Appendix C6

Feedback and Response Log - Government Review Team - MECP Environmental Monitoring and Reporting Branch

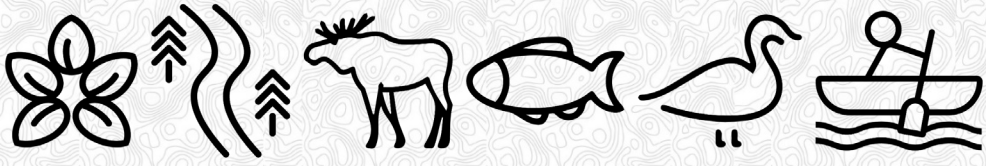

Table: Summary of Feedback Received and Response / Action – MECP Environmental Monitoring and Reporting Branch

Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
MECP Environmental Monitoring and Reporting Branch	1	A PM2.5/TSP ratio of 0.3 is cited from a reference (Lall, 2004); however, this reference is not listed in "11. References" Section. Suggest adding this reference. C. Editorial	The reference Lall 2004 has been added to Appendix S of the Final EA/IS.	Appendix S	1469
MECP Environmental Monitoring and Reporting Branch	2	Table 4-6 list ratios of VOCs to benzene, toluene and ethylbenzene, but not xylene. Suggest removing "xylene" from the following statement or adding xylene to Table 4-6. "the calculated ratios presented in Table 4-6 were multiplied by the measured concentration of the benzene, toluene, ethylbenzene, and xylene compound which ……" C. Editorial	The reference to xylene has been removed.	Appendix S	1470
MECP Environmental Monitoring and Reporting Branch	3	An average benzo(a)pyrene to PM2.5 ratio of 2.31 x 10-6 was calculated using 2018-202 air measurements collected at two rural National Air Pollution Surveillance air monitoring stations. Given benzo(a)pyrene and PM2.5 have much different emission sources, the ratio can vary both temporally and	Benzo(a)pyrene measurements from the Simcoe ON NAPS station were used as estimates of local concentrations. Although this station is rural, it is located in southern Ontario and therefore there is the potential that anthropogenic sources (manufacturing, agriculture) not within the LSA contribute to elevated	Comment noted; see response for details	1472

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		spatially at or between these two air monitoring stations. It is recommended that the proponent quantify and clearly specify the uncertainty associated with the averaged ratio. If the uncertainty is significant, it may be appropriate to exclude benzo(a)pyrene from the Air Quality Assessment, given the challenges associated with accurately measuring or estimating benzo(a)pyrene concentrations in the local study area. Alternatively, consider using benzo(a)pyrene measurements from other rural locations as representative of the study area, similar to how carbon monoxide is assessed. B. Recommended for EA	benzo(a)pyrene levels. The use of Simcoe station as a source of background concentrations results in a very conservative assessment.		
MECP Environmental Monitoring and Reporting Branch	4	MECP EMRB- Air and Terrestrial Table 4-7 lists Canadian Ambient Air Quality Standards (CAAQS) along with Ambient Air Quality Criteria (AAQC) for air pollutants of interest. Note that each CAAQS has a specific statistical form associated with it and is not directly comparable to the AAQC. For instance, the 1-hr Nitrogen Dioxide CAAQS is	The clarification has been added as a footnote to Table 4-7 in Appendix S.	Appendix S	1475

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Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		based on the 3-year average of the 98th percentile of the yearly distribution of 1-hour daily maximum concentrations. Suggest adding a footnote clarifying the difference between CAAQS and AAQC, similar to the explanatory note provided in Table 5-2 on page 76. B. Recommended for EA			
MECP Environmental Monitoring and Reporting Branch	5	It appears that the maximum and 90th percentile monitored values were directly compared to the CAAQS. As per comment above, each CAAQS has an associated statistical form, and it may not be appropriate to directly compare the maximum and 90th percentile concentrations with CAAQS. Suggest elaborating on the rational for directly comparing the maximum and 90th percentile concentrations with the CAAQS. Alternatively, consider adding a disclaimer to outline the limitations of such a comparison. B. Recommended for EA C. Editorial	While formal compliance with CAAQS requires three years of data, one-year monitoring and one year of modelling are commonly used in environmental assessments for project-specific air quality impact studies. We acknowledge that, when comparing these results to the 3-year CAAQS, the single-year data does not capture the full, averaged, and smoothed compliance metric.	Comment noted; see response for details	1476
MECP Environmental Monitoring and	6	In the “Particulates” section, it is stated that “The maximum monitored 1-hour and / or 24-hour…” However, TSP	The sentence in Appendix S of the Final EA/IS has been updated to remove "monitored" from the statement.	Appendix S	1478

