REPORT

Best Management Practices Plan for the Control of Fugitive Dust

Safarik Pit

Submitted to:

CBM Aggregates, a division of St. Marys Cement Inc. (Canada)

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Toronto, Ontario
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Submitted by:

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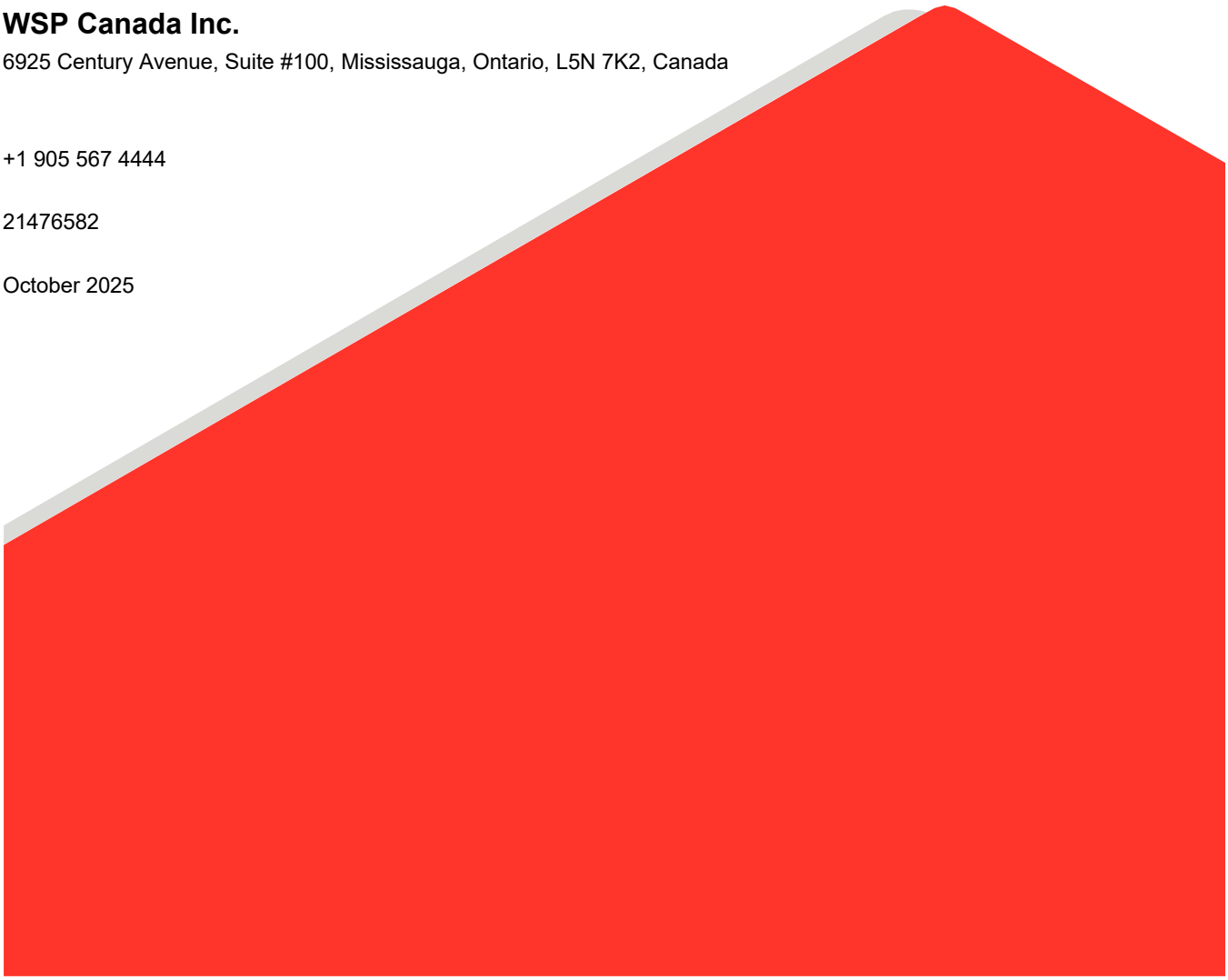
October 2025



Distribution List

Electronic copy - CBM Aggregates, a division of St. Marys Cement Inc. (Canada)

Electronic copy - WSP Canada Inc.

Document Version Control

This Best Management Practices Plan (BMPP) documents the control of fugitive dust at the CBM Aggregates (CBM), a division of St. Marys Cement Inc. (Canada) proposed Safarik Pit (the Site) located at 4275 Concession Road 7, Township of Puslinch, Wellington County, Ontario. This BMPP is prepared in accordance with Ontario Ministry of Environment, Conservation and Parks (MECP) Technical Bulletin - Management Approaches for Industrial Fugitive Dust Sources (updated July 26, 2021).

Version	Date	Revision Description	Prepared By	Reviewed By (Site Contact)
1.0	October 2025	Original document to support licence application under the Aggregate Resources Act for a Class “A” license (Pit Below Water)	WSP Canada Inc.	CBM Aggregates

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TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

This Best Management Practices Plan for Fugitive Dust (the Plan) has been prepared to document the measures which will be implemented to manage the fugitive dust associated with the proposed pit activities at the CBM Aggregates (CBM), a division of St. Marys Cement Inc. (Canada) proposed Safarik Pit located at 4275 Concession Road 7, Township of Puslinch, Wellington County, Ontario (the Site) and to outline the decision making process that was used to develop these Best Management Practices (BMPs).

This Plan was prepared in accordance with the "*Technical Bulletin: Management Approaches for Industrial Fugitive Dust Sources*" (updated July 26, 2021) guidance (Fugitive Dust Guidance Document) published by the Ministry of the Environment, Conservation and Parks (the Ministry). This Plan will:

- Identify the main sources of fugitive dust emissions;
- Identify potential causes for high dust emissions and opacity resulting from these sources;
- Outline preventative and control measures in place or under development to minimize the likelihood of high dust emissions and opacity from the sources of fugitive dust emissions;
- Provide an implementation schedule for the Plan, including training of Site personnel; and,
- Identify inspection and maintenance procedures and monitoring initiatives to ensure effective implementation of the preventative and control measures.

