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December 20, 2017

Ms. Alaina Baldassarra, B.E.S.
Planner II
Development Planning, Heritage & Design Section (Rural Team)
Planning and Economic Development Department
City of Hamilton

71 Main Street West, 5th Floor
Hamilton, ON L8P 4Y5

Delivered via email: alaina.baldassarra@hamilton.ca

Re: Notice of Complete Applications by A.J. Clarke and Associates for Zoning By-law Amendment and Draft Plan of Subdivision for Lands Located at 655 Cramer Road, Flamborough (Ward 14)

Dear Ms. Baldassarra,

Thank you for the Notice advising that complete applications have been received by the City of Hamilton's Planning and Economic Development Department ('City of Hamilton') to amend the zoning by-law and to obtain approval of a draft plan of subdivision for lands located at 655 Cramer Road ('Proposed Residential Development'), dated September 1, 2017, and received by Rothsay, a Division of Darling International Canada Inc. ('Rothsay') on September 18, 2017.

As you are aware, Rothsay operates a large-scale rendering facility ('Dundas Plant') located at 880 Highway 5 West, Dundas, Ontario, immediately to the west of the Proposed Residential Development. Given the proximity of the Dundas Plant to the Proposed Residential Development, Rothsay has a significant interest in the above-noted application and we are seeking assurances from the City of Hamilton that sufficient measures and controls will be established to protect the existing industrial uses and the Proposed Residential Development.

Rothsay is requesting the City of Hamilton consider the information presented in this letter when evaluating this application.

1. Rothsay Dundas Plant

Rendering operations have occurred at the Dundas Plant since the 1950s, when it was owned by a local farming family. Over the course of the next 60 years, the Dundas Plant has undergone several expansions and changes of ownership. In 2013, the Dundas Plant was sold by Maple Leaf Foods Inc. to Darling Ingredients Inc.



Currently, the Dundas Plant is one of the largest animal rendering facilities in North America and is a critical service provider to local and regional food processors. The Dundas Plant has more than 150 employees, provides employment for local contractors, services several hundred local businesses and contributes over \$235,000 in annual property taxes. The Dundas Plant operates 24 hours/day, 6 days/week.

2. Rendering Process

Rendering is a process involves using boiler produced steam to evaporate water from by-products like bone, fat, offal, meat trimmings, used cooking oil, blood, and other related by-products. These by-products are typically generated by packing plants, butchers, grocers, and restaurants. Once the water is removed the resulting ingredients produced include fats and proteins, which are sold as commodities in the production of feed, fuel, and fertilizer.

3. Odour

A potential by-product of the rendering process is odour.

The Dundas Plant has made significant financial investments in odour abatement systems including a state-of-the-art wastewater treatment plant and biological filter (Biofilter) system, which treats air emissions from various parts of the production plant prior to discharging into the atmosphere.

Notwithstanding these state-of-the-art odour abatement systems, the Dundas Plant has a potential to have an odour profile. As highlighted in Section 4 of this letter, the Dundas Plant has received odour complaints from residents near the Proposed Residential Development.

4. Submission

After reviewing the Notice of the Proposed Residential Development provided by the City of Hamilton, Rothsay provides the following comments for the City of Hamilton's consideration.

a. Land-Use Compatibility

Given that the above noted application requires a zoning by-law amendment, land-use compatibility must be considered. As previously mentioned, the Dundas Plant operates 24 hours/day, 6 days/week and has the potential to present an odour profile to residents located upwards of 1,000 metres from the facility. Some of these residents are located adjacent to the Proposed Residential Development (e.g. Shakespeare Road, Taylor Crescent).

Based on the operational industrial nature and extent of potential influence area of the Dundas Plant, it would be classified as a Class 3 Industrial facility under Ontario MOE Guideline D-6 ('Guideline D-6'). Guideline D-6 states the following for Class 3 Industrial facilities:

- 1,000m potential influence area; and
- 300m minimum separation distance recommended.