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Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
Reporting Branch		concentrations were not monitored directly. Suggest removing “monitored” from the statement. C. Editorial			
MECP Environmental Monitoring and Reporting Branch	7	MECP EMRB- Air and Terrestrial In the “Benzo(a)Pyrene” section: as commented above, an average benzo(a)pyrene to PM2.5 ratio of 2.31 x 10-6 was used to estimate benzo(a)pyrene concentrations. This ratio may be subject to large uncertainties as noted above. Suggest elaborating on limitations and clearly specifying the uncertainties involved in estimating benzo(a)pyrene from PM2.5 measurements. B. Recommendation	Benzo(a)pyrene measurements from the Simcoe ON NAPS station were used as estimates of local concentrations. Although this station is rural, it is located in southern Ontario and therefore there is the potential that anthropogenic sources (manufacturing, agriculture) not within the LSA contribute to elevated benzo(a)pyrene levels. The use of Simcoe station as a source of background concentrations results in a very conservative assessment.	Comment noted; see response for details	1481
MECP Environmental Monitoring and Reporting Branch	8	MECP EMRB- Air and Terrestrial Given the high levels of total suspended particulate anticipated to be generated as a result of this project, an assessment of total particle deposition (dry and wet) should also be included.	An assessment of dustfall has been added to Appendix S.	Appendix S	1484

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Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		Add dustfall to Table 4-1 as an indicator and include this contaminant in the air quality assessment. B. Recommended for EA			
MECP Environmental Monitoring and Reporting Branch	9	MECP EMRB- Air and Terrestrial General Model generated meteorological data for the project was purchased from an external vendor. The external vendor considerers the model (WRF) inputs to be proprietary but they were provided solely to the MECP in confidence for review. MECP completed a high-level review of the inputs and set-ups and have noted a few concerns. In addition, no validation data was provided to demonstrate how well the model replicated actual conditions in the project area. For comparison, MECP developed alternate meteorological data sets using high quality data sources and established methods and practices for comparison purposes to the air dispersion model results (i.e. air pollutant	Remodelling was not undertaken as this comment is considered recommended.	Comment noted; see response for details	1487

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Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		concentrations). Further details are discussed in subsequent comments. Proposed actions are discussed in subsequent comments. In general, it is recommended that if any remodelling is required as part of any comments received, updated meteorological data should be used which would be provided by MECP EMRB. B. Recommended for EA			
MECP Environmental Monitoring and Reporting Branch	10	MECP EMRB- Air and Terrestrial Emission rate calculations for specific construction activities are shown in Attachment D and then the emissions from multiple construction activities may have been added together into the modelled sources listed in the Source Summary Tables in Attachment B. However, in some cases, it is difficult to determine which specific construction activities are included within each modelled source and the emissions do not always appear to add up (e.g., TSP for ROAD_242). This should be clarified to confirm that the emissions from all construction activities have been	The information has been included within Appendix S Attachment B - Tables A1-A3 within the Source Description column is a summary of each emission source grouped with each modelled source (i.e., QURRY_29 = Drilling + Material Drop + Crushing + Mobile Equipment)	Appendix S	1491