The Plan follows the following structure:

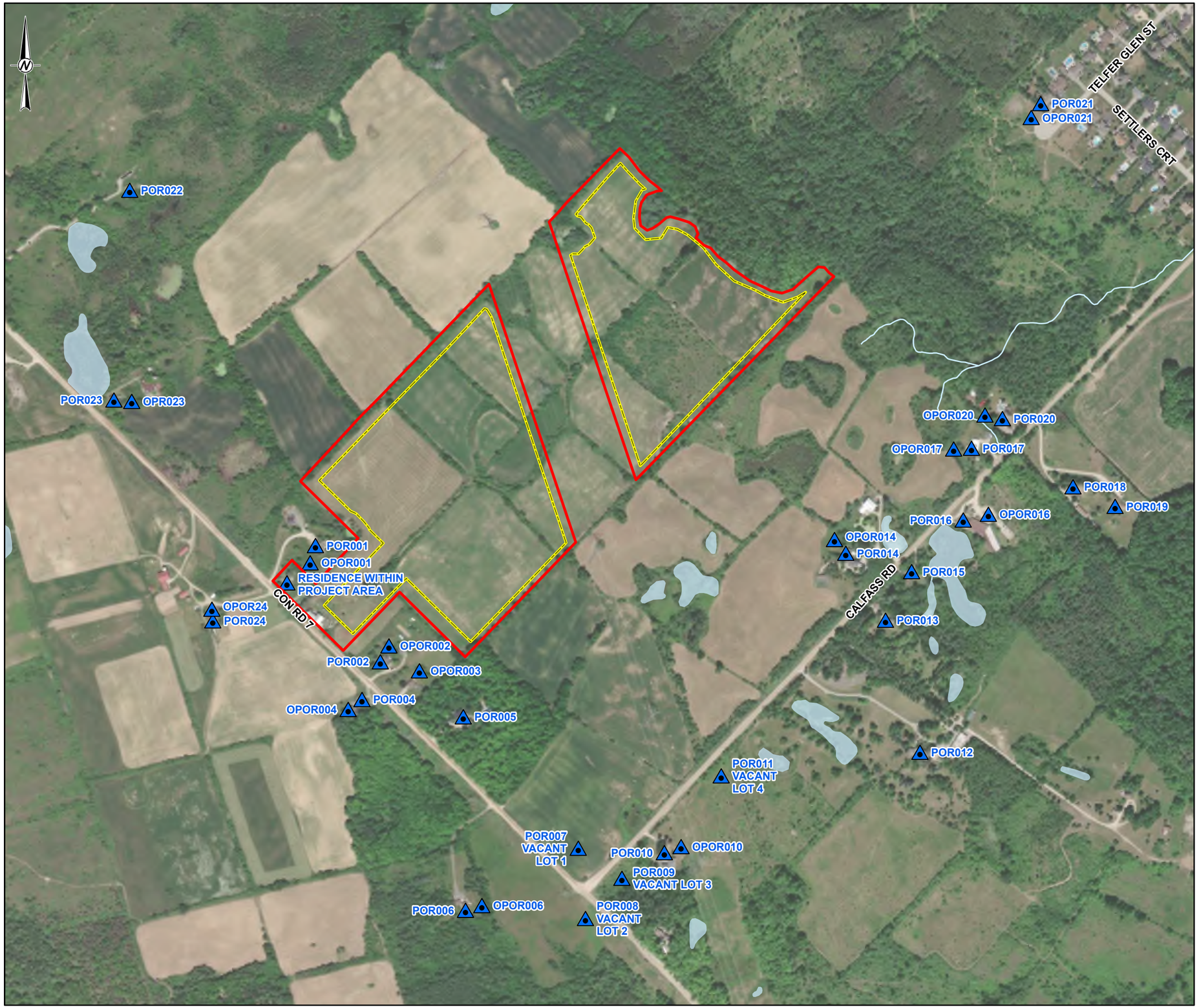
- Section 2.0 provides a brief description of the proposed Site.
- Section 3.0 outlines the responsibilities held by the different employment levels at the Site.
- Section 4.0 documents the BMPs that are proposed to be put in place at the Site and the decision-making process used to develop these BMPs. This section follows the Plan, Do, Check, and Act (PDCA) cycle according to ISO guidelines. The "Plan" section includes identification and characterization of the anticipated fugitive dust sources at the Site. The "Do" section includes a schedule for implementation of the proposed BMPs. The "Check" section includes a description of monitoring procedures, and a record keeping system. The "Act" section includes guidelines for periodic review of the BMPs to promote continuous improvement of this Plan.

2.0 SITE DESCRIPTION

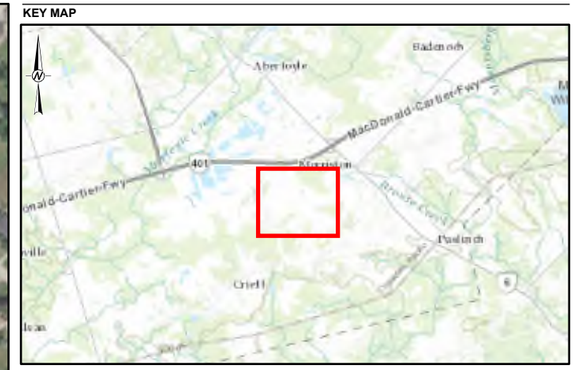
The Site will be an expansion to the existing Neubauer Pit and will be located to the east/southeast of the Neubauer Pit. Figure 1 shows the Site layout and neighbouring receptors. Figure 2 shows a wind rose using meteorological data taken from the Environment and Climate Change Canada Station located in Guelph, Ontario for the years 2017-2021. Table 1 presents general information about the Site relevant to this Plan.