Furthermore, Guideline D-6 states that incompatible development should not normally be permitted within the recommended minimum separation distance (300m).



The Proposed Residential Development is located entirely within 1,000m of the Dundas Plant and a portion of the Proposed Residential Development is also located within 300m of the Dundas Plant.

Given that the Dundas Plant is a Class 3 facility under Guideline D-6 and to maintain land-use compatibility, Rothsay is recommending the following:

- The City of Hamilton require the applicant to revise their application for the Proposed Residential Development to include the establishment of a minimum separation distance (buffer) of at least 300 metres between any part of the Dundas Plant property where industrial-type activities are permitted and the Proposed Residential Development, ensuring that no sensitive land uses are permitted within this area.

b. Environmental Noise Analysis (Valcoustics Canada Ltd.)

Rothsay has reviewed the Environmental Noise Analysis report ('Noise Report') prepared by Valcoustics Canada Ltd. ('VCL'), dated July 14, 2007 for the Proposed Residential Development. Even though Rothsay appreciates that the Dundas Plant was specifically addressed within the Noise Report, it is Rothsay's opinion that the Noise Report doesn't adequately assess the Dundas Plant.

In Section 2.1.2 of the Noise Report, the following statement is made regarding the Dundas Plant:

"according to the ECA, the Rothsay Dundas facility must be in compliance with the noise guideline limits at the subject site".

This statement is misleading as it implies that the Dundas Plant's Environmental Compliance Approval (ECA) already demonstrates compliance with the Proposed Residential Development. Rothsay acknowledges that MOE Publication NPC-300 requires that the Dundas Plant is required to meet applicable noise guideline limits at vacant/unoccupied lands that are approved for sensitive land uses. However, the location of Points of Reception (PORs) on vacant/unoccupied lands would not be identical to the Proposed Residential Development.

VCL conducted sounds measurements on August 13, 2015 along the western property of the Proposed Residential Development to assess noise levels from the Dundas Plant. These sounds measurements were conducted for a 1-hour period (9:07 – 10:07) and determined that road traffic along Highway 5 was the dominant noise source.

Given that the Dundas Plant operates 24 hours/day, the noise assessment of the Dundas Plant completed by VLC is not adequate. At a minimum, noise levels from the Dundas Plant should have been assessed during nighttime hours when road traffic noise from Highway 5 would be less compared to daytime hours.

Based on these findings, Rothsay is recommending the following:

- The City of Hamilton require the applicant to revise the Environmental Noise Analysis report for the Proposed Residential Development to include the assessment of the Dundas Plant noise levels during nighttime hours (e.g. minimum of 24/48 hours of noise measurements).

**c. Odour Provisions**

To address the potential odour profile from the Rothsay Dundas Plant, all residential lots associated with the Proposed Residential Development should contain the following:

- Odour Warning Clause, including the specific mention of an adjacent rendering facility, be registered on title to inform all future occupants of potential odour impacts.

Closing

If you have any questions regarding this submission, please do not hesitate to contact the undersigned.

Regards,



Greg Cooper
Plant Manager, Rothsay Dundas
Rothsay, a Division of Darling International Canada Inc.

cc: Jim Long, Senior Vice President, Rothsay, a Division of Darling International Canada Inc.
Robert Pasuta, Councillor, City of Hamilton, Ward 14



Rothsay, a Division of Darling International Canada Inc.
880 Highway 5 West
Dundas, Ontario L9H 5E2

Attention: Mr. James Calame, Rothsay Dundas Plant Manager

**RE: COMMENTS ON ADDITIONAL ODOUR IMPACT ASSESSMENT FOR
RESIDENTIAL DEVELOPMENT NEAR ROTHSAI'S DUNDAS FACILITY**

INTRODUCTION

We understand that the City of Hamilton (the City) has received a proposal to rezone lands adjacent to Rothsay's Dundas facility for residential development. As part of that proposal, an Odour Impact Assessment report (Ortech, Report No. 26422, June 12, 2018 – referred to herein as "the Original Assessment") was submitted relating to odour impacts of the Rothsay operation on the proposed residential development. Rothsay asked Ramboll Canada Inc. (Ramboll) to review and comment on the technical accuracy of the report and the validity of conclusions drawn. Ramboll documented comments and conclusions with respect to the Original Assessment in a report dated October 12, 2018.