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Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		accounted for appropriately in the modelling. Add a table to clearly identify which construction activities are associated with each modelled source along with sample calculations to demonstrate how emissions were added for each modelled source. Please also confirm that the emissions from all construction activities have been accounted for appropriately in the modelling. B. Recommended for EA			
MECP Environmental Monitoring and Reporting Branch	11	MECP EMRB- Air and Terrestrial SO2 has a 10-minute criterion and as such, a 10-minute emission rate must also be assessed. For blasting in particular, since the emissions occur within the short time-scale of the blast, the 10-minute emission rate is likely six times larger than the 1-hour emission rate. This higher 10-minute emission rate must be used in the model to appropriately assess against the 10-minute criterion. This comment also applies to other contaminants with criteria that are less than 1-hour (e.g. acetaldehyde) but is	SO2 emissions from blasting occur within, say, a few seconds. Thus the total emissions in these few seconds are the same as total emissions in a 10-minute period and a 1-hour period. As such, modelling was conducted on a 1-hour basis and concentrations were scaled to 10 minutes using recommended MECP scaling factors (MECP Guideline A-11 Section 4.4 Averaging Periods (Conversion Factor)).	Comment noted; see response for details	1494

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Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		likely most significant for SO2 as a result of the blasting activity. A 10-minute emission rate for SO2 must also be calculated and used in the model in order to assess against its 10-minute criterion. This comment also applies to other contaminants with criteria that are less than 1-hour, as applicable. B. Recommended for EA			
MECP Environmental Monitoring and Reporting Branch	12	MECP EMRB- Air and Terrestrial Our review of the meteorological data has identified some concerns as noted above, however it appears to be generally conservative or comparable to our own tests of the meteorology in the area when used for the construction phase modelling. It is therefore acceptable for use, however if any remodelling is required as part of any comments received, updated meteorological data should be used which would be provided by EMRB. Our review of the meteorological data has identified some concerns as noted	Remodeling has not been conducted as this comment is considered recommended rather than required for EA.	Comment noted; see response for details	1496

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Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		above, however it appears to be generally conservative or comparable to our own tests of the meteorology in the area when used for the construction phase modelling. It is therefore acceptable for use, however if any remodelling is required as part of any comments received, updated meteorological data should be used which would be provided by EMRB. B. Recommended for EA			
MECP Environmental Monitoring and Reporting Branch	13	MECP EMRB- Air and Terrestrial Some contaminants also have sub-hourly criteria (i.e. SO2 and acetaldehyde). The section on “Averaging Time and Conversions” should also discuss the scaling factors that were used to convert the 1-hour modelled concentrations to the shorter time-scales and how they are applied. The section on “Averaging Time and Conversions” should also discuss the scaling factors that were used to convert the 1-hour modelled concentrations to the shorter time-scales and how they are applied. C. Editorial	In cases where specific indicator compounds have criteria with averaging periods less than 1-hr (e.g. SO2 10-min) model results were scaled followed guidance from the MECP Guideline A-11 Section 4.4 Averaging Periods (Conversion Factor). For example, 1-hr results were converted to 10-min results by multiplying results by the recommended 1.65 conversion factor.	Comment noted; see response for details	1497

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Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
MECP Environmental Monitoring and Reporting Branch	14	MECP EMRB- Air and Terrestrial Table 4-10 indicates that wet depletion was not considered, however the modelling files provided indicate that the "NOWETDPLT" option was not explicitly used. Unless the "NOWETDPLT" option is used, wet depletion is enabled by default whenever particle parameters are defined within the model and precipitation data are included in the meteorological file, which is the case here. Table 4-10 should therefore be updated to state that wet depletion was considered. In addition, the text in the "NODRYDPLT" and "NOWETDPLT" rows of the table should technically refer to "depletion" and not "deposition". Update Table 4-10 to state that wet depletion was considered. Correct the text in the "NODRYDPLT" and "NOWETDPLT" rows of the table to refer to "depletion" and not "deposition". B. Recommended for EA	Deposition parameters were included to model deposition and depletion algorithms. In this case, Wet Deposition was not enabled and, therefore, not modeled. Wet deposition was not modeled as this comment is considered recommended rather than required for EA.	Comment noted; see response for details	1498
MECP Environmental	15	The data in this table appears to show 1-hour average ozone concentrations	Ambient Ozone concentrations were measured in the Marten Falls First Nation	Comment noted; see	1495

