR is not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. SLR does not warranty the accuracy of information provided by third party sources.

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Figures

5525 8th Line

Compatibility Study

SLR Project No.: 241.30348.00000

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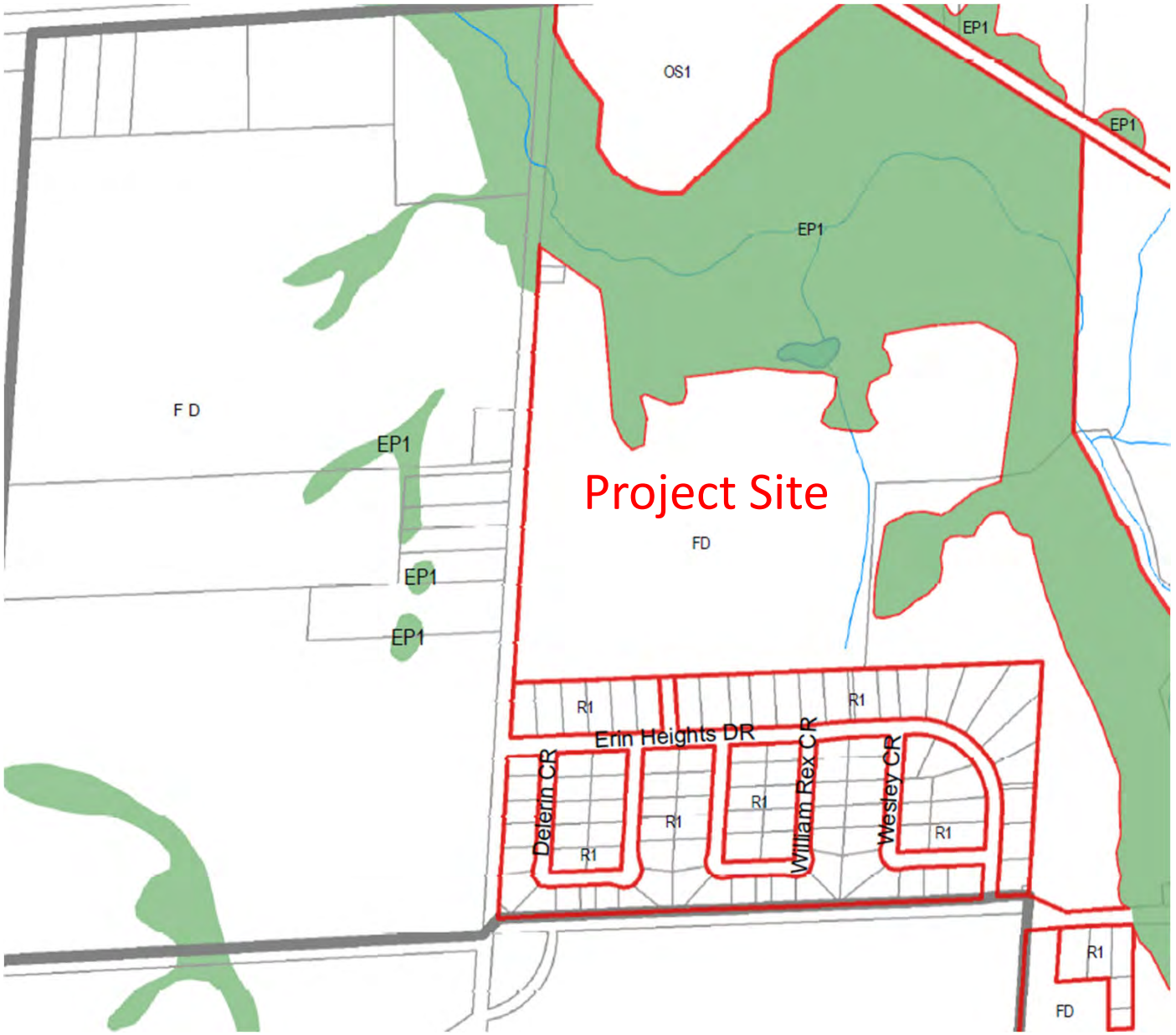
Aerial Photography from Google Earth

EC (ERIN) GP INC.	True North	Scale: 1:15000	METRES	SLR global environmental solutions
5525 8TH LINE - ERIN, ONTARIO		Date: May 17, 2022 Rev 0.0	Figure No. 1	
SITE AND CONTEXT PLAN		Project No. 241.30384.00000		



Zone Categories

FD – Future Development
EP1 – Village Environmental Protection
OS1 – Open Space Recreation
R1 - Residential One

