



TECHNICAL MEMORANDUM

DATE March 08, 2021

Project No. 20145065

TO Alaina Baldassarra
City of Hamilton - Planning and Economic Development Department

CC Katherine Armstrong

FROM Roy Sabino

EMAIL roy_sabino@golder.com

GOLDER ASSOCIATES LTD. REPLY TO ORTECH CONSULTING LTD.

RESPONSES TO GOLDER ASSOCIATES LTD. PEER REVIEW OF AIR QUALITY STUDIES – 655 CRAMER ROAD, HAMILTON, ONTARIO

The City of Hamilton (the City) retained Golder Associates Ltd. (Golder) to conduct a peer review of an Odour Impact Assessment report prepared for a proposed development to be located at 655 Cramer Road, Flamborough, Ontario (the Proposed Development) prepared by ORTECH Consulting Inc. (ORTECH) as part of an application for a zoning by-law amendment to develop current agricultural lands with a proposed residential subdivision consisting of single-family detached houses – zoning by-law application No. ZAC-17-064.

The documents reviewed included the following:

- 1) Odour Impact Assessment, ORTECH Consulting Inc. Report No. 26422 dated June 12, 2018 (2018 OIA);
- 2) Peer review from Rubidium Environmental Inc. dated December 21, 2018 (2018 PR);
- 3) Peer review from Rubidium Environmental Inc. dated and February 12, 2019 (2019 PR);
- 4) Additional Odour Impact Assessment, ORTECH Consulting Inc. Report No. 26422-2 dated February 05, 2020 (2020 OIA).

The peer review was completed on July 28, 2020. ORTECH provided responses to Golder's peer review comments in the following document:

- 5) Letter addressed to City of Hamilton "Re: Response to the Golder Associates Technical Memorandum "Review of Air Quality Assessment – 655 Cramer Road, Hamilton, Ontario" – ORTECH Reference #26422-3 November 17, 2020 (Response to Golder).

As previously mentioned, Golder's peer review was limited to the completeness of the methodology, findings, recommendations and use of applicable standards/guidelines. Golder's review did not include verifying or reproducing any of the detailed calculations and modelling files.

Upon review of ORTECH's most recent responses, Golder concludes that the additional information provided is insufficient to support the conclusions that the Proposed Development is considered compatible with the neighbouring industries and that the proposed mitigation measures are not adequate with respect to controlling odour emissions. In particular, it is identified that the main source of emissions from the facility is the main stack, but the mitigation measures identified are anticipated to be more effective for fugitive and/or low level sources.

As identified in the previous peer reviews, more detailed dispersion modelling is requested to confirm the frequency at which the 1 OU/m³ guideline is exceeded. If the site-specific dispersion model and/or source testing data is not available from Rothsay, it is understood that a representative model could be developed based on source parameters identified in the Environmental Compliance Approval for the site and emission information from similar operations.

It is Golder's professional opinion, that given the history of odour complaints at existing sensitive receptors, odour observations made during site visits and the location of the Proposed Development, directly downwind of a meat rendering facility, there is insufficient evidence to confirm that the proposed mitigation efforts would be adequate in mitigating odour impacts to the Proposed Development without additional dispersion modelling to confirm otherwise.

We trust that Golder has met your needs at this time. Please do not hesitate to contact us if you have any questions or require further information.

Golder Associates Ltd.



Roy Sabino, B.S.ChE.
Air Quality Consultant



Katherine Armstrong, M.Sc.
Air Quality Specialist

RS/KSA/ng

[https://golderassociates.sharepoint.com/sites/128495/project files/6 deliverables/additional response review/20145065-tm-rev0 hamilton peer review response 2 655 cramer rd 08march2021.docx](https://golderassociates.sharepoint.com/sites/128495/project%20files/6%20deliverables/additional%20response%20review/20145065-tm-rev0%20hamilton%20peer%20review%20response%202%20655%20cramer%20rd%2008march2021.docx)



TECHNICAL MEMORANDUM

DATE July 28, 2020 **Project No.** 20145065

TO Alaina Baldassarra
City of Hamilton - Planning and Economic Development Department

CC Katherine Armstrong

FROM Roy Sabino **EMAIL** roy_sabino@golder.com

REVIEW OF AIR QUALITY ASSESSMENT – 655 CRAMER AVENUE, HAMILTON, ONTARIO

EXECUTIVE SUMMARY

The City of Hamilton (the City) retained Golder Associates Ltd. (Golder) to conduct a peer review of an Odour Impact Assessment report prepared for a proposed development to be located at 655 Cramer Road, Flamborough, Ontario (the Proposed Development) prepared by ORTECH Consulting Inc. (ORTECH) as part of an application for a zoning by-law amendment to develop current agricultural lands with a proposed residential subdivision consisting of single-family detached houses – zoning by-law application No. ZAC-17-064.

The peer review approach consisted of the following activities:

- 1) reviewing the methodology of the assessments;
- 2) reviewing proposed mitigation measures;
- 3) providing comments and findings on any identified shortcomings and implications; and
- 4) confirming sufficient work has been conducted and proper protocols have been used.

Golder's review was limited to the completeness of the methodology/findings/recommendations and use of applicable standards/guidelines. Golder's review did not include verifying or reproducing any of the prediction modelling or supporting calculations.