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Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
Monitoring and Reporting Branch		which are used in the ozone limiting method. Similar to the methodology for assessing background concentrations, it is generally preferred to use 90th percentile concentrations which is more conservative. This assessment should therefore be updated to use the 90th percentile ozone concentrations. Note that the actual monitored concentrations were not reviewed as part of this comment. Recommendation: Update Table 4-11 and the ozone limiting method to utilize 90th percentile ozone concentrations.	community as part of the 2021 to 2022 monitoring program. The 90th percentile O3 concentrations were used to calculate average hourly concentrations on a seasonal basis (i.e. 90th percentile values from January, February and December were averaged to calculate an average hourly winter value). These values were calculated and used by AERMOD for Ozone Limiting Method calculations. Table 4 11 provides a summary of hourly average O3 concentrations by season.	response for details	
MECP Environmental Monitoring and Reporting Branch	15	The data in this table appears to show 1-hour average ozone concentrations which are used in the ozone limiting method. Similar to the methodology for assessing background concentrations, it is generally preferred to use 90th percentile concentrations which is more conservative. This assessment should therefore be updated to use the 90th percentile ozone concentrations. Note that the actual monitored concentrations were not reviewed as part of this comment.	Ambient Ozone concentrations were measured in the Marten Falls First Nation community as part of the 2021 to 2022 monitoring program. The 90th percentile O3 concentrations were used to calculate average hourly concentrations on a seasonal basis (i.e. 90th percentile values from January, February and December were averaged to calculate an average hourly winter value). These values were calculated and used by AERMOD for Ozone Limiting Method calculations. Table 4-11 of Appendix S provides a summary of hourly average O3 concentrations by season.	Appendix S	1499

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		Update Table 4-11 and the ozone limiting method to utilize 90th percentile ozone concentrations. B. Recommended for EA			
MECP Environmental Monitoring and Reporting Branch	16	Figures 4-3 and 4-4 appear to be switched. Comment: Figure 4-3 appears to show the Marten Falls First Nation Community representative segment whereas Figure 4-4 appears to show the general representative segment. Editorial recommendation: Switch Figures 4-3 and 4-4.	As described in Section 4.3.1, Figure 4-3 shows the Segment 1 – Ogoki Crossing; while Figure 4-4 shows the Segment 2 – Albany Crossing. The figures are in the right order.	Comment noted; see response for details.	1493
MECP Environmental Monitoring and Reporting Branch	17	The emissions from MOVES are said to be based on Niagara as a surrogate county. It is unclear why Niagara was selected rather than a more northern and rural county for which fleet data may be quite different. Recommendation: Please explain the rationale for selecting Niagara as a surrogate county and how the emissions may differ if a more northern and rural county had been used. If results are substantially	Fleet data sets included within MOVES only include those of US counties. As such the Niagara County was selected as it borders Canada, and while geographically it may vary from the MFFN location it is anticipated to be representative. Fuel composition was the only default value used from the Niagara county. Other county-default inputs, such as VMT and average speed distribution, were not used in the emission rate run as	Comment noted; see response for details	1492

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		different, further analysis may be required.	these parameters were based on site specific data. Changes in fuel composition between Niagara and the project location are not anticipated to result in material changes in findings.		
MECP Environmental Monitoring and Reporting Branch	18	The NOx emission factor for auto traffic from MOVES appears to be lower than expected and should be verified. Recommendation: Verify the NOx emission factor for auto traffic and correct if necessary.	Emission factor reference and rationale for selection have been commented on within Appendix S.	Appendix S	1490
MECP Environmental Monitoring and Reporting Branch	19	The section on traffic data for the operating phase states that “the United States Environmental Protection Agency default traffic distribution for a rural roadway during weekdays was used to estimate traffic volume by hour of the day for both road sections”, but no reference for this distribution is provided. For the North-South Segment in particular for which much of the traffic are heavy trucks, it is uncertain if this default traffic pattern would apply. Hourly traffic distributions may be expected to more closely follow the mining operation schedules in the area. The implications of differences to the assumed traffic distribution are uncertain (i.e., may lead to under or over-predicted	Section 4.4.3 of Appendix S Air Quality and Greenhouse Gas Technical Support Document has been updated to include a reference to the United States Environmental Protection Agency default traffic distribution, and a discussion on assumptions and uncertainty associated with the default traffic data.	Appendix S Section 4.4.3	1489