Rubidium Environmental was retained by the City to peer review the original Ortech odour impact assessment submitted by the proponent. Rubidium issued a peer review report dated December 21, 2018 indicating deficiencies in the assessment. The proponent provided a letter from Ortech dated January 23, 2019 with comments responding to the peer review. Rubidium issued a second report dated February 12, 2019, indicating that deficiencies remained.

Ortech issued report "1376412 Ontario Ltd., c/o Zeina Homes Additional Odour Impact Assessment for a Proposed Residential Development", Ortech report No. 26422-2, dated February 5, 2020 – referred to herein as "the Additional Assessment". This Additional Assessment included new information in response to the peer reviewer's comments.

Rothsay asked Ramboll to review and comment on the technical accuracy of this Additional Assessment and the validity of conclusions drawn. Our comments and analysis are briefly outlined in the following sections.

GENERAL

The Additional Assessment restates some findings of the Original Assessment but also includes new information. The bulk of this new information consists of a summary of data gleaned from numerous reports/documents regarding the Rothsay facility. These documents include:

Rothsay's annual compliance odour source test reports;

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Rothsay's annual environmental reports;
MECP incident reports; and
MECP record of site visits.

The Additional Assessment uses this new information to support previous conclusions and opinions.

However, we note that key aspects of this new information have been misinterpreted, which has led to erroneous conclusions. Details follow.

ODOUR SOURCE TEST REPORTS

Ortech obtained copies of the reports that document the annual source testing for odour that is a requirement of the facility's ECA. Data extracted from the reports for 2016 to 2018 are summarized in Table 1 of the assessment.

We note that the wet reference flow rates in the table are incorrect and flow rates have been attributed to fugitive sources that have no associated flow rates, but this error has not affected any conclusions. Odour emission rates appear to be accurately tabulated.

We also note that the table includes the average value for three years of testing, and this average is used in the report. It is important to understand that nuisance issues result from high or peak impacts, not average impacts, and using average values will understate the potential for nuisance.

However, towards the bottom of the table, the odour emission rate of each individual source is presented as a percentage of the total odour emission rate of the facility. It is clear that emissions from the fugitive sources at the plant (i.e. all sources other than main stack or boilers) are a small fraction of total emissions. Ortech states (Page 9, 3rd bullet) that, based on this table, emission rates for these fugitive sources are negligible, but this statement is grossly misleading, and it is false to represent these sources as having negligible impact.

The relative impact of a source is dependent not only on emission rate, but also on the atmospheric dispersion from the point of release. Tall stacks are specifically constructed to improve dispersion and reduce impacts from a source. They can direct plumes up and over nearby receptors, and provide far more atmospheric dilution before the plume touches down farther away. As a result, stacks provide a high level of atmospheric dilution in comparison to low level fugitive sources that may have little or no dilution prior to impacting receptors. This means that the relative impact of sources cannot be predicted based on emission rate alone: in many cases a small ground level source can have far greater impact than large sources emitted from tall stacks.

By design, odour sources that can feasibly be captured and treated at Rothsay are discharged from a 45m tall stack, and these emissions are diluted by many orders of magnitude before impacting receptors. On the other hand, fugitive sources at Rothsay are generally released at ground level, are mainly located on the east side of the property (e.g. wastewater treatment aeration basins, clarifiers, ponds), and would have little dilution before impacting receptors. As a result, existing receptors on Shakespeare Road and the proposed development are significantly impacted by these fugitive emissions.