Table 1: Site Description

Site	CBM Safarik Pit
Location	4275 Concession Road 7, Township of Puslinch, Wellington County, Ontario
Area Occupied	Approximately 27.7 hectares proposed to be licensed
Main Activities	The proposed pit operations include below water table extraction. A dragline is used to extract material and loaders are used to transfer material to haul trucks such that it can be transported off-site for processing.
Predominant wind direction	A windrose is provided in Figure 2 showing the predominant winds are blowing from the westerly directions (west-northwest to southwest). Data was obtained from the Government of Canada Historical Data website and the weather station located at the Guelph Turfgrass Institute in Guelph, Ontario.
Nearest receptor	The closest sensitive receptors are identified on Figure 1. The closest residential dwellings are OPOR002 located approximately 30 m to the southeast and OPOR001 located approximately 30 m to the southwest. Additional residential dwellings are located along Calfass Road, approximately 350 m southeast of the property.



KEY MAP



SCALE 1:150,000

LEGEND

- RECEPTORS
- WATERCOURSE
- RAILWAY
- WATERBODY
- EXTRACTION LIMIT
- LICENCE BOUNDARY

0 75 150 300

1:6,500 METRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. IMAGERY CREDITS: WORLD TOPOGRAPHIC MAP: CITY OF HAMILTON, TOWN OF MILTON, PROVINCE OF ONTARIO, ONTARIO MNR, ESRI CANADA, ESRI, HERE, GARMIN, USGS, NGA, EPA, USDA, NPS, AAFC, NRCAN
WORLD IMAGERY: TOWN OF OAKVILLE, MAXAR
3. LICENSE BOUNDARY PROVIDED BY MHBC MARCH 2025
4. EXTRACTION LIMIT PROVIDED BY MHBC JUNE 2025
5. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT
CBM AGGREGATES (CBM), A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

PROJECT
SAFARIK PIT LICENCE

TITLE
SITE PLAN

CONSULTANT

YYYY-MM-DD	2025-07-17
DESIGNED	----
PREPARED	SO
REVIEWED	BF
APPROVED	EL

PROJECT NO.	CONTROL	REV.	FIGURE
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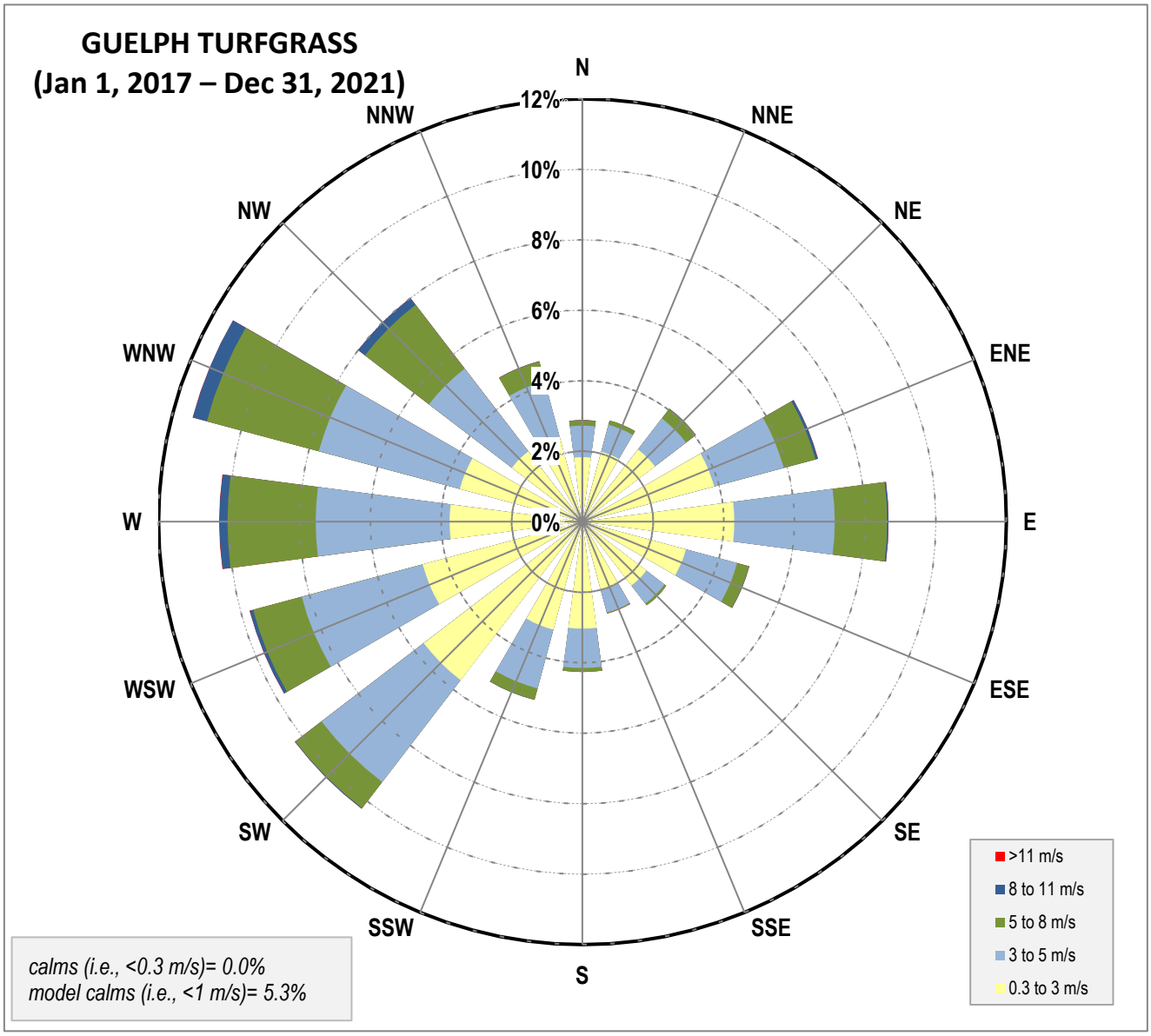

Figure 2: Windrose for Guelph Turfgrass Meteorological Station (2017-2021 data)

3.0 RESPONSIBILITIES

The following identifies the responsibilities held by each of the employment levels at the Site as they pertain to this Plan.

3.1.1 Senior Management Representative

The Senior Management Representative is responsible for:

- Reviewing the effectiveness of the current dust control measures at the Site and assessing the need for improvements;
- Ensuring the training of site personnel and contractors on the Plan and the best management practices to be implemented;
- Ensuring the required resources are in place to execute the Plan; and,
- Receiving and handling complaints.

