ECMI Properties (125 Villarboit) Inc.
Uxbridge Waste Transfer Station

Compatibility & Mitigation Study
Air Quality, Dust, Odour, & Noise
Uxbridge, ON

SLR Project No: 241.20064.00000
February 2021

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Compatibility & Mitigation Study
Air Quality, Dust, Odour, and Noise
Uxbridge, ON

SLR Project No.: 241.20064.00000, Version 1

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for

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February 26, 2021

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EXECUTIVE SUMMARY

SLR Consulting (Canada) Ltd. (SLR), was retained by ECMI Properties (125 Villarboit) Inc. to conduct a Compatibility / Mitigation Study focusing on air quality, odour, dust, and noise for their proposed waste transfer station to be located at 45 & 47 Anderson Boulevard in Uxbridge, Ontario. This assessment has been completed in support of the Zoning By-law Amendment application with the Township of Uxbridge. This assessment has considered:

- Industrial air quality, odour, and dust emissions; and
- Industrial noise and vibration.

Based on the review completed, the proposed development is anticipated to be compatible with the surrounding land uses from an air quality, noise and vibration perspective. There will be no negative impacts on surrounding sensitive land uses.

VERSIONS

Version	Date	Comment
1	February 26, 2021	• First Submission

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1. INTRODUCTION

SLR Consulting (Canada) Ltd. (SLR), was retained by ECMI Properties (125 Villarboit) Inc. to conduct a Compatibility / Mitigation Study for their proposed waste transfer station, to be located at 45 & 47 Anderson Boulevard in Uxbridge, Ontario ("the Project"). This assessment has been completed in support of the future Zoning By-Law and Site Plan Amendment ("ZBA, SPA") applications with the Township of Uxbridge.

Potential environmental impacts from the following sources have been considered:

- Industrial air quality, odour, and dust emissions; and
- Industrial noise.

In this assessment, SLR has reviewed the potential waste transfer station on the surrounding 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;
- MECP Publication NPC-300 noise guidelines for industrial and transportation; and

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 industry and sensitive land uses, including residential uses.

2. DESCRIPTION OF DEVELOPMENT AND SURROUNDINGS

2.1 PROPOSED DEVELOPMENT

The proposed facility is located at 45 & 47 Anderson Boulevard in Uxbridge, Ontario. The Site is currently located within a 'rural industrial' park along with other industrial zoned properties. The property is currently unoccupied, and vacant of any structures. The proposed development will consist of a single "Butler Building" in the centre of the property, with an outdoor storage area along the northern edge of the site. The site is expected to process and treat non-hazardous soil/material (classified as per the requirements of Ontario Regulation 558/00 General – Waste Management) from construction and demolition projects. The site will be applying for an Environmental Compliance Approval to meet O.Reg. 419/05 and NPC-300 standards. Included in the Emission Summary Dispersion Modelling (ESDM) report will be best management practice plans to mitigate both fugitive dust and odour emissions from the facility.

Up to 2,000 tonnes per day of non-hazardous soil/material will be received at the facility and processed for beneficial re-use where possible. The material will be brought to the site by triaxle trucks 5 days a week. Full incoming waste trucks enter the facility from Anderson Boulevard and pass over the inbound scale where they are weighed. The incoming waste soil/material quality will be tested and/or understood prior to receipt on site or within the first few days on site, so that soil processing and treatment can be managed appropriately. Where necessary the soil will be treated with bioremediation and mechanical

processing will be implemented on site. Material accepted from hydrovac trucks will be received in the butler building and dry soils will be moved to outdoor storage areas using dump trucks. All incoming soil from hydrovac trucks will be decanted using a centrifuge and the decant water will be reused in a closed loop system. Soil will be stored only on concrete slabs both inside the butler building and at the outside storage area, all soils to be remediated will be covered by a low permeable cover and clean soil will be left uncovered. The empty truck and bin will then proceed back over an outbound scale to obtain a tare weight.

Processing would include soil handling, soil inspection, sampling, classification, sorting, homogenization, bulking, soil treatment (bioremediation and manual manipulation) and temporary soil storage.The processing equipment onsite is proposed to include a crusher, screener, stacker, 3 excavators and 2 front end loaders. It is estimated that maximum storage onsite will consist of 30,000 tonnes at outdoor storage area and 5,000 tonnes within the Butler Building. The site includes a 400 m^2 sorting station building, two weight scales, an 7,164 m^2 outdoor storage area, and the north and east property lines will be screened by a retaining wall and berm that is topped with vegetative fencing. Operating hours are from 7:00 am to 7:00 pm, Monday through Sundays and all Holidays.

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

2.2 SURROUNDINGS

The area surrounding the proposed development site is a mix of industrial, commercial, and rural-residential areas. The area north of the Site is a rural-residential property, with an environmental protection zone situated within its boundaries. Immediately east of the Site is a two-storey residence with associated agricultural lands. West, of the Site along Anderson Boulevard is a drilling, pile driving and heavy equipment rental facility. Various other commercial and rural industrial facilities are located on Anderson Boulevard, west of the site. South of the Site is a construction company storage yard and a print shop (Viking Company). Outside of the immediate surroundings are various other industrial/commercial areas, with aggregate extraction areas located west and north.

2.3 LAND USE DESIGNATIONS IN THE AREA

The purpose of this report is to support the zoning by-law (ZBA) and future site plan application for these lands.

The subject lands are currently zoned as “rural-industrial”. The areas immediately surrounding the site are also zoned as ‘rural industrial’, with ‘environmental protection’, ‘rural’, and ‘rural resource extraction’ zones. The proposed development Site on the Township of Uxbridge Zoning Map can be seen in **Figure 3**, and a copy of the Town of Uxbridge noise by-law 2012-011 can be found in **Appendix B.**

3. ASSESSMENT FRAMEWORK

The intent of this report is to identify potential land use compatibility issues and to identify and evaluate options to achieve appropriate design, buffering and/or separation distances between the proposed waste transfer station, and the surrounding noise-sensitive spaces, including residential uses. 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 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 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*. The guideline specifically addresses 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".

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
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

3.1.1 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).

3.1.2 RECOMMENDATIONS 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.

3.1.3 PROPOSED DEVELOPMENT CLASSIFICATION

The Recycling Facility operations are expected to have the following characteristics:

- Noise: Sound occasionally heard off-property
- Odour: Infrequent and moderate
- Dust: Infrequent and not intense
- Outside storage of material and processing
- An “open process”, where the Sorting building doors will be open from time to time
- Two-shift operations

Based on the above, the proposed Uxbridge Waste Transfer Station would be defined as a Class II industry. Operations are only proposed during the daytime, with frequent movement of heavy trucks and machinery. Therefore, the property’s potential area of influence is 300m, with a recommended minimum setback distance of 70m. Sensitive receptors within the area of influence will be used to assess potential air quality, dust, odour, and noise impacts. It should be noted that all identified sensitive receptors are outside of the minimum setback distance.

4. AIR QUALITY, DUST AND ODOUR ASSESSMENT

4.1 INDUSTRIAL SOURCES

4.1.1 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.

4.1.1.1 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 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 be in compliance at grade-level at their property line.

4.1.1.2 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.

4.1.1.3 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 be met at that location. According to Section 7.4 of the "Procedure for Preparing an Emission Summary and Dispersion Modelling Report", Version 4.1, MOE, March 2018 (Guideline A-10), in many situations, fugitive dust emissions from on-site roadways and storage piles are insignificant when evaluated in a compliance test. In other cases, the most appropriate manner in which to manage off-site concentrations from these types of sources is through an effective best management practices plan. As a result, fugitive dust emissions from on-site roadways and storage piles are excluded from the dispersion modelling assessment of compliance with MOE standards, where the nature of the fugitive dust emissions is such that they are:

- not likely to pose a health risk to humans; and
- the emissions are relatively small or have been minimized through effective implementation of a fugitive dust control plan, consistent with best management practices.

In this case, a best management practices plan (BMPP) for fugitive dust will be included in the ESDM submission to the Ontario Ministry of the Environment. The fugitive dust BMPP will also cover the dust management of the processing equipment, and movement of materials onsite.

In addition to the above, the residences east of the Site are buffered by a retaining wall/berm that is approximately 6m above grade from the Site and 20m or greater wide with vegetative fencing along the top of the berm. The berm is along the length of the north and east property lines of the Site and will reduce potential fugitive dust emissions at the residences. Board on board fencing is also to be introduced at the west along the outdoor storage area, which will also assist to reduce potential fugitive dust emissions to the neighboring commercial properties.

4.1.1.4 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.

4.1.2 LOCAL METEOROLOGY

Surface wind data was obtained to generate a wind rose from data collected at the Toronto Buttonville Municipal Airport in Toronto from 1986 through 2011, as shown in Figure 6. As can be seen in the wind rose, predominant winds are from the southwestern through northern quadrants, while winds from the northeast and southern quadrants may be the least frequent.

4.1.3 ASSESSMENT OF POTENTIAL AIR QUALITY IMPACTS

The assessment of impacts from the soil waste transfer facility was focused on nuisance sources such as particulate and odour emissions. The facility is developing an ESDM report that will detail how the facility will meet O.Reg. 419/05 standards at the property line and beyond. All incoming non-hazardous soil/material is classified as per the requirements of O.Reg. 558/00: General - Waste Management. To be included in the ESDM report will be a fugitive Dust BMPP, and an odour BMPP. The BMPP's for fugitive dust and odour can be found in Appendix D.

Preliminary modelling was conducted using AERMOD v. 19191, MECP developed meteorological data sets, and MECP provided terrain. Beta inputs were used in the model for a rural simulation and variable emissions were modelled for the 7am to 7pm workday.

4.1.3.1 Particulate Matter Assessment

Particulate matter emissions were simulated for the Site processing equipment including the crusher, screener, stacker and loader operations using US EPA AP 42 developed emission factors. The maximum daily processing rate of 2,000 tonnes per day was applied to the transfer of materials via the frontend loaders and excavators. A maximum of 1,020 tonnes per day may be processed in the central processing plant consisting of a crusher, screener and stacker. The following chapters were referenced for the listed sources:

- Loading Operations: AP 42 Chapter 13.2.4 Aggregate Handling and Storage Piles. The average wind speed from the MECP preprocessed meteorological data of 3.97 m/s was applied and a moisture content factor for exposed ground of 3.4%;

- Crusher, screener and stacker: 11.19.2 Crushed Stone Processing and Pulverized Mineral Processing. Controlled emission factors from Table 11.19.2-1 Emission Factors for Crushed Stone Processing Operations were used. A 50% percent control factor was also attributed to the berm and living screen wall creating a partial enclosure around the sources. The Texas Commission on Environmental Quality[1] outlines a benefit of 50-85% can be applied from partial enclosures, therefore the 50% control factor is a conservative estimate.

As previously stated, in Section 7.4 of Guideline A-10, in many situations, fugitive dust emissions from on-site roadways and storage piles are insignificant when evaluated in a compliance test. These sources will be effectively mitigated under the fugitive dust BMPP. Further details on the control and mitigation of the processing equipment will also be outlined in the fugitive dust BMPP.

The MECP Schedule 3 Standards for particulate is a 24-hr standard of 120 µg/m^3. The maximum concentrations of the contaminants studied are listed in Table 4. These Point of Impingement (POI) concentrations were compared against criteria listed in the publication *Summary of Standards and Guidelines to support Ontario Regulation 419: Air Pollution – Local Air Quality,* dated February 2008

[1] TCEQ: (Texas Commission on Environmental Quality). 2002. Rock Crushing Plants: Technical Guidance for Rock Crushing Plants. Air Permits Division, Austin TX.

(currently included in the Air Contaminant Benchmark List, MECP), As can be seen the facility is predicted to meet the standard for particulate matter at the property line and at sensitive nearby receptors.

Table 4: Predicted Particulate Matter Impacts from the Uxbridge Waste Transfer Station Operations

Contaminant	Averaging Period	Receptor	Worst-Case Concentration ($\mu g/m^3$)	Percent of Standard (%)
Particulate Matter	24-hour	Property Line	103.77[1]	86.5
		Worst Case Residential Receptor	12.46	10.4

Note [1] – O.Reg. 419/05 24 hour averaging period meteorological anomalies removed. From Guideline A-10, the highest 24-hour average predicted concentration in each single meteorological year over the 5-year modelling period was discarded.

4.1.3.2 Odour Assessment

Infrequent mixed odours may come from non-hazardous soil/material incoming from a construction or demolition project. Not all incoming soil will be odourous, and the odours will vary in intensity and offensiveness. As part of the ECA, an odour BMPP is prepared to prevent, control, and mitigate any potential sources of odour at the Site. The BMPP is to be followed at all times by the Site operational team and will be held within the main office onsite. Any incoming soil that is odourous will be stockpiled in the remediation area in the outdoor storage yard and is to be tarped. The odour BMPP outlines housekeeping items that aim to reduce odour from material spills, vehicle tracks, and the transfer and processing of incoming soil waste.

An assessment of the potential odour impacts at nearby air sensitive receptors was conducted in order to determine the compatibility of the proposed recycling facility. The assessment conservatively assumed that all incoming fresh soil/waste (2,000 tonnes in a day) may contain 5% putrescible materials, and estimated an emission rate using a specific odour emission rate of 59 OU/s*m^2, taken from a study on "Odour Emission Factors for Assessment and Prediction of Italian MSW Landfills Odour Impact", May 2005. This modelling is considered to be conservative as the incoming soil will not contain any putrescible materials and is be controlled with the activities outlined in the BMPP. The odour emission factor was applied to fresh material incoming at a maximum 2,000 tonnes per day. It was also conservatively assumed that all incoming waste will pass through the butler building for processing before being transferred to the outdoor storage area for stockpiling and remediation. Remediation of the soil includes stockpiles being covered with a low permeable cover. Research has shown that tarping waste piles can decrease odours by up to 95%, therefore a 50% control factor was conservatively applied to the outdoor storage waste pile that will be tarped during remediation to control odours as outlined in the BMPP (MLMMI, 2002).

This study was performed following the procedure recommended by the MECP for performing air quality assessments. The two documents referenced in conducting the air modelling were the:

- Procedure for Preparing an Emission Summary and Dispersion Modelling Report, Version 3.0, MECP, March 2009 (Guideline A-10);

- Air Dispersion Modelling Guideline for Ontario, Version 2.0, MECP, March 2009 (Guideline A-11); and
- Methodology for Modelling Assessments of Contaminants with 10-Minute Average Standards and guidelines under O.Reg. 419/05, MECP, April 2008.

The concentrations of the contaminant with mixed odour-based standards were predicted and compared against the chosen threshold of 1 OU. Modelling was completed showing that the 1 OU standard will be met 99.5% of the time in a given year as per the MECP bulletin on standard with 10-minute averages. Results are shown below in Table 5. It can be seen that odour is predicted to have concentrations below the selected 10-minute 1 OU threshold, 99.5% of the time.

Table 5: AERMOD Modelling Results

Contaminant	Maximum 10-minute Concentration1 (OU/m3)	Provincial Point of Impingement Limit (OU/m3)	Percent of MOE Limit
Mixed Odours	0.74	1	74%

Note [1] – Highest annual 99.5 percentile 1-hour POI at a receptor converted to a 10-minute average using the conversion factor presented in Section 7.1.2 of the MECP Guideline A-10, version 4.0.

This modelled impact of 0.74 OU/m^3 was predicted at a nearby residence. All other sensitive receptors were below the MECP standard for mixed odours, and no impacts greater than 1 OU/m^3 are predicted at any of the identified nearby air sensitive receptors.

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

Air quality dispersion modelling was completed using the U.S. EPA AERMOD software to determine impacts of nuisance emissions from the proposed waste transfer facility. The respective concentrations predicted at the property line and beyond of the proposed development were compared against their applicable MECP standards and were found to be below the respective standards at the property line of the proposed development in all cases.

Adverse odour impacts are not expected from the industry. While the operations at the facility may be sources of fugitive dust and odours, the industry BMPP's are required to prevent, control and mitigate all sources of dust and odour onsite. Based on the assessment completed, and the BMPP's that are to be implemented, adverse impacts from nuisance emissions are not expected at the existing residences.

5. NOISE ASSESSMENT

5.1 GUIDELINES

5.1.1 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 6: NPC-300 Exclusion Limits for Non-Impulsive Sounds (L_{eq} (1-hr), dBA)

Time of Day	Class 1 Area		Class 4 Area	
	Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception	Plane of Windows of Noise Sensitive Spaces	Outdoor Points of Reception
7 am to 7 pm	50	50	60	55
7 pm to 11 pm	50	50	60	55
11 pm to 7 am	45	n/a	55	n/a

Table 7: NPC-300 Exclusion Limits for Impulsive Sounds (L_{LM}, 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.

- Area classifications are: Class 1 - Urban

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

5.1.1.1 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; and
- Outdoor living areas.

All of the above have been considered as noise-sensitive points of reception in the analysis.

5.1.1.2 Proposed Area Classification

Under Ministry of the Environment, Conservation & Parks (MECP) Publication NPC-300 noise guidelines, noise sensitive receptors are defined using area classifications. The receptor areas are classified as either:

- Class 1 – Urban areas
- Class 2 – Suburban / semi-rural areas
- Class 3 – Rural areas
- Class 4 – Infill areas

Depending on the receptor area classification, different guideline limits apply. Classes 1, 2 and 3 were included in the predecessor guidelines to NPC-300, namely MECP Publications NPC-205, NPC-232, and LU-131.

Based on the nature of the area, the Class 1 area urban sound level limits apply. The area is located close to a major roadway and dominated by man-made sounds from existing 'rural industrial' areas, including road traffic noise and an "urban hum", 24-hours per day.

5.1.2 TOWNSHIP OF UXBRIDGE NOISE BY-LAW

The Township of Uxbridge Noise By-law Number 2012-011 applies to noise emissions within the Township, including from industrial/ commercial uses. A copy of the by-law can be found in Appendix B. The following provisions of the By-law apply:

> Section 3 Item 5
>
> No person shall emit or cause or permit the emission of sound resulting from loading, unloading, or delivering of any container, product or refuse, unless necessary for the maintenance of essential services or the moving of household effects from 7:00 PM to 7:00 AM. the next day, and 7:00PM to 9:00AM on all Sundays and statutory holidays.

And:

> Section 3 Item 9
>
> No person shall cause or permit the emission of sound from the operation of any machinery or equipment or commercial vehicle in conjunction therewith, other than water pumping equipment from 7:30PM to 6:00AM Monday to Saturday, and on Sundays, and statutory holidays

5.1.3 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 residential development applications is Publication NPC-300. Noise levels from industry meeting NPC-300 requirements will meet the requirements of the Township of Uxbridge Noise by-law.
- Based on the restrictions listed in Section 5.1.3.1, the Uxbridge Waste Transfer facility will only operate during the daytime hours between 7:00AM and 7:00PM and between 7:00AM and 9:00PM on Sundays and statutory holidays.
- The Class 1 limits have been adopted in this study.

5.2 SOURCES OF INTEREST

Based on the information obtained from the local industries, the significant sources of noise in the area of the project have been identified. Noise emission rates for the equipment/ activities were determined based on information from SLR's in-house database. Modelled noise sources include:

- On-site tri-axial trucking traffic;
- Idling truck noise on the scales;
- Crusher, and screening activity;
- Operation noise within the Butler Building including pumps, and centrifuge noise;
- Excavator and front-end loader movement;
- Potential up-blast/exhaust fans from the butler building; and
- Impulsive noise from the truck movement on the scales entering and exiting the site.

Figure 7 shows the location of all modelled noise sources. Noise emission data used in the assessment can be found in Appendix E.

5.3 NOISE MODELLING AND RESULTS

Worst-case scenario noise levels from the waste transfer station's operations were modelled using Cadna/A, a computerized version of the internationally recognized ISO 9613-2 noise propagation algorithms. This is the preferred noise modelling methodology of the MECP. The ISO 9613 equations account for:

- Source to receiver geometry
- Distance attenuation
- Atmospheric absorption
- Reflections off of the ground and ground absorption
- Reflections off of vertical walls
- Screening effects of buildings, terrain, and purpose-built noise barriers (noise walls, berms, etc.).