In fact, the dispersion modelling of the compliance test programs for years 2017 to 2019 show that the peak odour concentrations on Shakespeare Road and the proposed development result from fugitive source emissions only, and are unaffected by emissions of the main stack and boilers. **That is, the fugitive sources are the most significant of Rothsay sources when considering odour impacts at the subject property.**



The erroneous conclusion that fugitive sources are negligible, and that only the main stack (i.e. biofilter exhaust) is significant, affects many of the other arguments and conclusions of the report, as described in several of the following sections.

Table 2 of the Additional Assessment summarizes results of the dispersion modelling documented in the source test reports, and presents maximum predicted odour concentration at any receptor, and at the most impacted sensitive receptor. The most impacted receptor is R19, located on Shakespeare Road, immediately adjacent to, and south of the subject development. The peak odour concentration at this location was 2.3 ou.

It should be noted that the table presents the three-year average of results, and these averages are used throughout the report. Nuisance results from maximum or peak values, not average values, and relying on average values will understate the potential for nuisance.

MECP INCIDENT REPORTS

Ortech obtained copies of MECP incident reports for the Rothsay plant, and a summary of the contents was provided in Table 3 of the Additional Assessment. This includes some information on odour complaints received, but we note that the table does not include a description of all complaints received.

In Section 7 of the Additional Assessment, Ortech implies that complaints that describe the odour as deadstock or manure should not be considered to be caused by Rothsay because the plant does not process deadstock and does not have open manure. The report uses this information to minimize the number complaints that are attributable to Rothsay.

Rothsay is approved to process material defined as "deadstock" and at times does process deadstock, though this is not routinely. Nevertheless, the other materials that Rothsay process are similar to deadstock and there is little if any difference in plant odours emitted. Even during periods when deadstock is not being processed the odour from the facility is often described as deadstock, as people associate some of the odours with dead animals. We note that, according to Table 3 there is no complaint with a description of "deadstock" – though there are descriptions that include dead animal and dead meat, which are materials that are processed at Rothsay routinely. We note that even Ortech personnel described the odour detected on the subject property as "deadstock" and attributed it to Rothsay on four of five trips to the site. In their Additional Assessment (Section 13, last paragraph) they suggest this odour may be better described as "boiled meat". The evidence does not show that any of these complaints should not be attributed to Rothsay.

Similarly, on the two days when complaint descriptions included "manure", the full complaint was "dead animal, manure", or "flesh, manure" according to Table 3. Manure/septic like smells can result from inorganic decomposition of organic materials, and when mixed with other rendering type odours can be described like this. Again, the evidence does not show that any of these complaints should not be attributed to Rothsay.

ROTHSAY ANNUAL ENVIRONMENTAL REPORTS

Ortech obtained copies of Rothsay's Annual Environmental Reports that were submitted to MECP, and a summary of the number of odour complaints received each year was provided in Table 4 of the Additional Assessment.



The information given in Table 4 is not consistent with Rothsay's records. According to Rothsay's records, the number of complaints received in recent years is:

Year	No. of Complaints
2015	5
2016	15
2017	0
2018	3
2019	3
2020 YTD	18 (year-to-date, 8-month period)
Total	44

That is, Table 4 substantially understates the number of complaints received, and in two of the last five years there have been 15 complaints or more per year, which is not an insignificant number.

GUIDELINE D6 COMPATIBILITY BETWEEN INDUSTRIAL FACILITIES

The original Ortech assessment stated Rothsay is a Class III facility based on definitions in Guideline D6, and we concur. However, the report also states that Rothsay "could be assigned to Class II with regard to odour emissions only" since mitigation measures have been applied at the plant. This is of critical importance, since a Class III facility requires a 300m minimum separation distance, and a Class II facility requires only a 70m minimum separation distance.