True North

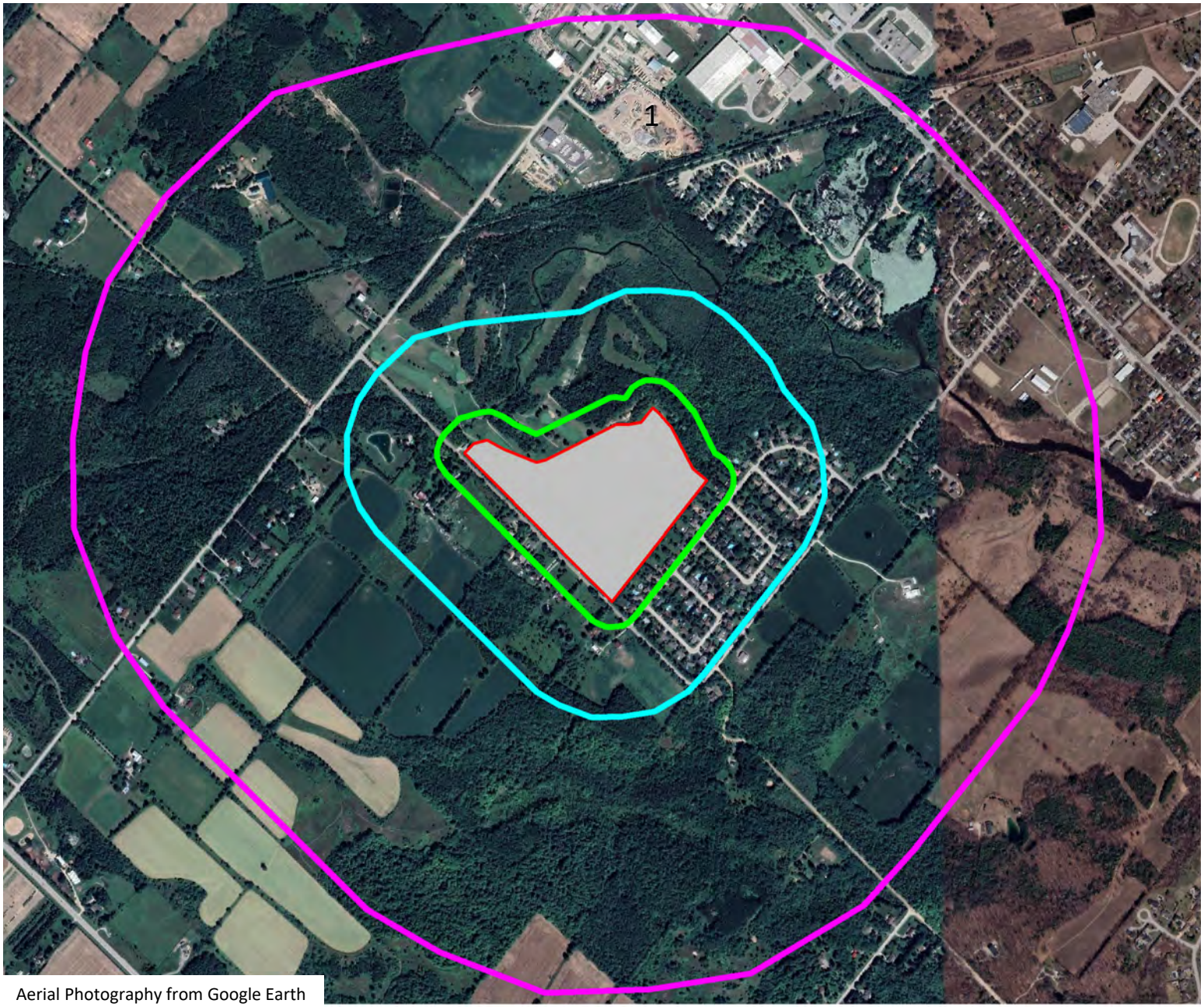
EC (ERIN) GP INC.

5525 8TH LINE - ERIN, ONTARIO

AREA ZONING MAP

Scale: n/a		METRES
Date: May 17, 2022	Rev 0.0	Figure No. 2
Project No. 241.30348.00000		

SLR global environmental solutions



Aerial Photography from Google Earth

Facility with MECP Permit (ECA/EASR)

20 m Separation

70 m Separation

300 m Separation

1000 m Separation

1 – Snow Brothers Contractors

True North

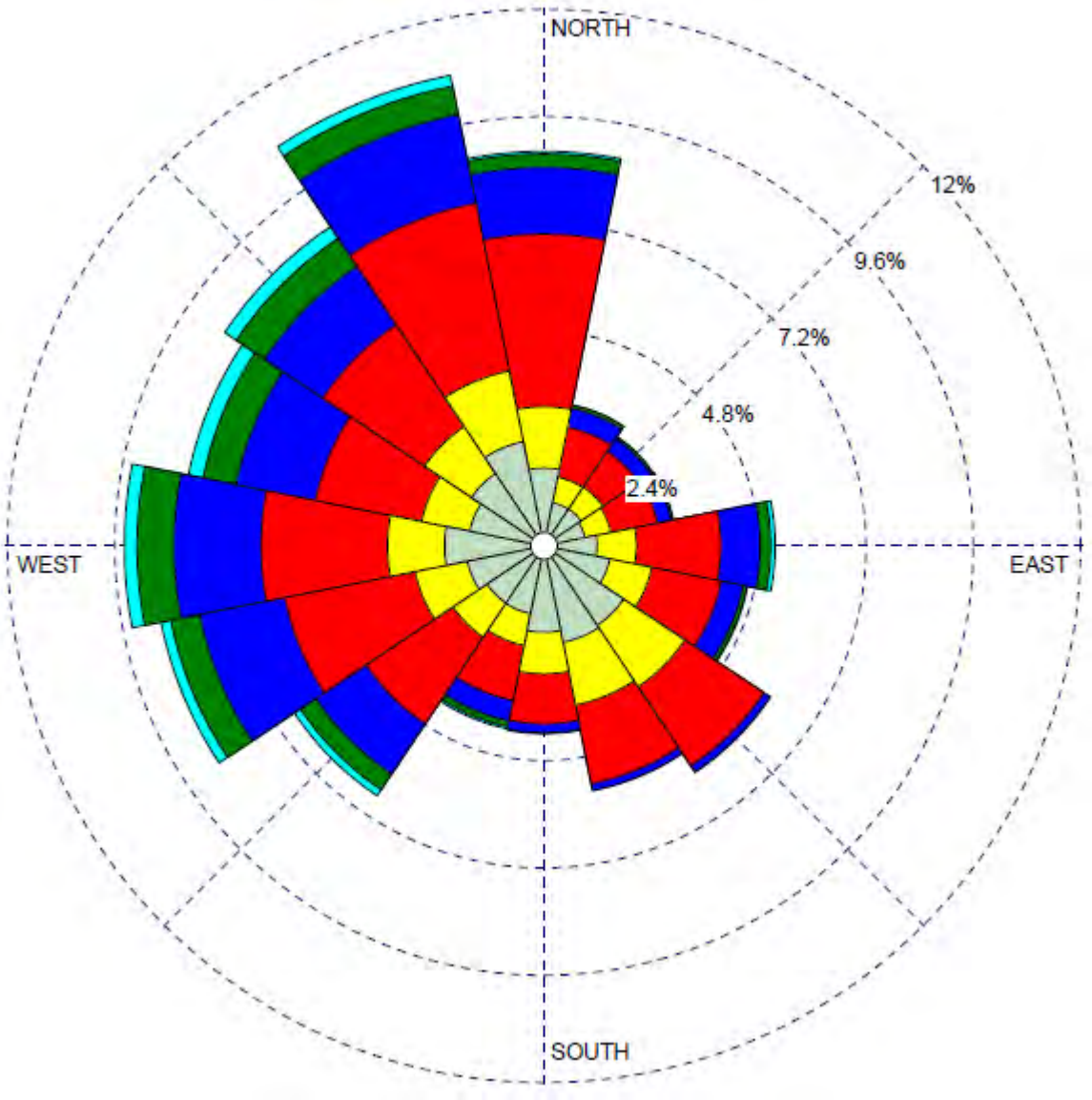
EC (ERIN) GP INC.