3.1.2 Operations Supervisor Representative

The Operations Supervisor Representative, or designate, is responsible for:

- Reviewing the effectiveness of the current dust control measures at the Site;
- Scheduling and coordinating the implementation of fugitive dust control measures; and,
- Maintaining documentation of schedules and logs.

3.1.3 Site Personnel and Contractors

All Site Personnel and Contractors are responsible for:

- Following the dust control procedures;
- Reviewing the effectiveness of the current dust control measures at the Site;
- Monitoring the Site for dust emissions/generation on a daily basis; and,
- Recording any observations of dust on the Dust Control Inspection Form in Appendix C.

4.0 BEST MANAGEMENT PRACTICES FOR FUGITIVE DUST EMISSIONS

4.1 PLAN – Identification of Fugitive Dust Emission Sources and Factors Affecting Dust Emissions

Fugitive dust emissions are a result of mechanical disturbances of granular materials exposed to the air. Dust generated from these open sources is termed “fugitive” because it is not discharged to the atmosphere in a confined flow stream, such as emissions from an exhaust pipe or a stack (USEPA 1995).

The mechanical disturbance may result from equipment movement, the wind, or both. Therefore, some fugitive dust emissions occur and/or are intensified by equipment use, while others (i.e. wind erosion emissions) are independent of equipment use.

The main factors affecting the amount of fugitive dust emitted from a source include characteristics of the granular material being disturbed (i.e. particulate size distribution, density and moisture) and intensity and frequency of the mechanical disturbance (i.e. wind conditions and/or equipment use conditions). Precipitation and evaporation conditions can affect the moisture of the granular material being disturbed and, therefore, have an indirect effect on the amount of fugitive dust emitted.

Once dust is emitted, its travelling distance from the source is affected by climatic conditions, specifically wind speed, wind direction, precipitation, and particle size distribution. Higher wind speeds increase the distance travelled while precipitation can accelerate its deposition. Finer particulates can travel further before settling and, therefore, deserve greater attention.

Table 2 provides a list of the main sources of fugitive dust at the Site.

Table 2: Sources of Fugitive Dust Emissions at the Site

Source Category	Source Description	Potential Causes for High Emissions and Opacity from Each Source (Parameter/Condition)
Unpaved Roadways	Vehicle traffic	▪ Number of vehicles/large ▪ Weight of vehicles/heavy ▪ Silt content/high ▪ Wind speed/high ▪ Moisture content/dry
Material Storage	Stockpiling soil and overburden for use in rehabilitation and/or overburden stockpile	▪ Moisture content/dry ▪ Silt content on the stockpile surface/high ▪ Material size/fine ▪ Wind speed/high ▪ Material transfer rate/high ▪ Material drop height/high
	Windrows for material extracted below the water table	
Material Handling	Material extraction	▪ Moisture content/dry ▪ Material size/fine ▪ Material transfer rate/high ▪ Wind speed/high ▪ Material drop height/high
	Loading and unloading materials	

Control measures to reduce fugitive dust emissions should take into account the sources of the dust emission, the dispersion conditions and the location of sensitive areas. Control measures will be implemented to minimize one or more factors leading to the generation and/or dispersion of fugitive dust emissions. These control measures can be classified as follows:

- **Preventative Procedures**: Measures pertaining to the design and installation of structures and the operating procedures which are implemented on a regular basis in order to prevent the generation of dust and/or the dispersion of dust emitted reaching sensitive areas.
- **Reactive Control Measures**: Measures which are implemented in the event of unexpected circumstances which can lead to the generation of dust and/or the dispersion of dust emitted reaching sensitive areas.

Table 3 lists preventative procedures and reactive control measure for fugitive dust emissions that are expected at the Site.

Table 3: Preventative Procedures and Control Measures for Fugitive Dust Emissions at the Site

Emission Source	Preventative Procedures/ Control Measure	Description	Frequency
Unpaved Roadways	Road Maintenance	Ensure surface materials are smooth, reapply gravel to reduce silt content	Annually in spring or more
	Site Entrance Maintenance	Maintain a clean site entrance through sweeping and/or watering as needed to reduce vehicle track-out of material	Continual
	Speed Controls	Limit vehicle speed to 25 km/hr	Continual
	Watering	Water and/or calcium will be applied as a dust suppressant during non-freezing conditions	At least 1 litre/m² of water after 24 hours of dryness
Material Storage	Reduce Storage Time	Minimize the length of time material is stored on site to maintain high moisture content of stored material	Continual
	Windrow Placement	Locate windrows in designated areas, away from the southern and eastern property boundaries and maintain low windrow height.	Continual
	Plant Vegetation	Plant vegetation on overburden piles/berms	Continual
Material Handling	Minimize Drop Height	Maintain minimum drop height	Continual

* 1 - ChemInfo, 2005

Each fugitive dust source at the Site was assessed using the risk management tool described in the Centre for Excellence in Mining Innovation guidance document “Guide to the Preparation of a Best Management Practices Plan for the Control of Fugitive Dust for the Ontario Mining Section, Version 1.0” (CEMI 2010) to assess if the BMPs that are in place adequately manage the risk associated with each source. See Appendix A for the risk factors used in the ranking process. Table 4 identifies the fugitive dust sources with their respective relative risk score for the Site.

Hours of operation will be restricted during any period in which a wind warning for the area has been issued by Environment and Climate Change Canada and during any time where weather, traffic and unusual events would compromise the ability of Site alteration activities to be conducted in a safe and environmentally sound manner with due consideration of the public.

Table 4: Fugitive Dust Sources and Associated Relative Risk Scores

Source Description	Relative Risk Score	Relative Risk Level
Unpaved Roads	49	Low
Material Storage	11	Low
Material Handling	15	Low

There are no sources that are considered to be “high” risk after the implementation of the BMPs, therefore it is reasonable to assume that the BMPs in place adequately manage the risk associated with each fugitive dust source.