The MECP (in communications referenced in the assessment) and the city's peer reviewer are both of the opinion that Rothsay is a Class III facility. The peer reviewer rejected the argument that it could be assigned to Class II due to the implementation of mitigation measures.

The Additional Assessment, Section 12, restates the case that Rothsay should be considered a Class II facility since mitigation measures have been applied, and adds new arguments (under the following headings) as to why this would be appropriate:

Guidance from MECP

This section again points out that Guideline D-6 states that mitigation at the industrial source may enable an industry to be categorized as a lesser Class, lists some criteria for a Class II facility, and states "it is difficult to understand how it would qualify for a class III designation".

This section fails to consider that:

- a) Mitigation has been applied at Rothsay to odour sources where feasible, but as discussed in previous sections, odour emissions from fugitive sources continue to cause odour impacts. The fugitive sources that cause peak odour impacts on the subject property are not mitigated and cannot be mitigated feasibly.
- b) Complaint history indicates that odour impacts continue to occur in the neighbourhood adjacent to the subject property and farther away, regardless of the mitigation in place;
- c) Observations by Ortech personnel documented in the assessment demonstrate that odour impacts from Rothsay are frequent on the subject property, and are considered unpleasant or slightly unpleasant, regardless of the mitigation in place;
- d) The definition of Class II in Guideline D6 includes "there are occasional outputs of either point source or fugitive emissions for any of the following: noise, odour, dust and/or vibration, and low probability of fugitive emissions". At Rothsay, with mitigation in place (i.e. the biofilter), odour emissions from both point sources and most fugitive sources are constant – and cannot possibly be



considered "occasional". Given that most fugitive emissions are constant (24h/day, 7 days/week), and significant (on their own, result in the peak odour levels predicted at the subject property) these fugitive odour emissions cannot in any way be considered "low probability". That is, even with all mitigation in place, the facility does not meet the definition of Class II.

- e) The definition of Class III in Guideline D6 includes "high probability of fugitive emissions". As mentioned above, most fugitive odour emissions are constant at Rothsay and are significant sources of odour that result in the peak odour levels predicted on the subject property. It is not feasible to mitigate these outdoor sources which include wastewater basins, clarifiers and ponds. That is, with feasible mitigation in place, there is a "high probability of fugitive emissions" at Rothsay, and Class III is appropriate.
- f) In cases where mitigation is implemented on all odour sources such that there are no remaining impacts at sensitive receptors, it may be appropriate to recategorize at a lesser Class, but this is not the case at Rothsay. Fugitive sources that can't be feasibly mitigated continue to impact the subject property at concentrations that exceed odour limits that are applied to most facilities.

In fact, we believe that, based on the nature of the facility, the scale of the facility, and the direct evidence of impacts on the proposed residential development property, there is ample evidence to show that recategorizing as Class II is clearly not appropriate in this case.

Rendering is inherently odorous, and the Rothsay facility is the largest rendering plant in Canada and one of the largest in North America, with a wide variety of processes and activities that generate odour. While Rothsay has invested tens of millions of dollars to implement Best Available Technologies (BAT) on environmental controls to mitigate odour impacts, odour impacts do persist. The extreme mitigation measures implemented have reduced, but not eliminated odour impacts. There are several sources of fugitive emissions at the facility that would be very difficult if not impossible to mitigate further.

The Ministry of the Environment, Conservation and Parks (MECP) has indirectly acknowledged that, due to the nature and scale of the facility, odour performance limits typically applied to other large industry are not reasonably achievable for Rothsay. Specifically, Rothsay is one of the very few facilities in Ontario for which the MECP has specified an Odour Performance Limit of 5 odour units, rather than the standard limit of 1 odour unit, even though the facility has implemented BAT to mitigate odour impacts. Annual emission testing has consistently demonstrated that Rothsay operates in compliance with its Odour Performance Limit of 5 odour units, but the more common limit of 1 odour unit is exceeded at sensitive receptors. That is, even with effective mitigation and compliance with facility-specific limits, potential odour impacts from Rothsay are greater than expected from other Class III industries.