Golder agrees with the general methodologies used to assess environmental air quality and odour impact criteria; however, further information is required to confirm the compatibility of the proposed residential land use with the neighbouring meat rendering facility, the Rothsay Dundas Plant (Rothsay).

INTRODUCTION

Golder Associates Ltd. (Golder) was retained by the City of Hamilton (the City) to conduct a peer review of an Odour Impact Assessment report prepared for the proposed development at 655 Cramer Road, Flamborough, Ontario (the Proposed Development). The documents reviewed include the following:

- 1) Odour Impact Assessment, Ortech Consulting Inc. Report No. 26422 dated June 12, 2018 (2018 OIA);
- 2) Peer review from Rubidium Environmental Inc. dated December 21, 2018 (2018 PR);
- 3) Peer review from Rubidium Environmental Inc. dated and February 12, 2019 (2019 PR);
- 4) Additional Odour Impact Assessment, Ortech Consulting Inc. Report No. 26422-2 dated February 05, 2020 (2020 OIA).

The documents described above were reviewed by Golder to answer the following questions:

- Are the methodologies used in the investigation sound and are the findings supportable and in compliance with the Ministry of the Environment, Conservation and Parks (MECP) air quality regulations?
- Are there any serious shortcomings with the investigations that were undertaken, and the findings contained in the reports? If so, what are the shortcomings and the rationale of the shortcomings?
- Has sufficient work been conducted to provide assurance that all sources of air emissions have been identified and investigated, proper protocols have been used, and sufficient information has been collected to support the conclusions of the study?
- Will the proposed mitigation measures adequately address the potential air quality/odour impacts and/or are there additional mitigation measures that need to be considered and/or incorporated into the design of the development?

The following sections provide a summary of Golder's responses to the questions above. Golder's review was limited to the completeness of the methodology/findings/recommendations and use of applicable standards/guidelines. Golder's review did not include verifying or reproducing any of the odour monitoring and/or prediction dispersion modelling.

BACKGROUND

The Proposed Development covers approximately 15.5 hectares (ha) in area and is located just south of Highway No. 5 and to the east of Cramer Road. The land is described as Part of Lot 7, Concession 2 in the Township of West Flamborough, City of Hamilton. The current zoning by-law amendment application seeks permission to redevelop the lands with a proposed residential subdivision consisting of single-family detached houses.

The location of the Proposed Development is shown below in Figure 1. There are three (3) prominent industrial facilities in the vicinity of the Proposed Development land, just south of Highway No. 5. These are the Rothsay Dundas Plant (Rothsay) to the west; and Lafarge Canada and Carmeuse Dundas facilities to the east of the Proposed Development land, as shown in Figure 1. There are also several smaller scale industrial facilities to the north of the Proposed Development land and a closed landfill site to the east. The Proposed Development Site is generally located in an area categorised by agricultural, residential, and recreational land. Existing residential land use is present to the south and east.

