



**CN Milton Logistics Hub:
Air Quality Follow-up Program**

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CN MILTON LOGISTICS HUB: AIR QUALITY FOLLOW-UP PROGRAM

Introduction
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Abbreviations

B(a)P	benzo(a)pyrene
CAAQS	Canadian Ambient Air Quality Standards
Coarse particulate	Suspended air borne particulate matter between 10 microns diameter and 2.5 microns diameter. Coarse particulate equals PM ₁₀ – PM _{2.5}
CALA	Canadian Assurance for Laboratory Accreditation
CWQG-FAL	Canadian Water Quality Guidelines for Protection of Aquatic Life
ECCC	Environment and Climate Change Canada
EIS	Environmental Impact Statement
IAAC	Impact Assessment Agency of Canada
MECP	Ontario Ministry of the Environment, Conservation and Parks
NAPS	National Air Pollution Surveillance
PAH	polycyclic aromatic hydrocarbons
PDA	Project Development Area
PM	Particulate Matter (also referred to as total suspended particulate (TSP))
PM _{2.5}	Suspended air borne particulate 2.5 microns and less in diameter (fine particulate)

CN MILTON LOGISTICS HUB: AIR QUALITY FOLLOW-UP PROGRAM

Introduction
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1.0 INTRODUCTION

This document outlines the follow-up program for air quality monitoring and adaptative management in relation to construction and operation of the Milton Logistics Hub.

The air quality monitoring program presented below, and the associated monitoring details have been developed to comply with the conditions of approval in the Minister of the Environment's Decision Statement issued January 21, 2021. This program has been developed to comply with Condition 4.21 of the Decision Statement and has been developed in consultation with Environment and Climate Change Canada (ECCC), Health Canada, the Ontario Ministry of the Environment, Conservation and Parks (MECP), the Region of Halton, the Town of Milton, the Mississaugas of Credit First Nation (MCFN) and Six Nations of the Grand River (Six Nations). Draft versions of this follow-up program were provided to ECCC on August 10, 2020 and May 31, 2021, Health Canada on August 27, 2020 and March 15, 2021, MECP on April 30, 2021, Region of Halton on June 4, 2021, Town of Milton on June 4, 2021, MCFN on January 14, 2021, and Six Nations on March 8, 2021. Comments were received from the ECCC, Health Canada and MECP, and have been considered in finalizing this document. Any revisions and manner by which comments were addressed, including corresponding rationale, were communicated to those who responded to CN's request for input.

No updates to this follow-up program are proposed over the implementation of this follow-up program.

2.0 PROGRAM DESIGN CONSIDERATIONS

A follow-up program for an air quality and adaptive management program will be implemented during pre-construction, construction and operation to verify the accuracy of the environmental assessment and determine the effectiveness of proposed mitigation measures. The program has been developed in accordance with the information outlined in Condition 2.6 of the Decision Statement.

The program will consist of the following components as outlined in Condition 4.21 of the Decision Statement:

1. An air quality baseline data collection prior to construction to update the local air quality monitoring program (as per section Condition 4.21.1).
2. Air quality monitoring program during construction (as per section Condition 4.21.2).
3. An air quality monitoring program during the first five years of operation, or until the end of the third year during which the Project operates at its full operational capacity, whichever comes later (as per section Construction 4.21.3).
4. Compare the results of 2 (construction) and 3 (operation) to:
 - a. The Canadian Council of Ministers of the Environment's (CCME) Canadian Ambient Air Quality Standards or, in the absence of federal criteria, to the Ontario Ambient Air Quality Criteria; or
 - b. The revised maximum predicted ground-level concentrations of air quality contaminants referred to in 1 if the updated baseline information referred to in 1 already exceeds the air quality standards referred to in 4a.
5. If the comparison undertaken in 4a or 4b demonstrates any exceedance of the air quality standards referred to in condition 4a or any exceedance of the revised maximum predicted ground level concentrations of air quality referred to in 1, determine, in consultation with the parties involved in the development of the follow up program, the source(s) of any such exceedance. If the Proponent determines, in consultation with the parties involved in the development of the follow up program, that the Project is contributing to any such exceedance, the Proponent shall develop and implement modified or additional mitigation measures to mitigate the emissions of air quality contaminants attributed to the Project.