Appropriate Mitigation is in Place

This section simply restates the position that Rothsay should be considered a Class II facility since mitigation has been implemented.

Again, this fails to consider that the mitigation has been applied to those sources that can be feasibly captured and treated only, and has not been applied to all sources of odour. As a result, the mitigation is not sufficient to eliminate frequent odour impacts on the subject property. Fugitive odour sources that are not feasible to mitigate are the main cause of the peak impacts.

Hundreds of Complaints

This section makes the point that there have not been "hundreds of complaints" in recent years, and that there have been only 26 reported complaints in the past 7 years, equivalent to 4 complaints per year.

We acknowledge that there have not been hundreds of complaints, but according to Rothsay's records there have been 44 complaints in the last 6 years, and in two of the last five years there have been 15 or more



complaints per year (as tabulated in a previous section). Complaints are dependent on many factors mostly beyond Rothsay's control, and complaint frequency varies significantly year to year – some years none and some years many.

Rothsay receives attention and pressure from residents and the MECP in years when high numbers of complaints are received: i.e. years such as 2016 and 2020 when there were 15 or more complaints per year, and some of these complaints were from Shakespeare Road. The average number of complaints per year is essentially irrelevant to perceived impacts.

This section implies that the number of complaints reported is very low and should actually be lower since many complaints (e.g. described as deadstock or manure) should not have been attributed to Rothsay, because the plant does not process deadstock or manure. This is not true, as explained in a previous section. Odour from the facility is commonly described as such.

Regardless of these statements, and the mitigation in place

- a) Complaint history indicates that odour impacts continue to occur in the neighbourhood adjacent to the subject property and much farther away;
- b) Observations by Ortech personnel documented in the assessment demonstrate that odour impacts from Rothsay are frequent on the subject property, and are considered unpleasant or slightly unpleasant;

Biofilter has been Effective

This section indicates that over the last three years of odour source tests, the maximum odour concentration predicted at a sensitive receptor is 2.3 odour units, and somehow concludes that this is a strong indication that the abatement system (biofilter) is effectively removing odours from the emission sources.

Rothsay agrees that the abatement system is effectively removing odours from the sources connected to it, but we do not see how the concentration at that receptor, on its own, is an indication that the system is effective, or how this is relevant.

In fact, the peak concentration of 2.3 odour units is predicted for the receptor on Shakespeare Road, adjacent to the subject property. The dispersion model used in the source test program shows that the peak concentration at that receptor results from emissions from fugitive sources only, and is unaffected by the emissions of the biofilter which discharges through the main stack (at 45m above grade). That is, the maximum concentration at that receptor results from odour sources that are not mitigated by the biofilter.

In addition, Rothsay is one of the very few facilities in Ontario with an odour performance limit exceeding 1 odour unit. The predicted concentration of 2.3 odour units would be 230% of the 1 odour unit limit applicable to most Class III facilities.

It is also important to understand the magnitude of odour emissions from Rothsay. Even with effective mitigation by the biofilter, emissions from the main stack have been measured as high as 138,000ou/s, which is extremely high.

Based on the above, the fact that the biofilter has been effective is totally irrelevant to the classification of the facility, mainly because emissions are so high to begin with, and it does not mitigate the odour impacts of all sources at the facility.

Separation Distance is not Adequate

This section indicates that the source test results and recent low number of odour complaints show the separation distances are adequate for the existing sensitive receptors. It also indicates the odour



concentration may be slightly higher at the proposed development since it is closer than the existing receptor, but that doesn't account for the use of a barrier to mitigate odour concentrations on the property.