5525 8TH LINE - ERIN, ONTARIO

GUIDELINE D-6 SEPARATION DISTANCES

Scale: 1: 15,000		METRES
Date: May 17, 2022	Rev 0.0	Figure No. 3
Project No. 241.30348.00000		

SLR global environmental solutions



WIND SPEED
(m/s)

- >= 11.10
- 8.80 - 11.10
- 5.70 - 8.80
- 3.60 - 5.70
- 2.10 - 3.60
- 0.50 - 2.10

Calms: 0.00%

True North

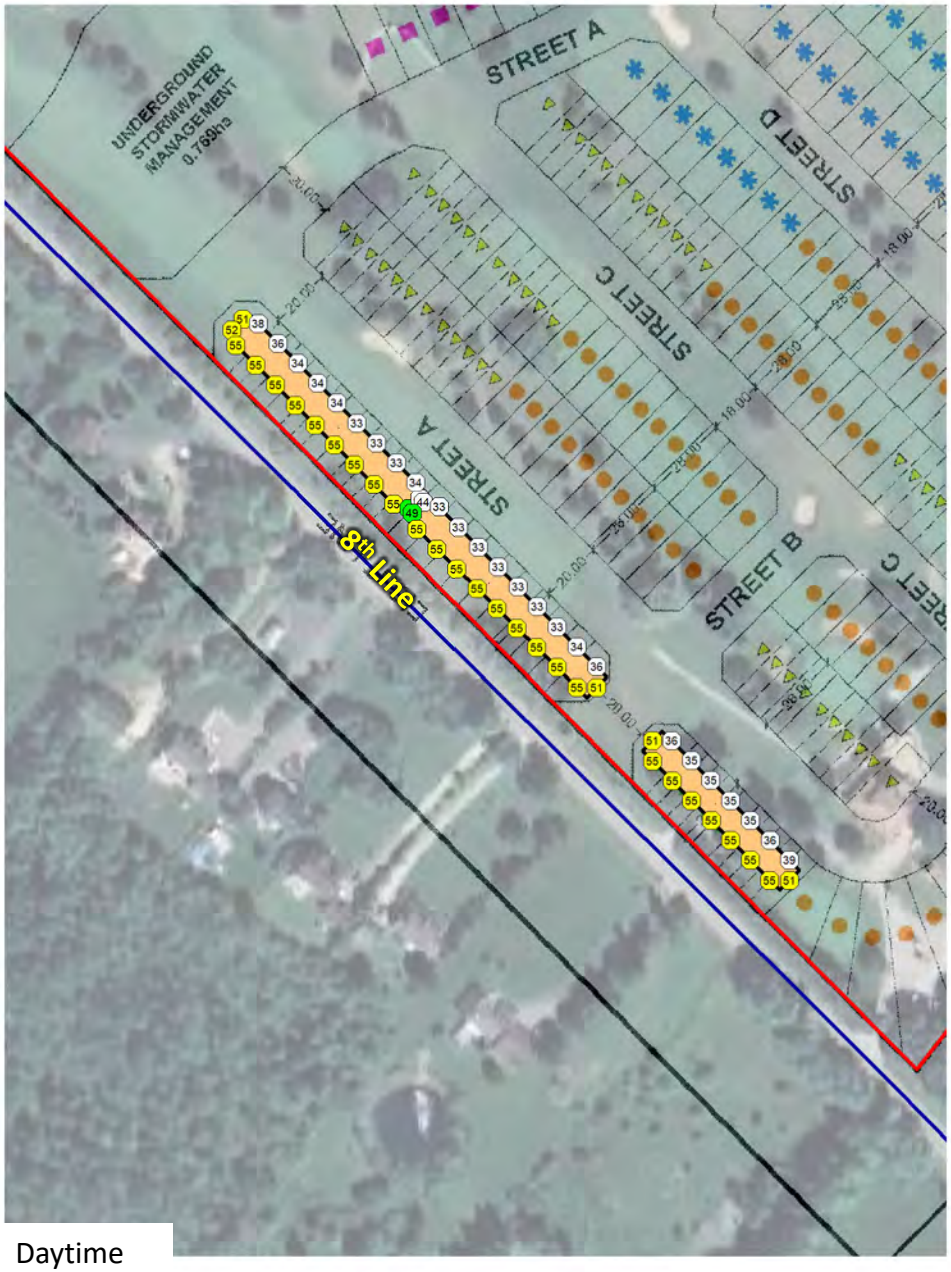
EC (ERIN) GP INC.