3.0 AIR QUALITY PRE-CONSTRUCTION BASELINE UPDATE

An update of the air quality baseline data prior to construction is proposed to confirm the local air quality baseline information and to reflect any changes in the air shed since the last baseline monitoring program update in 2016.

This section has been updated to reflect the specific list of air quality contaminants of concern identified in Condition 4.21.1 in the Decision Statement (January 21, 2021).

3.1 AIR QUALITY CRITERIA

During the pre-construction phase, an update to the 2015-2016 air quality baseline information provided by CN as part of the environmental assessment by conducting pre-construction monitoring and/or by compiling publicly available data will be completed regarding the following air quality contaminants of concern:

- Total suspended particulate (TSP)
- PM_{2.5}
- PM₁₀
- Benzene as a surrogate for VOCs
- B(a)P as a surrogate of total PAHs
- Nitrogen dioxide (NO₂)
- Sulphur dioxide (SO₂)
- Carbon Monoxide (CO)
- Ozone (O₃)
- 1,3-butadiene

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Air Quality Pre-Construction Baseline Update
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3.2 LOCATIONS

To update the baseline program data and to complement the future construction and operations monitoring programs, one (1) monitoring station location is proposed on CN property off First Line (Station 1), for the pre-construction monitoring program, as identified in **Figure 1 (Appendix A)**.

Station 1 will be located within an area that will be a nominal 50m by 50m tree-free clearing without consistent or frequent access, separated from any nearby high structures above grade level that could cause disturbing atmospheric airflows, and have no nearby sources of air emissions (e.g., combustion, etc.). Within the nominal area, a fenced and locked 10m by 10m plot will contain the 12' x 8' station equipped with the relevant monitoring equipment.

The original air quality station used from 2015 to 2016 to inform baseline conditions was decommissioned in 2016. Since the original location is within the footprint of the Project, an alternate location was selected to accommodate construction of the project and to maintain a consistent station location and data stream through all proposed monitoring cycles. Further, the original air quality station location is neither generally upwind or downwind of the Project.

The revised location (i.e. Station 1) is located at what a windrose shows to be the generally “downwind” station location in relation to the Project (i.e., located off First Line). Station 1 can remain in place throughout the pre-construction through construction and operation phases of the Project. The revised baseline station location is approximately 1,000m from the previous station location.

A windrose for Milton has been included on **Figures 1 and 2 (Appendix A)**. Station 1 is generally located SE to E from the center of the Project (i.e., downwind).

A second monitoring station (Station 2) to be installed prior to construction for use during the construction and operations monitoring programs is identified in **Figure 2 (Appendix A)**. Station 2 is generally located NW to W from the center of the project (i.e., upwind).

3.3 METHOD

The monitoring program will include both continuous and non-continuous monitors to sample air contaminant concentrations as per the methodology and analysis outlined by the CCME Ambient Air Monitoring and Quality Assurance/Quality Control Guidelines (NAPS Program) and as completed during the last baseline monitoring program update in 2016. The MECP Operations Manual for Air Quality Monitoring in Ontario will also be used for guidance on updates or discrepancies for provincial specific practices that are not incorporated in the CCME guidelines.

The monitoring station will also be equipped with a meteorological station to measure wind speed, wind direction, ambient temperature, relative humidity, barometric pressure, and precipitation, as well as a data logger equipped with a cellular communication package to allow for continuous collection of data. Continuous data (i.e., PM_{2.5}, PM₁₀, NO, meteorological conditions) will be recorded hourly.

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Air Quality Pre-Construction Baseline Update
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The pre-construction monitoring program was set to begin once program discussions between CN and agencies have resulted in agreement in the Air Quality Pre-Construction Baseline Update component of this FUP (targeted to begin in spring 2021) and continue through until the start of construction. CN has proceeded with the installation of AQ Station 1 at the location shown on **Figure 1** at First Line, which is expected to be operational at the end of May. The station will run collecting baseline update information until construction commences. After construction commences, the site-specific station will no longer be considered to be collecting baseline update information. The balance of information to have a nominal one year of pre-construction monitoring will be derived by compiling publicly available data to have a minimum one-year baseline update snapshot. The monitoring station will be installed and commissioned by a qualified air consultant.

Air contaminants will be monitored generally as per the methodology and analysis recommended by the CCME and MECP, and as outlined in **Table 1**.