The following additional parameters were used in the modelling, which are consistent with providing a conservative (worst-case assessment of noise levels):

- Temperature: 10°C
- Relative Humidity: 70%
- Ground Absorption G: G=1.0 (absorptive) as default global parameter, specific reflective areas such as parking lots defined as G=0.0 (reflective).
- Reflection: An order of reflection of 2 was used (accounts for noise reflecting from walls)
- Wall Absorption Coefficients: Set to 0.20 (20 % of energy is absorbed, 80% reflected)
- Terrain: Assumed to be flat

All noise-sensitive receptors and associated outdoor living areas are detailed in Figure 8. Predicted façade sound levels are shown in Figure 9 and Figure 10 for continuous steady-state and impulsive noise impacts, respectively. Overall predicted sound levels are provided in the following tables:

Table 8: Overall Industrial Sound Levels – Normal Operations, Non-Impulsive Noise

Receptor	Address	Normal Operations				
		Predicted Level		Guideline Limit		Meets Guideline?
		Day	Night [1]	Day	Night	
POR 1	188 Prouse Road	50	N/A	50	45	Yes
POR 2	197 Prouse Road	49	N/A	50	45	Yes
POR 3	3900 Concession Road 2	48	N/A	50	45	Yes
POR 4	3871 Concession Road 2	46	N/A	50	45	Yes
POR 5	Durham Regional Highway 47 [2]	46	N/A	50	45	Yes

Notes: Sound levels are L_{eq} (1-hr) sound levels, in dBA

[1] The Uxbridge WTS is not expected to operate during the evening or night-time period.

[2] House number not visible available on Google Maps.

Table 9: Overall Industrial Sound Levels – Normal Operations, Impulsive Noise

Receptor	Address	Normal Operations				
		Predicted Level		Guideline Limit [3]		Meets Guideline?
		Day	Night [1]	Day	Night	
POR 1	188 Prouse Road	47	N/A	50	45	Yes
POR 2	197 Prouse Road	46	N/A	50	45	Yes
POR 3	3900 Concession Road 2	44	N/A	50	45	Yes
POR 4	3871 Concession Road 2	43	N/A	50	45	Yes
POR 5	Durham Regional Highway 47 [2]	43	N/A	50	45	Yes

Notes: Sound levels are L_{eq} (1-hr) sound levels, in dBA

[1] The Uxbridge WTS is not expected to operate during the evening or night-time period.

[2] House number not visible available on Google Maps.

[3] Impulses were assumed to be greater than 9/hour time period.

5.3.1 OUTDOOR LIVING AREA REQUIREMENTS

Predicted overall sound levels at the surrounding noise-sensitive outdoor living areas (OLAs) are provided in the following tables and are also shown in Figure 10 and Figure 11, for continuous steady-state and impulsive noise.

Table 10: Predicted Outdoor Amenity Area Sound Levels – Non-impulsive Noise

Amenity Area	Predicted Sound Level (dBA)	Guideline Limit (dBA)	Noise Mitigation Measure	Meets Guideline?
POR 1	50	50	None	Yes
POR 2	48	50	None	Yes
POR 3	47	50	None	Yes
POR 4	45	50	None	Yes
POR 5	43	50	None	Yes

Notes: Sound levels are L_{eq} (1-hr) sound levels, in dBA

Table 11: Predicted Outdoor Amenity Area Sound Levels – Impulsive Noise

Amenity Area	Predicted Sound Level (dBA)	Guideline Limit (dBA)	Noise Mitigation Measure	Meets Guideline?
POR 1	47	50	None	Yes
POR 2	45	50	None	Yes
POR 3	42	50	None	Yes
POR 4	41	50	None	Yes
POR 5	43	50	None	Yes

Notes: Sound levels are L_{eq} (1-hr) sound levels, in dBA

There are no additional mitigation measures required to meet NPC-300 guidelines for the outdoor living areas of the surrounding residences.

5.4 SUMMARY OF NOISE CONCLUSIONS AND RECOMMENDATIONS

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

- Adverse noise impacts from the Uxbridge Waste Transfer Station are not anticipated at the surrounding noise-sensitive areas. The requirements of MECP Guideline D-6, NPC-300, and the Township of Uxbridge Noise by-law are met.

6. CONCLUSIONS

A compatibility/ mitigation assessment has been completed, examining the potential for air quality, dust, odour, and noise impacts from the proposed Uxbridge Waste Transfer Station on the surrounding sensitive residential land uses.

The assessment has included a review of the Facility's impact on the surrounding land uses. Based on our assessment, the Project, will be in compliance with applicable Provincial environmental policies, regulations, approvals, authorizations and guidelines, including the Township's Noise Bylaw. The requirements of MECP Guideline D-6, Regulation 419/05, and Publication NPC-300 are met. No additional mitigation measures are required to be compatible with the surrounding area

7. 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, 1995), Guideline D-1: *Land Use Compatibility*

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, 2020). *Provincial Policy Statement*

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

8. 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 ECMI Properties (125 Villarboit) 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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FIGURES

ECMI Properties (125 Villarboit) Inc.

Compatibility and Mitigation Study: Air Quality, Dust, Odour and Noise

Uxbridge Waste Transfer Station

SLR Project No.: 241.20064.00000

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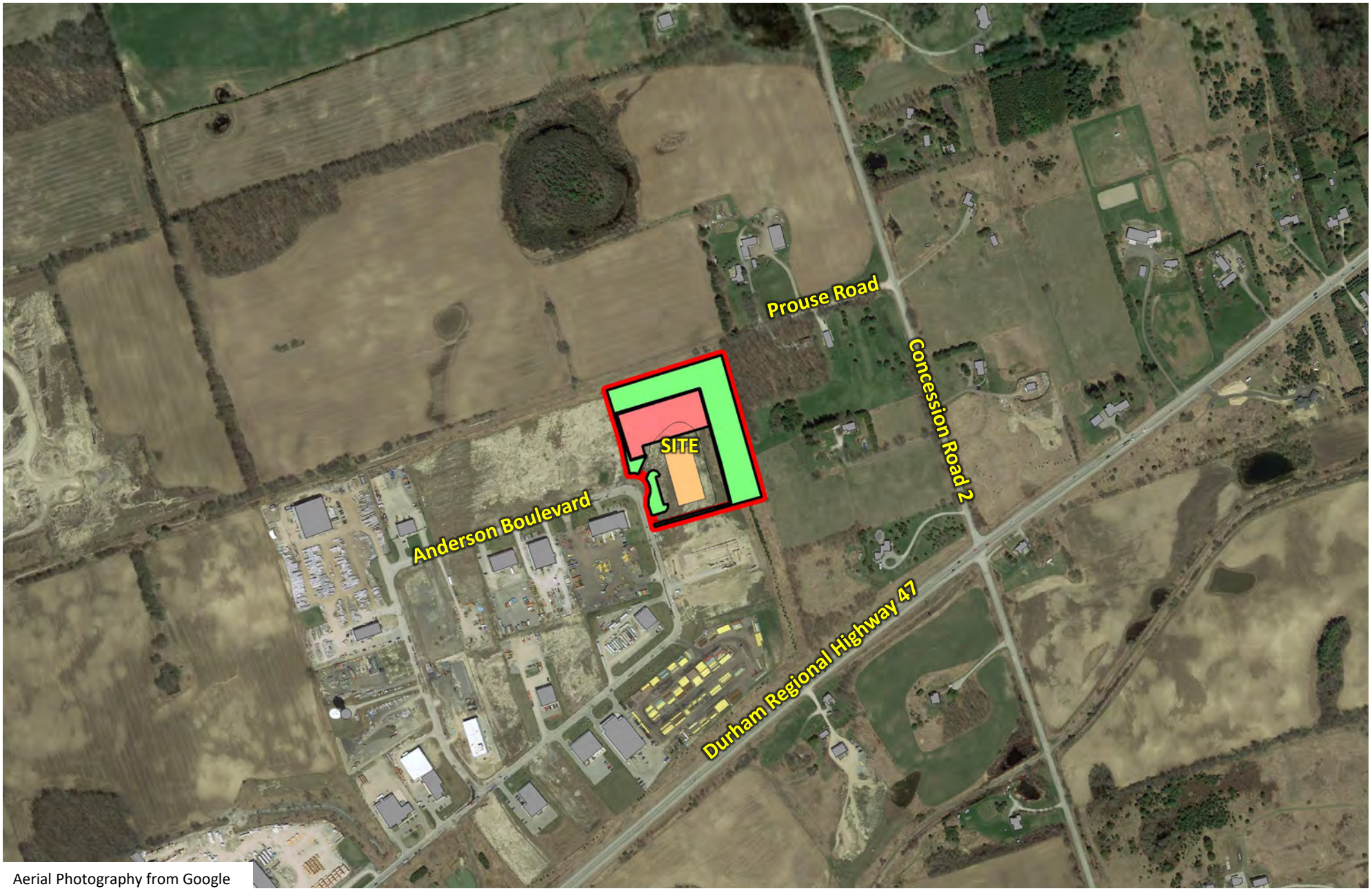


Aerial Photography from Google

ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION – UXBRIDGE, ONTARIO

SITE AND CONTEXT PLAN

True North

Scale: 1: 7,500

METRES

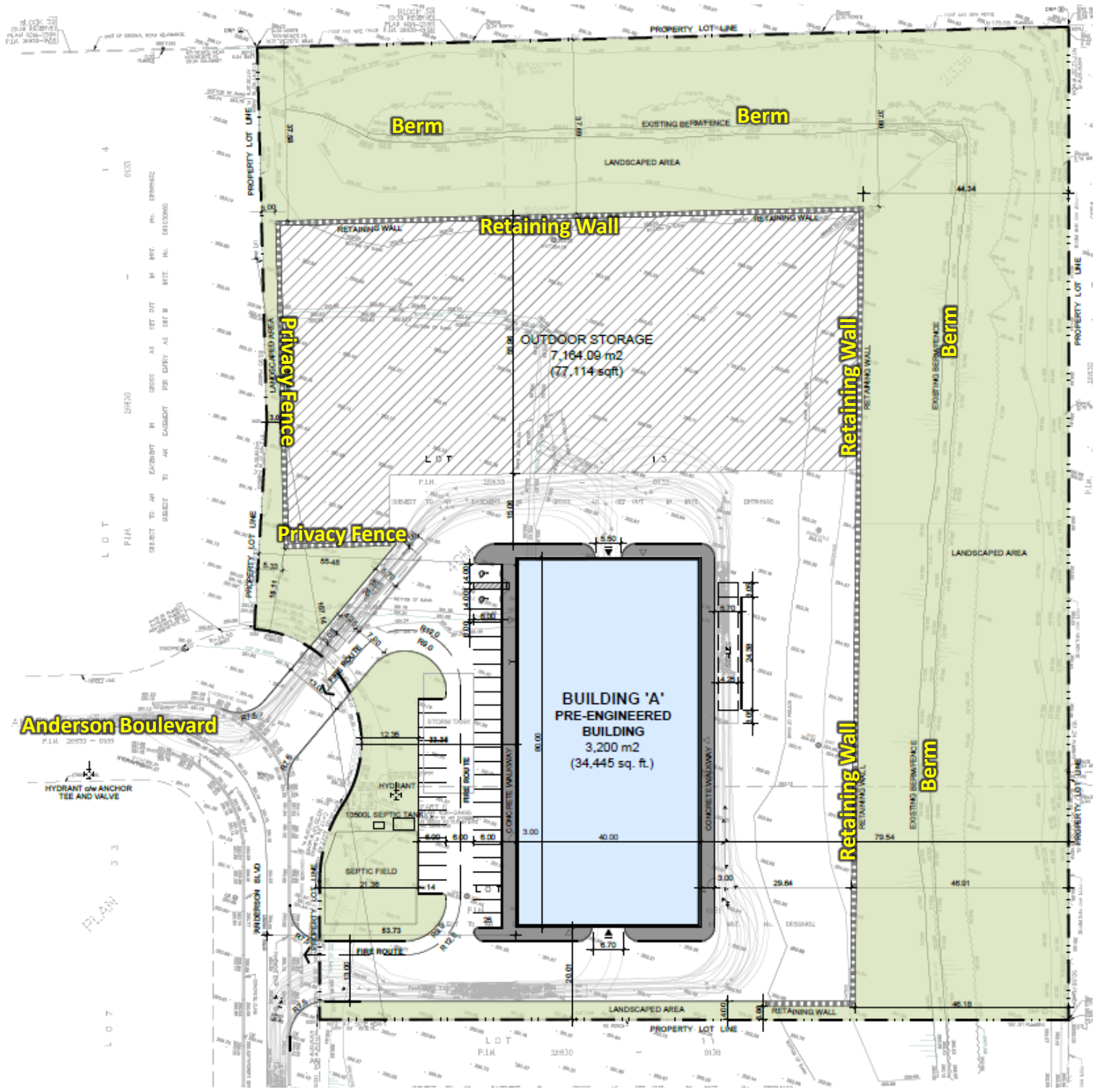
Date: Feb 4, 2021

Rev 0.0

Project No. 241.20064.00000

Figure No. **1**

SLR global environmental solutions



Legend

- Landscaped Area
- Unpaved Outdoor Storage
- Paved Area

True North

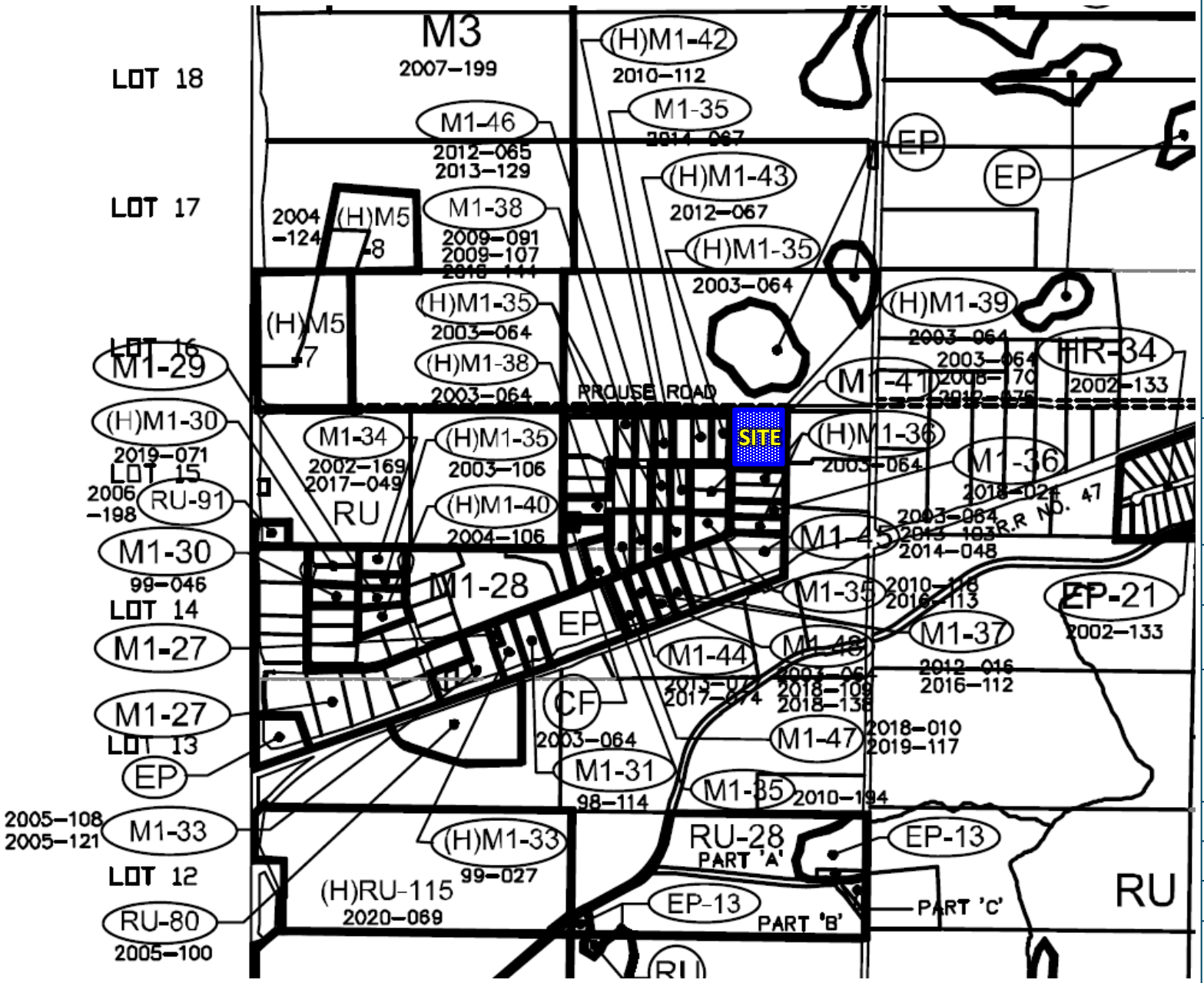
ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

EXCERPTS FROM PRELIMINARY SITE PLAN; CREDIT BALDASSARRA ARCHITECTS

Scale: n/a		METRES
Date: Mar 18, 2021	Rev 0.0	Figure No. 2
Project No. 241.20064.00000		

SLR
global environmental solutions



EP ENVIRONMENTAL PROTECTION ZONE

OS RECREATIONAL OPEN SPACE ZONE

RU RURAL ZONE

CF COMMUNITY FACILITY ZONE

RC RECREATIONAL CLUSTER ZONE

ER ESTATE RESIDENTIAL ZONE

M1 RURAL INDUSTRIAL ZONE

M3 RURAL RESOURCE EXTRACTION ZONE

M5 AGGREGATE PROCESSING ZONE

True North

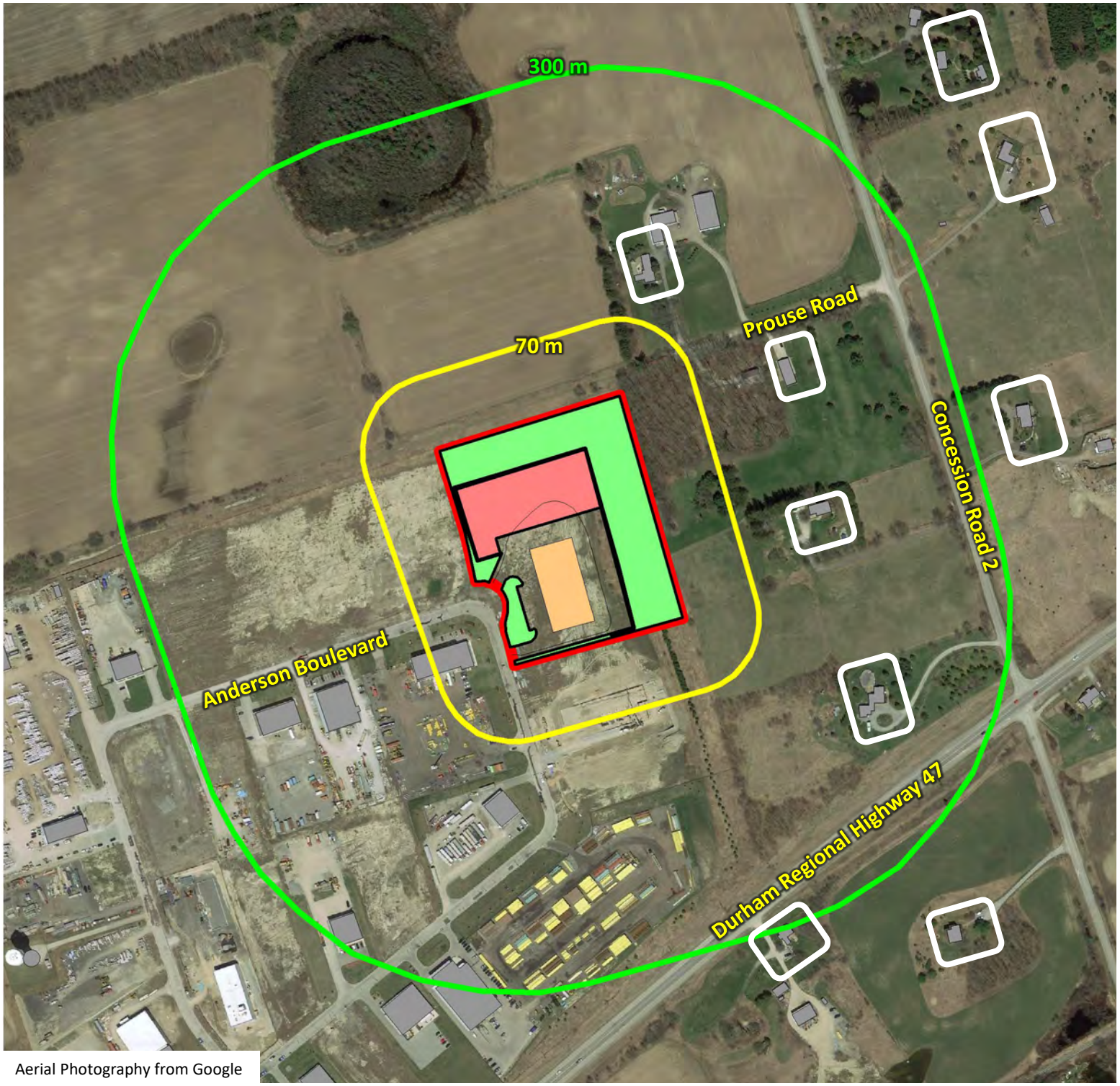
ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