4.2 Fugitive Dust Characterization

Particle sizes can be divided into the following categories:

- Fine: < 30 µm in diameter;
- Medium: 30 to 100 µm in diameter; and,
- Coarse: > 100 µm in diameter.

As the majority of fugitive dust from the Site results from mechanical disturbances, the diameter of the dust particles can be categorized as medium (30 to 100 µm in diameter).

4.3 DO – Implementation Schedule for the BMP Plan

The BMPs listed in Table 3 will be implemented at the Site when activities commence, and an implementation schedule will be developed at that time.

Dust generating work performed at the Site, whether it is completed by CBM or under contractual agreements, must conform to the requirements of this Plan.

4.3.1 Training

Site personnel and contractors will be informed about the requirements of this Plan. The Senior Management Representative will administer training to staff so that operators are familiar with this document and the BMPs to be implemented at the Site. Training records specific to this Plan will be kept with all other training records.

4.3.2 Procedures for Handling Complaints

The Site will have procedures in place to address complaints related to fugitive dust. All workers should be familiar with how to direct a complaint to the Senior Management Representative who is responsible for receiving complaints (see section 3.0) should the need arise. The following steps should be taken by the Senior Management Representative if a complaint is received:

- Complete copy of dust complaint form (Appendix B) and ask the complainant for the information required on the form (contact information, time of occurrence, etc.).
- Notify the Ministry of complaint (Spills Action Centre, 416-325-3000).
- Conduct a Site and, if needed, off-Site inspection to determine the source of the dust and whether the dust is still causing an issue.
- Carry out fugitive dust mitigation procedures, if needed, and summarize the measures that were taken in the complaint record.

4.4 CHECK – Inspection, Maintenance and Documentation

As per section 3.1.3, all Site Personnel and/or Contractors should monitor the Site for dust emissions/generation on a daily basis. Records of dust observations shall be noted on the Dust Control Inspection Form in Appendix C. If Site Personnel and/or Contractors observe high dust emissions/generation, the following steps will be taken:

- Notify senior management representative of high dust emissions/generation;
- Senior management representative to complete entry in Non-Conformance Log (Appendix C); and,
- Senior management representative to determine and implement the necessary corrective action.

In addition to the procedure above for to dust observations, a weekly inspection will be conducted by the senior management representative using the Dust Control Inspection Form in Appendix C. If the senior management representative observes a non-conformance, the following steps will be taken:

- Senior management representative to complete entry in Non-Conformance Log (Appendix C); and,
- Senior management representative to determine and implement the necessary corrective action.

4.5 Record Keeping Practices

The Site retains copies of maintenance and inspection records in the onsite filing system. Examples of the dust control logs can be found in Appendix D.

The records should be stored in the Site's on-site filing system.

4.6 ACT – Plan Review

The following will trigger reviews and updates, if needed, of this Plan:

- When there are significant changes in the Site processes or equipment that introduce potential dust emission sources;
- When there are verified repetitive complaints associated with dust emissions from the Site; and,
- When there are noticeable dust emissions occurring and/or an increased dust level (excluding seasonal conditions).

5.0 LIMITATIONS

In preparing this fugitive dust BMPP, WSP has relied on information provided by CBM regarding proposed Site procedures, as well as information on proposed Site operations and equipment.

Standard of Care: WSP Canada Inc. (WSP) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

Basis and Use of the Report: This fugitive dust BMPP was prepared for the exclusive use of CBM. The BMPP is based on discussions with CBM about Site practices, fugitive dust sources and review of information provided by CBM. This BMPP cannot account for changes in Site conditions and operational practices completed after it has been finalized.

The information, recommendations and opinions expressed in this report are for the sole benefit of CBM, subject to the limitations and purposes described herein. Use of or reliance on this report by others is prohibited and is without responsibility to WSP. The report, all plans, data, drawings and other documents as well as all electronic media prepared by WSP are considered its professional work product and shall remain the copyright property of WSP. If CBM gives, lend, sell, or otherwise make available the report or any portion thereof to any other party, it does so at its own risk and liability. CBM acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore CBM cannot rely upon the electronic media versions of WSP's report or other work products.

When evaluating the Site and developing this report, WSP has relied on information provided by CBM, the regulatory authorities, and others. WSP has acted in good faith and accepts no responsibility for any deficiencies, misstatements, or inaccuracies contained in this report resulting from omissions, misinterpretations or falsifications by those who provided WSP with information.

Physical sampling of atmospheric emission sources was not completed as part of the scope of work.

6.0 CURRICULA VITAE

Curricula vitae for the authors of the report are provided in Appendix E.

7.0 REFERENCES

Centre for Excellence in Mining Innovation (CEMI). 2010. Guide to the Preparation of a Best Management Practices Plan for the Control of Fugitive Dust for the Ontario Mining Section. Version 1.0, June 2010.

ChemInfo. 2005. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities. March 2005.

Ministry of Environment, Conservation and Parks. 2019. Technical Bulletin: Management Approaches for Industrial Fugitive Dust Sources (version updated July 26, 2021).

United States Environmental Protection Agency (USEPA). 1995. AP-42 – Compilation of Air Pollutant Emission Factors – Fifth Edition. January 1995.

Signature Page

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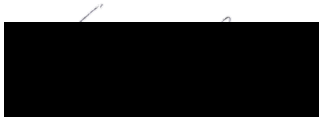
Bonnie Field, P.Eng.
Senior Air Quality Engineer



Emily Lau, B.A.Sc., P.Eng.
Team Lead and Senior Air Quality Engineer

NDL/BSF/EKL/sg
https://wsponline.sharepoint.com/sites/gld-148930/project files/6 deliverables/ph 5100 - air quality/bmps/final/gld-21476582-r-rev0 cbm safarik pit dust bmpp 7oct2025.docx

APPENDIX A

Fugitive Dust Risk Management Tool

Fugitive Dust Risk Management Tool

Source	Path	Path	Source	Receptor	Path / Receptor	Path	Source	Source	Source	Source