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Air Quality Pre-Construction Baseline Update
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Table 1: Air Quality Monitoring Criteria Equipment Description and Sampling Frequency – Pre-Construction

Criteria	Equipment Description
TSP	Tisch TE-5170 Hi-Vol sampler in accordance with MECP province wide guidance (every 6 days)
PM _{2.5}	EPA Designated BAM 1020 PM2.5 Particulate Sampler – continuously, reported hourly
PM ₁₀	EPA Designated BAM 1020 PM10 Particulate Sampler – continuously, reported hourly
NO ₂	EPA Designated TECO 42i NO/NO ₂ /NO _X Sampler – continuously, reported hourly
SO ₂	Thermo Electron Corporation 43i SO ₂ Analyzer – continuously, reported hourly
O ₃ (Ozone)	Thermo Electron Corporation Model 49i Ozone Analyzer – continuously, reported hourly
Carbon Monoxide (CO)	Thermo Electron Corporation 48i CO Analyzer- continuously, reported hourly
VOC (Benzene, 1,3-butadiene)	Volatile organic compounds (VOCs) collected using SUMMA® canisters. Each sample collected over a period of 24 hours. The sampling schedule corresponds with the MECP's province-wide ambient sampling schedule (one sample taken every 6 days). The SUMMA® canister operates by continuously drawing a sample of ambient air into the canister through a regulator. At the end of the 24-hour sample period, the canister is sealed, and the air sample is sent for analysis. Analysis of the VOC samples to be conducted by a CALA accredited laboratory following US EPA method TO 15 (Determination of Volatile Organic Compounds (VOCs) in Air).
PAH (B(a)P)	Polycyclic aromatic hydrocarbons (PAHs) collected in a dual chambered sampling module with a Teflon-coated glass fibre filter and a Poly-Urethane Foam (PUF) cartridge for a 24-hour period using a Tisch Environmental TE-1000 mass-flow high volume air sampler. This monitor operates by continuously drawing a sample of ambient air through the dual cartridge system. Analysis of the PAH samples to be conducted by a CALA accredited laboratory by Gas Chromatography/Mass Spectrometry. The sampling schedule to correspond with the MECP's province-wide ambient sampling schedule (one sample taken every 6 days).

A remote monitoring system will be used to send all continuous monitoring data to a data logging system for data analysis and historical record keeping. Samples will be collected, from non-continuous monitors by qualified personnel and will be submitted to a Canadian Assurance for Laboratory Accreditation (CALA) accredited laboratory for analyses.

3.4 REPORTING

An update to the 2015-2016 air quality baseline information provided by the Proponent as part of the environmental assessment will be provided by conducting pre-construction monitoring and/or by compiling publicly available data and revise, as required based on updated baseline information, maximum predicted ground-level concentrations of air quality contaminants of concern attributed to the Project (including particulate matter, fine particulate matter, coarse particulate matter, ozone, nitrogen dioxide, sulphur dioxide, benzene, 1,3-butadiene, benzo(a)pyrene and carbon monoxide). The results of the updated baseline information and any revised predictions shall be submitted to the Agency prior to construction.

4.0 AIR QUALITY FOLLOW-UP PROGRAM – CONSTRUCTION

During construction, mitigation measures were proposed to reduce fugitive dust emissions resulting from Project construction activities that may travel beyond the Project Development Area (PDA). The purpose of the air quality monitoring program during construction is to confirm the effectiveness of the mitigation measures employed for dust reduction.

Air quality monitoring of other contaminants associated with diesel exhaust (i.e., NO₂, benzene and benzo(a)pyrene), will also be collected to support the country foods follow-up program (Station 1).

4.1 CRITERIA

Monitoring data will be collected at two air quality monitoring stations, as follows:

Station 1:

- NO₂
- TSP
- PM_{2.5}
- VOC (Benzene)
- PAH (B(a)P)

Station 2:

- NO₂
- TSP
- PM_{2.5}
- VOC (Benzene)
- PAH (B(a)P)

The monitoring results will be compared to (a) the federal Canadian Ambient Air Quality Standards (CAAQS), or (b) where federal criteria are not available, the Ontario Ambient Air Quality Criteria (AAQC). Where the existing baseline criteria exceeds standards (i.e., for B(a)P, for example) comparison for these measurements will be made to the predicted levels and calculated as a percentage of total levels, to determine Project contribution. A summary of the applicable air quality criteria is presented in **Table 2**.