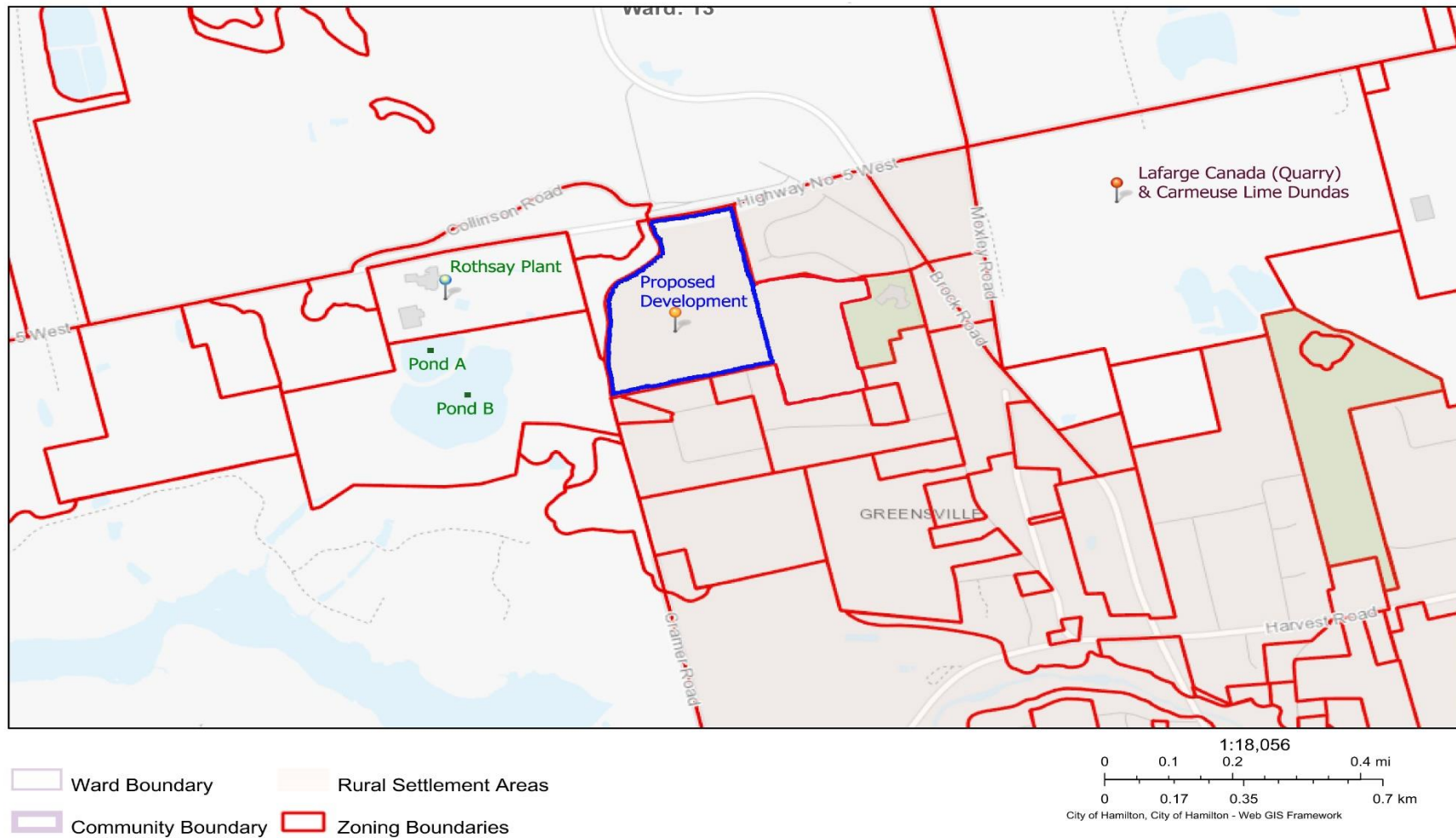


Figure 1: The Proposed Development Area Location

ODOUR IMPACT ASSESSMENT REVIEW

Methodology

The 2018 OIA includes the identification of existing industrial land uses within 1 km of the Proposed Development. A total of seven (7) facilities which were classified using Ministry of Environment, Conservation and Parks (MECP) D-series guidelines to determine compatibility between the Proposed Development and nearby land uses. The following guidelines were used to identify "Potential Influence Areas":

- Guideline D-1: "Land Use Compatibility";
- Guideline D-4: "Land Use on or near Landfills and Dumps; and
- Guideline D-6: "Compatibility between Industrial Facilities".

The purpose of the D series guidelines is to provide guidance on the separation distance between a sensitive land use and an industrial facility. Separation distances are defined as the shortest distance between the industrial facility property line and sensitive land property lines. "Potential Influence Areas" are defined in Guideline D-6 as the areas within which adverse effects, such as odour emissions, may be experienced from industrial land uses.

The 2018 OIA identifies that the Proposed Development is outside the "Potential Area of Influence" for six (6) of the seven (7) industrial facilities. These six (6) facilities are considered to be a compatible land use with the Proposed Development and were screened out from further assessment (see summary in Table 1, below). The methodology used to identify neighbouring industrial facilities and their potential influence areas is consistent with the MECP D-series guidelines. Guideline D-4 methodology was used to assess potential odour emissions from a closed small landfill site (Redland Brow), which recommends a minimum separation distance of 30 m from any new land development.

An additional facility was identified by Rubidium who completed an initial Peer review in 2018. Carmeuse Lime Dundas (lime processing) is a facility currently operating within the Lafarge Canada Quarry, which was not identified in 2020 OIA report and could potentially have significant odour impacts as part of their normal operations, however, Golder could not verify if the actual separation distance is greater than the Potential Influence Area from the Proposed Development, due to uncertainty of a defined property line inside the Quarry.

A summary of the screening assessment in the 2018 OIA report is presented below in Table 1.

Table 1: Summary of Industrial Facilities Identified and comparison of Separation Distance from Proposed Development to Potential Influence Area, as assessed by ORTECH

Address	Company Name	Guideline	ORTECH Classification	Potential Influence Area [m]	Actual Separation Distance from Proposed Development [m]	Actual Separation Distance Greater than Potential Influence Area?	Further Assessment Required?
880 Highway No.5 West	Rothsay Dundas Plant	D-6	Class III reassigned to Class II	300	180	No	Yes
628 Highway No.5 West	Lafarge Canada	D-6	Class III	1000	590	No	No
600 Highway No.5 West	Carmeuse Lime Dundas	D-6	Class III	1000	To be confirmed	---	---
447 Moxley Road	Heron Instruments	D-6	Class I	70	520	Yes	No
400 Brock Road	Hino of Hamilton	D-6	Class I	70	600	Yes	No
400 Brock Road, Unit 5	Paull Rodrigue Glass Blowing	D-6	Class I	70	600	Yes	No
801 Collinson Road	Morden's Organic Farm Store	D-6	Class I	70	70	Yes	No
447 Moxley Road	Redland Brow Landfill	D-4	N/A	500	530	Yes	No

Note: Carmeuse Lime Dundas was not included in the 2018 or 2020 OIA reports.

The 2018 OIA report states that the six (6) of the seven (7) industrial facilities identified, are expected to be compatible with the Proposed Development, in ORTECHs opinion any significant odorous emissions from these facilities would be low and localized, not likely to cause an odour impact at the Proposed Development. As shown in Table 1 above, only the Lafarge Canada quarry is located within a Potential Influence Area (1km), however, quarry operations are not typically a source of odour.