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		concentrations). Provide a reference for the U.S. EPA default traffic distribution. Recommendation: Provide an assessment of how the default traffic distribution might compare to the typical truck operating schedules, and if the distribution used is anticipated to be conservative or not.			
MECP Environmental Monitoring and Reporting Branch	20	The road dust emission calculations for the operating phase shown in Attachment E suggest that an adjustment factor was applied to reduce the annual emissions to account for days of snow cover or precipitation, however it is unclear whether this adjustment was ultimately applied to the final results. This should be clarified in the report text and/or any results updated accordingly. Note that it is acceptable (i.e., conservative) if no annual reduction factor is applied for road dust, but this comment is simply seeking clarification as to whether it was used or not. Please also note that it is only acceptable to use this reduction factor for the annual emissions and not for 24-hour. Recommendation: Clarify how the annual road dust emissions / model results were adjusted	The annual particulate concentration from road dust was reduced by the ratio of the total number of days with trace or more precipitation to the total number of days in the year. No further mitigation (e.g., the use of dust suppressants) was applied.	Comment noted; see response for details	1488

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		to account for days of snow cover or precipitation and/or update any results accordingly.			
MECP Environmental Monitoring and Reporting Branch	21	Several concerns have been identified with the modelling approach for the operating phase of the road as noted below. EMRB would provide the model-ready meteorological data that should be used for any remodelling required as part of these comments in order to address concerns with the meteorology that have also been identified. a) The modelling of two 5 km relatively straight segments of the road is insufficient to assess the potential impacts of a roadway that is about 190 km long. In general, MECP's expectation is that if all (or a significant portion) of the roadway isn't modelled, then the assessment needs to demonstrate that the worst-case has been captured by the limited modelling that was completed. Potential impacts to air quality along the route can change due to a number of factors, including changes in road orientation in addition to changes in nearby land cover and land use. The highest concentrations generally occur in and around turns/bends in the roadway. It is recommended that the north-south modelled segment be extended by 15 km	We have added an attachment to Appendix S (Attachment G - Operations Model Supporting Documentation) that provides further rationale for the Operations modelling approach taken, as the recommended modelling revisions were not undertaken. More detailed responses to each of concerns A through C are provided there. Overall: - The daily vehicle counts on the road during operations (700) account for traffic from other planned projects in the region and not just the Community Access Road project. Therefore the assessment is already conservative as these projects would be expected to provide their own cumulative effects assessments. Furthermore, the modelling was conservative in that emissions were 4% higher on the N/S segment and 49% higher on the E/W segment than would be required based on the traffic counts and fleet mix. - According to sensitivities studies, the Zo values used in modelling could have under-estimated predicted 24-hour concentrations of NOx and particulate by	Appendix S	1486

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		on each side of the existing 5 km segment that was modelled (to equal 35 km in total). Similarly, it is also recommended that the east-west modelled segment, which begins at the eastern end of the road, be extended by 15 km to the north-west of the existing 5 km segment that was modelled (to equal 20 km in total). These elongated segments would then capture a broader range of roadway orientations and turns. In addition, it is recommended that length of each link be shortened to about 100 m, especially around turns, to better capture the actual curvature of the roadway. Longer links (such as the 500 m links that were used) may be sufficient for some of the straighter sections. b) The model used a surface roughness length of 283 cm for a fir forest landscape. While the roadway does traverse some forested areas, the forests in Northern Ontario can be more sparse. A review of Natural Resources Canada's North American Land Cover dataset for the vicinity of the roadway also indicates that the area is interspersed with shrubland, woody wetlands, and some areas of open water. Based on this review alongside surface roughness length data from the AERSURFACE user guide, a surface roughness length in the	up to 12% and annual average concentrations by up to 3%. - According to sensitivity studies, the use of 2023 meteorological data for all predictions resulted in underpredictions of up to 0.4% for annual average concentrations. The impact on 24-hour predictions ranged from underpredictions of up to 3% (along the N/S segment) to overpredictions of 19% (along the E/W segment) depending on the pollutant when considering the removal of some meteorological anomalies. - Ministry review of the model-ready data from Lakes Environmental found it acceptable for use. - The results of the operations modelling assessment indicate that the predicted impact from gaseous pollutants is below 1% and 14% of their respective criteria from project-only impacts along the E/W segment and N/S segment, respectively. Therefore, an increase of 7x of predicted concentrations is not anticipated to materially change the results of the effects assessment for gaseous pollutants, particularly in terms of defining significance of effects. - The potential for underpredicting the potential effects of particulate emissions (TSP, PM10, and PM2.5) from fugitive dust generation along the corridor is not		