5525 8TH LINE - ERIN, ONTARIO

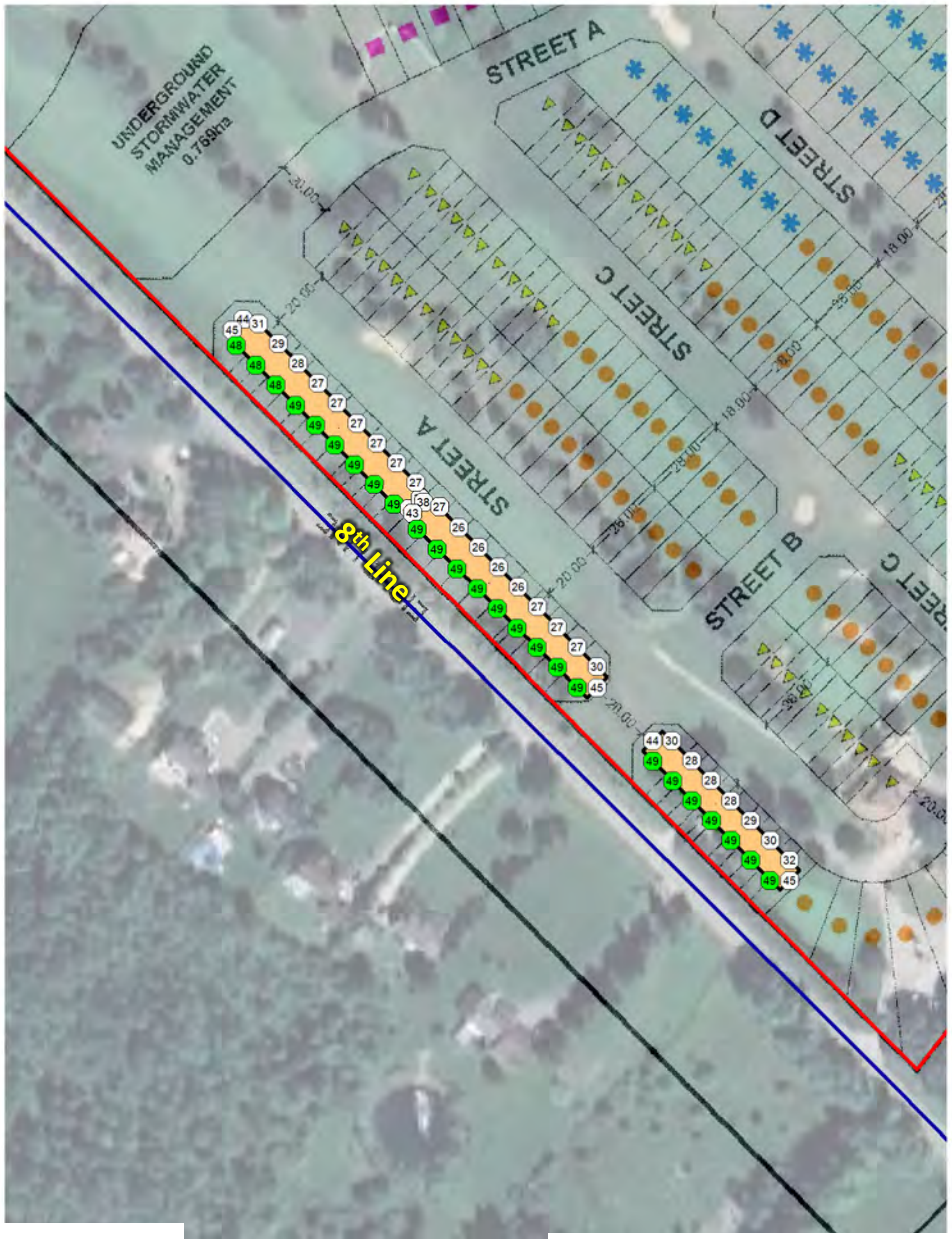
WIND FREQUENCY DISTRIBUTION DIAGRAM – TORONTO PEARSON INTERNATIONAL AIRPORT

Scale: n/a		METRES
Date: May 17, 2022	Rev 0.0	Figure No. 4
Project No. 241.30348.00000		

SLR global environmental solutions



Daytime



Night-time

Aerial Photography from Google Earth

EC (ERIN) GP INC.	True North	Scale: 1: 2,500	METRES	
5525 8TH LINE - ERIN, ONTARIO		Date: May 17, 2022	Rev 0.0	Figure No. 5
PREDICTED TRANSPORTATION NOISE SOUND LEVELS		Project No. 241.30348.00000		

SLR global environmental solutions

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Appendix A
Development Drawings

5525 8th Line

Compatibility Study

SLR Project No.: 241.30348.00000

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SERVICING - SINGLE DETACHED EQUIVALENTS