AREA ZONING MAP
https://www.uxbridge.ca/en/business-and-development/resources/Documents/Zoning-2---July-2020-Update/ZBL-81-19-July-2020-Consolidation---Schedules-A1-A2.pdf

Scale:	n/a	METRES
Date: Dec 10, 2020	Rev 0.0	Figure No. 3
Project No. 241.20064.00000		

SLR
global environmental solutions



Aerial Photography from Google

Subject Site

Class I Light Industry

Class II Medium Industry

Class III Heavy Industry

Sensitive Use (e.g., Residence)

Outdoor Processing Area

Butler Building

Berm/Landscaped Area

True North

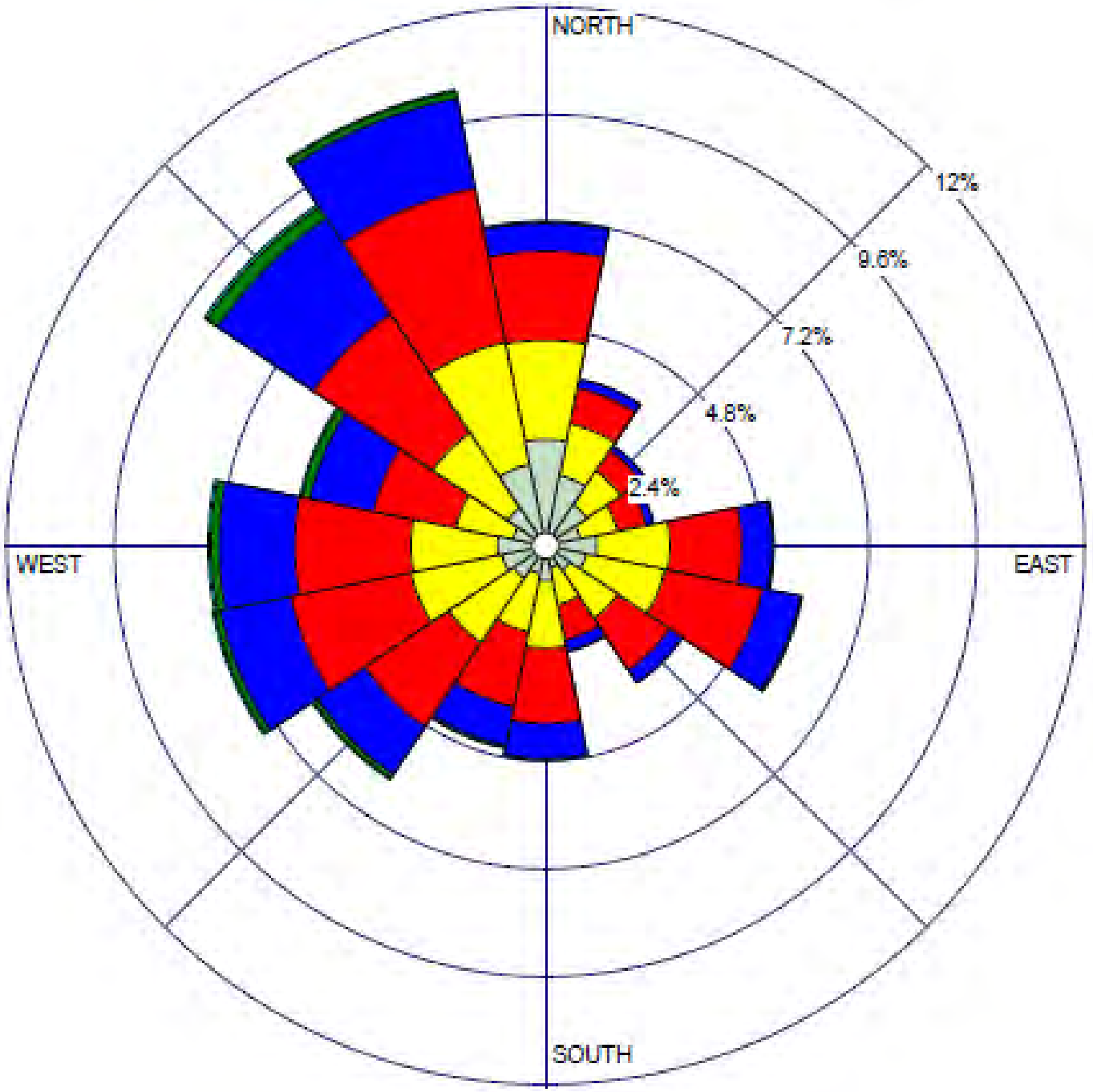
ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

GUIDELINE D-6 SEPARATION DISTANCES TO 300 METRES

Scale: 1: ,5,000		METRES
Date: Feb 18, 2021	Rev 0.0	Figure No. 5
Project No. 241.20064.00000		

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: 10.69%

True North

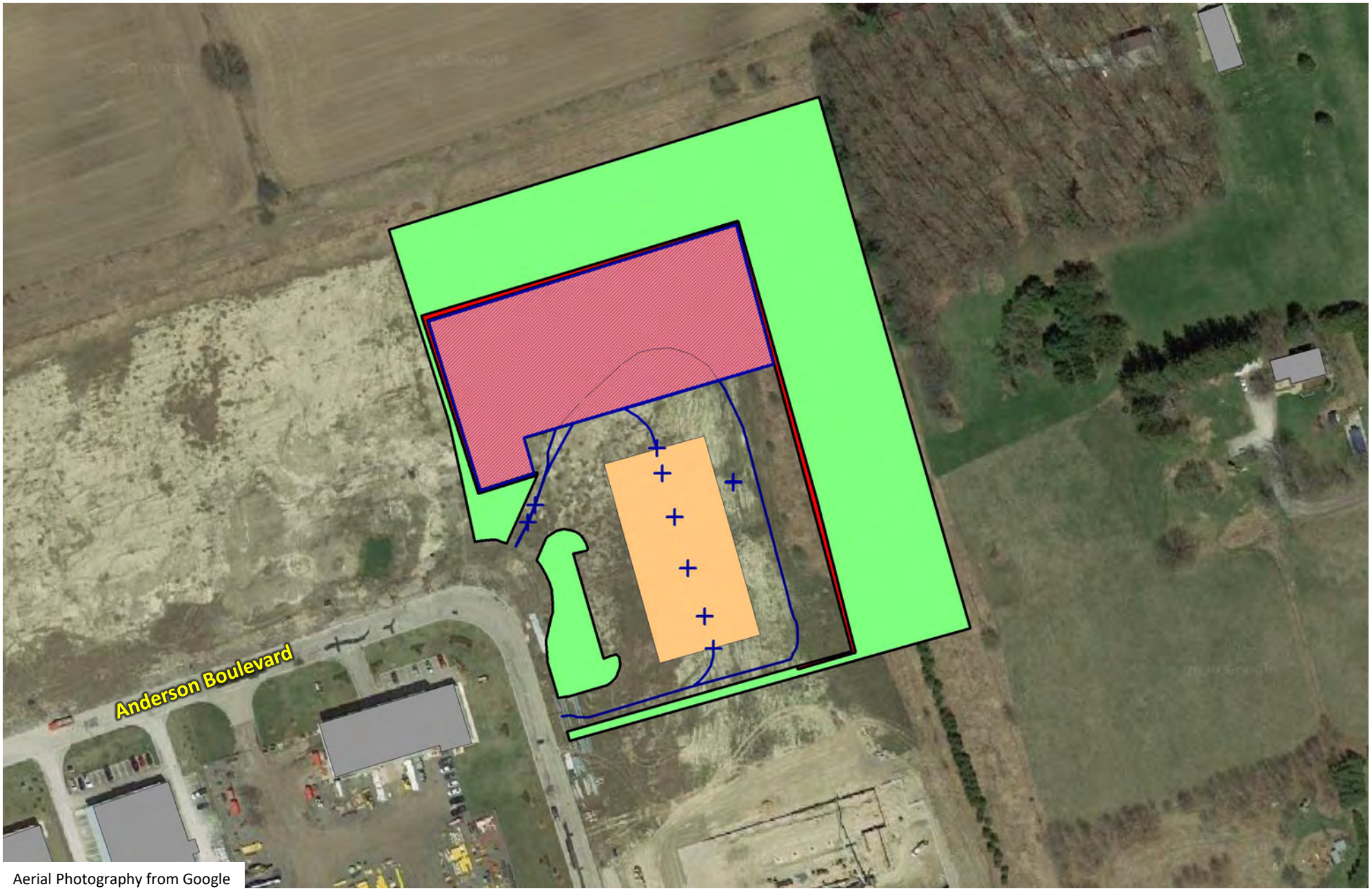
ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

BUTTONVILLE METEOROLOGICAL WIND ROSE; 1986-2011

Scale: n/a		METRES
Date: Dec 10, 2020	Rev 0.0	Figure No. 6
Project No. 241.20064.00000		

SLR
global environmental solutions



Aerial Photography from Google

ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION - UXBRIDGE, ONTARIO

MODELLED NOISE SOURCE LOCATIONS

True North

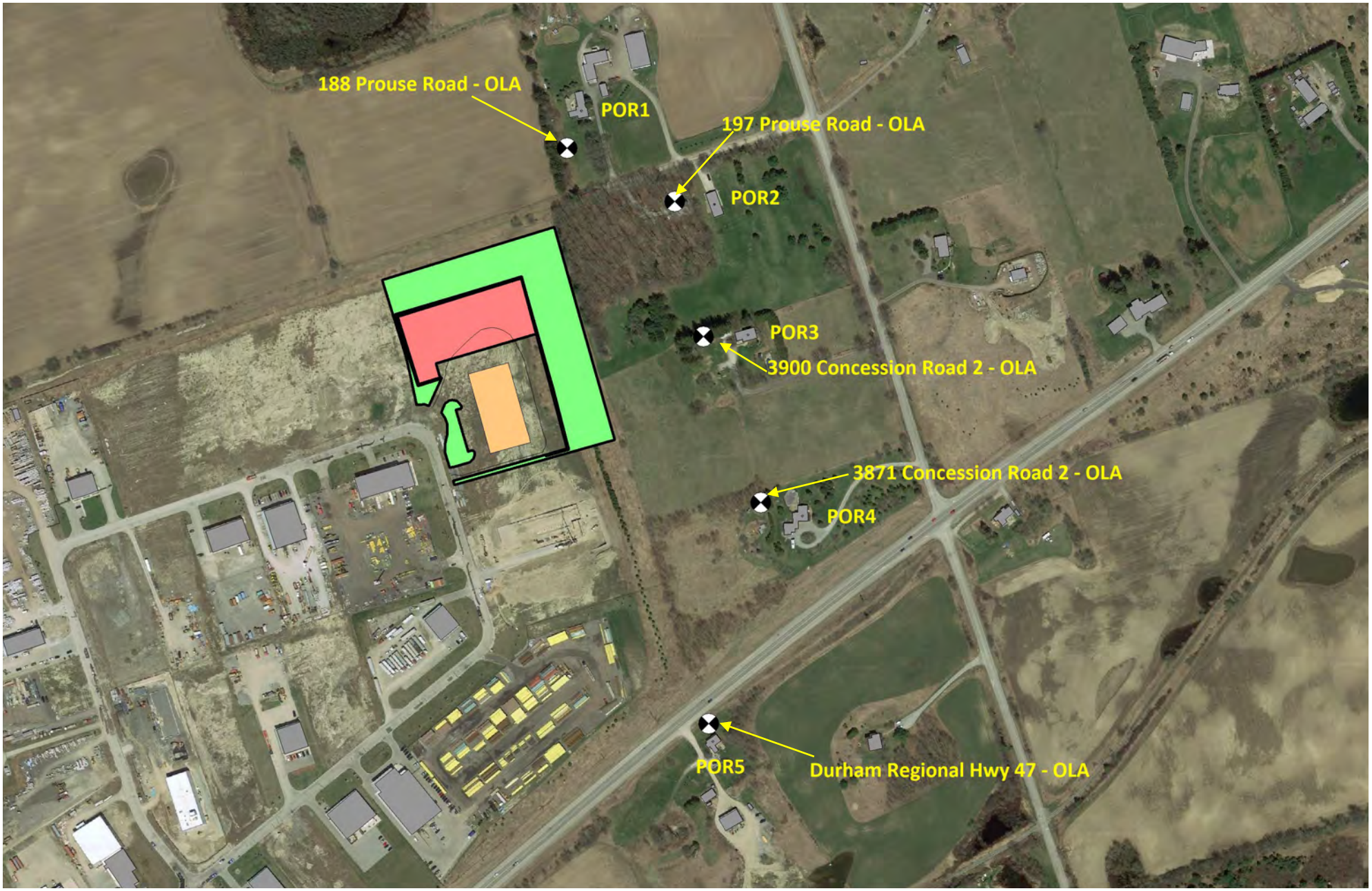
Scale: 1: 2,000 METRES

Date: Dec 10, 2020 Rev 0.0

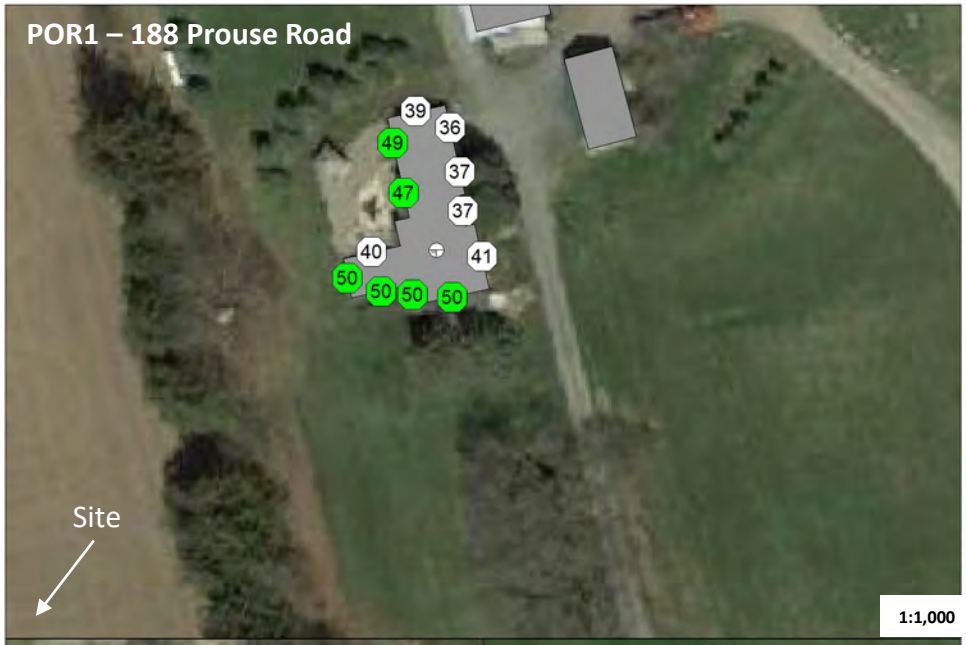
Project No. 241.20064.00000

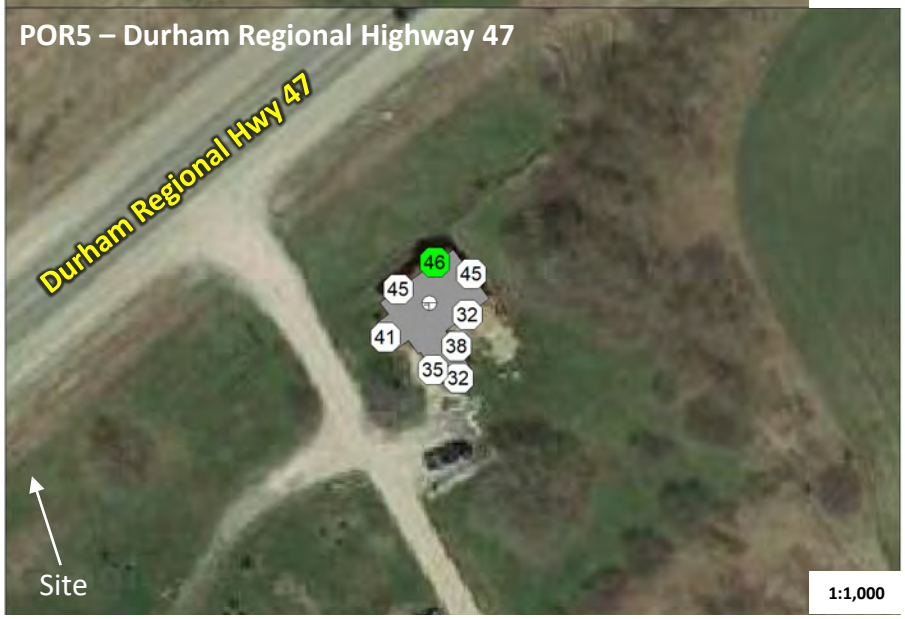
Figure No. **7**

SLR global environmental solutions

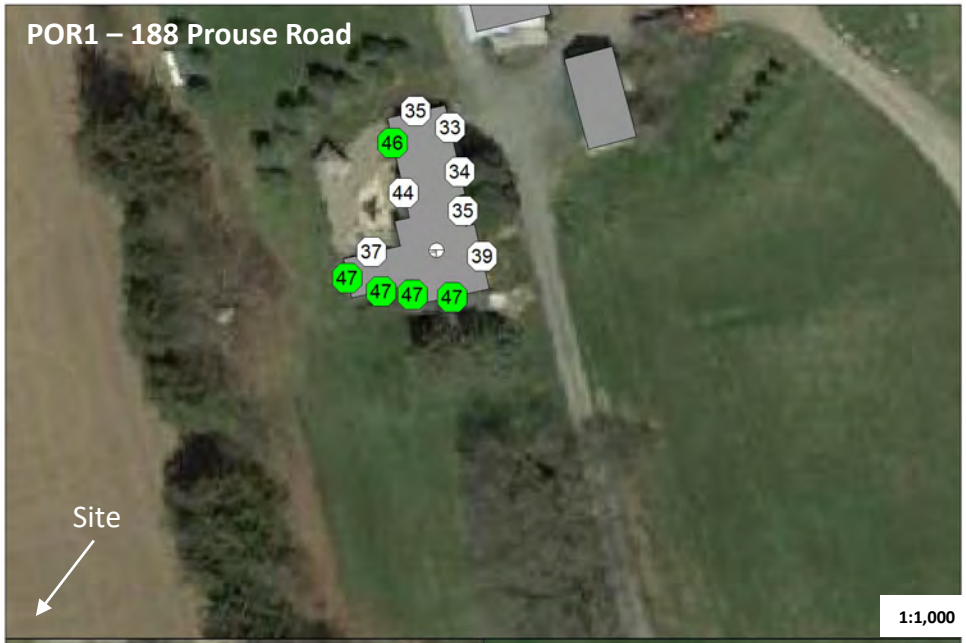


ECMI PROPERTIES (125 VILLARBOIT) INC.	True North	Scale: 1: 5,000	METRES	SLR global environmental solutions
UXBRIDGE WASTE TRANSFER STATION - UXBRIDGE, ONTARIO		Date: Dec 18, 2020 Rev 0.0	Figure No. **8**	
MODELLED RECEPTORS		Project No. 241.20064.00000		





ECMI PROPERTIES (125 VILLARBOIT) INC.	True North	Scale: See Detail	METRES	SLR global environmental solutions
UXBRIDGE WASTE TRANSFER STATION - UXBRIDGE, ONTARIO		Date: Dec 18, 2020 Rev 0.0	Figure No. **9**	
PREDICTED STATIONARY NOISE SOUND LEVELS NORMAL OPERATIONS, NON-IMPULSIVE NOISE		Project No. 241.20064.00000		



ECMI PROPERTIES (125 VILLARBOIT) INC.	True North	Scale: See Detail	METRES	SLR global environmental solutions
UXBRIDGE WASTE TRANSFER STATION - UXBRIDGE, ONTARIO		Date: Dec 18, 2020 Rev 0.0	Figure No. **10**	
PREDICTED STATIONARY NOISE SOUND LEVELS NORMAL OPERATIONS, IMPULSIVE NOISE		Project No. 241.20064.00000		

ECMI PROPERTIES (125 VILLARBOIT) INC.	True North	Scale: See Detail	METRES
UXBRIDGE WASTE TRANSFER STATION - UXBRIDGE, ONTARIO		Date: Dec 18, 2020 Rev 0.0	Figure No. **11**
PREDICTED STATIONARY NOISE SOUND LEVELS AT OLAS NORMAL OPERATIONS, NON-IMPULSIVE NOISE		Project No. 241.20064.00000	

SLR global environmental solutions

ECMI PROPERTIES (125 VILLARBOIT) INC.	True North	Scale: See Detail	METRES	SLR global environmental solutions
UXBRIDGE WASTE TRANSFER STATION - UXBRIDGE, ONTARIO		Date: Dec 18, 2020 Rev 0.0	Figure No. **12**	
PREDICTED STATIONARY NOISE SOUND LEVELS AT OLAS NORMAL OPERATIONS, IMPULSIVE NOISE		Project No. 241.20064.00000		

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Appendix A
Development Drawings

ECMI Properties (125 Villarboit) Inc.