Step 1 - Calculation of risks associated with fugitive dust sources

	Cells to be populated
	Drop-down menu
	Automatically

100	Max:
75	Red: >
50	Yellow: >

			Risk Factors										
			1	2	3	4	5	6	7	8	9	10	11	Risk
Source ID Number	Description of the structure / equipment	Category	Frequency of process / activity that generates fugitive dust:	Position of the source related to sensitive areas (e.g.: communities, working areas):	Predominant wind direction is from the source to the closest sensible area?	Relative amount of visible dust generated in the process / activity:	Dust composition	Dust size range (higher mass percentage)	Is there some wind barrier (e.g.: trees, buldings, landscape) which can prevent the emissions from this source to reach the closest sensitive area?	Is there some measure applied on regular basis to prevent dust emission from this source (preventative)?	Is there some measure applied to this source to reduce dust emission once it occur (reactive)?	Is there some monitoring procedure applied to this source related to fugitive dust control?	Monitoring data / information trigger some control measure?	Total Normal.
S_001	WCS - Worst Case Scenario	Process	Continuous	Close	Yes	High	Metals	Fine	No	No	No	No	No	100
S_002		Material transfer (drop operations)	Intermittent	Close	No	Medium	No metals	Coarse	Yes	Yes	Yes	No	No	15
S_003		Unpaved road / area	Continuous	Close	Yes	Medium	No metals	Coarse	No	Yes	Yes	No	No	49
S_004		Material stockpile	Continuous	Medium	No	Low	No metals	Coarse	Yes	Yes	Yes	No	No	11
S_005														0
S_006														0
S_007														0
S_008														0
S_009														0
S_010														0
S_011														0
S_012														0
S_013														0
S_014														0
S_015														0

APPENDIX B

Complaints Form

Dust Complaint Form

Date:

Time:

Complainant Information	
Name	
Address	
Contact Number	
Callback completed (if required)	

Complaint Details	
Date and time of dust event	
Description of dust event (describe where dust was detected, amount of dust, wind direction and any other items to help characterize the event)	
Summary of measures taken to address complaint:	

APPENDIX C

Inspection Forms and Nonconformance Log

Dust Control Inspection Form

Date:
Inspector Name:

Weekly Inspection

Paved Areas				
Inspection Items	**Response**	**Requirement**	**Conformance (Y or N)**	**Description of Non-Conformance**
Is visible dust observed from any section the paved area?		N		
Are appropriate limits on vehicle speed and size being enforced?		Y		
Are paved areas well maintained? (i.e. good housekeeping)		Y		
Has the non-conformance log been maintained?		Y		
Have previous non-conformances been rectified?		Y		

Material Handling / Storage / Waste Bin				
Please list all areas that were inspected:				
Indicate which areas were not inspected, if any, and the reason why an inspection was not completed.				
Inspection Items	**Response**	**Requirement**	**Conformance (Y or N)**	**Description of Non-Conformance**
Is visible dust observed from any material handling location?		N		
Are low drop heights maintained?		Y		
Are material handling locations well maintained? (i.e. good housekeeping)		Y		
Has the activity log been maintained?		Y		
Has the non-conformance log been maintained?		Y		
Have previous non-conformances been rectified?		Y		

Dust Control Inspection Form

Date:
Inspector Name:

Weekly Inspection

Concrete Cutting and Grinding				
Please list all areas that were inspected:				
Indicate which areas were not inspected, if any, and the reason why an inspection was not completed.				
Inspection Items	**Response**	**Requirement**	**Conformance (Y or N)**	**Description of Non-Conformance**
Is visible dust observed from the cutting and grinding areas?		N		
Is water being used during concrete cutting?		Y		
Is grinding taking place under the dust collector hood?		Y		
Are work stations well maintained? (i.e. good housekeeping)		Y		
Has the activity log been maintained?		Y		
Has the non-conformance log been maintained?		Y		
Have previous non-conformances been rectified?		Y		

All non-conformances must be documented in the Non-Conformance Log

Inspector Sign Off: _____

Non - Conformance Log

Date	Time	Inspector Name	Potential or Actual Non-Conformance		Cause	Action	Recommendation	Corrective Action Sign Off
			Location / Source ID	Activity / Process / Condition				

APPENDIX D

Dust Control Logs

Material Handling/Storage
Dust Control Activity Log

Site Area	Date	Description of Activity	Start Time	End Time	Employee Name	Employee Signature

Unpaved Roads
Watering Log

Section of Roadway (Source ID)	Date	Description of Watering (Equipment used, amount of water applied)	Start Time	End Time	Operator Name & Company	Company Sign Off

APPENDIX E

Curricula Vitae

BONNIE FIELD, B.Sc., B.A.Sc., P.Eng.

Senior Air Quality Engineer

Areas of Practice

Air Quality

Languages

English - Fluent

PROFILE

Bonnie Field is a Senior Air Quality Engineer based in WSP's Mississauga office with over 12 years of air quality consulting experience. At WSP, Ms. Field has successfully managed and completed numerous air quality impact assessments, ECA applications, EASR registrations and regulatory reporting projects for a variety of sectors including aggregates, concrete products, power and utilities, manufacturing and mining. Her responsibilities include various client services such as preparation of proposals, maintaining project budgets and schedules, client liaison, conducting site visits, preparation of reports and review of work prepared by junior/intermediate staff.

Ms. Field is also experienced in air dispersion modelling, emissions assessment and inventory development, preparation of ECA applications and EASR registrations for air, and emissions reporting for various industries. She has extensive experience with the air dispersion models approved by the MECP, such as the SCREEN 3 and AERMOD models, and a working knowledge of CALPUFF dispersion modelling.

EDUCATION

Bachelor of Applied Science Chemical Engineering, University of Toronto	2013
Bachelor of Science in Biological Science, University of Guelph	2009

PROFESSIONAL ASSOCIATIONS

Professional Engineers Ontario, since 2019	PEO

CAREER

Air Quality Engineer, Golder Associates Ltd. (now WSP), Mississauga, Ontario, Canada	2013 – Present

PROFESSIONAL EXPERIENCE

Air Quality Technical Reports and Assessments

- Fugitive Dust Best Management Practices Plans (BMPPs) for the Safarik Pit and the David Pit Expansion, Ontario, Canada (2024 to present): Prepared BMPPs to document the measures for managing fugitive dust associated with the pit expansion activities at these sites, in support of applications for Class "A" Pit Below Water licenses under the Aggregate Resources Act (ARA).
- Edgar Pit Expansion License Application, Township of North Dumfries, Ontario, Canada (2023 to Present): Provided technical support on the Air Quality Impact Assessment (AQIA) for the proposed Edgar Pit expansion to support a Class "A" Pit Below Water license application under the ARA. Support included completing emission estimates and dispersion modelling to assess two worst-case extraction scenarios and preparing the AQIA report.