TOWNS = 91 x 0.70 = 64 (63.7)
SINGLES = 197 x 1 = 197
TOTAL = 261

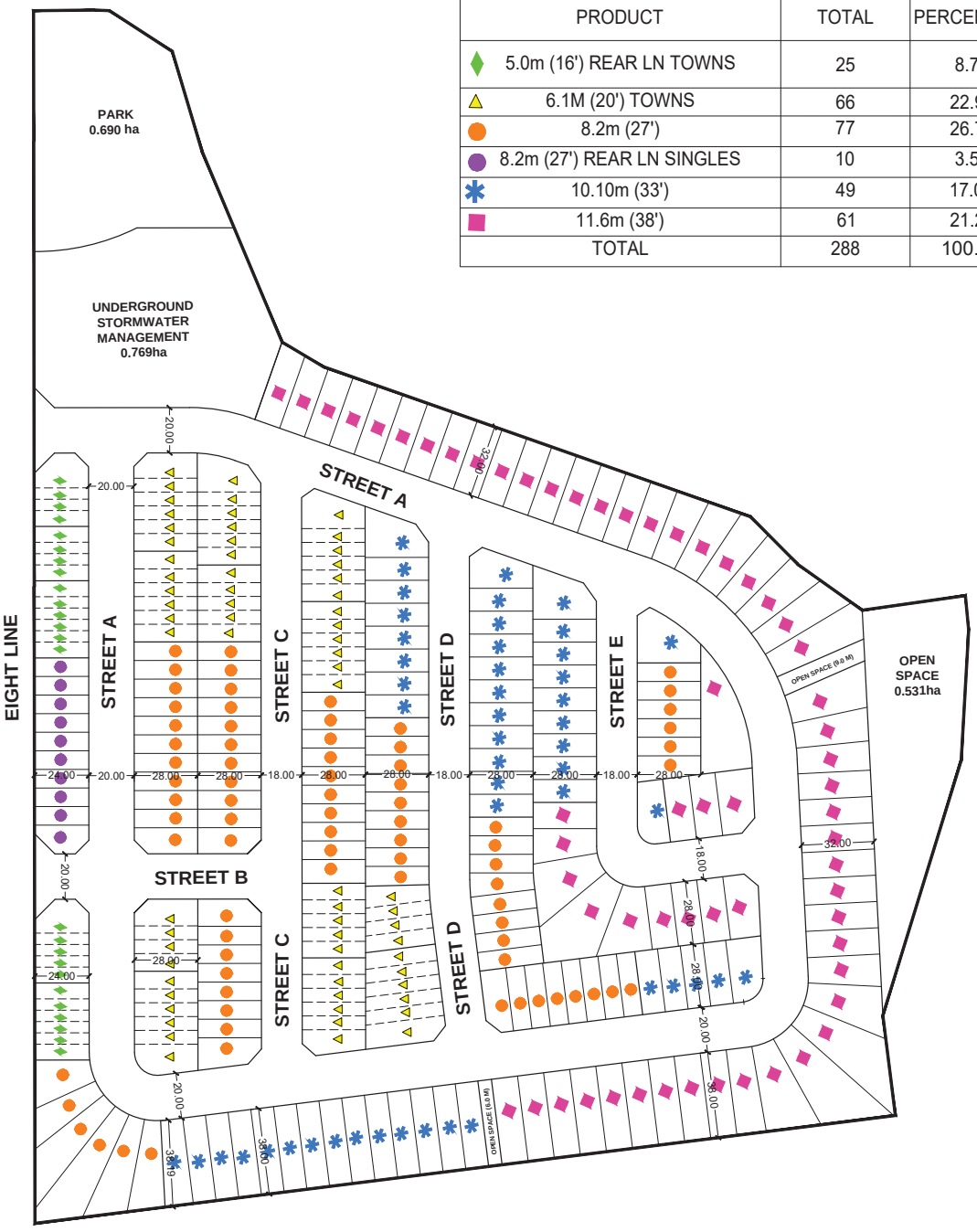
ZONING SETBACKS

FRONT YARD = 4.0M
REAR YARD = 7.0M
SIDE YARD SETBACK = 0.6M AND 1.2M
FLANKAGE SETBACK = 3.0M OR 6.0 TO GARAGE
COVERAGE = NEEDS TO BE 50%
BUILDING HEIGHT = 12.5M MEASURED TO MIDPOINT

4.47 YARD ENCROACHMENTS

UNCOVERED STEPS, PORCH OR DECK = 2.5M MAX. PROJ. FRONT, REAR, EXT. SIDE
BALCONIES = 1.8M MAX PROJECTION ANY YARD

ERIN LOTTING CONCEPT		
PRODUCT	TOTAL	PERCENTAGE
5.0m (16') REAR LN TOWNS	25	8.7%
6.1M (20') TOWNS	66	22.9%
8.2m (27')	77	26.7%
8.2m (27') REAR LN SINGLES	10	3.5%
10.10m (33')	49	17.0%
11.6m (38')	61	21.2%
TOTAL	288	100.0%



DAYLIGHT TRIANGLES @ EIGHT LINE - 9.0m x 9.0m
INTERNAL DAYLIGHT TRIANGLES - 6.0m x 6.0m

SCALE: N.T.S.