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Table 2: Applicable Air Quality Criteria

Contaminant	CAS	Averaging Period (hours)	Air Quality Objectives /Criteria* (µg/m ³)		Guidance
			(2020)	(2025)	
NO ₂	10102-44-0	1	113	79	CAAQS ¹
		Annual	32	23	
TSP	N/A (PM)	Annual	70		NAAQO
PM _{2.5}	N/A (PM _{2.5})	24	27		CAAQS ²
		Annual	8.8		CAAQS ²
Benzene	71-43-2	24	2.3		AAQC
		Annual	0.45		AAQC
Benzo(a)pyrene	50-32-8	24	0.00005		AAQC
		Annual	0.00001		AAQC

¹ CAAQS guidance levels are used. The statistical form of the 1 hour average for CAAQS NO₂ is determined from the 3-year average of the annual 98th percentile of the daily maximum 1-hour average concentrations. The statistical form for the annual NO₂ average is the average over a single calendar year of all 1-hour average concentrations. CCME has reported CAAQS for NO₂ in ppb. For comparison to predicted ground level concentrations of NO₂ from the Project, these ppb values have been converted to µg/m³ by multiplying by 1.88 based on the molecular weight of NO₂ and assuming an atmospheric pressure of 1 atm, 25 degrees Celsius.

² CAAQS guidance levels are used. The statistical form of the 24 hour average for CAAQS PM_{2.5} is determined from the 3-year average of the annual 98th percentile of the daily maximum 24-hour average concentrations. The statistical form for the annual PM_{2.5} average is the 1 year average of the annual average concentrations.

In addition, where baseline conditions already exceed the criteria as confirmed by the supplementary baseline monitoring (described in Section 3 above), data will be compared to the predicted levels extracted from the modelling predictions generated by the modelling runs carried out in the EIS for the CN Milton Intermodal Project, Appendix E.1, Technical Data Report Air Quality dated December 07, 2015. The predictions extracted will be the species prediction values for a receptor located at the actual air monitoring station location(s).

4.2 LOCATIONS

To facilitate comparison with the baseline data monitoring, Station 1 located on First Line will continue to be utilized. Station 2 will be set up on CN property directly off Tremaine Road as identified in **Figure 2 (Appendix A)**. Using two stations, “upwind” (Station 2) and “downwind” (Station 1) measurements will be obtained to support subsequent analysis as needed.

Both stations will be installed as described above in Section 3.2. A windrose and tabular wind data are also provided in Section 3.2.

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4.3 METHOD

The monitoring program will include both continuous and non-continuous monitors to sample air contaminant concentrations as per methodology and analysis recommended by the CCME Ambient Air Monitoring and Quality Assurance/Quality Control Guidelines (NAPS Program) and MECP Operations Manual for Air Quality Monitoring in Ontario.

Both monitoring stations will be equipped with a meteorological station to measure wind speed, wind direction, ambient temperature, relative humidity, barometric pressure, and precipitation, as well as a data logger equipped with a cellular communication package to allow for continuous collection of data.

Continuous data (i.e., TSP, PM_{2.5}, NO, meteorological conditions) will be recorded hourly. VOC and PAH criteria will be measured via 24-hour samples collected once every six days.

The construction monitoring program will start with the start of construction and continue through until the start of operations (approximately 18 to 24 months). The monitoring stations will be installed and commissioned by a qualified air consultant.

Air contaminants will be monitored generally as per the methodology and analysis recommended by the CCME and MECP, as outlined in **Table 3**.

Table 3: Air Quality Monitoring Criteria Equipment Description and Sampling Frequency – Construction

Criteria	Equipment Description
Station 1: First Line Station	
NO ₂	EPA Designated TECO 42i NO/NO ₂ /NO _X Sampler – continuously, reported hourly
TSP	Continuous Sampler- continuously, reported hourly
PM _{2.5}	EPA Designated BAM 1020 PM _{2.5} Particulate Sampler – continuously, reported hourly
VOC (Benzene)	Volatile organic compounds (VOCs) collected using SUMMA® canisters. Each sample collected over a period of 24 hours. The sampling schedule corresponds with the MECP's province-wide ambient sampling schedule (one sample taken every 6 days). The SUMMA® canister operates by continuously drawing a sample of ambient air into the canister through a regulator. At the end of the 24-hour sample period, the canister is sealed, and the air sample is sent for analysis. Analysis of the VOC samples to be conducted by a CALA accredited laboratory following US EPA method TO 15 (Determination of Volatile Organic Compounds (VOCs) in Air).
PAH (B(a)P)	Polycyclic aromatic hydrocarbons (PAHs) collected in a dual chambered sampling module with a Teflon-coated glass fiber filter and a Poly-Urethane Foam (PUF) cartridge for a 24-hour period using a Tisch Environmental TE-1000 mass-flow high volume air sampler. This monitor operates by continuously drawing a sample of ambient air through the dual cartridge system. Analysis of the PAH samples to be conducted by a CALA accredited laboratory by Gas Chromatography/Mass Spectrometry. The sampling schedule to correspond with the MECP's province-wide ambient sampling schedule (one sample taken every 6 days).