Compatibility and Mitigation Study: Air Quality, Dust, Odour and Noise

Uxbridge Waste Transfer Station

SLR Project No.: 241.20064.00000

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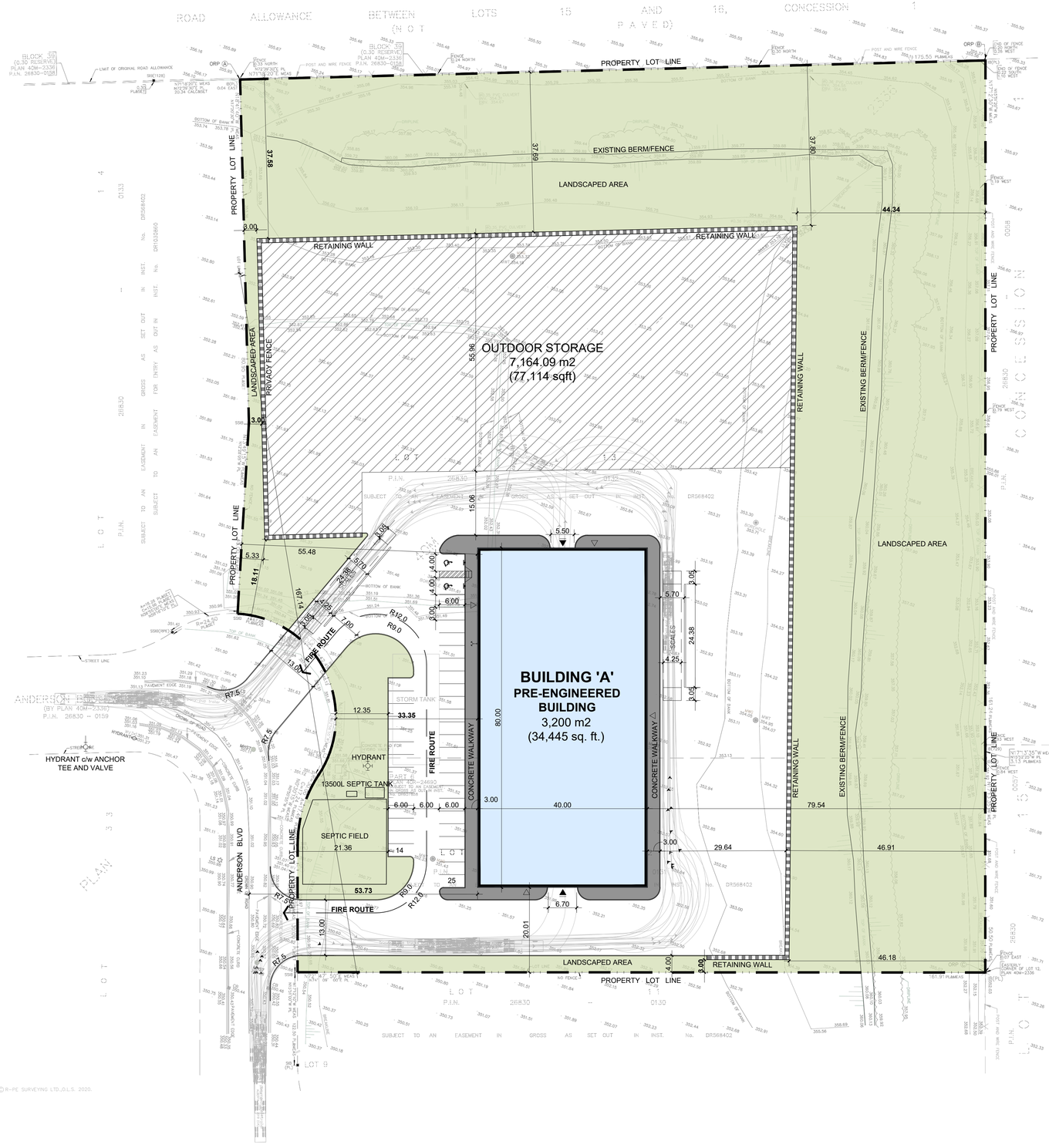


PLAN OF SURVEY AND TOPOGRAPHY OF LOTS 12 AND 13, PLAN 40M-2336 TOWN OF UXBRIDGE REGIONAL MUNICIPALITY OF DURHAM

SCALE 1: 400

10m 5m 0 10m 20m 30m 40m metres

R-PE SURVEYING LTD., O.L.S.

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

NOTES

■	DENOTES MONUMENT FOUND
□	DENOTES MONUMENT SET
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON BAR
IB	DENOTES IRON BAR
ORP	DENOTES OBSERVED REFERENCE POINT
P.I.N.	DENOTES PROPERTY IDENTIFIER NUMBER
PLT	DENOTES PLAN 40M-2336
CALC	DENOTES CALCULATED FROM PL
WV	DENOTES WATER VALVE
CB	DENOTES CATCH BASIN
LS	DENOTES LAMP STANDARD
INV.	DENOTES INVERT ELEVATION
OBV.	DENOTES OBVERT ELEVATION
MHST	DENOTES MANHOLE STORM
MWT	DENOTES MONITORING WELL TOP ELEVATION
MWG	DENOTES MONITORING WELL GROUND ELEVATION
BILL(PED)	DENOTES BELL BOX
Ø	DENOTES DIAMETER
(RPE)	DENOTES R-PE SURVEYING LTD., O.L.S.
(729)	DENOTES D. H. BLACK, O.L.S.
(1126)	DENOTES DAVID HORWOOD LIMITED, O.L.S.
BOREHOLE	DENOTES BOREHOLE GROUND ELEVATION

INTEGRATION NOTE

BEARINGS ARE GRID, UTM, NAD83 (CSRS):CBNV5:2010.0), DERIVED FROM OBSERVED REFERENCE POINTS A, B AND C USING CANNET REAL TIME NETWORK (RTN) No. 20120110050 (NORTHING: 4885492.46804, EASTING: 649365.16261).

COORDINATES ARE UTM ZONE 17, NAD83 (CSRS) (CBNV6–2010.0), TO URBAN ACCURACY PER SEC. 14 (2) OF O.REG. 216/10, AND CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

POINT	NORTHING	EASTING
ORP Ⓐ	4876462.89	642279.09
ORP Ⓑ	4876519.15	642445.31
ORP Ⓒ	4876313.96	642508.95

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999802.

BENCHMARK NOTE

ELEVATIONS ARE GEODETIC AND ARE REFERRED TO MTO VERTICAL BENCHMARK NUMBER 008197784/77 HAVING AN ORTHOMETRIC ELEVATION OF 312.926 METRES. ELEVATIONS ARE REFERENCED TO THE CANADIAN GEODETIC VERTICAL DATUM OF 1928, 1978 ADJUSTMENT (CGVD–1928:1978).

STEEL ROD WITH BRASS CAP ON THE NORTH SIDE OF HIGHWAY No. 47, 7.6 KM EAST OF THE JUNCTION OF HIGHWAY Nos. 47 & 48 AT RINGWOOD, 1.1 KM. EAST OF THE C.N.R. CROSSING, 1.1 KM. WEST OF BLOOMINGTON ROAD AND 13.2 M NORTH OF THE CENTERLINE OF HIGHWAY No. 47, LOCATED 9.6 M EAST OF THE CENTERLINE OF THE GRAVEL FARM LANE, 46 CM SOUTH OF THE NORTH RIGHT-OF-WAY FENCE LINE AND 61 CM WEST OF A BLACK AND YELLOW MARKER POST.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

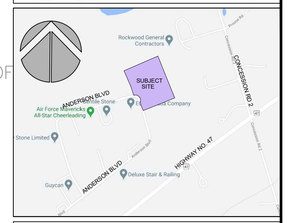
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 28th DAY OF JUNE, 2020.

DATE JULY 2nd, 2020

S. GOONEWARDENA
ONTARIO LAND SURVEYOR

R-PE SURVEYING LTD.
ONTARIO LAND SURVEYORS
643 Chrislea Road, Suite 7
Woodbridge, Ontario L4L 8A3
Tel:(416)635-5000 Fax (416)635-5001
Tel:(905)264-0881 Fax (905)264-2099
Website:www.r-pe.ca
DRAWN: A.Q. CHECKED: S.G.
JOB No. 20-134 CAD FILE No. 20134-P01

KEY PLAN



LEGAL DESCRIPTION

PLAN OF SURVEY AND TOPOGRAPHY OF LOTS 12 AND 13, PLAN 40M - 2336 TOWN OF UXBRIDGE, REGIONAL MUNICIPALITY OF DURHAM. AS PREPARED BY: R-PE SURVEYING LTD. ONTARIO LAND SURVEYORS 643 Chrislea Road, Suite 7 Woodbridge, Ontario L4L 8A3 Tel. (416)635-5000 Fax (416)635-5001 Website: www.r-pe.ca

SITE STATISTICS

	SITE AREA	35,817.61 m2	or	8.85 acres
	G.F.A.	3,200.00 m2	or	34,445 sq ft
		REQUIRED		PROVIDED
BUILDING 'A'	SITE COVERAGE	14,320.00 m2 MAX		3,200.00 m2
		40 % MAX		8.93 %
	LOT FRONTAGE	40.00 m MIN		167.14 m
	FRONT YARD (WEST) SETBACK	15.00 m MIN		18.11 m
	INT SIDE YARD (SOUTH) SETBACK	6.00 m MIN		3.00 m
	EXT SIDE YARD (WEST) SETBACK	15.00 m MIN		3.00 m
	REAR YARD (EAST) SETBACK	15.00 m MIN		44.34 m
	REAR YARD (NORTH) SETBACK	15.00 m MIN		37.58 m
LANDSCAPED AREA		10,745.00 m2 (30%) MIN		17,479.77 m2 (48.80 %)
OUTDOOR STORAGE AREA				
(H)M1-36 AND (H)M1-39 ZONING		3,581.76 m2 (10%) MAX		7,164.09 m2 (20.0%)
(H)M1-42 ZONING		10,745.28 m2 (30%) MAX		
PAVED AREA				
OUTDOOR STORAGE		7,164.09 m2	or	20.00 %
ALL OTHER PAVED AREAS		7,973.74 m2	or	22.27 %
TOTAL		15,137.83 m2	or	42.27 %
		REQUIRED		PROVIDED
PARKING		39 spaces PER SITE SPECIFIC BY-LAW 1 SPACE PER 35 m2		39 spaces
BARRIER-FREE PARKING SPACES		2 spaces		2 spaces

SYMBOL LEGEND

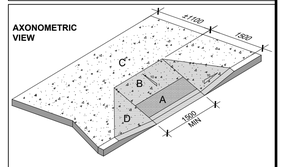
▷	MAN DOOR LOCATIONS
▷▷	LOADING DOOR LOCATIONS
▶	OVERHEAD DOORS
⊣	HYDRANT & VALVE
□	CATCH BASIN
□□	DOUBLE CATCH BASIN
○	STORM SEWER MANHOLE
●	SANITARY SEWER MANHOLE
⊢	FIRE DEPARTMENT CONNECTION / SIAMESE
TW	TOP OF WALL
⇨	DIRECTION OF TRAFFIC FLOW
24.35	EXISTING ELEVATION
[24.35]	PROPOSED ELEVATION
⟶	DIRECTION OF DRAINAGE FLOW
T.D.	TRENCH DRAIN
C.B.	CATCH BASIN
Ⓜ	GAS METERS
♿	DEPRESSED CRB BARRIER FREE ACCESS
FR	FIRE ROUTE SIGN
RP	BARRIER FREE SIGN (RP-93)
S	STOP SIGN
FR	FIRE ROUTE
B	BOLLARDS
RB-9	DO NOT ENTER SIGN - Rb-9
D.P.	HYDRO DP POLE FINAL LOCATION SUBJECT TO MODIFICATION
	BICYCLE PARKING
	TACTILE WALKING SURFACE
STOP	STOP SIGN
EP	EMPLOYEE PARKING SIGN
HOV	HOV / CAR POOLING

TRUE NORTH

PROJECT NORTH

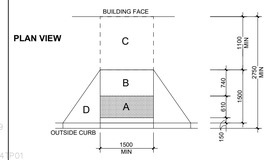
DEPRESSED CURB DETAIL

AXONOMETRIC VIEW



- CURB RAMP MUST HAVE A MINIMUM CLEAR WIDTH OF 1500mm, EXCLUSIVE OF ANY FLARED SIDES.
- THE RUNNING SLOPE OF THE CURB MUST,
  - i. BE A MAX OF 1:8, WHERE ELEVATION IS LESS THAN 75mm, AND
  - ii. BE A MAX OF 1:10, WHERE ELEVATION IS LESS 75mm OR GREATER AND 200mm OR LESS.
- THE MAX SLOPE ON THE FLARED SIDE OF THE CURB RAMP MUST BE NO MORE THAN 1:10.
- CURB RAMP MUST HAVE A TACTILE WALKING SURFACE INDICATOR THAT,
  - HAVE RAISED TACTILE PROFILES COMPOSED OF TRUNCATED DOMES,
  - HAVE A HIGH TONAL CONTRAST WITH THE ADJACENT SURFACE,
  - ARE LOCATED AT THE BOTTOM OF THE CURB RAMP,
  - ARE SET BACK BETWEEN 150mm AND 200mm FROM THE CURB EDGE,
  - EXTEND THE FULL WIDTH OF THE CURB RAMP,
  - ARE A MIN OF 610mm IN DEPTH, AND
  - BE SLIP-RESISTANT.

PLAN VIEW



A TACTILE SURFACE / DETECTABLE HAZARD INDICATOR 150mm FROM EDGE OF CURB AND 610mm IN DEPTH

B SLOPE SURFACE @ 1:10 (max)

C LANDING / UNINTERRUPTED SPACE OF NOT LESS THAN 1100mm

D FLARED SIDES WITH MAX SLOPE OF 1:10

No.	ISSUED	DATE
1	ISSUED FOR CLIENT REVIEW	JAN. 12, 2021
2	RE-ISSUED FOR CLIENT REVIEW	JAN. 14, 2021
3	RE-ISSUED FOR CLIENT REVIEW	FEB. 03, 2021
4	RE-ISSUED FOR CLIENT REVIEW	FEB. 09, 2021
5	RE-ISSUED FOR CLIENT REVIEW	FEB. 22, 2021
6	RE-ISSUED FOR CLIENT REVIEW	MAR. 01, 2021
7	RE-ISSUED FOR CLIENT REVIEW	MAR. 16, 2021
4	RETAINING WALL AND SCALE LOCATION UPDATED	FEB. 09, 2021
3	SITE STATS, OUTDOOR STORAGE UPDATED	FEB. 03, 2021
2	SITE STATS, PARKING UPDATED	JAN. 14, 2021
1	REVISED PER PLANNER COMMENTS	JAN. 08, 2021

No.	REVISION	DATE

BALDASSARRA Architects Inc.
30 Great Gulf Drive, Unit 20 | Concord ON | L4K 0K7
T. 905.660.0722 | **www.baldassarra.ca**

OWNERS INFORMATION:

45/47 Anderson Blvd

Uxbridge, ON

Site Plan

DATE:	DRAWN BY:	CHECKED:	SCALE:
DEC. 23, 2020	JK		1:500

PROJECT No. P-20184

DRAWING No. A-1.0

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Appendix B
Noise By-Law 2012-011

ECMI Properties (125 Villarboit) Inc.

Compatibility and Mitigation Study: Air Quality, Dust, Odour and Noise

Uxbridge Waste Transfer Station

SLR Project No.: 241.20064.00000

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CONSOLIDATED VERSION

This consolidation is prepared for convenience only; for accurate reference see by-laws as adopted by Council.

BY-LAW NUMBER 2012-011

OF

THE CORPORATION OF THE TOWNSHIP OF UXBRIDGE

BEING A BY-LAW TO REGULATE, PROHIBIT AND OTHER-WISE CONTROL NOISE IN THE TOWNSHIP OF UXBRIDGE AND TO REPEAL BY-LAW NOS. 97-100, 97-138, 2004-006 AND 2004-073

WHEREAS Section 129 of the *Municipal Act, 2001, as amended,* provides that, without limiting Sections 9, 10 and 11 of the Act, a municipality may regulate with respect to noise as well as prohibit same unless a permit is obtained from the municipality and may impose conditions for obtaining, continuing to hold and renewing the permit;

NOW THEREFORE, the Council of the Corporation of the Township of Uxbridge enacts the following:

Section 1- Definitions

1.1 In this By-law,

a) "Construction" means lawful erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, laying of pipe and conduit (whether above or below ground level), street and highway building, application of concrete, equipment installation and alteration, and structural installation of construction components and materials, in any form or for any purpose.

b) "Construction Equipment" means any equipment or device designed and intended for use in Construction or material handling, including but not limited to air compressors, pile drivers, pneumatic or hydraulic tools, bulldozers, tractors, excavators, trenchers, cranes, derricks, loaders, scrapers, pavers, generators, off-highway haulers, trucks, ditchers, compactors and rollers, pumps, concrete mixers, graders or any other material handling equipment;

c) "Highway" means a common and public highway as defined in the Highway Traffic Act;

d) "Holiday" means New Year's Day, Family Day, Good Friday, Victoria Day, Canada Day, Labour Day, Thanksgiving Day, Christmas and Boxing Day.

e) "Motor Vehicle" means an automobile, a motorcycle, a motor-assisted bicycle unless otherwise indicated in this Act, and any other vehicle propelled or driven otherwise than by muscular power, but does not include a street car or other motor vehicle running only upon rails, a power-assisted bicycle, a motorized snow vehicle, a traction engine, a farm tractor, a self-propelled implement of husbandry or a road-building machine;

f) "Noise" means unusual or excessive noise likely to disturb the inhabitants of the Township of Uxbridge;

g) "Off-Road Vehicle" means a vehicle propelled or driven otherwise than by muscular power or wind and designed to travel,

(a) on not more than three wheels, or
(b) on more than three wheels and being of a prescribed class of vehicle;

h) "Occupant" means any person or persons in lawful control of any grounds, yards or vacant lots or identified by the most current Municipal Assessment Roll as being the occupant of the property;

i) "Owner" includes any person or persons identified by the most current Municipal Assessment Roll as being the owner of the property;

j) "Officer "means a Police Officer or Municipal Law Enforcement Officer appointed by the Council of Township of Uxbridge;

k) "Pit" shall mean land or land under water from which unconsolidated aggregate is being or has been excavated, and that has not been rehabilitated, but does not mean land or land under water excavated for a building or structure on the excavation site or in relation to which an order has been made under *the Aggregate Resources Act, R.S.O. 1990, Chapter A 8.*

l) "Point of Reception" means any location at which noise can be heard, other than the premises from which the noise originates;

m) "Property" means a parcel of land which is shown as a lot or block on a registered plan of subdivision or described in a transfer/deed of land of legal effect registered in the Land Registry Office includes any part of a building, structure, mobile building or mobile structure on the Property.

n) "Quarry" shall mean land or land under water from which consolidated aggregate is being or has been excavated, and that has not been rehabilitated, but does not mean land or land under water excavated for a building or structure on the excavation site or in relation to which an order has been made *under the Aggregate Resources Act, R.S.O. 1990, Chapter A 8.*

o) "Quiet Area" means any area within 150 metres (500 feet) of a Hospital, Nursing Home or Home for the Aged

p) "Residential Area" means any designated as RC, ER, SR, HR, R1, R2 or RM Zone, as contained in The Township of Uxbridge Zoning By-law;

q) "Rural Area" means any lot designated as EP, OS, RU or RH Zone, as contained in the Township of Uxbridge Zoning By-law;

r) "Township" means the Corporation of the Township of Uxbridge;

Section 2- General provisions

No person shall emit or cause or permit the emission of noise resulting from any of the activities listed in Section 2, which is clearly audible at a Point of Reception;

2.1 The operation of a Motor Vehicle or Off Road Vehicle in a race.

2.2 The operation of a combustion engine or pneumatic device without an effective exhaust muffling device that is in good working condition and in constant operation.