Golder agrees with ORTECHs conclusion, that the six (6) facilities identified in Table 1 are unlikely to result in significant odour impacts to the Proposed Development, based on their location and the types of odour sources present. However, further information is required for the Carmeuse Lime Dundas facility to confirm the location of the property boundary. This is particularly relevant as this facility has tall stacks over 10 m above grade.

The remaining facility that cannot be screened out using D6 guidelines is the Rothsay Dundas Plant. It is identified by ORTECH as one of the largest animal rendering plants in North America. The plant uses steam to render animal by-products from packing plants butchers, grocers and restaurants into fats and proteins which are used in the production of animal feed, fuel, and fertilizer. Emission sources include a 45 m tall exhaust stack from their biological oxidation system. The facility operates under an amended Environmental Compliance Approval (ECA) Reference No. 6340-8QPTWM, dated February 28, 2012, for air and noise emissions.

Golder understands that the operations at the Rothsay Dundas Plant take place across two (2) adjacent (north/south) properties, located to the west of the Proposed Development (Figure 1). The southern property contains two (2) wastewater settling ponds (Pond A & B) and is adjacent to the Proposed Development. The 2018 OIA report states that the separation distance between Rothsay property and the Proposed Development is 180m. It is unclear how this was calculated as there appears to be zero (0) separation distance at certain locations along the property boundary. This would be significantly less than the minimum separation distance specified in Guideline D-6, for Class II and Class III facilities.

ORTECH states that Rothsay Dundas Plant should be treated as a Class II facility pertaining to odour emissions, as per Guideline D-6, which results in a suggested minimum separation distance of 70 m and a potential influence area of 300 m. ORTECH states that the rationale for classifying the Facility as Class II, rather than Class III is the implementation of mitigation measures at the Rothsay Plant to reduce the odour impacts, including the installation of a wastewater treatment plant and a biofilter odour control system (Main Stack). Golder acknowledges that a facilities classification under Guideline D-6 can be lowered through mitigation, provided the mitigation reduces the probability of odour impacts is reduced to low. However, based on correspondence between City of Hamilton and MECP and copies of correspondence from Rothsay, both advise that the Facility should be considered Class III.

To further assess the compatibility of the Proposed Development and the Rothsay Dundas Plant, two different activities were carried out by ORTECH:

- 1) Odour Monitoring; and
- 2) Review of existing Odour Dispersion Modelling.

Odour Monitoring was completed on five (5) different days in May/June 2018 and at 6 different locations within the Proposed Development lands. Odour measurements were taken on days when the winds were from the WNW and/or NW i.e. when the proposed Development Lands are downwind of the Rothsay Dundas Plant. On each day measurements were taken within less than a 1-hour period. While the measurements may provide an indicator of typical odours from the plant at the time of measurement, no information is known about whether the Rothsay Dundas Plant was operating under normal conditions during these periods. In Golder's experience working for rendering plants, the most odorous activities often occur for short periods, such as during Offal waste pick up. At which times, the odour emissions may be significantly more intense than usual.

As part of this peer review, Golder also completed a site visit on July 3rd, 2020 to witness potential odours around the area of Proposed Development. Distinct odours, characterised as "Dead Meat", were detected directly downwind of the Rothsay plant, at Taylor Crescent and Old Brock Road intersection. Slightly less distinct odours were present at the north end of Cramer Road and at the north end of Midsummers Lane.

ORTECH reviewed the existing odour modelling that has been completed for the Rothsay Dundas Plant for 2016-2018 source testing. The reports include contour plots of predicted odour concentrations, which were used to extract maximum predicted concentrations at the Proposed Development. It is assumed that these reports provide ground level concentrations only. If the proposed Development includes buildings greater than a single storey, maximum predicted concentrations at each story should also be calculated to represent openable window locations.

Impacts and Exceedances

A summary of the predicted odour concentrations at the Proposed Development, extracted from contour plots included in Rothsay's Source test modelling are presented in the 2020 OIA and compared to odour conditions listed in the ECA for the Rothsay Facility.

The ECA for the site identifies two performance conditions associated with predicted odour emissions from the Facility:

- Condition 4 – the maximum predicted odour concentration at the most impacted sensitive receptor, must not exceed 5.0 OU/m³ (odour units), expressed as a 10-minute average value.
- Condition 5 – as part of the facility Control and Implementation Plan, the maximum objective odour concentration at the most impacted sensitive receptor is 1.0 OU/m³, expressed as a 10- minute average value.

The 2020 OIA report states that for the 2016-2018 odour source test modelling, the most impacted sensitive receptor (already in existence) was indicated to be R19, which is located on Shakespeare Road, near the Southern Boundary of the Rothsay Plant. The maximum predicted odour concentration at this location ranged between 0.63 to 2.3 OU/m³. While it is acknowledged that this value is below the Condition 4 criteria of 5 OU/m³, it is above the target objective of 1 OU/m³. The frequency at which the predicted concentration of odour exceeds the target concentration of 1 OU/m³ is stated to be 0.54% of the time.