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Table 3: Air Quality Monitoring Criteria Equipment Description and Sampling Frequency – Construction

Criteria	Equipment Description
Station 2: Tremaine Rd Station	
NO ₂	EPA Designated TECO 42i NO/NO ₂ /NO _X Sampler – continuously, reported hourly
TSP	Continuous Sampler- continuously, reported hourly
PM _{2.5}	EPA Designated BAM 1020 PM _{2.5} Particulate Sampler – continuously, reported hourly
VOC (Benzene)	Volatile organic compounds (VOCs) collected using SUMMA® canisters. Each sample collected over a period of 24 hours. The sampling schedule corresponds with the MECP's province-wide ambient sampling schedule (one sample taken every 6 days). The SUMMA® canister operates by continuously drawing a sample of ambient air into the canister through a regulator. At the end of the 24-hour sample period, the canister is sealed, and the air sample is sent for analysis. Analysis of the VOC samples to be conducted by a CALA accredited laboratory following US EPA method TO 15 (Determination of Volatile Organic Compounds (VOCs) in Air).
PAH (B(a)P)	Polycyclic aromatic hydrocarbons (PAHs) collected in a dual chambered sampling module with a Teflon-coated glass fiber filter and a Poly-Urethane Foam (PUF) cartridge for a 24-hour period using a Tisch Environmental TE-1000 mass-flow high volume air sampler. This monitor operates by continuously drawing a sample of ambient air through the dual cartridge system. Analysis of the PAH samples to be conducted by a CALA accredited laboratory by Gas Chromatography/Mass Spectrometry. The sampling schedule to correspond with the MECP's province-wide ambient sampling schedule (one sample taken every 6 days).

A remote monitoring system will be used to send all continuous monitoring data to a data logging system for data analysis and historical record keeping. Samples will be collected, by qualified personnel, from non-continuous monitors in compliance with CCME and MECP methodologies and will be submitted to a CALA accredited laboratory.

In addition to the monitoring stations, there will be a regular site review of dust control measures by the onsite Environmental Monitor to provide operational input to site construction plans based on previous days' results.

4.4 ADAPTIVE MANAGEMENT

As predicted in the EIS and subsequent supplementary information requests, fugitive dust emissions during the construction phase of the Project are anticipated to remain below the thresholds for PM_{2.5} and PM₁₀ (as provided above in section 4.1). Adaptive management for fugitive dust emissions above acceptable guidelines will be employed in a staged manner, based on activities occurring onsite and investigation as to why exceedances are occurring.

Adaptive management for fugitive dust emissions are guided by the ECCC March 2005 "Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities" (ChemInfo Services, March 2005), and will be documented in the CN site-specific Air Quality Management Plan which will be prepared by the General Contractor prior to commencing construction activities.

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A regular review of PM monitoring data will be used to inform the construction team of effectiveness of control measures and allow them to adjust activities accordingly to maximize dust control. CN will monitor and document any dust complaints received during construction and will respond in accordance with their complaint response protocol. Such complaints will be used to target further review of dust levels and corresponding construction activities to explore whether such activities are responsible for specific exceedances, or if additional actions can be taken in conjunction with the contractor to reduce dust levels. Implementation of targeted mitigation measures to address specific complaints at specific locations or associated with specific activities will be considered.

4.5 REPORTING

The results of the Air Quality construction monitoring as part of the follow-up program will be reviewed, analyzed and presented in a report to document (a) the results of the monitoring program, and (b) comparison to the predictions in the environmental assessment. The logged information related to offsite complaints and operational actions taken will be appended to the annual air quality monitoring reporting submission.