February 7, 2022

ERIN CONCEPT PLAN

TOWN of ERIN, COUNTY of WELLINGTON

armstrong
planning | project management

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Appendix B
Zoning

5525 8th Line

Compatibility Study

SLR Project No.: 241.30348.00000

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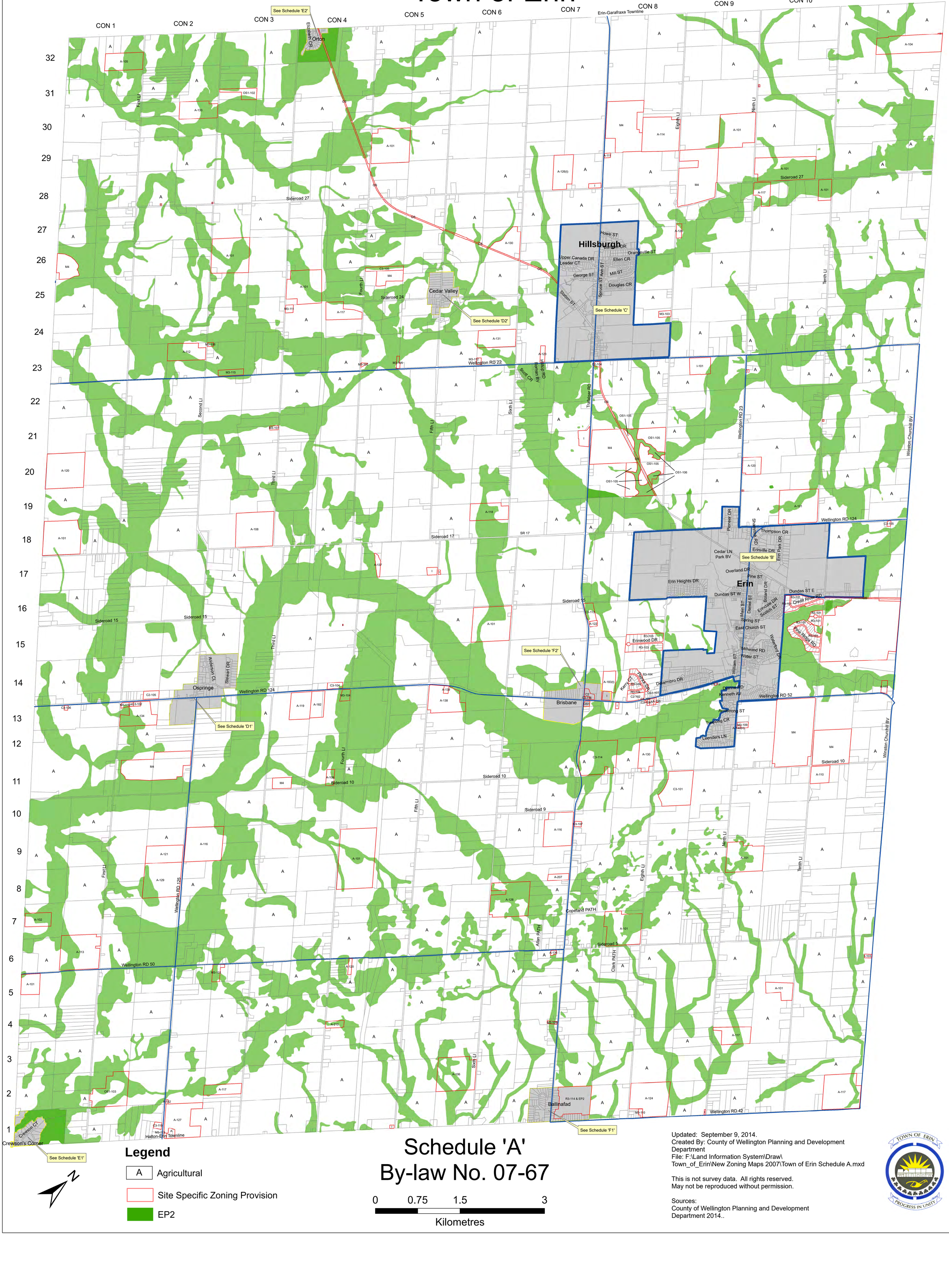
Town of Erin



Legend

- A — Agricultural
- Site Specific Zoning Provision
- EP2

Schedule 'A'
By-law No. 07-67

0 0.75 1.5 3

Kilometres

Updated: September 9, 2014.
Created By: County of Wellington Planning and Development Department
File: F:\Land Information System\Draw\Town_of_Erin\New Zoning Maps 2007\Town of Erin Schedule A.mxd

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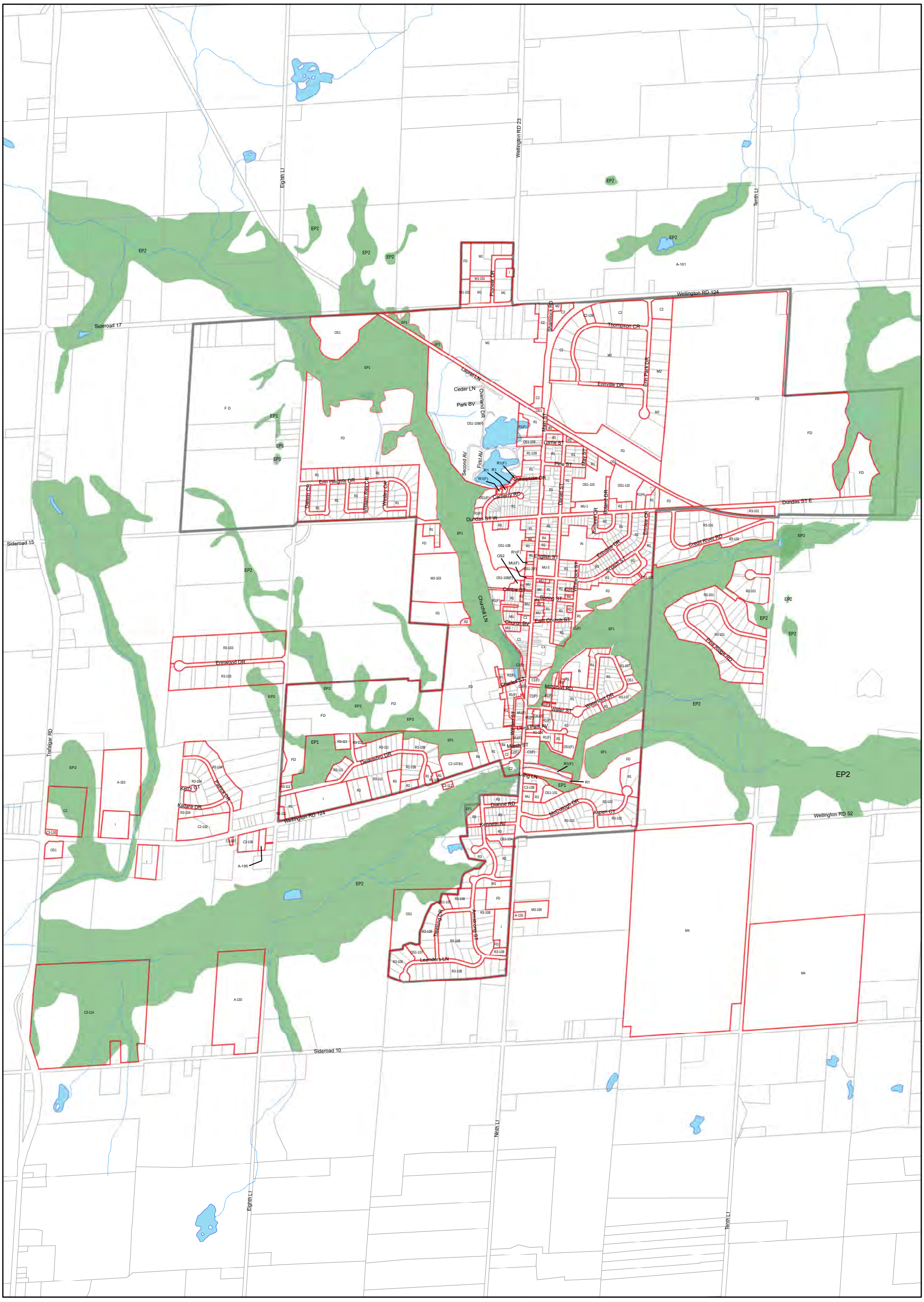
Sources:
County of Wellington Planning and Development Department 2014..