The 2020 OIA states that based on a review of the contour plots, the maximum predicted odour concentration at the Proposed Development lands is estimated to be in the range of 0.8 to 2.2 OU/m³. No information is available for the frequency of exceedance above 1 OU/m³. Therefore, it is unclear whether the introduction of the new development would pose additional burden on the Rothsay Dundas Plant to achieve the target 1 OU/m³ at the Proposed Development, in addition to any actions required to achieve the target odour guideline at existing sensitive receptors. Similarly, while it is acknowledged that the complaints have not been received from the R19 receptor recently, this is an established land use where the residents are predisposed to existing odour concentrations. New residents of the Proposed Development would be expected to be more sensitive to odour concentrations, potentially causing the number of odour complaints to increase. The Ontario odour guideline of 1 OU/m³ is the level at which approximately 50% of the population can detect an odour. It does not take into account perceived offensiveness of the odour. Throughout the on-site observations when odours are observed they are described as "deadstock". As a result, while it is appreciated that the odours may not always be observed, when they are, they are likely to be of an unpleasant nature and considered a nuisance.

As mentioned in the 2020 OIA report, the Rothsay Plant tracks all odour complaints, which are presented in Table 4 - Rothsay Environmental Reports. As per Rubidium's suggestion in the 2019 PR, ORTECH contacted the MECP to enquire about historical odour complaints from the Rothsay plant, which are presented in Table 3 - MECP Incident Reports for Rothsay, the table shows three (3) reported odour incidents in 2018, however Table 4 shows no information regarding the number of odour complaints received by the Facility during the 2018 reporting year. In addition, no information is provided if any odour complaints were received for any other businesses in the area.

Mitigation Proposed

The proposed mitigation measure for odour emissions include the use of a warning clause on the Title and purchase agreement for the property; and the erection of a barrier between 2 to 5.8 metres high along the western property boundary of the Proposed Development. A figure showing the barrier location is available in Appendix 12 of the 2020 OIA report.

While the barrier may provide some assistance with reducing predicted concentrations of odours resulting from ground based fugitive sources at the Proposed Development, as stated in the ORTECH report, emissions from these sources are negligible when compared with odour emissions from the main stack. The main stack at the Rothsay plant is 45 m above grade and contributes approximately 87% of the total odour emissions from the facility, Golder's professional opinion is that this barrier would be completely ineffective at mitigating odour impacts from the main stack to the Proposed Development.

While these mitigation measures may help reduce the likelihood of a nuisance complaint to some extent, there is still potential for odour to be a nuisance based on the submitted information. Meat processing facilities have a history of attracting complaints from the public due to the offensive odours associated with their operations. For example, the Quality Meat Slaughterhouse in downtown Toronto was recently forced to close due to odour complaints from new residents. While it is appreciated that the scale of operations at the Facility is different, the impact of nuisance complaints on existing industry can be significant.

Identified Shortcomings and Implications

The assessment of odour is limited to odour observations and measurements that were made during four site visits of under 1 hour and these are only representative of conditions during the measurement period. No information is known about site operations at the time of the measurements.

The 2018 and 2020 OIA state that there are existing residences in closer proximity to Rothsay Dundas Plant as the Proposed Development. Golder agrees with this statement, although it should be noted that the Proposed Development is located to the east of the plant, whereas the existing closest receptors are located to the North. Based on the Windrose provided in the 2018 OIA, The Proposed Development is downwind (NW, WNW and W winds) of the Rothsay plant approximately 35% of the time, whereas the receptors to the north (N winds) are downwind of the plant approximately 5% of the time.

Finally, the analysis of the air dispersion modelling of the Rothsay facility indicates that the maximum predicted odour concentrations at the Proposed Development are less than those at existing sensitive receptors, however they are still indicated to exceed the target odour limit of 1 OU/m³ and no information is provided about the frequency of exceedance at the Proposed Development. Given that the Proposed Development will be introducing additional sensitive receptors with predicted odour concentrations greater than the target odour guideline of 1 OU/m³, and located in a different wind direction than the existing sensitive receptors, the proposed development may be introducing additional environmental burden on the existing industry.

Proposed Recommendations and Actions

In completing the peer review of the Odour Impact Assessment prepared by ORTECH in relation to the application for a zoning by-law amendment to develop current agricultural lands, with a proposed residential subdivision consisting of single-family detached houses at 655 Cramer Road, Flamborough. Golder concludes that additional information is needed to support the conclusions that the Proposed Development is considered compatible with the neighbouring industries and that the proposed mitigation measures are suitable with respect to controlling odour emissions.

In particular:

- More detailed dispersion modelling to confirm the frequency at which 1 OU/m³ is exceeded at the Proposed Development, compared to existing receptors.
- Further details are required to confirm the proposed mitigation would be adequate in mitigating odour impacts at the Proposed Development;
- If information is available, 2019 (and 2020) odour source test results should be incorporated into the assessment.

CONCLUSION

Golder has reviewed ORTECH's Odour Impact Assessment report for the Proposed Development. Overall, Golder agrees with the general methodologies used to assess and odour, however, as per the MECP guidance Rothsay should be classified as a Class III facility, regarding odour emissions. Its Golder's professional opinion, that given the history of odour complaints at existing sensitive receptors, odour observations made during site visits and the location of the Proposed Development, directly downwind of a meat rendering facility, there is insufficient evidence to confirm that the proposed mitigation would be adequate in mitigating odour impacts to the Proposed Development.