An annual report will be prepared, followed by a subsequent report after the completion of construction. The expectation is a 2-year expected construction period. The results will be provided to ECCC, Health Canada, MECP, Halton Region, the Town of Milton, Mississaugas of Credit First Nation and Six Nations of the Grand River and included as a component of the annual report to IAAC.

5.0 AIR QUALITY FOLLOW-UP PROGRAM – OPERATIONS

During operations, air quality monitoring is proposed to compare estimated emissions and measured air quality levels against the predictions made in CN's environmental assessment and against applicable air quality standards to confirm the effectiveness of mitigation measures. The monitoring and reporting contemplated in this phase of the program shall continue for a period of five years of operation, or until the end of the third year during which the Project operates at its full operational capacity, whichever comes later, at which point the need for an extension of further monitoring and reporting period will be determined in consultation with ECCC and the Agency.

5.1 CRITERIA

Monitoring data will be collected at the air quality monitoring stations:

Station 1:

- TSP
- PM_{2.5}
- NO₂
- VOC (Benzene)
- PAH (B(a)P)

Station 2:

- TSP
- PM_{2.5}
- NO₂
- VOC (Benzene)
- PAH (B(a)P)

The monitoring results will be compared to (a) the federal Canadian Ambient Air Quality Standards, or, where federal criteria are not available, (b) the Ontario Ambient Air Quality Criteria. A summary of the applicable air quality criteria is presented in **Table 2**.

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5.2 LOCATIONS

Air quality data will be collected at both air quality stations (Station 1 and 2) identified in **Figure 2 (Appendix A)**.

5.3 METHOD

Similar to the baseline and construction monitoring phases, the air quality monitoring program during operations will include both continuous and non-continuous monitors to sample air contaminant concentrations generally as per the methodology and analysis recommended by the CCME Ambient Air Monitoring and Quality Assurance/Quality Control Guidelines (NAPS Program) and MECOP Operations Manual for Air Quality Monitoring in Ontario, using remote monitoring systems to send all continuous data to a data logging system. Samples collected from non-continuous equipment will be completed by qualified personnel.

Station 1 and Station 2 will have the equipment identified in Table 3. Both stations will be equipped with a meteorological station to measure wind speed, wind direction, ambient temperature, relative humidity, barometric pressure, and precipitation, as well as a data logger equipped with a cellular communication package to allow for data logging of data. Continuous data (i.e., PM_{2.5}, TSP, NO₂, met conditions) will be reported hourly, while non-continuous data (VOC (Benzene) and PAH (B(a)P)) will be collected over a 24-hour period, every 6 days, as described above in Section 4.3, using equipment outlined in Table 3.

The monitoring and reporting contemplated in this phase of the program shall occur during the first five years of operation, or until the end of the third year during which the Project operates at its full operational capacity, whichever comes later, at which point the need for an extension of further monitoring and reporting period will be determined in consultation with ECCC and the Agency. Provided the monitored criteria are below the acceptable limit requirements or within the predicted Project specific contribution of levels that already exceed guidelines (as provided in the EIS and supplemental IRs), the monitoring program will be reduced for the frequency and duration of data collection, up to a maximum of 5 years monitoring of operation of the Terminal. Further discussion of the monitoring phases during operations is described below.

5.3.1 Operations at Terminal Start-up

The initial phase of the operations monitoring program will cover the initial operations to when the terminal reaches full capacity (as defined below), anticipated to be the first four (4) months of operations. CN will identify the opening day of operations, which at this time is undetermined and will be confirmed based on approvals, completion of construction, commissioning, and hand-over dates.

In addition to the monitoring stations, as part of regular operations at the terminal, the terminal personnel will also evaluate on-site meteorological conditions, dust and other frequency of idling vehicles and locomotives and will implement adaptive management measures as necessary (described below).

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5.3.2 Operations at Capacity

This phase of the operations monitoring program will start once the terminal reaches full operating capacity as defined in Condition 1.19. CN will determine when this threshold is reached.

5.4 ADAPTIVE MANAGEMENT

During operations, a review of the air quality monitoring results will occur regularly to evaluate if proposed mitigation measures are effective in maintaining concentration levels at or below the applicable criteria. Air quality data will be reviewed quarterly (as results are reviewed and found within acceptable and predicted levels), for the first year of 'operations at capacity' to establish whether the effects from terminal generated air emissions are generally as predicted in the EIS and supplemental information requests.