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		range of 20-50 cm may be more appropriate for the roadway (with 20 cm being more conservative). This will generally produce more conservative results. As a point of comparison, it was noted that the meteorological data for the construction phase modelling utilized a surface roughness length of 50 cm, which is very different than the 283 cm roughness used for the operations phase for the same general area. c) The report states that the year 2023 was identified as the worst-case year and the modelling was completed for this year only. While we recognize that for some roadway assessments one-year of meteorological data may be acceptable, in this case because of the large length of roadway, different orientations, and multiple averaging periods of contaminants being assessed, a single meteorological year will not be representative of the worst-case in all situations. It is therefore recommended to model using all 5-years of meteorological data, to base the results on the overall worst-case from any of the 5-years for each contaminant / averaging period. A sensitivity test of these recommendations by MECP indicate that worst-case concentrations are	anticipated to materially change the result of the effects assessment when considering the conservative daily vehicle counts used and meteorological anomalies. Additionally, we note the potential for natural mitigation (snow covered roads in winter) and planned mitigation has not been included in the formal assessment, nor has the effect of near-road vegetation on dust capture been included.		

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		anticipated to increase by up to about 60% as a result of these changes. Update the operating phase modelling with the following: a) Extend the north-south modelled segment by 15 km on each side of the existing 5 km segment that was modelled (to equal 35 km in total). b) Extend the east-west modelled segment by 15 km to the north-west of the existing 5 km segment that was modelled (to equal 20 km in total). c) Use shorter links (about 100 m in length) particularly around turns. d) Update the model to use a surface roughness length of 20 cm. e) Model all five years of meteorology and base the results on the overall worst-case from any of the 5-years for each contaminant / averaging period. MECP EMRB will provide the model-ready meteorological data that should be used for any remodelling.			
MECP Environmental Monitoring and Reporting Branch	22	For NO2, it was discussed that the construction phase modelling used the ozone limiting method, however there was no such discussion of the ozone limiting method for the operating phase. It is unclear if the ozone limiting method	The CAL3QHCR model does not account for the effects of ozone conversion. For this assessment a 100% conversion of NOX to NO2 has been assumed and accounted for within results. Text has been added to Appendix S to clarify this	Appendix S	1485

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		was also used for the operating phase modelling, or if a complete NOx to NO2 conversion was assumed. Editorial recommendation: Update the text to explain if the ozone limiting method was used for the operating phase modelling, or if a complete NOx to NO2 conversion was assumed.	approach.		
MECP Environmental Monitoring and Reporting Branch	23	The results of the construction phase modelling focus on the distance from each construction activity to the criteria / thresholds however the maximum concentrations from each construction activity are not reported. This is important to assess the worst-case potential impact from each construction activity. Recommendation: The tables and discussion should also include the overall maximum concentrations from each construction activity, with and without the addition of background concentrations.	Predicted maximum point of impingement concentrations have been included in table format for combined construction activities for E-W and N-S road segments, assuming all construction activities occur simultaneously without mitigation.	Appendix S	1483
MECP Environmental Monitoring and Reporting	24	The results of the construction phase modelling focus on the impacts of each construction activity individually, but in some cases it is expected that multiple	An assessment and discussion of combined construction impacts has been included for the E-W road segment near the community. This is considered to be	Comment noted; see response for details.	1482