TOWN OF ERIN — PROGRESS IN UNITY



Erin Zoning Map

Town of Erin
Schedule "B"
By-law No. 07-67

Legend

- Zones
- EP1
- Lakes & Rivers

0 400 800 1,600
Metres

Created By: County of Wellington Planning and Development Department
File: F:\Land Information System\Draw\Town_of_Erin\New Zoning Maps 2007\Erin Village Zoning Map.mxd

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Sources:
County of Wellington Planning and Development Department 2014. Ministry of Natural Resources.

Updated: June 11, 2014.

THE CORPORATION OF THE TOWN OF ERIN

ZONING BY-LAW No. 07- 67

December 2021 Consolidation

By-Law 07-67 can be viewed and printed from www.erin.ca

SECTION 3 - ZONES

3.1 Definition of Zones

For the purposes of this By-law the Town of Erin is hereby divided into the following *use* zones, the boundaries of which are shown on the *attached* Schedules "A" through “E”, each of which form a part of this By-law:

.1 Agricultural Zones
- Agricultural (A)

.2 Residential Zones
- Residential One (R1)
- Residential Two (R2)
- Rural Residential (R3)
- Multiple Residential (R4)

.3 Commercial Zones
- Central Commercial (C1)
- Highway Commercial (C2)
- Rural Commercial (C3)

.4 Mixed Use Zones
- Mixed *Use* (MU)

.5 Industrial Zones
- Light Industrial (M1)
- General Industrial (M2)
- Rural Industrial (M3)
- Extractive Industrial (M4)

.6 Open Space Zones
- Open Space Recreation (OS1)

.7 Environmental Protection Zones
- Village Environmental Protection (EP1)
- Rural Environmental Protection (EP2)

.8 Institutional Zones
- Institutional (I)

.9 Development Zones
- Future Development (FD)

.10 Special Zones
- Basic zone category from items .1 to .8 above, followed by a dash and a sequential whole number - for example A-101 is Agricultural Special 101. These denote zones with permitted *use*s and/or regulations that differ from the basic zone provisions.

Appendix C
Surrounding Industry Sources

5525 8th Line

Compatibility Study

SLR Project No.: 241.30348.00000

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Land Uses Surrounding 5525 Eighth Line

Name	Address	Description	MECP ECA or EASR No. (Date)	MECP Guideline D-6					
				Class	A of I	R M S	Actual Dist.	Within A of I?	Within R M S?
East West Elevator & Crane Inc.	9565 Sideroad 17	Construction Equipment Supplier	-	II	300	70	615	-	-
Under The Stars RV	9577 Sideroad 17	Trailer Dealer	-	I	70	20	610		
Snow Brothers Contracting	9581 Sideroad 17	Excavating Contractor	-	III	1000	300	660	Yes	-
Erin Auto Recyclers	9572 Sideroad 17	Automotive Recycling Centre	-	II	300	70	890	-	-
R.D. Strickland Inc.	9595 Sideroad 17	Industrial Equipment Supplier	-	II	300	70	875		
Canadian Robotics Ltd.	9580 Sideroad 17	Manufacturer	-	I	70	20	980	-	-
Spartec Composites Inc.	32 Pioneer Drive	Manufacturer	-	I	70	20	990	-	-
Pintar Manufacturing	300 Main Street	Paint Applicator Manufacturer	-	I	70	20	655	-	-