2.3 The operation of any horn, bell or other signaling device of any Vehicle except where required or authorized for safety reasons.

2.4 The operation of a Motor Vehicles or Off Road Vehicle, other than on a highway, without an effective exhaust muffling device in good working order and in constant operation.

2.5 Creating or permitting any Noise likely to disturb the peace and enjoyment of any inhabitants of the Township.

2.6 Discharging of any Fireworks or explosive devices, not used in construction other than in accordance with By-law# 2011-012 of the Township of Uxbridge.

2.7 Selling, hawking or other advertising by amplified sound.

2.8 The Operation of a Combustion engine that is used in or intended for use in a toy, model or replica of a motor vehicle, air craft, boat or similar type of device, and which has no other purpose other than for amusement.

Section 3- Prohibition by time and place

No person shall emit or cause or permit the emission of sound from any activity listed in table 3.1 if clearly audible at a point of reception located in an area of the municipality listed in table 3.1, within a prohibited time shown for such point of reception.

Table 3.1

Noise prohibition by time and place

Type of Noise		**Prohibited Location and Time**		
Item	**Activity**	**Residential Area**	**Rural Area**	**Quiet Area**
1.	The operation of any Construction Equipment in connection with Construction	Between 7:00p.m. to 7:00a.m. Monday to Saturday and all Sundays and Holiday(s)	Between 7:00p.m. to 7:00a.m. Monday to Saturday and all Sundays and Holiday(s)	Between 7:00p.m. to 7:00a.m. Monday to Saturday and all Sundays and Holiday(s)
2.	The operation or use of any tool for domestic construction or other domestic purpose other than snow removal	Between 7:00p.m. to 7:00a.m. Monday to Saturday and 7:00p.m.-9:00a.m. on all Sundays and Holiday(s)	Between 7:00p.m. to 7:00a.m. Monday to Saturday and 7:00p.m.-9:00a.m. on all Sundays and Holiday(s)	Between 5:00pm to7:00am Monday to Saturday and 5:00pm-9:00am on all Sundays and Holiday(s)
3.	Operate a device intended for the production or re-production of amplified voices	Between 11:OOpm-7:00am Monday to Saturday and all Sundays and Holiday(s)	Between 11:OOpm-7:00am and all Sundays and Holiday(s)	At all times

Type of Noise		Prohibited Location and Time		
Item	**Activity**	**Residential Area**	**Rural Area**	**Quiet Area**
4.	Operation of any powered rail car including but not limited to refrigerator cars, locomotives or self propelled passenger cars while, stationary on property not owned or controlled by a railway governed by the Canada Railway Act	Between 7:00p.m. to 7:00a.m. Monday to Saturday and 7:00p.m. – 9:00 a.m. on all Sundays and Holiday(s).	Between 7:00p.m. to 7:00a.m. Monday to Saturday and 7:00p.m. – 9:00 a.m. on all Sundays and Holiday(s).	At all times.
5.	Loading, unloading, or delivering of any container, product or refuse, unless necessary for the maintenance of essential services or the moving of household effects.	Between 7:00p.m. to 7:00a.m. Monday to Saturday, Sundays and holidays from 12:01 a.m. to 11:00 a.m. and 1:00 pm to 11:59p.m. where the point of reception would be heard in a residential area.	Between 7:00p.m. to 7:00a.m. Monday to Saturday and 7:00p.m. – 9:00 a.m. on all Sundays and Holiday(s).	Between 7:00p.m. to 7:00a.m. Monday to Saturday and on all Sundays and Holiday(s).
6.	Yelling, shouting, hooting, whistling, singing, or the playing of any musical instrument or stereo	Between 11:00p.m. to 7:00a.m. Monday to Saturday and 11:00p.m. – 9:00 a.m. on all Sundays and Holiday(s).	Between 11:00p.m. to 7:00a.m. Monday to Saturday and 11:00p.m. – 9:00 a.m. on all Sundays and Holiday(s).	At all times
7.	Operation of Off Road Vehicles other than on a highway.	At all times	Between 8:00p.m. to 7:00a.m. Monday to Saturday and 8:00p.m. – 9:00 a.m. on all Sundays and Holiday(s).	At all times

8.	Operation of solid waste bulk lift as result of private garbage collection or refuse compacting equipment.	Between 7:00p.m. to 7:00a.m. Monday to Saturday and 7:00p.m. – 9:00 a.m. on all Sundays and Holiday(s).	Between 7:00p.m. to 7:00a.m. Monday to Saturday and 7:00p.m. – 9:00 a.m. on all Sundays and Holiday(s).	5:00p.m. to 7:00a.m and all Sundays and Holiday(s)
9.	The operation of any machinery or equipment or commercial vehicle in conjunction therewith, other than water pumping equipment	Between the hours of 7:30p.m. to 6:00a.m. Monday to Saturday and all Sundays and Holidays	Between the hours of 7:30p.m. to 6:00a.m. Monday to Saturday and all Sundays and Holidays	

Section 4- Exemptions

4.1 The operation of emergency vehicles or any other activities in connection with an emergency.

4.2 The operation of municipal service vehicles, including municipally contracted services and related equipment, including equipment used for snow removal.

4.3 Midways, carnivals and special events approved by the Municipality.

4.5 Races, parades, processions and ceremonial events, or religious events authorized by the Municipality.

4.6 The operation of bells, chimes, carillons and clocks used in conjunction with churches, schools and other institutional buildings.

4.7 Events or activities open to the community, or on municipal property, highways or other public places that have been authorized by the Township.

4.8 The racing of motor vehicles, go karts and motorcycles regulated by the Racing-motor vehicle/go karts/ motorcycle By-law.

4.9 Non-emergency construction, reconstruction or repair of any municipal, provincial or federal public works including construction, reconstruction or repair of a highway and appurtenances, provided the Municipality is given advanced notice in writing of the hours to be worked if outside of the permitted construction hours.

4.10 The operation of any equipment, apparatus or device used as part of a normal farming practice.

Section 5 – Application for Exemption

5.1 Any person may make an application to Council for an exemption from any of the provisions of this By-law and Council, by resolution, may refuse or grant an exemption. An exemption shall specify the time period during which it is effective, and may contain such terms and conditions as Council sees fit.

5.2 Applications shall be made by the owner of the land of the source of sound.

5.3 Details of Application for Exemption

The application referred to in Section 5.1 shall contain:

(a) the name and address of the applicant;

(b) a description of the source of sound;

(c) the legal description or municipal address of the source of sound;

(d) Where the source of the sound is on property owned by the Township, the application shall include proof of publication of a notice of intention to apply for an exemption from this By-law. The notice shall be published in a newspaper of general circulation within the municipality and shall state the date upon which it is intended that the application will be made to Council.

(e) a statement of the particular provision or provisions of the by-law from which exemption is sought;

(f) the period of time, of a duration not in excess of six months, during which the exemption is sought;

(g) the reasons why the exemption should be granted;

(h) an application fee of $ 125.00.

Section 6- Penalties

6.1 Every Person who contravenes any provision of this By-law is guilty of an offence, pursuant to the provisions of the Provincial Offences Act, as amended from time to time, and upon conviction is liable to a fine of not more than $5,000.00.

Section 7- Short Title

7.1 This By-law may be referred to as the "Noise By-law".

Section 8- Severability

8.1 If a court of competent jurisdiction should declare any section or part of a section of this By-law to be invalid, such section or part of a section shall be construed as having persuaded or influenced Council to pass the remainder of this By-law and it is hereby declared that the remainder of this By-law shall be valid and shall remain in force.

Section 9- Repeal of By-laws

9.1 By-law Numbers 97-100, 97-138, 2004-006 and 2004-073 are hereby repealed.

Section 10- Date Effective

10.1 This By-law shall come into full effect and force on the date of its passing.

Read a First, Second and Third time and finally passed on this 23rd day of, January 2012.

Appendix C
AERMOD Modelling Input Files

ECMI Properties (125 Villarboit) Inc.

Compatibility and Mitigation Study: Air Quality, Dust, Odour and Noise

Uxbridge Waste Transfer Station

SLR Project No.: 241.20064.00000

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**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.8.3
** Lakes Environmental Software Inc.
** Date: 2/18/2021
** File: D:\Modelling\AERMOD\241-20064 Uxbridge\241-20064 Uxbridge
PM\241-20064 Uxbridge PM.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
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PM\241-200
   MODELOPT CONC
   AVERTIME 1 24 PERIOD
   POLLUTID OTHER
   RUNORNOT RUN
   ERRORFIL "241-20064 Uxbridge PM.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
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** DESCRSRC crusher
   LOCATION VOL2         VOLUME     642355.089  4876440.715      357.000
** DESCRSRC Loaders
** ------------------------------------------------------------------------
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** DESCRSRC
** PREFIX
** Length of Side = 9.00
** Configuration = Adjacent
** Emission Rate = 0.015738916
** Vertical Dimension = 5.10
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** Nodes = 11
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** ----------------------------------------------------------------------
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** PREFIX
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** DESCRSRC Converyor/ stacker
   LOCATION SCREEN       VOLUME     642376.563  4876447.008      356.420
** DESCRSRC screener
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   SRCPARAM L0001778     0.0006295566      2.55      4.19      2.37
   SRCPARAM L0001779     0.0006295566      2.55      4.19      2.37
   SRCPARAM L0001780     0.0006295566      2.55      4.19      2.37
   SRCPARAM L0001781     0.0006295566      2.55      4.19      2.37
   SRCPARAM L0001782     0.0006295566      2.55      4.19      2.37
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L0001787
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** Lakes Environmental Software Inc.
** Date: 2/18/2021
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PM\241-200
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   SRCGROUP ALL
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RE STARTING
   INCLUDED "241-20064 Uxbridge Odour.rou"
RE FINISHED
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** AERMOD Meteorology Pathway
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   UAIRDATA 725280 1996 BUFFALO
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** AERMOD Output Pathway
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** UNITS    m
** ZONE     17
** ZONEINX  0
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Appendix D
Fugitive Dust and Odour Best Management Practices Plans

ECMI Properties (125 Villarboit) Inc.

Compatibility and Mitigation Study: Air Quality, Dust, Odour and Noise

Uxbridge Waste Transfer Station

SLR Project No.: 241.20064.00000

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Fugitive Dust Best Management Practices Plan

Uxbridge Waste Transfer Station

SLR Project No: 241.20064.00000

February 2020

Fugitive Dust Best Management Practices Plan
York Environmental Solutions Ltd.
Uxbridge Waste Transfer Station
45 & 47 Andersen Blvd, Uxbridge, Ontario
SLR Project No: 241.20064.00000

Submitted by:
SLR Consulting (Canada) Ltd.
150 Research Lane, Suite 105
Guelph, Ontario, N1G 4T2

Prepared for:
ECMI Properties (125 Villarboit) Inc
c/o Mr. George Kirchmair
125 Villarboit Crescent
Vaughan, Ontario | L4K 4K2

February 26, 2020

This document has been prepared by SLR Canada. The material and data in this report were prepared under the supervision and direction of the undersigned.

Prepared by:

Laura Clark B.Eng., EIT
Air Quality Scientist

Reviewed by:

Nigel Taylor, M.Sc. EP
Principal

Distribution: 1 copy (PDF) – ECMI Properties (125 Villarboit) Inc.
1 copy - SLR Consulting (Canada) Ltd.

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EXECUTIVE SUMMARY

This Fugitive Dust Best Management Practices Plan (BMPP) is prepared for the Uxbridge Waste Transfer Station (the Site), located at 45 & 47 Andersen Blvd in Uxbridge, Ontario. The Facility is a waste transfer facility that is to process and treat non-hazardous soil/material (classified as per the requirements of Ontario Regulation 558/00 General – Waste Management) from construction and demolition projects. The Facility accepts up to 2,000 tonnes of construction soil waste material each working day. This BMPP identifies all sources of fugitive dust, recommends best practices to reduce the potential impact from fugitive dust emissions that may increase suspended particulate matter concentrations to the atmosphere, and outlines procedures for record keeping and remedial actions. The BMPP will be updated as required and be kept onsite at all times.

The Fugitive Dust BMPP has been prepared in accordance with the Ontario Ministry of the Environment Conservation and Parks (MECP) technical bulletin "Management Approaches for Industrial Fugitive Dust Sources", dated February 2017.

1. Introduction

SLR Consulting (Canada) Ltd. ("SLR") was retained by ECMI Properties (125 Villarboit) Inc. to prepare this Best Management Practices Plan (BMPP) for Fugitive Dust for the York Environmental Solutions Ltd. ("York Environmental") Uxbridge Waste Transfer Station. The transfer station site is located at 45 & 47 Andersen Blvd in Uxbridge, Ontario (the Site). The dust BMPP is a detailed document that outlines the fugitive dust sources at a given site and describes the measures that shall be used to control emissions from these sources. The BMPP is used to manage fugitive dust emissions, from sources such as on-site drive through routes, material processing, material handling, and wind erosion.

The Fugitive Dust BMPP has been prepared in accordance with the Ontario Ministry of the Environment Conservation and Parks (MECP) technical bulletin "Management Approaches for Industrial Fugitive Dust Sources", dated February 2017. Some emission sources and control measures were also referenced from the Environment and Climate Change Canada publication "Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities", dated March 2005 by Cheminfo Services Inc.

This BMPP includes the following information:

- Outline of the operational activities at the Site.
- Identification of the main sources of fugitive dust emissions at the Site.
- Potential causes for high dust emissions and opacity resulting from these sources.
- Detail the control measures that will be implemented as needed to minimize the likelihood of high dust emissions and opacity issues from the sources of fugitive dust emissions.
- Inspection and maintenance procedures and monitoring initiatives to ensure effective implementation of the control measures.
- Training requirements of Site personnel.
- Opportunities for continuous improvement of the BMPP.

Upon commencement of operations at the Site, York Environmental shall immediately implement the BMPP for the control and mitigation of potential fugitive dust emissions resulting from the Site's operations. This BMPP will be followed throughout the lifespan of the Site.

1.1 SITE DESCRIPTION

The Uxbridge Waste Transfer Station is to process and treat 2,000 tonnes per day of non-hazardous soil/material (classified as per the requirements of Ontario Regulation 558/00 General – Waste Management) from construction and demolition projects for beneficial re-use where possible. The site consists of a 400 m^2 butler building that will have a drive through for trucks to unload incoming soil/waste inside the building where waste accepted from hydrovac trucks is to be processed in a centrifuge. The northern portion of the site is a 7,164 m^2 outdoor storage area where soil is remediated and processed with a processing plant.

1.1.1 PROCESS DESCRIPTION

Entering trucks bringing in waste drive a paved route to either the butler building or the outdoor storage area, waste accepted via hydrovac trucks is processed within the butler building before being moved to the outdoor storage area and dry soil waste is unloaded in the outdoor area where it is processed and stockpiled. The only portion of the site unpaved is the storage and processing area, all tri-axle truck routes on site are to be paved, including the in/out weigh scales and within the butler building. The processing plant in the outdoor storage area is to consist of crusher, screener, stacker, 2 front end loaders and 3 excavators. It is estimated that maximum storage onsite will consist of 30,000 tonnes at the

outdoor storage area and 5,000 tonnes within the butler building. It is expected that the Site will receive up to 2,000 tonnes of soil/material per day. Operating hours are from 7:00am to 7:00pm, Monday through Saturday and all Sundays and Holidays. A site plan of the site can be seen in Figure 1.

1.1.2 RECEPTORS AND METEOROLOGY

In relation to the transfer site there are existing residences located approximately 100m or greater east of the Site property line (west of Concession Rd 2), and the remainder of the site is surrounded by existing industry south through west of the Site. The residences east of the Site are buffered by a retaining wall/berm that is approximately 6m above grade from the Site and 37m or greater wide with vegetative fencing along the top of the berm. The berm is along the length of the north and east property lines of the Site. A context plan of the area with the receptors of concern identified are shown in Figure 2.

Meteorological data was collected to analyzed for the potential of winds to direct fugitive dust emissions at the identified receptors. Meteorological surface data was collected from the Toronto Buttonville Airport from 1986-2011. A wind rose is shown in Figure 3 that demonstrates the frequency of winds directed from a certain direction. As shown in Figure 3, the predominant winds in the area occur from the west through the north and therefore will direct more fugitive dust emissions towards the receptors east and southeast of the site.

2. SOURCE IDENTIFICATION

The following sub-sections describe the potential sources of fugitive dust at the Site during operation. The main activities at the Site are described as material receiving via tri-axle trucks, material transfer via front-end loaders and excavators, material processing and sorting, and remediation of material. The Site is also to have sources of fugitive dust from stockpiles, vehicle track movements, and silt loading on paved areas.

2.1 ON-SITE VEHICLE TRAFFIC INCLUDING TRUCKS AND LOADERS ON PAVED ROADWAYS

Emissions from paved roads can occur from material spillage, the transportation of uncovered material, or from dirty equipment. Additionally, paved roads surrounding the Site can become dirty if left unattended, and vehicle traffic on these roads can cause the re-suspension of dust. The main access to the Site is restricted to Andersen Boulevard.

Residual waste is transferred to the site and off-loaded at the transfer station building or outdoor storage area by triaxle trucks. Using a front-end loader, the waste is moved within the Butler building and to the outdoor storage area. Vehicle movements to the outdoor storage area also occur from moving material by front end loaders, excavators over the paved areas, triaxle trucks also move to the outdoor storage area via a paved roadway to unload material. All municipal roads connecting to the site are paved, therefore minimizing dust generation from vehicles due to on-site operations. All on-site driveways are also paved.

2.2 ON-SITE VEHICLE TRAFFIC INCLUDING TRUCKS AND LOADERS ON UNPAVED ROADWAYS AND AREAS

Fugitive dust emissions from unpaved roads and exposed areas will occur due to vehicle travel as well as wind erosion. The predominant mechanism of dust generation from unpaved roads is the re-suspension of surface particulate due to vehicle traffic. Vehicle movements within the outdoor storage area are the main source of fugitive dust from vehicle track movements over unpaved areas. Dust generation may

occur from moving material by front end loaders, and excavators to stockpiles, the processing plant or from unloading and loading activities.

2.3 UNLOADING, LOADING AND HANDLING OF WASTE MATERIALS

Loading, unloading, and transferring materials is a significant source of fugitive dust. Dust generation from these activities is increased during strong wind conditions. Emissions from the transfer of materials will occur from the unloading of waste from the incoming triaxle trucks, transfer of material via the front-end loaders and excavators to and from the stockpiles, main processing plant, and the triaxle trucks.

2.4 MATERIAL PROCESSING

Material processing generates the most significant source of dust emissions. Emissions of fugitive dust will be generated from the processing plant consisting of a crusher, screener and stacker. The processing plant is located within the outdoor storage area, where incoming waste is transferred to the crusher and/or screen via a front-end loader and processed, the stacker then deposits the processed materials onto a designated stockpile.

2.5 STORAGE OF MATERIALS

Dust generation occurs from wind erosion of storage piles, raw materials and residual waste. Dust generation from stockpiles is dependent on dry weather conditions and wind speeds.

3. CONTROL MEASURES

Control measures for the mitigation of fugitive dust for the above listed sources are outlined in the sections below. Potential emissions of fugitive dust are increased on dry summer days, the mitigation measures outlined below are to be especially enforced during these times. The MECP lists the average number of precipitation days greater than 0.254mm that would control dust emissions for the greater Toronto area as 130 days in a year. All sources of fugitive dust are buffered by a retaining wall/berm that is approximately 6m above grade from the Site with vegetative fencing along the top of the berm. The existing berm is located along the length of the north and east property lines of the Site, shielding the identified receptors. The retaining wall will be constructed along the southern and western sides of the berm, and the vegetative fencing at the top of the berm is to remain.