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Branch		construction activities could occur at the same time and thus could have combined impacts. The potential for combined impacts of multiple construction activities occurring at the same time (over the course of an hour, day, or year depending on the averaging period of the contaminant) should also be assessed and discussed. Similarly, if there could be combined impacts from a section of the roadway that may be complete and used, while other nearby sections are still undergoing construction, this should also be assessed and discussed. Recommendation: Include an assessment and discussion of combined impacts of multiple construction activities that could occur at the same time (over the course of an hour, day, or year depending on the averaging period of the contaminant). Similarly, if there could be combined impacts from a section of the roadway that may be complete and used, while other nearby sections are still undergoing construction, this should also be assessed and discussed.	a very conservative assessment as not all construction activities will occur simultaneously and will not occur for a full year in this segment of the road. Furthermore, no mitigation has included in this assessment. An assessment of the combined effects of the N-S segment has not been included. An effects assessment of combined operations and construction has not been included because it is unlikely that both activities would be occurring on the same or adjacent segments of road as the road would not be used until construction is complete.		
MECP Environmental	25	Concentration isopleths are provided in Attachment C, however the highest	The isopleths have not been modified in Appendix S as this comment is	Comment noted; see	1480

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Monitoring and Reporting Branch		concentration contour level shown is at the criterion for each contaminant. In cases where the criterion is exceeded, there are no additional contours to indicate where concentrations may be even more elevated. This is particularly noticeable for SO2 which is predicted to exceed its criteria across a very large area. Additional contour levels should be added (2x limit, 5x limit, etc., as appropriate) to better characterize the full extent of the potential impacts. In these instances, a figure showing the frequency of exceedances would also help to characterize the potential risk associated with the elevated concentrations. This comment also applies to the isopleths for the operating phase. Recommendation: When concentrations are predicted to exceed their criteria, additional concentration contour levels (2x limit, 5x limit, etc., as appropriate) should be added to the isopleths. In these instances, a figure showing the frequency of exceedances would also help to characterize the potential risk associated with the elevated concentrations. This comment also applies to the	considered recommended rather than required for EA. Nonetheless, maximum point of impingement predictions are included in table form for the E-W segment of road construction near the community and for the N-S segment (and for N-S and E-W segments for road operations). Specifically for SO2 (and NO2), we understand the formulation of the ANFO product used in blasting will need to be investigated because the default used in modelling results in short term exceedances. No mitigation has been considered in the construction phase predictions and this will be a component of an emissions management plan.	response for details.	

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Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		isopleths for the operating phase.			
MECP Environmental Monitoring and Reporting Branch	26	The predicted impacts from blasting appear to be very elevated, for SO2 and NO2 in particular. From the model files provided, the 1-hour SO2 concentration from blasting is predicted to exceed 50x the AAQC at distances of 500 m away. Since blasting only occurs intermittently, the assessment of blasting could benefit from a frequency of exceedance assessment to better characterize the potential for the criteria or other concentrations of concern to be exceeded when blasting occurs. Recommendation: Include a frequency of exceedance assessment for SO2 and NO2 from blasting.	Frequency of exceedance assessment for SO2 and NO2 from blasting have not been included in Appendix S as this comment is considered recommended rather than required for EA. Nonetheless, a review of predictions indicates exceedances occur with each blast although to varying distances from the source. Formulations of the ANFO used in blasting will need to be investigated that reduce NO2 and SO2 emissions. The amount of ANFO used in each blast may need to be scaled back as well to reduce the number of exceedances and the distance to exceedances. These considerations will need to be included in an emissions management plan.	Comment noted; see response for details.	1479
MECP Environmental Monitoring and Reporting Branch	27	The results of the operating phase modelling focus on the distance from the roadway to the criteria / thresholds however the maximum concentrations for each contaminant are not reported. This is important to assess the worst-case potential impact from the roadway. Recommendation: The tables and discussion should also include the overall maximum	The overall maximum concentrations for each contaminant have been included in the results and discussion in the Operation and Construction phases of Appendix S.	Appendix S	1477