It is recommended that further clarification be provided on the items discussed above.

LIMITATIONS

As indicated in the technical memorandum, this peer review was based on the two Odour Impact Assessment reports prepared by ORTECH for the proposed development at 655 Cramer Road, Flamborough, ON. and provided to Golder by the City of Hamilton. Golder has prepared this technical memorandum 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 technical memorandum. No other warranty expressed or implied is made.

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

This technical memorandum was prepared for the exclusive use of the City of Hamilton. Persons other than the City of Hamilton using this technical memorandum or observations, or conclusions stated within, may do so at their own discretion.

Roy Sabino, B.S.ChE.
Air Quality Specialist

Katherine Armstrong, M.Sc.
Air Quality Specialist

RS/KSA/ng

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February 12, 2019

Brynn Nheiley, *MCIP RPP*
Senior Planner – Development Planning
City of Hamilton
71 Main Street West, 5th Floor
Hamilton, Ontario L8P 4Y5
Brynn.nheiley@hamilton.ca

Rb File #: 2927

Re: Peer Review – Odour Impact Assessment
1376412 Ontario Ltd., c/o Zeina Homes
655 Cramer Road, Flamborough

1.0 INTRODUCTION

Rubidium Environmental (“Rubidium”) was retained by the City of Hamilton (Client) to conduct a peer review of an Odour Impact Assessment prepared for the proposed development at 655 Cramer Road. This is our response to the Commentary by Mr. Thorndyke, dated January 23, 2019.

As part of the Peer Review, Rubidium received the following reports:

- Odour Impact Assessment, by Ortech, dated June 12, 2018.
- Commentary of Peer Review, by Ortech, dated January 23, 2019.

2.0 OUTSTANDING ISSUES

From the Peer Review dated December 21, 2018, the following major items were identified which required response:

1. Rothsay facility should be treated as a Class III facility
2. A copy of the Rothsay facility Odour Testing Reports, and ECA, specifically as it pertains to Odour.
 - a. A letter should be written to Rothsay asking if they would provide this
3. A list of addresses for the odour complaints, as well as the details of the complaint
4. Atmospheric chemistry dispersion modelling should be done using AERMOD in accordance with the MECP guidelines to establish the impact at the proposed development.

The following comments were not adequately addressed in the reply report.

2.1 Rothsay facility should be treated as a Class III facility

Given the guidance of the MECP, history of noise complaints, including recent complaints, there is insufficient evidence to support that appropriate mitigation is in place. Sufficient weight should be given to the regulator's, MECP's designation. It remains our professional opinion that this facility given its well documented history of complaints be classified as a Class III facility.

2.2 Rothsay's ESDM & Odour Testing Reports

No supporting evidence was provided that the proponent undertook to obtain this information, or that it was withheld from Rothsay, or unavailable by a *FIPPA* request. We are unable to conclude further in the absence of any evidence that the proponent undertook reasonable efforts to obtain said information.

2.3 A List of Addresses associated with the Odour Compliant

While alleged that the proponent made efforts to obtain these records, no supporting documentation was provided in the report. In our experience, this information is readily available within a period of 30 days. This information is vital in determining where odour complaints have originated from, and to what extent they would be relevant for the proposed development. It is our opinion that the proponent should obtain, and review this information before resubmitting a revised impact study.

2.4 Atmospheric Chemistry Dispersion Modelling

Given the low reliability of the odour monitoring performed, and the uncertainty as to how it relates to the current or future proposed production levels, the appropriate approach is to use the format specified by the MECP in the deployment of atmospheric chemistry dispersion modelling. From the knowledge that can be gained from the existing ESDM and Odour Tests of Rothsay, one can determine the anticipated impact at the proposed development. This would dovetail with obtaining the list of addresses associated with the odour complaints in supporting or refuting the potential for odour impacts at this proposed development.

3.0 ODOUR SOURCES

Odour sources within a potential influence area (1km) have been identified, although the separation distance and classification of the facilities raised concern. Of particular concern is the Rothsay Dundas Plant ("Rothsay"), as this facility has received substantially elevated levels of odour complaints, specified in Appendix 14 of the Ortech report, and is within the potential influence area of the proposed development.

It is Rubidium's opinion that Rothsay be classified as a Class III facility, especially pertaining to odour emissions, evidenced by the hundreds of odour complaints. Representatives of both the

MECP and Rothsay have also suggested that the facility be deemed Class III, included in the email from Barbara Slattery in Appendix 14, and memo from Greg Cooper in Appendix 10. Rubidium supports this conclusion. The provided Odour Impact Assessment specifies that the facility can be classified as Class II because of the implementation of the biofilter at the facility. However, there is evidence to suggest that the biofilter has been ineffective at reducing adverse impact at nearby receivers, as suggested by the hundreds of odour complaints. These adverse impacts indicate that the separation distance between Rothsay and the complainants is not adequate. The difference in classification results in a difference of recommended separation distance in accordance with the table below.