- Napanee Asphalt Air Quality Assessment, Napanee, Ontario, Canada (2021 to 2023): Provided intermediate review and quality assurance (QA) of emission calculations and dispersion modelling for a proposed hot mix asphalt plant, in support of an AQIA for a zoning amendment application. Additional work on this project included preparation of dust and odour best management practices plans.
- Rankin Quarry License Application, Port Colborne, Ontario, Canada (2020-2021): Provided technical support on the AQIA for the proposed extension of the existing Port Colborne Quarry to support a Category 2, Class “A” Quarry Below Water license application under the Aggregate Resources Act. Support included completing emission estimates and dispersion modelling to assess four quarry expansion scenarios, providing QA and review for tasks completed by junior staff, and preparing the AQIA report. Follow up work on this project included assisting with responses to public and peer review comments regarding the assessment results and methodology.
- Metrolinx Bridge Expansions Air Quality Assessment, Ontario, Canada (2020-2021): Project manager for air quality assessment of proposed construction activities at two bridge expansion sites on the Barrie Rail Corridor. Work involved identifying adjacent sensitive receptors, supporting junior staff in preparing emission rate estimates for key contaminants emitted from construction activities, equipment, and locomotives, and carrying out air dispersion modelling to assess predicted impacts at sensitive receptors. Prepared a report summarizing the potential project impacts on existing air quality, and the recommended mitigation and monitoring measures.

Approvals and Compliance

- Cam Tran Ongoing EASR Compliance, Colborne, Ontario, Canada (2017 to present): Project manager and air quality lead providing ongoing support for maintaining current Emission Summary and Dispersion Modelling Report, Acoustic Assessment Report and updating the EASR registration, as per requirements of Ontario Regulation 1/17.
- DECAST Ltd. Ongoing EASR Compliance and Regulatory Reporting, Utopia, Ontario, Canada (2016 to present): Air quality lead providing ongoing support for modelling assessments of proposed facility modifications, maintaining current Emission Summary and Dispersion Modelling Reports, and preparing emission inventories and release estimates to address annual reporting requirements of federal agencies. Additional work includes design support for proposed facility expansions on an as-needed basis.
- Saputo Dairy Products Canada, Various Locations, Ontario, Canada (2016 to present): Air quality lead providing four facilities across Ontario with ongoing support for maintaining current Emission Summary and Dispersion Modelling Report, Acoustic Assessment Report and updating the EASR registration, as per requirements of Ontario Regulation 1/17.
- Coatings 85 Ltd., Mississauga, Ontario, Canada (2015 to present): Project manager and air quality lead providing ongoing support for maintaining current Emission Summary and Dispersion Modelling Report, Acoustic Assessment Report and preparing annual written summary reports as per requirements of the electroplating/electrocoating facility’s Environmental Compliance Approval.

EMILY LAU, B.A.Sc., P.Eng.

Senior Air Quality Engineer

Years with firm

19

Years of experience

20

Areas of practice

Air Quality

Education

Bachelor of Applied Science Chemical Engineering, Environmental Option, University of Toronto, 2004

Professional associations

Professional Engineers Ontario, since 2010, PEO

Air and Waste Management Association, since 2018, AWMA

Career

Senior Air Quality Engineer, Earth & Environment, WSP, 2022 – Present

Air Quality Engineer, Golder Associates Ltd. (WSP acquisition), Mississauga, Ontario, 2017 – 2022

Senior Air Engineer, Ontario Ministry of the Environment, Conservation and Parks, Toronto, Ontario, 2016 – 2017

Air Quality Engineer, Golder Associates Ltd., Mississauga, Ontario, 2004 - 2015

Languages

English - Fluent

PROFILE

Emily Lau is a Senior Air Quality Engineer based in WSP's Mississauga office with more than 20 years of air quality consulting and government experience with the Ontario Ministry of the Environment, Conservation and Parks (MECP). At WSP, Ms. Lau has successfully managed and directed numerous air quality impact assessments, ECA applications, EASR registrations, regulatory reporting and land use compatibility study projects for a variety of sectors including aggregate processing, waste management, municipal, mining, power generation, pharmaceuticals, automotive and general manufacturing. Her other responsibilities include various client services such as: preparation of proposals, maintaining project budgets and schedules, client liaison, conducting site visits, preparation of reports and review of work prepared by junior and intermediate staff.

As a Senior Air Engineer at the MECP, Ms. Lau was responsible for reviewing ECA applications to ensure their compliance with environmental legislation, regulations and established MECP standards and guidelines. She then made recommendations on the approval of the ECA applications.

She has worked extensively with the air dispersion models approved by the MECP, such as the SCREEN 3 and AERMOD models. Ms. Lau has an in-depth knowledge of the MECP's air quality guidelines and policies, and frequently acts as liaison with the MECP on the applicability and interpretation of these to her various clients.