3.1 ON-SITE VEHICLE TRAFFIC INCLUDING TRUCKS AND LOADERS ON PAVED ROADWAYS

Mitigation and control measures to reduce dust emissions on the paved surfaces of the site and Andersen Blvd include:

- Street sweeping should be performed at a minimum once per day or if significant soiling occurs, based on visual inspection. Roads should be kept clear of dust as much as possible. Cleaning is conducted by the operators with on-site equipment.
- Swift removal of spilled materials.
- Use enclosed cargo holds on trucks and vehicles or cover open-bodied trucks.
- Minimize or limit the speed of the trucks accessing the site to under 20 km/hr.

- The transfer station building and paved access ways to the building will be kept neat and as clean as possible to reduce the potential for dust and litter to exit the transfer station building.
- Maintain regular cleaning schedules of the site and paved surfaces.

3.2 ON-SITE VEHICLE TRAFFIC INCLUDING TRUCKS AND LOADERS ON UNPAVED ROADWAYS AND AREAS

Mitigation and control measures to minimize fugitive dust from unpaved areas include:

- Water or dust suppressants on the unpaved areas over which there are vehicle movements will be based on visual inspection. Unpaved areas will be treated as necessary to reduce emissions from vehicle track movements.
- Minimize vehicle traffic in the unpaved portion of the Site.
- Set low speed limits (i.e. 20 km/hr or less) for on-site traffic.
- The existing retaining wall and berm is to act as a wind break from fugitive dust generated from the stockpiles along the north and east portions of the Site.

3.3 UNLOADING, LOADING AND HANDLING OF WASTE MATERIALS

Mitigation and control measures to minimize fugitive dust from the movements of materials onsite include:

- Minimizing the amount of material being transferred on-site at any one time.
- Conduct material transfer during hours with low to moderate wind conditions to prevent dust emissions and using water to control dust. Wind conditions should be monitored on a daily basis to implement further mitigation measures on high wind days (winds that exceed 50km/hr).
- Lower drop distances when unloading material onto piles or surfaces to 1m or less.
- Loading trucks and buckets so that the dump load will not spill over the sides of the target vehicle or bucket. Loads should be dropped as close to the vehicle opening as possible.
- Apply a water spray or dust suppressant to the materials being transferred, as necessary.

3.4 MATERIAL PROCESSING

Mitigation and control measures to control particulate matter from the processing plant (the crusher, screener and stacker) include:

- Water application or dust suppressants are to be used as necessary to reduce the visible dust emissions from the processing plant. Use of a spray bar on the crusher and screener should be used, or continued inspections of the processing plant when in use to adjust the volume of water application as necessary.

- The retaining wall and berm with vegetative fencing is to act as a wind break from the fugitive dust generated from the processing area along the north and east portions of the Site.
- When possible, limit operations to calmer winds and during wind conditions that are blowing away from sensitive receptors (northerly through southerly winds) and minimize use when winds would direct emissions towards sensitive receptors (southwesterly through northwesterly winds).

3.5 STORAGE OF MATERIALS

Dust generation occurs from wind erosion of storage piles. Mitigation and control measures to control fugitive dust from stockpiles and storage include:

- Wind conditions should be monitored on a daily basis to implement further mitigation measures on high wind days (winds that exceed 50km/hr).
- Apply water or a dust suppressant to storage piles as necessary based on weather conditions.
- Odourous soil and soil that is to be remediated will be tarped, this will also help reduce wind erosion form the surface of the piles. The tops of the tarps should be swept of lose soil as necessary.
- The existing retaining wall and berm is to act as a wind break from the fugitive dust generated from the stockpiles along the north and east portions of the Site. Storage pile heights should be limited by the height of the berm and vegetative fencing and be kept below the height of the berm whenever possible.

4. DEVELOPMENT & IMPLEMENTATION OF THE DUST MITIGATION PLAN

The plan should be followed for the duration of all Site activities and be used as a tool for staff training. The implementation of this BMPP is to take effect after the date of the completion of substantial performance of construction. The plan should remain in effect for the life of the Site operations with the understanding that the plan will be reviewed and updated periodically, as needed. Upon implementation of the BMPP, designated facility personnel will follow the below conditions:

- The plan shall be kept on file in the site office and available for review upon request.
- Training on new and existing operating procedures shall be provided to relevant staff.
- Management shall communicate the plan to responsible personnel, who shall ensure staff are following operating procedures defined in the plan.
- The site manager shall be responsible for ensuring the plan is followed.
- Management shall ensure plan is reviewed as required.
- The staff shall follow the plan procedures.

5. STAFF TRAINING

Staff should be trained to follow the BMPP efficiently and safely. Training manuals should be prepared and reviewed with existing staff and new hires, as well as prior to opening of the upgrades at the Facility and are updated from time to time, as required.

All employees directly involved with activities relating to the Site will be trained in the following:

- Housekeeping requirements.
- Importance of following the BMPP.
- Procedures for refusal of unacceptable loads.
- Procedures for control of dust as outlined in the BMPP.
- Record keeping procedures.
- Reporting adverse conditions which have the potential to cause dust or odour to the site manager.

The Site manager should maintain a written record of employee training, including the date of training, the name and signature of the employee, and a description of the training received.

Trained personnel will be present during Site activities to supervise receiving, handling, transfer of materials, and all other relevant site operations.

6. INSPECTION AND MAINTENANCE PROCEDURES

Inspection and maintenance of the site and equipment is important to reduce dust emissions during activities. The following table provides an example of an inspection checklist for the site. Staff members should complete a daily site inspection and prepare a check list. The inspection report format should be updated and modified as necessary. The daily site inspection report should include the date and time of inspection, name of the person completing the inspection, the weather conditions, and any other relevant information. If problem areas are identified, corrective actions should be noted on the inspection report. Copies of daily site inspection reports should be kept on file at the site office.

Table 1: Site Inspection Checklist

Item	Task	Minimum Frequency
Road Conditions	Monitor working area, entrance, and roads surrounding site for dust build-up. Clean up as necessary.	Daily
Waste Receiving, storage and operating areas	Inspect these areas for cleanliness, presence of dust/odour and from what source, condition of bins. This will include reviewing general housekeeping and ensuring storage bins are not overflowing with material.	Daily

Item	Task	Minimum Frequency
Processing Plant	If visible dust plume is noticed from the processing plant, notify site manager. The manager will then determine the appropriate course of action to mitigate dust issues such as more frequent application of water spray or dust suppressant, or suspension of plant activities during adverse weather conditions.	Ongoing
Dust from truck/vehicle movements	If visible dust plume is noticed from wheel tracks on access roads notify site manager. The manager will then determine the appropriate course of action to mitigate dust issues such as more frequent vehicle cleaning or applying a water spray or dust suppressant.	Ongoing
Dust from material transfer	Materials will be unloaded as close to the ground or top of pile as possible, to reduce the potential for dust emissions. Material will be stored close to the area it will be used to reduce the need for further transfer. If dust is observed during transfer, apply a water spray or dust suppressant as applicable.	During Unloading
Spillage from unloading	Any significant spillage from unloading that may have the potential to be tracked off-site will be reported to the Site Manager. Cleaning of spillage to occur as soon as practical.	Ongoing
Facility signs	Inspect all signs for damage, general location, and accuracy of posted information.	As needed

7. MONITORING, RECORD KEEPING, AND REPORTING

A record keeping procedure should be implemented to track daily information. Records should be kept by the designated individual responsible for completing daily site inspections. The designated individual should be trained in the requirements and objectives of the plan. All records will be kept on-site at the site office for a minimum of two (2) years. Reporting will include:

- Identify that the inspection has been completed and that the items on the checklist have been addressed.
- Weather conditions, such as wind speed and direction, cloud cover, precipitation and temperature.
- Any actions taken to control nuisance issues, on-site.
- A summary of complaints received (complaint procedure identifies tracking of complaints, see relevant section below).
- A summary of any on-site spills that were reported to the MECP.

7.1 CONTACT INFORMATION

Contacts for any monitoring, record keeping or reporting information from the team are as follows:

Primary Contact:

Name: George Kirchmair

Title: Vice President

Company: York Environmental Solutions Ltd.

Company Address: 125 Villarboit Crescent Vaughan, Ontario, L4K 4K2

Phone Number: 905-669-2733

Email: gkirchmair@yorkenvironmental.ca

8. IDENTIFICATION OF PROBLEMS

The site operator / manager should be informed of any issues that arise from inspections performed. Operations may be curtailed if dust control equipment and measures are not performing adequately.

8.1 COMPLAINT PROCEDURE

The Site manager should ensure that all formal complaints are recorded, kept on file and addressed. When a formal complaint is made, the following information should be recorded:

- Employee name and title receiving the complaint.
- Personal information of the complainant, such as name, address, and telephone number.
- Date and time the complaint was made.
- Nature and description of the complaint.
- Record of what corrective action was performed to resolve the issue.
- Follow up with complainant in the form of a formal response.

Formal complaints should initiate an inspection of the suspected cause of the complaint. Corrective action should be implemented to mitigate the cause of the complaint wherever possible.

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FIGURES

York Environmental Solutions Ltd.

Fugitive Dust BMPP

Uxbridge Waste Transfer Facility

SLR Project No.: 241.20064.00000

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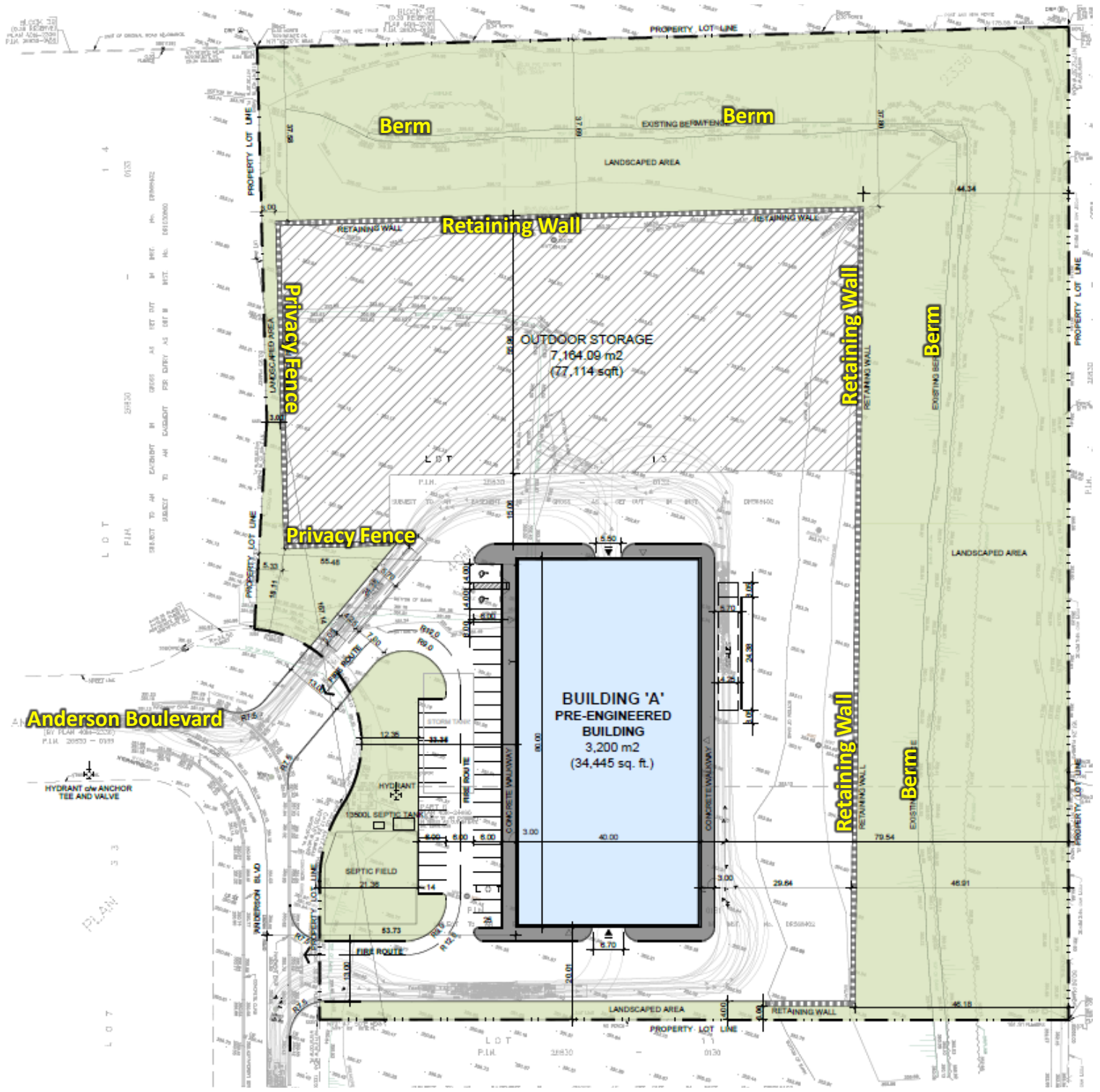

Legend

- Landscaped Area
- Unpaved Outdoor Storage
- Paved Area

True North

ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

EXCERPTS FROM PRELIMINARY SITE PLAN; CREDIT BALDASSARRA ARCHITECTS

Scale: n/a		METRES
Date: Mar 18, 2021	Rev 0.0	Figure No. 1
Project No. 241.20064.00000		

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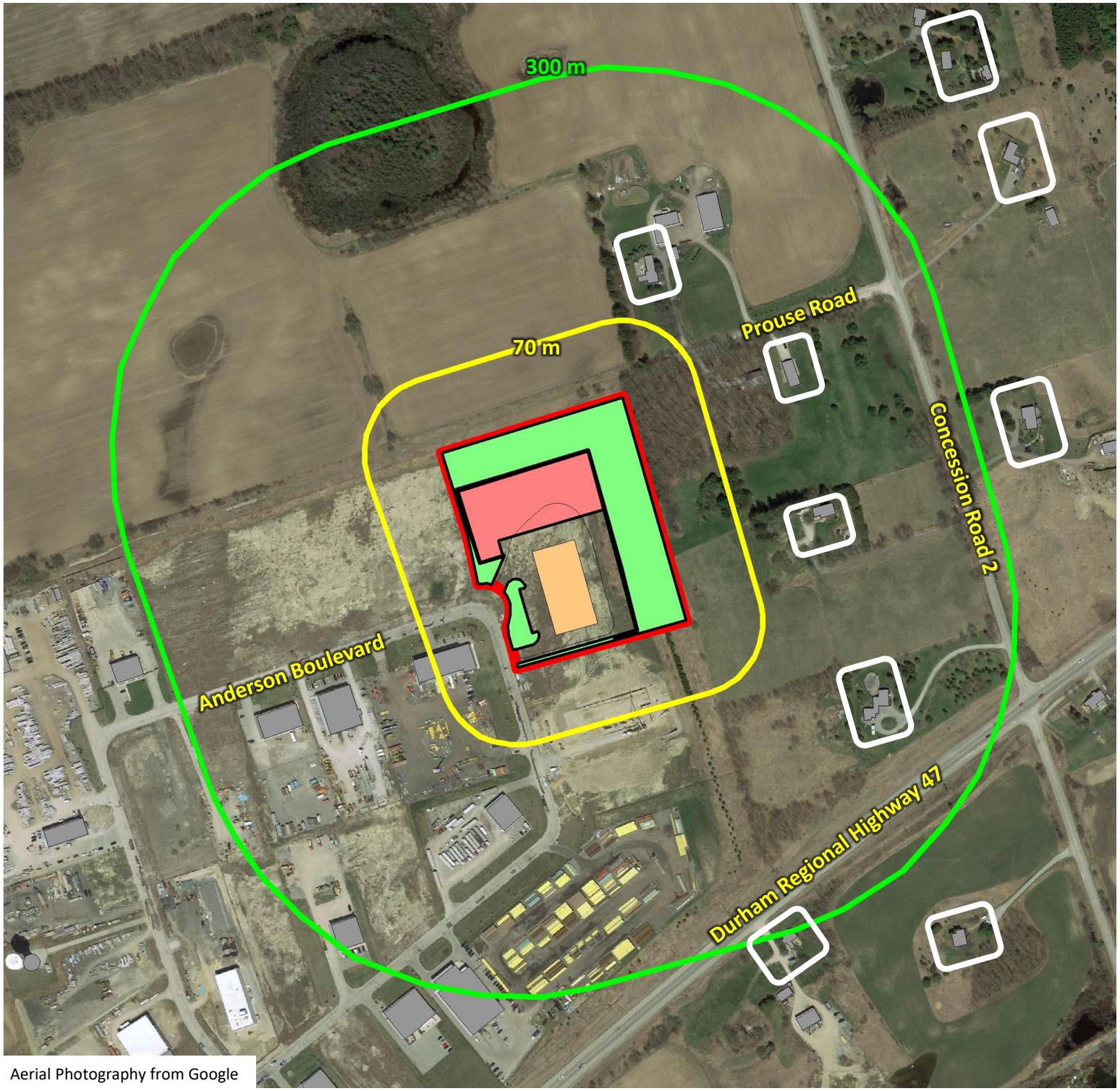
global environmental solutions



Aerial Photography from Google

Subject Site

Class I Light Industry

Class II Medium Industry

Class III Heavy Industry

Sensitive Use (e.g., Residence)

Outdoor Processing Area

Butler Building

Berm/Landscaped Area

True North

ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

CONTEXT PLAN

Scale: 1: ,000		METRES
Date: Feb 04, 2021	Rev 0.0	Figure No. 2
Project No. 241.20064.00000		

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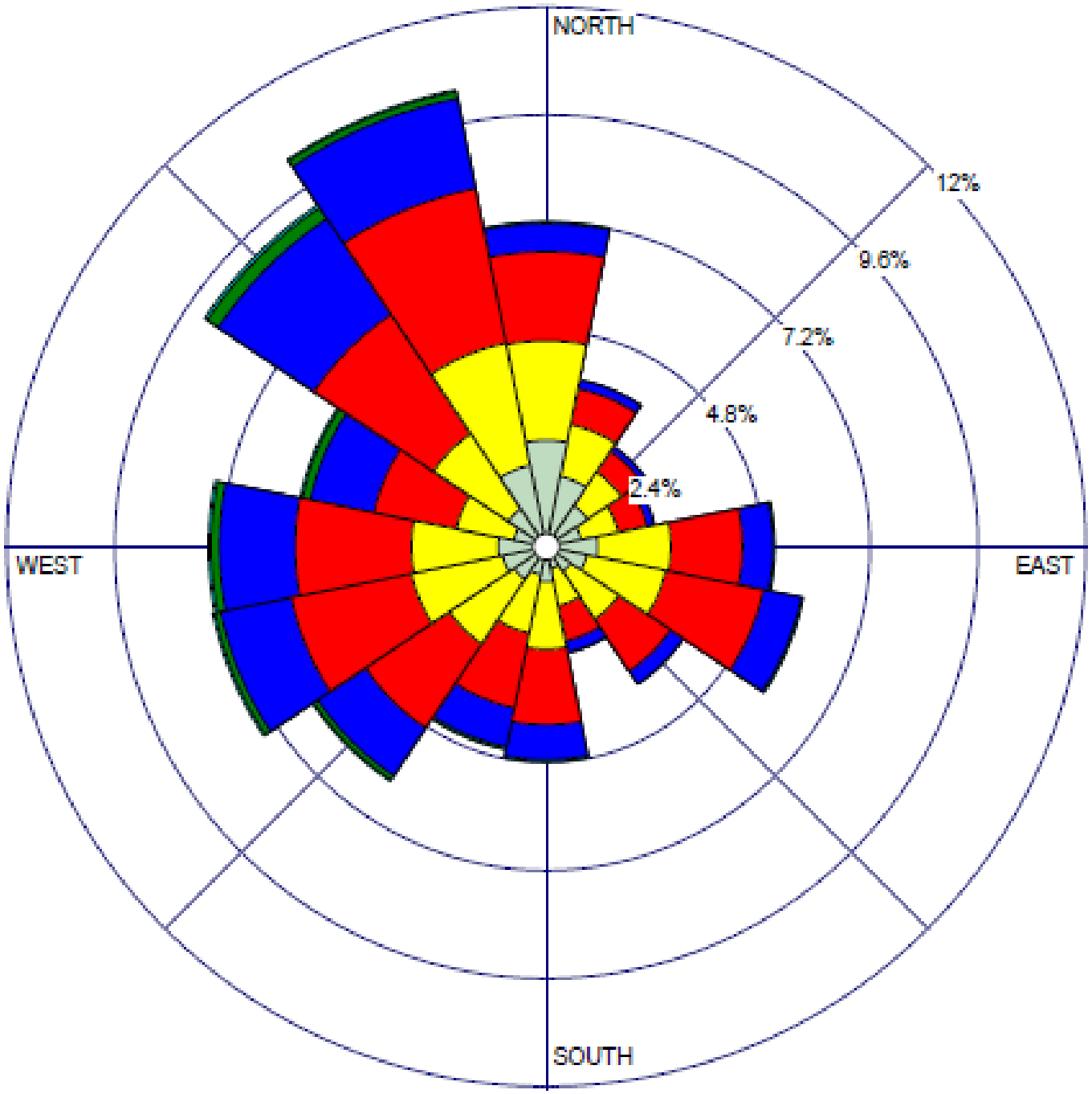

WIND SPEED
(m/s)

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

Calms: 10.69%

True North

ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

BUTTONVILLE METEOROLOGICAL WIND ROSE; 1986-2011

Scale: n/a		METRES
Date: Dec 10, 2020	Rev 0.0	Figure No. 3
Project No. 241.20064.00000		

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Appendix A
Site Inspection Form

York Environmental Solutions Ltd.