Table: Summary of Feedback Received and Response / Action – MECP Environmental Monitoring and Reporting Branch

Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		concentrations for each contaminant.			
MECP Environmental Monitoring and Reporting Branch	28	The “geographic extent” as presented in the characterization of air quality results tables (i.e.., Tables 7-4 and 7-8) appears to be based on where the “highest magnitude rating” occurs, which under-represents the actual extent of potential impacts when considering background concentrations. As an example, the geographic extent in Table 7-8 for annual PM2.5 for the north-south road segment is listed to 134 m, however from the full model results (in Table 7-5), this is the distance at which the concentration from the road alone is at the criteria, excluding background. This distance would be 414 m when background is included. It is important that background concentrations are considered when assessing the potential impacts to air quality. These “geographical extents” were also noted to have been carried forward to the Environmental Assessment / Impact Statement (Tables 9-39 and 9-40) and the Appendix T Community Well Being Report (Tables 5-11 and 5-12) and thus should be updated throughout. Recommendation: Update the geographic extent of impacts	The geographic extent has been updated in the air quality results tables of Appendix S to include background concentrations.	Appendix S	1474

Table: Summary of Feedback Received and Response / Action – MECP Environmental Monitoring and Reporting Branch

Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		to ensure that background concentrations have been considered. This comment applies to Tables 7-4 and 7-8 of the Atmospheric Environment Technical Support Document, as well as any other documents where these values have been carried forward.			
MECP Environmental Monitoring and Reporting Branch	29	More information would be helpful regarding how “floating road(s)” mitigate the impact on peatland hydrology. It is unclear from the Draft Environmental Assessment/Impact Statement, or from the information provided in Appendix I, to what extent water flow in peatlands upstream and downstream of the road will be disrupted once a permanent road is set in place (e.g., what will the impacts be and far will they extend from the road). Without this information, it remains unclear if changes to peatland hydrology will affect large swaths of land that could encompass the entire peatland section of the project area. Have practitioners assessed if roads would affect changes in surface water height, particularly in wet fens? Peatland vegetation and biogeochemical processes are sensitive to changes in hydrology. It is recognized that on Page 81 of Appendix I practitioners speak to the importance of fen connectivity over	The requested edit has not been completed as this comment is considered recommended.	Comment noted; see response for details	1473

Table: Summary of Feedback Received and Response / Action – MECP Environmental Monitoring and Reporting Branch

Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		the vast peatland area. Recommendation: Please include more information on the anticipated impacts to peatlands upstream and downstream of the road with respect to changes in hydrology (what are the anticipated impacts in the vicinity of the road and to what distance from the road are they anticipated). Additional information regarding the possible changes to peatland biogeochemistry and plant community composition would be helpful.			
MECP Environmental Monitoring and Reporting Branch	30	There is no indication to what extent peatlands will be impacted. The proponents of the project acknowledge that peatlands will be disturbed, yet the magnitude of the disturbance has not been characterized. What are the anticipated impacts and how far might they extend upstream and downstream of the road? Is there an acceptable limit to peatland impact on either side of the road(s) the proponent is willing to accept? If so, has modelling been completed to simulate the peatland area that will experience disruptions to hydrology, particularly possible oxidation effects (i.e. increased oxidation promotes CO2 efflux from soil)? Will there be	The requested edit has not been completed as this comment is considered recommended.	Comment noted; see response for details	1471

Table: Summary of Feedback Received and Response / Action – MECP Environmental Monitoring and Reporting Branch

Group Name	Comment ID from source	Comment Raised	Response	Addressed in the EA / IS	Internal ID
		impacts on biogeochemical processes that lead to a transition from CH4- to CO2 efflux and how does this impact the CO2 equivalent budget for peatlands? Recommendation: Please include more information on the anticipated impacts to peatlands upstream and downstream of the road (what are the anticipated impacts in the vicinity of the road and to what distance from the road are they anticipated).			