PROFESSIONAL EXPERIENCE

Mining and Aggregate Sector

- Fugitive Dust Best Management Practices Plans (BMPPs) for the Safarik Pit and the David Pit Expansion, Ontario, Canada (2024 to present): Senior air reviewer for BMPPs to document the measures for managing fugitive dust associated with the pit expansion activities at these sites, in support of applications for Class "A" Pit Below Water licenses under the Aggregate Resources Act (ARA).
- Edgar Pit Expansion License Application, Township of North Dumfries, Ontario, Canada (2024 to Present): Senior air reviewer for the Air Quality Impact Assessment (AQIA) for the proposed Edgar Pit expansion to support a Class "A" Pit Below Water license application under the ARA. Support included completing emission estimates and dispersion modelling to assess two worst-case extraction scenarios and summarized in the AQIA report.
- R.W. Tomlinson Ltd.
  - From 2018 to present, project director/manager and air quality lead of numerous projects for the completion of Emission Summary and Dispersion Modelling reports to support Environmental Compliance Approval applications. The facilities are located across Ontario and equipment assessed include permanent and mobile asphalt plants, mobile crushers, permanent and mobile ready-mix plants and aggregate extraction pits. Project Value: Approximately $200,000 CAD in total

- Cavanagh Ready-mix ECA, Ottawa, Ontario, Canada (2024 to present): Project director for the completion of an Environmental Compliance Approval application for a ready-mix concrete plant. Client: Cavanagh Concrete Limited. Project Value: $21,500 CAD
- Napanee Asphalt Air Quality Assessment, Napanee, Ontario, Canada (2021 to 2023): Project director for the completion of an Air Quality Impact Assessment, for a proposed hot mix asphalt plant in support a zoning amendment application. Follow up work on this project included preparation of dust and odour best management practices plans, participation in public meetings and responding to public and peer review comments regarding the assessment results and methodology. Other support services included expert witness testimony for Ontario Land Use Tribunal hearings.
  Client: R.W. Tomlinson Ltd. Project Value: $128,000 CAD
- Rankin License Application, Port Colborne, Ontario, Canada (2019 to 2021): Air Quality Lead for the completion of an Air Quality Impact Assessment, for the proposed extension of the existing Port Colborne Quarry to support a Category 2, Class “A” Quarry Below Water license application under the Aggregate Resources Act. Follow up work on this project included preparation of a dust and odour best management practices plan, participation in public meetings and responding to public and peer review comments regarding the assessment results and methodology.
  Client: Rankin Construction Inc.
- Carp Road ECA, Ottawa, Ontario, Canada (2017): Project Manager and Air Quality Lead. Completion of an Environmental Compliance Approval application for a ready-mix concrete plant. Follow up work on this project included responding to public comments regarding the assessment results and methodology. Client: Thomas Cavanagh Construction Limited. Project Value: $119,000 CAD
- Ecopave ECA, Thunder Bay, Ontario, Canada (2018): Project manager and air quality lead for the completion of an Environmental Compliance Approval application for a mobile asphalt plant with a tight deadline. The application was subsequently granted priority review status and an Environmental Compliance Approval was issued in less than 90 days. Client: EcoPave. Project Value: $34,800 CAD
- Oakville By-law Reporting, Oakville, Ontario, Canada (2015 to present). Project director/manager for the completion of the Bronte Asphalt Plant Health Protection Air Quality By-law annual emissions reports submitted to the Town of Oakville. Client: CRH. Project Value: $2,500 - $5,000 CAD per year
- Lafarge Canada Inc.
  - Air quality lead of numerous projects for the completion of Emission Summary and Dispersion Modelling reports to support Environmental Compliance Approval applications for six (6) aggregate extraction and / or asphalt facilities across southern Ontario, including the Fonthill, Brechin, Woodstock, Stouffville, Kitchener and Stratford locations.
- Pasqua-Lama Gold Mine, Pascua-Lama, Chile: Prepared a site-wide emission inventory and assisted with report preparation as part of a study of the effect of mining activities on glaciers in the vicinity of the Pascua-Lama mine. Client: Barrick Gold

Manufacturing Sector

- Helmitin Air Quality and Noise Services, Toronto, Ontario Canada (2019 to present): Project manager and air quality lead providing annual emissions reporting services and on-going support for maintaining current Emission Summary and Dispersion Modelling Report and preparing annual written summary reports, as per requirements of the facility's Environmental Compliance Approval. Client: Helmitin Inc.
  Current Project Value: $17,000 CAD
- Piramal ECA Compliance, Aurora, Ontario, Canada (2010 to present): Project director/manager providing on-going support for maintaining current Emission Summary and Dispersion Modelling Report, Acoustic Assessment Report and preparing annual written summary reports, as per requirements of the pharmaceutical facility's Environmental Compliance Approval. Additional work includes design support for proposed facility expansions. Client: Piramal Healthcare (Canada) Inc. Project Value: Approximately $97,000 CAD in total
- Apotex Regulatory Support, Brantford, Ontario, Canada (2018 to present): Project director/manager providing annual emissions reporting services and on-going support for maintaining current Emission Summary and Dispersion Modelling Report and Acoustic Assessment Report and preparing annual written summary reports, as per requirements of the facility's Environmental Compliance Approval. Also providing support for annual NPRI emissions reporting. Client: Apotex Pharmachem Inc. Project Value: approximately $56,000 CAD since 2020
- Quinton Steel Stack Feasibility Assessment, Guelph, Ontario, Canada (2023): Senior air quality technical reviewer in the completion of an Environmental Compliance Approval for a steel fabrication facility. Project also included an AERMOD modelling analysis of various stack height and stack exhaust configurations. Client: Quinton Steel Ltd.
  Project Value: $2,600 CAD
- Mevex Ozone Emission Refinement and Stack Modification, Brockville, Ontario, Canada (2022): Senior air quality technical reviewer for an ozone emissions assessment providing recommendations for ozone exhaust stack design parameters. Client: Mevex Corporation Project Value: $6,510 CAD
- Mooretown ECA, Mooretown, Ontario, Canada (2019 to 2022): Project manager and air quality lead of multi-disciplinary project to provide ECA services (industrial sewage works and air and noise) and Class X spill risk assessment services for a proposed nitrogen processing plant. Air and noise ECA also required the completion of an EPA Section 9 and O. Reg. 524/98 exemption assessment for a standby power generator. Follow up work on this project included participation in First Nations consultation.
  Client: Linde Canada Inc. Project Value: Approximately $64,600 CAD
- Rain Carbon Regulatory Support, Hamilton, Ontario, Canada (2020): Project manager for work to assist with Site Specific Standard compliance. Project scope included maintaining up-to-date Emission Summary and Dispersion Modelling Report, analyzing ambient monitoring data trends, support for Environmental Monitoring Team meetings. Client: Rain Carbon Canada Inc.
  Project Value: $309,000 CAD

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