Fugitive Dust BMPP

Uxbridge Waste Transfer Facility

SLR Project No.: 241.20064.00000

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Uxbridge Waste Transfer Site Inspection Form

45 & 47 Andersen Blvd, Uxbridge, Ontario

Date:

Time:

Inspector Name:

Inspector Signature:

Areas Inspected (identify road segments/storage piles/activity)

Paved Roadways

	PR1	PR2
Inspected		

Notes:

Storage Piles

	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	SP9	SP10
Inspected										

Notes:

Loading /Unloading

	LU1	LU2	LU3	LU4	LU5	LU6	LU7	LU8	LU9	LU10
Inspected										

Notes:

Transfer Building Openings and Storage

	TB1	TB2	TB3	TB4	TB5	TB6	TB7	TB8	TB9	TB10
Inspected										

Notes:

Processing Area; Crusher, Screener, Stacker and Loading/Unloading

	PA1	PA2	PA3	PA4	PA5	PA6	PA7	PA8	PA9	PA10
Inspected										

Notes:

Weather Conditions

Wind Direction:

Wind Speed (m/s): less than 5 m/s, 5 to 10 m/s, greater than 10 m/s

Temperature (degrees C):

Preciptation: None, Rain, Snow

Precipitation Amount Over Workday (mm):

Humidity (%):

Observations

Inspection Criteria	Observations	Follow-up Action	Responsibility	Status
Fence/Gates				
Windblown debris				
Entrance Area and Loading Routes On-Site				
Facility Access Road				
Facility signs				
Odour / Housekeeping				
Dust/odour from truck/vehicle movement in yard				
Dust/odour from sorting facility				
Dust/odour from Storage Area				
Dust/odour from Processing Area				
Spillage from unloading				

Observation and Action Notes:

Odour Best Management Practices Plan

Uxbridge Waste Transfer Station

SLR Project No: 241.20064.00000

February 2020

Odour Best Management Practices Plan
York Environmental Solutions Ltd.
Uxbridge Waste Transfer Station
45 & 47 Andersen Blvd, Uxbridge, Ontario
SLR Project No: 241.20064.00000

Submitted by:
SLR Consulting (Canada) Ltd.
150 Research Lane, Suite 105
Guelph, Ontario, N1G 4T2

Prepared for:
ECMI Properties (125 Villarboit) Inc.
c/o Mr. George Kirchmair
125 Villarboit Crescent
Vaughan, Ontario | L4K 4K2

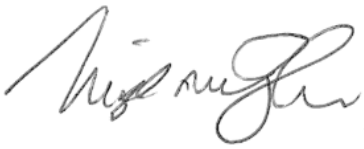
February 26, 2020

This document has been prepared by SLR Canada. The material and data in this report were prepared under the supervision and direction of the undersigned.

Prepared by:

Laura Clark B.Eng., EIT
Air Quality Scientist

Reviewed by:



Nigel Taylor, M.Sc. EP
Principal

Distribution: 1 copy (PDF) – ECMI Properties (125 Villarboit) Inc.
1 copy - SLR Consulting (Canada) Ltd.

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EXECUTIVE SUMMARY

This Odour Best Management Practices Plan (BMPP) is prepared for the Uxbridge Waste Transfer Station (the Site), located at 45 & 47 Andersen Blvd in Uxbridge, Ontario. The Facility is a waste transfer facility that is to process and treat non-hazardous soil/material (classified as per the requirements of Ontario Regulation 558/00 General – Waste Management) from construction and demolition projects. The Facility accepts up to 2,000 tonnes of construction soil waste material each working day. This BMPP identifies all sources of odour, recommends best practices to reduce the potential impact from odour emissions that may impact sensitive receptors near the Site, and outlines procedures for record keeping and remedial actions. The BMPP will be updated as required and be kept onsite at all times.

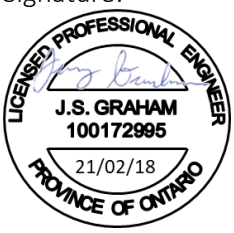
The Odour BMPP has been prepared in accordance with the Ministry of the Environment Conservation and Parks (MECP) guidance "Best Management Practices for Industrial Sources of Odour", dated November 8th, 2019[1] and is in support of an Environmental Compliance Approval.

Statements of Certification

LICENSED ENGINEERING PRACTITIONER

I confirm that based on the information provided to me, the information in the report is accurate as of the date it is signed and sealed.

Signature:



_____

Name of Licensed Engineering Practitioner: Jenny Graham, P.Eng.
PEO License Number: 100172995
Date: February 18, 2020

FACILITY REPRESENTATIVE

I confirm that all information provided to the Licensed Engineering Practitioner in order to prepare this report was complete and accurate, and I have the authority to bind the company.

Signature:

Name of Facility Representative: George Kirchmair
Position: Vice President

[1] https://www.ontario.ca/page/best-management-practices-industrial-sources-odour

1. Introduction

SLR Consulting (Canada) Ltd. ("SLR") was retained by ECMI Properties (125 Villarboit) Inc. to prepare this Best Management Practices Plan (BMPP) for Odour for the York Environmental Solutions Ltd. ("York Environmental") Uxbridge Waste Transfer Station. The transfer station site is located at 45 & 47 Andersen Blvd in Uxbridge, Ontario (the Site). The odour BMPP is a detailed document that outlines the odour sources at a given site and describes the measures that shall be used to control emissions from these sources. The purpose of this BMPP is to comply with regulatory standards and minimize odour emissions from fugitive sources at the Uxbridge Waste Transfer Site. The BMPP will outline procedures to reduce the impact from odour sources at the Plant.

The Odour BMPP has been prepared in accordance with the Ministry of the Environment Conservation and Parks (MECP) guidance "Best Management Practices for Industrial Sources of Odour", dated November 8th, 2019[2] and is in support of an Environmental Compliance Approval.

This BMPP includes the following information:

- Outline of the operational activities at the Site.
- Identification of the main sources of Odour emissions at the Site.
- Details of the control and mitigation measures that will be implemented as needed to minimize the likelihood of Odour emissions.
- Inspection and maintenance procedures and monitoring initiatives to ensure effective implementation of the control measures.
- Training requirements of Site personnel, including record keeping procedures and inspection procedures.
- Opportunities for continuous improvement of the BMPP.

Upon commencement of operations at the Site, York Environmental shall immediately implement the BMPP for the control and mitigation of potential odour emissions resulting from the Site's operations. This BMPP will be followed throughout the lifespan of the Site.

1.1 LEGAL NAME OF COMPANY AND SITE

The legal name of the company and site is ECMI Properties (125 Villarboit) Inc.

1.2 LEGAL NAME OF EACH OWNER

45 & 47 Anderson Blvd. is owned by ECMI Properties (125 Villarboit) Inc, and will be leased by York Environmental Solution Ltd.

1.3 LEGAL NAME OF OPERATOR

York Environmental Solutions Limited.

1.4 SITE DESCRIPTION

The Uxbridge Waste Transfer Station is to process and treat 2,000 tonnes per day of non-hazardous soil/material (classified as per the requirements of Ontario Regulation 558/00 General – Waste Management) from construction and demolition projects for beneficial re-use where possible. The site consists of a 400 m^2 butler building that will have a drive through for trucks to unload incoming soil/waste

[2] https://www.ontario.ca/page/best-management-practices-industrial-sources-odour

inside the building where waste accepted from hydrovac trucks is to be processed in a centrifuge. The northern portion of the site is a 7,164 m^2 outdoor storage area where soil is remediated and processed. As incoming soil may contain VOC's, the soil/ waste may be odourous. The odourous soil may be processed within the butler building as well as stored in the outdoor storage area.

1.4.1 PROCESS DESCRIPTION, MAPPING AND PROCESS FLOW

Entering waste trucks drive a paved route to either the butler building or the outdoor storage area to unload. Waste accepted via hydrovac trucks is processed within the butler building by a centrifuge to remove liquids before being moved to the outdoor storage area and dry soil waste is unloaded in the outdoor area where it is processed and stockpiled. Infrequent mixed odours are predicted from non-hazardous soil/material incoming from a construction or demolition project. Not all incoming soil will be odourous, and the odours will vary in intensity and offensiveness. When odourous soil is accepted at the site it is placed in the remediation area, stockpiled and covered until the soil is ready to be processed. It is estimated that maximum storage onsite will consist of 30,000 tonnes at the outdoor storage area and 5,000 tonnes within the butler building. It is expected that the Site will receive up to 2,000 tonnes of soil/material per day. Operating hours are from 7:00am to 7:00pm, Monday through Saturday and all Sundays and Holidays. A context plan of the site and processes can be seen in Figure 1. A process flow diagram for the Site can be seen in Figure 2.

1.4.2 RECEPTORS AND METEOROLOGY

In relation to the transfer site there are existing residences located approximately 100m or greater east of the Site property line (west of Concession Rd 2), and the remainder of the site is surrounded by existing industry south through west of the Site. The residences north through east of the Site are buffered by a retaining wall/berm that is approximately 6m above grade from the Site and 37m or greater wide with vegetative fencing along the top of the berm. The berm is located along the length of the north and east property lines of the Site. A context plan of the area with the receptors of concern identified are shown in Figure 3.

Existing meteorological data was analyzed for the potential of winds to direct Odour emissions at the identified receptors. The existing meteorological surface data were obtained from the Toronto Buttonville Airport from 1986-2011. A wind rose is shown in Figure 4 that demonstrates the frequency of winds directed from a certain direction. As shown in Figure 4, the predominant winds in the area occur from the west through the north and therefore will direct more Odour emissions towards the receptors east and southeast of the site.

2. SOURCE IDENTIFICATION

The following sub-sections describe the potential sources of odour at the Site. The main activities at the Site are described as material receiving via tri-axle trucks, material transfer via front-end loaders and excavators, material processing and sorting, and remediation of material. All sources of odour at the Site are related to the transfer, processing, and storage of odourous construction soil waste.

2.1 ON-SITE VEHICLE TRAFFIC INCLUDING TRUCKS AND LOADERS ON PAVED ROADWAYS

Odours from incoming trucks can occur from material spillage, the transportation of uncovered material, or from dirty equipment. The main access to the Site is restricted to Andersen Boulevard at the

southwestern corner of the property. All municipal roads connecting to the site are paved and all on-site driveways are also paved making soiled material spillage easier to manage.

2.2 UNLOADING, LOADING AND HANDLING OF WASTE MATERIALS

Loading, unloading, and transferring materials is a significant but temporary source of odour. Residual waste is transferred to the site and off-loaded at the transfer station building or outdoor storage area by triaxle trucks. Using a front-end loader, the waste is moved within the Butler building and to the outdoor storage area. Material is transferred to the outdoor storage area also from front end loaders, excavators, or triaxle trucks to unload material. Potential odour emissions from these activities may be increased during strong wind conditions. Emissions from the transfer of materials will occur from the unloading of waste from the incoming triaxle trucks, transfer of material via the front-end loaders and excavators to and from the stockpiles, main processing plant, and the triaxle trucks.

2.3 MATERIAL PROCESSING IN THE BUTLER BUILDING

Wet soils from hydrovac trucks will be received in the butler building on concrete slabs. Soils received in the Butler Building are materials from hydrovac trucks that will be decanted and that decant water will be reused in a closed loop system.The liquid component of the waste are removed using a centrifuge, the processed soils are then transferred to the outdoor storage area. Material processing has the potential to generate odours as the liquids are drawn from the soil. Not all incoming wet soil will be odourous but has the potential to contain odourous substances.

2.4 STORAGE OF MATERIALS

Outdoor storage is potentially a significant source of odours on the site. Odourous soil is to be stockpiled in the remediation area and tarped until it is ready to be processed and transferred off-site.

3. CONTROL MEASURES

Control measures for the mitigation of odour for the above listed sources are outlined in the sections below. Potential emissions of odour are increased on windy days; the mitigation measures outlined below are to be especially enforced during these times. The MECP lists the average number of precipitation days greater than 0.254mm that would help control odour emissions for the greater Toronto area as 130 days in a year. Sources of odour are buffered by a retaining wall/berm that is approximately 6m above grade from the Site with vegetative fencing along the top of the berm. The berm is located along the length of the north and east property lines of the Site, shielding the identified receptors. A retaining wall will be built along the south and west sides of the berm facing the Site, and the berm topped with vegetative fencing is to largely remain.

3.1 ON-SITE VEHICLE TRAFFIC INCLUDING TRUCKS AND LOADERS ON PAVED ROADWAYS

Mitigation and control measures to reduce odour emissions from the paved surfaces of the site and Andersen Blvd include:

- Street sweeping should be performed at a minimum once per day or if significant soiling occurs, based on visual inspection. Roads should be kept clear of debris as much as possible. Cleaning is conducted by the operators with on-site equipment.
- Swift removal of spilled materials.

- Use enclosed cargo holds on trucks and vehicles or cover open-bodied trucks whenever possible to reduce odours.
- Minimize drop heights to and from the vehicles and the frontend loaders /excavators.
- Maintain regular cleaning schedules of the site, paved surfaces and interior area of the loading bay and butler building.

3.2 UNLOADING, LOADING AND HANDLING OF WASTE MATERIALS

Mitigation and control measures to minimize odour from the movements of materials onsite include:

- Minimizing the amount of odourous material being transferred on-site at any one time.
- Conduct material transfer during hours with low to moderate wind conditions to prevent odour emissions. Wind conditions should be monitored on a daily basis to implement further mitigation measures on high wind days (winds that exceed 50km/hr).
- Lower drop distances when unloading material onto piles or surfaces to 1m or less.
- Loading trucks and buckets so that the dump load will not spill over the sides of the target vehicle or bucket. Loads should be dropped as close to the vehicle opening as possible.

3.3 MATERIAL PROCESSING

Mitigation and control measures to control odours from the processing of soils within the butler building include:

- When possible keep doors to the butler closed during processing of odourous soils to prevent the egress of odours to the outdoor environment. Significantly odourous soil should be kept covered before and after processing when possible.
- The retaining wall and berm with vegetative fencing along the north and east portions of the Site is to act as a wind break from the odour generated from the butler building.
- When possible, limit operations to calmer winds and during wind conditions that are blowing away from sensitive receptors (northerly through southerly winds) and minimize use when winds would direct emissions towards sensitive receptors (southwesterly through northwesterly winds).

3.4 STORAGE OF MATERIALS

Odour generation occurs from the surface of odourous soil stockpiles. Mitigation and control measures to control odour from stockpiles and storage include:

- All soil that is odourous is to be stockpiled in the remediation area where it is to be covered in a low permeable cover material. Where possible this area should be located as far west on in storage area as possible. Disturbance of odourous soil should be avoided and remain fully tarped until odours have significantly been reduced. The surface of the covers should be swept clean of debris.

- Wind conditions should be monitored on a daily basis to implement further mitigation measures on high wind days (winds that exceed 50km/hr).
- The existing retaining wall and berm is to act as a wind break from the odour generated from the stockpiles along the north and east portions of the Site. Storage pile heights should be limited by the height of the berm and vegetative fencing and be kept below the height of the berm whenever possible.

4. DEVELOPMENT & IMPLEMENTATION OF THE ODOUR BMPP

The plan should be followed for the duration of Site activities and be used as a tool for staff training. The implementation of this BMPP is to take place after the date of the completion of substantial performance of construction. The plan should remain in effect for the life of the Site operations with the understanding that the plan will be reviewed and updated periodically, as needed. Upon implementation of the BMPP, designated facility personnel will follow the below conditions:

- The plan shall be kept on file in the site office and available for review upon request.
- Training on new and existing operating procedures shall be provided to relevant staff.
- Management shall communicate the plan to responsible personnel, who shall ensure staff are following operating procedures defined in the plan.
- The site manager shall be responsible for ensuring the plan is followed.
- Management shall ensure plan is reviewed as required.
- The staff shall follow the plan procedures.

5. STAFF TRAINING

Staff should be trained to follow the BMPP efficiently and safely. Training manuals should be prepared and reviewed with existing staff and new hires, as well as prior to opening of the upgrades at the Facility and are updated from time to time as required.

All employees directly involved with activities relating to the Site will be trained in the following:

- Housekeeping requirements.
- Importance of following the BMPP.
- Procedures for refusal of unacceptable loads.
- Procedures for control of odour as outlined in the BMPP.
- Record keeping procedures.
- Reporting adverse conditions which have the potential to cause dust or odour to the site manager.

The Site manager should maintain a written record of employee training, including the date of training, the name and signature of the employee, and a description of the training received.

Trained personnel will be present during Site activities to supervise receiving, handling, transfer of materials, and all other relevant site operations.

6. INSPECTION AND MAINTENANCE PROCEDURES

Inspection and maintenance of the site and equipment is important to reduce odour emissions during site activities. The following table provides an example of an inspection checklist for the construction site. Staff members should complete a daily site inspection and prepare a check list. The inspection report format should be updated and modified, as necessary. The daily site inspection report should include the date and time of inspection, name of the person completing the inspection, the weather conditions, and any other relevant information. If problem areas are identified, corrective actions should be noted on the inspection report. Copies of daily site inspection reports should be kept on file at the site office.

Table 1: Site Inspection Checklist

Item	Task	Minimum Frequency
Road Conditions	Monitor working area, entrance, and roads surrounding site for material build-up. Clean up as necessary.	Daily
Waste Receiving, Storage and Operating Areas	Inspect these areas for cleanliness, presence of dust/odour and from what source. This will include reviewing general housekeeping and ensuring tarps are covering stockpiles and clear of debris.	Daily
Butler Building and Processing	If odours are noticed from the butler building, notify site manager. The manager will then determine the appropriate course of action to mitigate odour issues such as closer of doorways, or suspension of plant activities during adverse weather conditions.	Ongoing
Odour from material transfer	Materials will be unloaded as close to the ground or top of pile as possible, to reduce the potential for odour emissions. Material will be stored close to the area it will be used to reduce the need for further transfer.	During Unloading
Spillage from unloading and vehicle transfer	Any significant spillage from unloading that may have the potential to be tracked off-site will be reported to the Site Manager. Cleaning of spillage to occur as soon as practical.	Ongoing
Facility signs	Inspect all signs for damage, general location, and accuracy of posted information.	As needed

7. MONITORING, RECORD KEEPING, AND REPORTING

A record keeping procedure should be implemented to track daily information. Records should be kept by the designated individual responsible for completing daily site inspections. The designated individual should be trained in the requirements and objectives of the plan. All records will be kept on-site at the site office for a minimum of two (2) years. Reporting will include:

- Identify that the inspection has been completed and that the items on the checklist have been addressed.
- Weather conditions, such as wind speed and direction, cloud cover, precipitation and temperature.
- Any actions taken to control nuisance issues, on-site.
- A summary of complaints received (complaint procedure identifies tracking of complaints, see relevant section below).
- A summary of any on-site spills that were reported to the MECP.

7.1 CONTACT INFORMATION

Contacts for any monitoring, record keeping or reporting information from the team are as follows:

Primary Contact:

Name: George Kirchmair

Title: Vice President

Company: York Environmental Solutions Ltd.

Company Address: 125 Villarboit Crescent Vaughan, Ontario, L4K 4K2

Phone Number: 905-669-2733

Email: gkirchmair@yorkenvironmental.ca

8. IDENTIFICATION OF CONCERNS

The site operator / manager should be informed of any issues that arise from inspections performed. Operations may be curtailed if odour control measures are not performing adequately.