If air quality results exceed the applicable standard or predicted levels on more than one day per month, CN will investigate the source(s) of the problem. If the exceedance(s) have occurred as a result of terminal operations, the need for additional mitigation measures will be explored, and additional mitigation implemented if required. Identification of the cause of exceedances, and investigation of suitable mitigation measures for addressing consistent exceedances attributable to the terminal operations will be done in consultation with the parties involved in the development of the follow-up program.

CN, through the facility contact information provided to the public and Community Working Group meetings, will track by recording in a log file the dates of any air quality complaints attributed to the facility operations, the follow up investigation and actions taken, and any operational changes that were determined to be necessary. Such complaints will be used to target further review of air quality levels and corresponding operational activities to explore whether project operational activities are responsible for specific exceedances, or if additional actions can be taken in conjunction with the CN operations staff to reduce emission levels.

5.5 REPORTING

The results of the operational air quality monitoring as part of the follow-up program will be reviewed, analyzed and presented in annual reports to document (a) the results of the monitoring program, (b) comparison to the predictions in the environmental assessment or applicable air quality guidance and criteria as appropriate, (c) the effectiveness of the mitigation measures implemented, and (d) any adaptive management measures (i.e., additional mitigation) employed during operation. A log of any complaints, investigations or operational changes that were necessary to address air quality concerns that were identified during the previous year's operations will be recorded.

A report will be prepared annually with the results provided to IAAC, ECCC, MECP, Halton Region, the Town of Milton, Mississaugas of Credit First Nation, Six Nations of the Grand River, the Community Working Group and made public through the CN website.



APPENDIX A FIGURES



V:\01609\active\160960844\drawing\MXD\Atmospheric\Air\Report_Figures\AMP\160960844_Fig01_Air_MonitoringLocs_PreCon.mxd
 Revised: 2021-10-08 By: dharvey

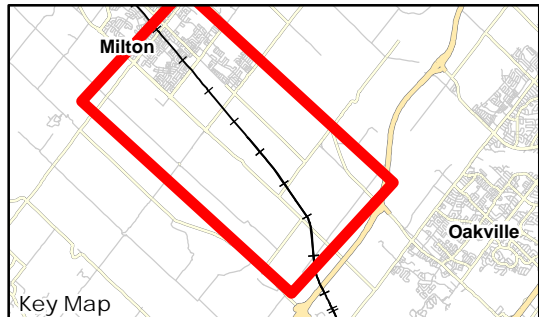


Legend

- Potential Air Monitoring Locations Pre-Construction
- Project Development Area
- Local Assessment Area (LAA)
- Existing Single Track Mainline

- Existing Double Track Mainline
- Double Track - Mainline
- Project Component
- CN-Owned Property
- SWM Pond
- Address Point

- Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2015. Site layout: July 10, 2015.
 3. Orthoimagery © First Base Solutions, 2015. Imagery taken in 2019.
 4. The windrose graphic is shown for convenience, a full depiction of the windrose is included as Figure 3 of Appendix A.



Client/Project
 Canadian National Railway
 Milton Logistics Hub

Figure No.
 1

Title
**Air Monitoring Locations
 Pre-Construction**

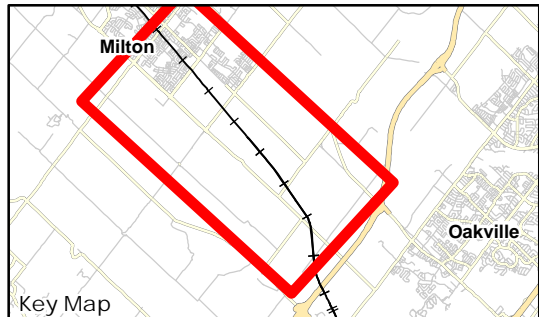
V:\01609\active\60960844\drawing\MXD\Atmospheric\Air\Report_Figures\AMP\160960844_Fig02_Air_MonitoringLocs_C_and_O.mxd
 Revised: 2021-10-08 By: dharvey



- Legend**
- Potential Air Monitoring Locations During Construction and Operations
 - Project Development Area
 - Local Assessment Area (LAA)
 - Existing Single Track Mainline

- Existing Double Track Mainline
- Double Track - Mainline
- Project Component
- CN-Owned Property
- SWM Pond
- Address Point

- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2015. Site layout: July 10, 2015.
 3. Orthoimagery © First Base Solutions, 2015. Imagery taken in 2019.
 4. The windrose graphic is shown for convenience, a full depiction of the windrose is included as Figure 3 of Appendix A.