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Appendix D
Traffic Data

5525 8th Line

Compatibility Study

SLR Project No.: 241.30348.00000

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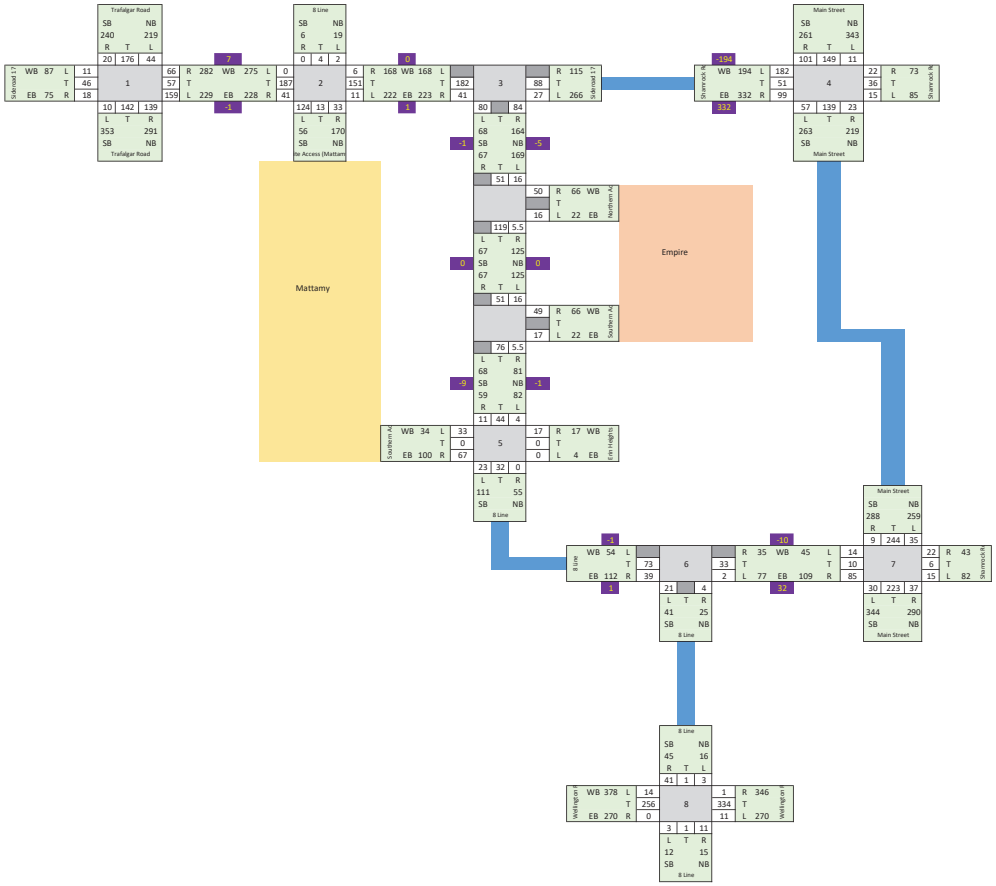
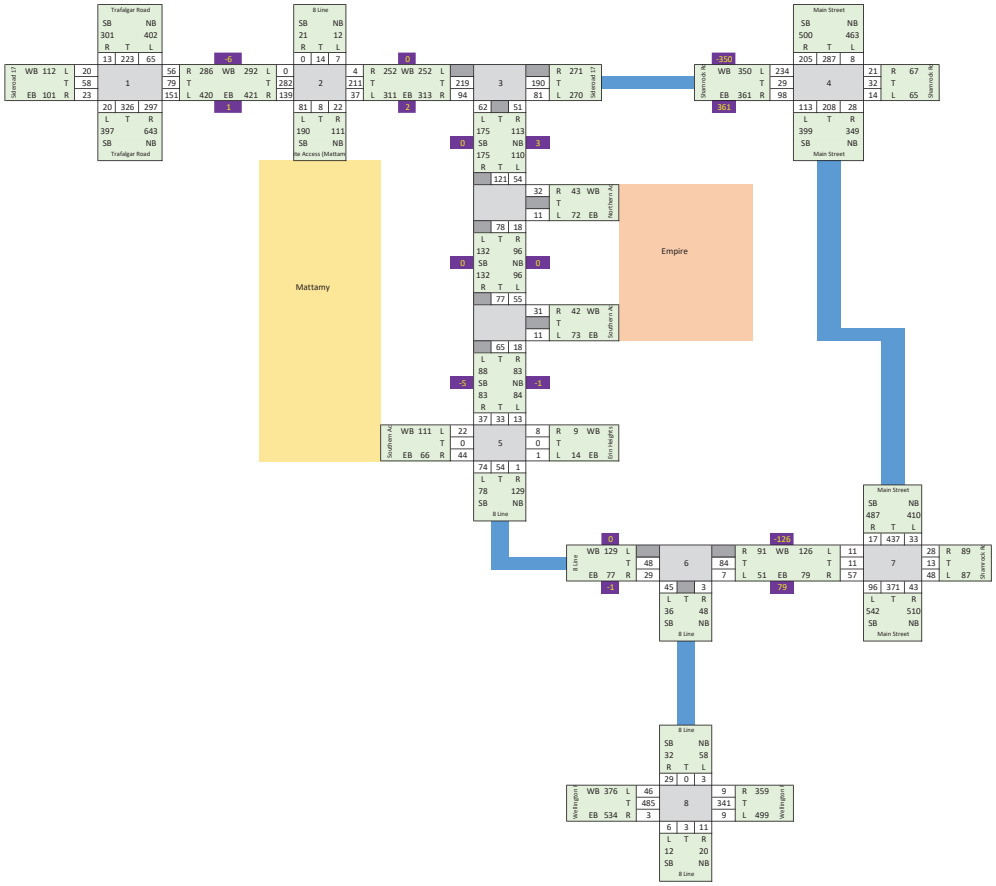
2031 AM



2031 PM



STAMSON 5.0 NORMAL REPORT Date: 17-02-2022 22:33:02
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: 8thLine.te Time Period: 16 hours
Description:

Road data, segment # 1: 8th Line

Car traffic volume : 2457 veh/TimePeriod
Medium truck volume : 58 veh/TimePeriod
Heavy truck volume : 51 veh/TimePeriod
Posted speed limit : 40 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: 8th Line

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 18.22 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Results segment # 1: 8th Line

Source height = 1.19 m

ROAD (0.00 + 55.36 + 0.00) = 55.36 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	56.21	0.00	-0.84	0.00	0.00	0.00	0.00	55.36

Segment Leq : 55.36 dBA