8.1 COMPLAINT PROCEDURE

The Site manager should ensure that all formal complaints are recorded, kept on file and addressed. When a formal complaint is made, the following information should be recorded:

- Employee name and title receiving the complaint.
- Personal information of the complainant, such as name, address, and telephone number.
- Date and time the complaint was made.
- Nature and description of the complaint.
- Record of what corrective action was performed to resolve the issue.
- Follow up with complainant in the form of a formal response.

Formal complaints should initiate an inspection of the suspected cause of the complaint. Corrective action should be implemented to mitigate the cause of the complaint wherever possible.

FIGURES

York Environmental Solutions Ltd.

Odour BMPP

Uxbridge Waste Transfer Facility

SLR Project No.: 241.20064.00000

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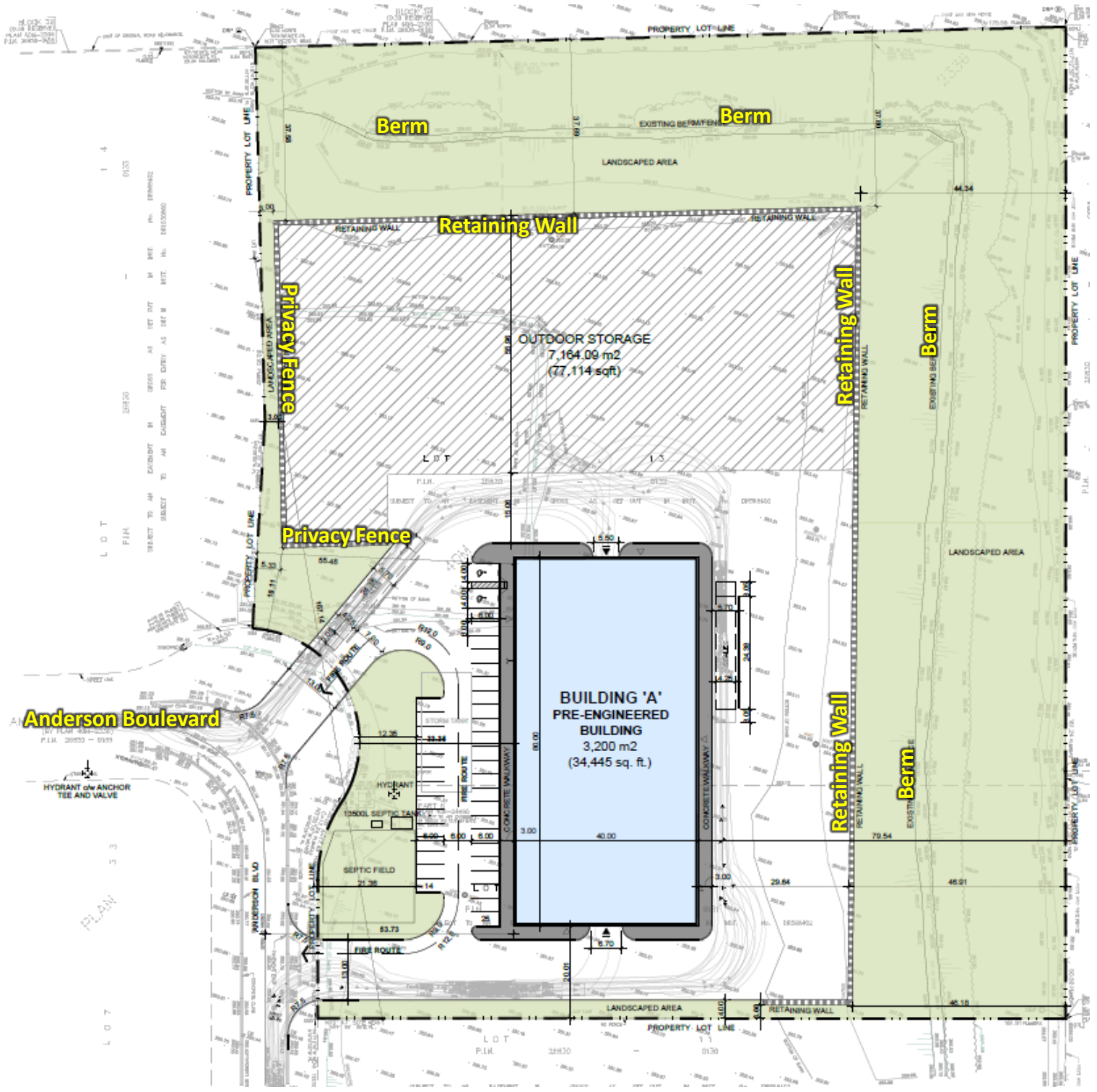


Legend

- Landscaped Area
- Unpaved Outdoor Storage
- Paved Area

True North

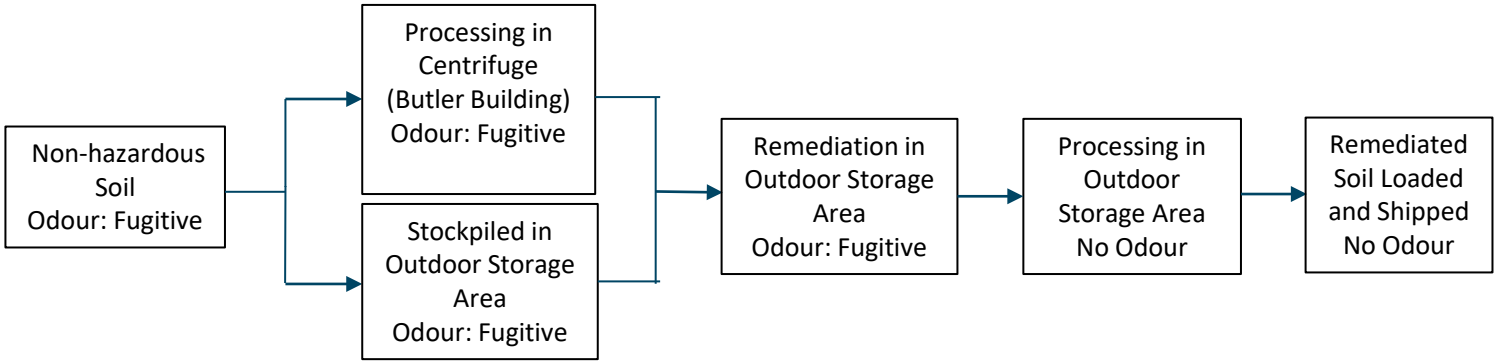
ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

EXCERPTS FROM PRELIMINARY SITE PLAN; CREDIT BALDASSARRA ARCHITECTS

Scale: n/a		METRES
Date: Mar 18, 2021	Rev 0.0	Figure No. 1
Project No. 241.20064.00000		

SLR
global environmental solutions



Aerial Photography from Google

True North

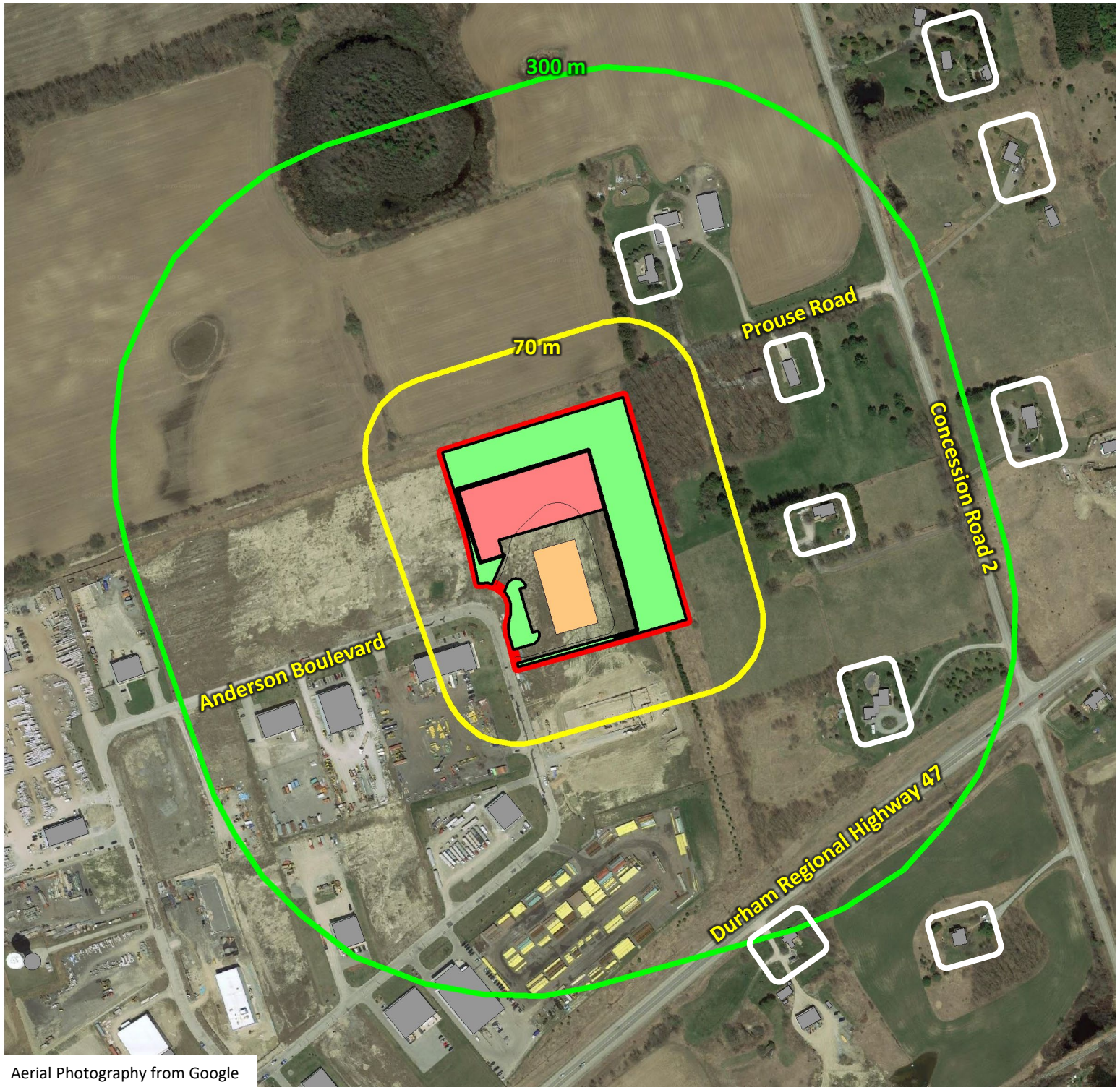
ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

PROCESS FLOW DIAGRAM

Scale: 1: ,000		METRES
Date: Feb 4, 2021	Rev 0.0	Figure No. **2**
Project No. 241.20064.00000		

SLR global environmental solutions



Aerial Photography from Google

Subject Site

Class I Light Industry

Class II Medium Industry

Class III Heavy Industry

Sensitive Use (e.g., Residence)

Outdoor Processing Area

Butler Building

Berm/Landscaped Area

True North

ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

CONTEXT PLAN

Scale: 1: ,000		METRES
Date: Feb 4, 2021	Rev 0.0	Figure No. 3
Project No. 241.20064.00000		

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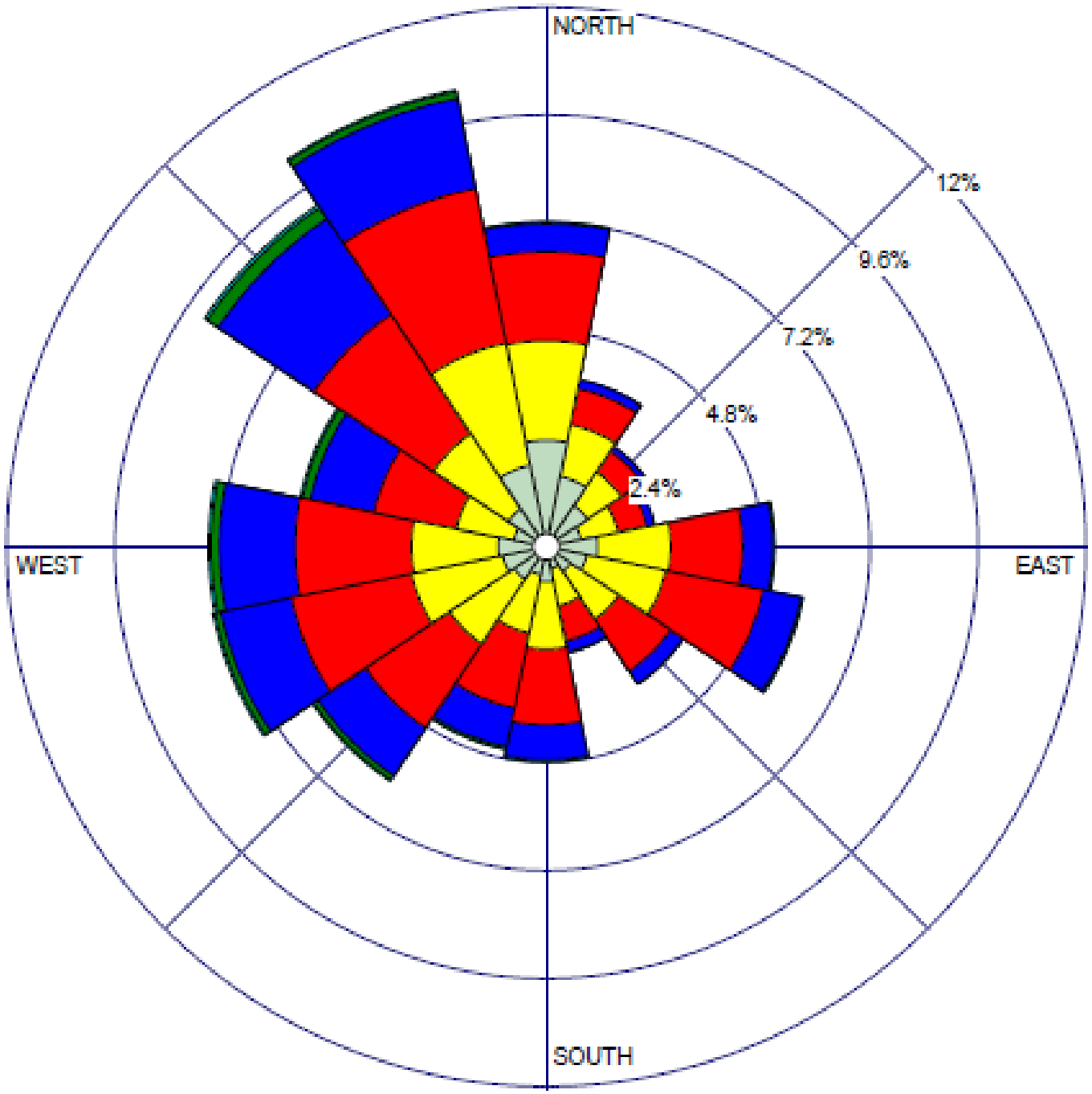

WIND SPEED
(m/s)

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

Calms: 10.69%

True North

ECMI PROPERTIES (125 VILLARBOIT) INC.

UXBRIDGE WASTE TRANSFER STATION
UXBRIDGE, ONTARIO

BUTTONVILLE METEOROLOGICAL WIND ROSE; 1986-2011

Scale: n/a		METRES
Date: Dec 10, 2020	Rev 0.0	Figure No. 4
Project No. 241.20064.00000		

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Appendix A
Site Inspection Form

York Environmental Solutions Ltd.

Odour BMPP

Uxbridge Waste Transfer Facility

SLR Project No.: 241.20064.00000

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Uxbridge Waste Transfer Site Inspection Form

45 & 47 Andersen Blvd, Uxbridge, Ontario

Date:

Time:

Inspector Name:

Inspector Signature:

Areas Inspected (identify road segments/storage piles/activity)

Paved Roadways

	PR1	PR2
Inspected		

Notes:

Storage Piles

	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	SP9	SP10
Inspected										

Notes:

Loading /Unloading

	LU1	LU2	LU3	LU4	LU5	LU6	LU7	LU8	LU9	LU10
Inspected										

Notes:

Transfer Building Openings and Storage

	TB1	TB2	TB3	TB4	TB5	TB6	TB7	TB8	TB9	TB10
Inspected										

Notes:

Processing Area; Crusher, Screener, Stacker and Loading/Unloading

	PA1	PA2	PA3	PA4	PA5	PA6	PA7	PA8	PA9	PA10
Inspected										

Notes:

Weather Conditions

Wind Direction:

Wind Speed (m/s): less than 5 m/s, 5 to 10 m/s, greater than 10 m/s

Temperature (degrees C):

Preciptation: None, Rain, Snow

Precipitation Amount Over Workday (mm):

Humidity (%):

Observations

Inspection Criteria	Observations	Follow-up Action	Responsibility	Status
Fence/Gates				
Windblown debris				
Entrance Area and Loading Routes On-Site				
Facility Access Road				
Facility signs				
Odour / Housekeeping				
Dust/odour from truck/vehicle movement in yard				
Dust/odour from sorting facility				
Dust/odour from Storage Area				
Dust/odour from Processing Area				
Spillage from unloading				

Observation and Action Notes:

Appendix E
Stationary Noise Modelling Input Files

ECMI Properties (125 Villarboit) Inc.

Compatibility and Mitigation Study: Air Quality, Dust, Odour and Noise

Uxbridge Waste Transfer Station

SLR Project No.: 241.20064.00000

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Name	ID	Result. PWL			Lw / Li	Operating Time			Height		Coordinates					
		Day	Evening	Night	Type	Day	Special	Night			X	Y	Z			
		(dBA)	(dBA)	(dBA)		(min)	(min)	(min)	(m)		(m)	(m)	(m)			
Entering + Passby Truck Idles	scaleEnter_idle_cont	103	0	0	Lw	60	0	0	2.6	g	642416	4876364.94	358			
Exiting + Passby Truck Idles	scaleEnter_idle_cont	103	0	0	Lw	60	0	0	2.6	g	642340	4876356.02	357.5			
Front End Loader	FEL_cont	106.8	0	0	Lw	60	0	0	2.6	g	642371	4876439.81	357.5			
Front End Loader	FEL_cont	106.8	0	0	Lw	60	0	0	2.6	g	642359	4876436.89	357.5			
Excavator	Exc_cont	106.8	0	0	Lw	60	0	0	2.6	g	642371	4876439.81	357.5			
Excavator	Exc_cont	106.8	0	0	Lw	60	0	0	2.6	g	642365	4876438.17	357.5			
Excavator	Exc_cont	106.8	0	0	Lw	60	0	0	2.6	g	642359	4876436.89	357.5			
Upblast Fan	FEL_cont	91.4	0	0	Lw	60	0	0	2.6	g	642388	4876368.27	361			
Upblast Fan	FEL_cont	91.4	0	0	Lw	60	0	0	2.6	g	642393	4876351.47	361			
Upblast Fan	FEL_cont	91.4	0	0	Lw	60	0	0	2.6	g	642398	4876331.81	361			
Upblast Fan	FEL_cont	91.4	0	0	Lw	60	0	0	2.6	g	642405	4876313.33	361			
Butler Building Enterance Noise	BBEnter_cont	89.9	0	0	Lw	60	0	0	2.6	g	642408	4876301.07	354.99			
Butler Building Exit Noise	BBExit_cont	89.9	0	0	Lw	60	0	0	2.6	g	642386	4876377.86	355			
Exiting + Passby Truck Drops	scaledrop_impls	108.5	0	0	Lw	60	0	0	2.6	g	642337	4876349.38	356			
Entering + Passby Truck Drops	scaledrop_impls	108.5	0	0	Lw	60	0	0	2.6	g	642416	4876364.67	356			

Name	ID	Result PWL			Result PWL'		Lw / Li	Moving Pt. Src			Speed					
		Day	Evening	Night	Day	Night	Type	Number								
		(dBA)	(dBA)	(dBA)	(dBA)	(dBA)		Day			(km/h)					
Entering Trucks - 200 total/day - 12.5/hour/2 routes	enterTrucks_cont	97.2	0	0	78.8	0	PWL-Pt	8	0	0	10					
Passby Trucks - 200 total/day - 12.5/hour/2 routes	passingTrucks_cont	104	0	0	78.8	0	PWL-Pt	8	0	0	10					
Exiting Trucks - 200 total/day - 12.5/hour/2 routes	exitingTrucks_cont	98.5	0	0	78.8	0	PWL-Pt	8	0	0	10					

					Result PWL''		Lw / Li	Operating Time								
					Day	Night	Type	Day	Special	Night						
Crusher	crusher_cont	110.4	0	0	71.9	0	Lw	60	0	0						
Screener	screener_cont	101.6	0	0	63.2	0	Lw	60	0	0						

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