Class	Recommended Separation Distance (m)
Class II	70
Class III	300

Rothsay's operations occur on two adjacent properties west of the proposed development. One property is adjacent to the proposed development, while the other is located within 50m of the proposed development, measured in accordance with Guideline D-6. This separation distance is less than that specified in Guideline D-6, for both a Class II and Class III facility. The provided Odour Impact Assessment specifies that the separation distance between Rothsay and the proposed development is 180m. Given the history of complaints, there is no supporting justification for decreasing the minimum recommended separation distance.

Rubidium is in agreement that all other facilities identified are sufficiently separated to minimize potential odour risks.

4.0 CONCLUSIONS

Insufficient evidence has been provided to conduct a complete review. Rubidium recommends the following be resubmitted for further review:

An updated Odour Impact Assessment which includes the following:

- Rothsay facility treated as a Class III facility
- A copy of the Rothsay facility Odour Testing Reports, and ECA, specifically as it pertains to Odour.
 - A letter should be written to Rothsay asking if they would provide this
- A list of addresses for the odour complaints, as well as the details of the complaint
- Atmospheric chemistry dispersion modelling should be done using AERMOD in accordance with the MECP guidelines to establish the impact at the proposed development.

At this time, the Odour Impact Assessment reviewed was not conducted in accordance with the Land Use Compatibility Guidelines. Specifically, the minimum separation distance between the

proposed development and Rothsay was not measured in accordance with Guideline D-6. The correct separation distance is less than the recommended minimum separation distance. The classification of the Rothsay facility is not in line with recommendations from the MECP, Rothsay, or Rubidium, and there is not sufficient evidence to support the claim.

Significant documentation is required from facilities within the potential influence area of the proposed development, specifically Rothsay, that was not included in the report. Odour complaints were requested, but not received at the time that the report was published. ECAs for Rothsay's Industrial Sewage Works and Subject Waste, as well as the ESDM report, should be requested for review of odour impacts. The report should be updated to include this information, as well as the applicability to odour impacts at the proposed development.

It is our opinion that the current Odour Impact Assessment is not complete, and requires the information set out above.

Rubidium Environmental Inc.

Prepared by:



Robin Brown, P.Eng, TSRP, QP
President
rbrown@rb-enviro.com



December 21, 2018

Brynn Nheiley, *MCIP RPP*
Senior Planner – Development Planning
City of Hamilton
71 Main Street West, 5th Floor
Hamilton, Ontario L8P 4Y5
Brynn.nheiley@hamilton.ca

Rb File #: 2927

Re: Peer Review – Odour Impact Assessment
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655 Cramer Road, Flamborough

1.0 INTRODUCTION

Rubidium Environmental (“Rubidium”) was retained by the City of Hamilton (Client) to conduct a peer review of an Odour Impact Assessment prepared for the proposed development at 655 Cramer Road. It is our understanding that the Applicant is seeking to introduce a sensitive land use, namely 18 single detached dwellings at that the subject site.

As part of the Peer Review, Rubidium received the following reports:

- Odour Impact Assessment by Ortech dated June 12, 2018.

2.0 APPLICATION OF REGULATIONS AND STANDARDS

The regulations that have been applied to determine compatibility between the proposed development and nearby land uses is limited to:

- Ministry of the Environment, Conservation and Parks (MECP) Guideline D-1: Land Use Compatibility
- MECP Guideline D-6: Compatibility between Industrial Facilities
- MECP Guideline D-4: Land Use on or near Landfills and Dumps

These regulations are sufficient to determine the compatibility of the proposed development with nearby industrial land uses. Where necessary, appropriate sections of the *Environmental Protection Act* may also need to be invoked. The appropriateness of the application of these regulations is investigated in the following sections.

3.0 ODOUR SOURCES

Odour sources within a potential influence area (1km) have been identified, although the separation distance and classification of the facilities raised concern. Of particular concern is the Rothsay Dundas Plant ("Rothsay"), as this facility has received substantially elevated levels of odour complaints, specified in Appendix 14 of the Ortech report, and is within the potential influence area of the proposed development.

It is Rubidium's opinion that Rothsay be classified as a Class III facility, especially pertaining to odour emissions, evidenced by the hundreds of odour complaints. Representatives of both the MECP and Rothsay have also suggested that the facility be deemed Class III, included in the email from Barbara Slattery in Appendix 14, and memo from Greg Cooper in Appendix 10. Rubidium supports this conclusion. The provided Odour Impact Assessment specifies that the facility can be classified as Class II because of the implementation of the biofilter at the facility. However, there is not evidence to suggest that the biofilter has been effective at reducing adverse impact at nearby receivers, as suggested by the hundreds of odour complaints. The difference in classification results in a difference of recommended separation distance in accordance with the table below.

Class	Recommended Separation Distance (m)
Class II	70
Class III	300

Rothsay's operations occur on two adjacent properties west of the proposed development. One property is adjacent to the proposed development, while the other is located within 50m of the proposed development, measured in accordance with Guideline D-6. This separation distance is less than that specified in Guideline D-6, for both a Class II and Class III facility. The provided Odour Impact Assessment specifies that the separation distance between Rothsay and the proposed development is 180m.