Client/Project
 Canadian National Railway
 Milton Logistics Hub

Figure No.
 2

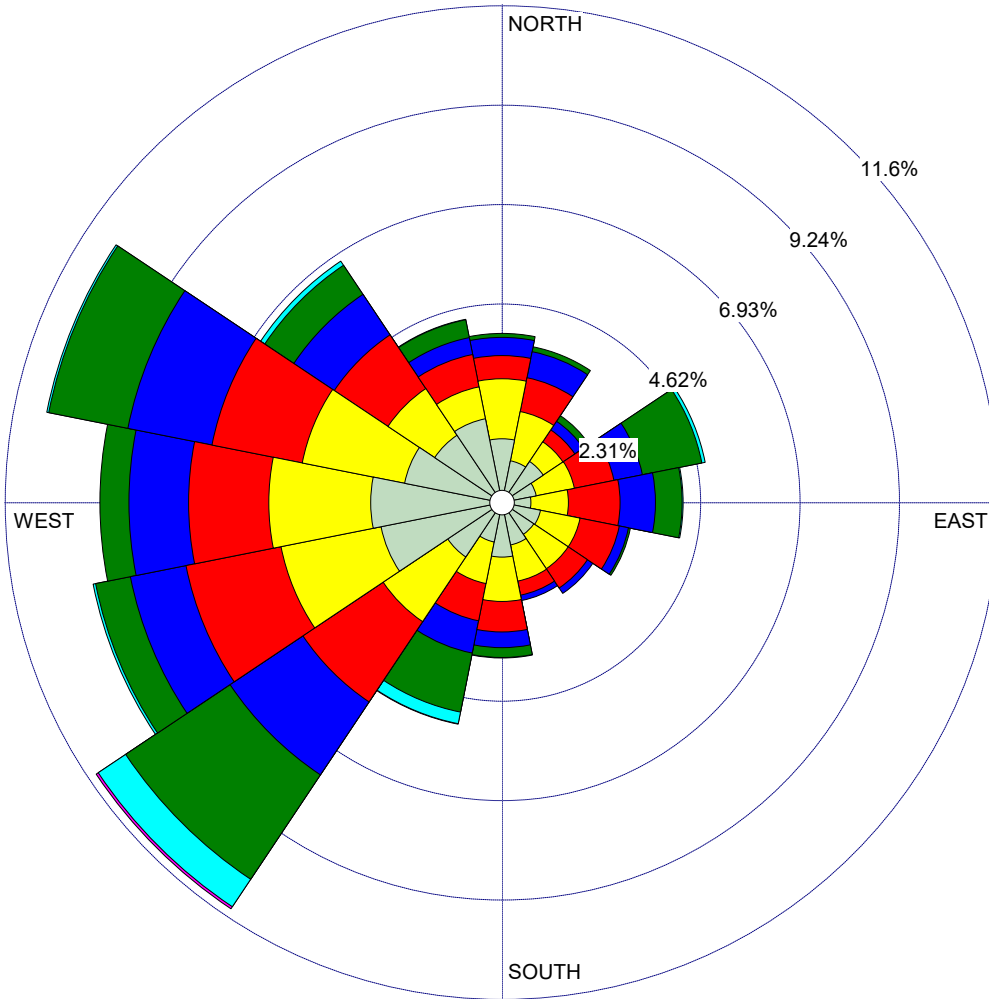
Title
Air Monitoring Locations During Construction and Operations

WIND ROSE PLOT:

2017 Milton Wind Rose
Halton Air Monitoring Station - 1120 Main St E, Milton

DISPLAY:

Wind Speed
Direction (blowing from)



WIND SPEED
(m/s)

- >= 10.00
- 7.50 - 10.00
- 5.00 - 7.50
- 4.00 - 5.00
- 3.00 - 4.00
- 2.00 - 3.00
- 1.00 - 2.00

Calms: 12.02%

COMMENTS:

DATA PERIOD:

Start Date: 1/1/2017 - 00:00
End Date: 12/31/2017 - 23:00

COMPANY NAME:

MODELER:

MQ

CALM WINDS:

12.02%

TOTAL COUNT:

8757 hrs.

AVG. WIND SPEED:

2.82 m/s

DATE:

8/10/2021

PROJECT NO.:

160960844