Rubidium is in agreement that all other facilities identified are sufficiently separated to minimize potential odour risks. Carmuese Lime is another facility that possesses a significant odour impact risk, however, it is again, sufficiently separated from the subject site.

4.0 ODOUR MONITORING & COMPUTER MODELLING

The report mentions 4 days where field odour sampling was conducted around the proposed development site. No information was provided on the qualifications of the assessor or the equipment used. Rubidium takes the position that this information is of low to no value in determining whether odour impacts exist at the site. The MECP specifies that odours should be measured at the source, and the use of atmospheric chemistry dispersion models be used to establish impact at various receptors.

There are several issues with the reasoning used in the odour impact assessment, first, 4 days is insufficient to accurately reflect conditions at the plant. The wind speeds and directions were not consistent with the “worst case” that would have been used as per the MECP guidelines on Dispersion Modelling. Rubidium suggests that the Applicant obtain a copy of the odour stack testing data from the MECP through a *FIPPA* search, and assess potential odour impacts at the development.

Atmospheric dispersion modelling was not included in the provided Odour Impact Assessment. The windrose included in Appendix 13 of the provided report indicates that the prevailing wind is coming from the west, which will result in significant impacts at the proposed development.

5.0 DOCUMENTATION REQUESTED

Further documentation that would be required for a proper review of the Odour Impact Assessment includes Odour Complaints and Environmental Compliance Approvals (ECAs) relating to facilities within the potential influence area of the proposed development. It is evident that requests were made for Odour Complaints relating to Rothsay, although there were none included in the report. No copy of an requests made under FIPPA was included in the report, and no information as to the level of follow-up taken by the Applicant to receive this information. As more than 6 months have passed, it is likely that this information is now available. Appendix 14 of the report includes an email chain in which an MECP employee specifies that Rothsay has received three ECAs for Industrial Sewage Works, Air Facility, and Subject Waste Generator. Only the Air Facility ECA was included in the provided report.

6.0 CONCLUSIONS

Insufficient evidence has been provided to conduct a complete review. Rubidium recommends the following be resubmitted for further review:

An updated Odour Impact Assessment which includes the following:

- Rothsay facility treated as a Class III facility
- A copy of the Rothsay facility Odour Testing Reports, and ECA, specifically as it pertains to Odour.
 - A letter should be written to Rothsay asking if they would provide this
- A list of addresses for the odour complaints, as well as the details of the complaint
- Atmospheric chemistry dispersion modelling should be done using AERMOD in accordance with the MECP guidelines to establish the impact at the proposed development.

At this time, the Odour Impact Assessment reviewed was not conducted in accordance with the Land Use Compatibility Guidelines. Specifically, the minimum separation distance between the proposed development and Rothsay was not measured in accordance with Guideline D-6. The correct separation distance is less than the recommended minimum separation distance. The

classification of the Rothsay facility is not in line with recommendations from the MECP, Rothsay, or Rubidium, and there is not sufficient evidence to support the claim.

Significant documentation is required from facilities within the potential influence area of the proposed development, specifically Rothsay, that was not included in the report. Odour complaints were requested, but not received at the time that the report was published. ECAs for Rothsay's Industrial Sewage Works and Subject Waste, as well as the ESDM report, should be requested for review of off-site odour impacts. The report should be updated to include this information, as well as the applicability to odour impacts at the proposed development.

It is therefore request that an updated Odour Impact Assessment be prepared.

Rubidium Environmental Inc.

Prepared by:

A handwritten signature in dark ink, appearing to be 'RB' with a long horizontal stroke extending to the right.

Robin Brown, P.Eng
President
rbrown@rb-enviro.com



December 21, 2018

Brynn Nheiley, *MCIP RPP*
Senior Planner – Development Planning
City of Hamilton
71 Main Street West, 5th Floor
Hamilton, Ontario L8P 4Y5
Brynn.nheiley@hamilton.ca

Rb File #: 2927

Re: Peer Review – Odour Impact Assessment
1376412 Ontario Ltd., c/o Zeina Homes
655 Cramer Road, Flamborough

1.0 INTRODUCTION

Rubidium Environmental (“Rubidium”) was retained by the City of Hamilton (Client) to conduct a peer review of an Odour Impact Assessment prepared for the proposed development at 655 Cramer Road. It is our understanding that the Applicant is seeking to introduce a sensitive land use, namely 18 single detached dwellings at that the subject site.

As part of the Peer Review, Rubidium received the following reports:

- Odour Impact Assessment by Ortech dated June 12, 2018.

2.0 APPLICATION OF REGULATIONS AND STANDARDS

The regulations that have been applied to determine compatibility between the proposed development and nearby land uses is limited to:

- Ministry of the Environment, Conservation and Parks (MECP) Guideline D-1: Land Use Compatibility
- MECP Guideline D-6: Compatibility between Industrial Facilities
- MECP Guideline D-4: Land Use on or near Landfills and Dumps

These regulations are sufficient to determine the compatibility of the proposed development with nearby industrial land uses. Where necessary, appropriate sections of the *Environmental Protection Act* may also need to be invoked. The appropriateness of the application of these regulations is investigated in the following sections.

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Robin Brown, P.Eng

President

rbrown@rb-enviro.com