This section makes no sense whatsoever. The salient points referenced are:

- Odour concentration of 2.3 odour units is predicted at the existing receptors near the subject development – this is 230% of what would be considered allowable near other Class III facilities;
- Odour complaints continue to be received from the nearby receptors, and from residents much farther away;
- Receptors on the subject development may be even closer than the existing R19 where the maximum odour concentration is predicted to occur; and
- Modelled receptors don't have a barrier to mitigate odour – In fact barriers or fences have no capability to reduce odour impacts, have not been used as such in Ontario, and the MECP would not accept a barrier as an odour mitigation measure (to be discussed further in following sections).

None of these points support the stated conclusion that separation distance is adequate.

Guideline G-1 (sic)

This section states that Guideline D-1 does not apply because "the development does not require a zoning amendment". It also restates the opinion that Rothsay would be a Class II facility.

In fact, it is our understanding that a zoning amendment is required, and is the subject of this current planning process. As a result, there is no basis for this argument, and the guidance is appropriate for dealing with the land use incompatibility. The issue of Class II vs. Class III is covered in previous sections.

However, more significantly, this section implies that if the guideline did apply, any separation distance between plant and development should be measured from the main stack because it discharges 87% of plant odours. This is blatantly false.

Section 4.4.2 of Guideline D-6 explicitly specifies that, for Site Specific Plans, separation distance shall be measured from the closest property line of the industrial facility to the closest property line of the sensitive land use. This section states "This approach provides for the full use and enjoyment of both the sensitive land use and the industrial properties." As a result, separation distance (i.e. minimum 300m for Class III facility) should be measured from Rothsay's eastern property line.

Further, Ortech's assertion seems to be based on the assumption that the main stack is the most significant source of odours at Rothsay. However, as has been mentioned numerous times above, this is also false. Peak odour concentrations predicted on the subject development result from fugitive sources only, and aren't affected by the main stack emissions. These fugitive sources include trucks, wastewater treatment basins, clarifiers and ponds, which are mainly on the east side of Rothsay's property, much closer to the subject property than the main stack. Therefore, there is no justification whatsoever for measuring separation distance from the main stack.

Summary of Response on Guideline D-6.

Based on the above it is clear that, even with mitigation, the facility has the characteristics of a Class III facility as described in Guideline D-6, and in its Appendix A (document D-6-1 Industrial Categorization Criteria), and the guideline specifies a potential influence area extending 1,000m, and minimum separation distance of 300m, measured from the property line. These distances should be measured from Rothsay's eastern property line. There is no reasonable justification for the suggested Class II designation, with minimum separation distance of only 70m.



This finding is consistent with the opinion of the MECP that Rothsay is a Class III facility, as per the email from Barbara Slattery, Environmental Resource Planner & EA Coordinator, West Central Region, MECP, dated November 29, 2017 (see Appendix 9 of the Ortech Additional Assessment).

This finding is consistent with the opinion of the City's peer reviewer that Rothsay is a Class III facility, as per the reports of December 21, 2018 and February 12, 2019.

ODOUR MONITORING

Section 13 of the Additional Assessment describes odour observations on the subject property. This repeats much of the information from the original report, but adds one additional day of observations. The assessment describes odour monitoring consisting of observations by a single employee, on only 5 days during which the wind was blowing from Rothsay towards the proposed residential development. During this very limited assessment, odour was reported to be detected at most observation sites on all 5 days. Odour attributed to Rothsay was reported for 23% of the individual observations. The odour was described as slight, but many of the observations were described as "unpleasant" and "deadstock". That is, Ortech reported frequent odour impacts, apparently recognizable as resulting from Rothsay, and described as unpleasant.

The original Ortech report includes a windrose, that demonstrates that wind blows frequently from generally west to east – or from Rothsay operations to the proposed residential development. Therefore, the observations are expected to represent typical conditions on the proposed residential development.

This is consistent with Rothsay's experience that complaints are received from existing residences in the area (e.g. Taylor Crescent, Shakespeare Road), in the same direction but further away from the facility than the proposed residential development.

The proposed residential development consists of large lots. It is not reasonable to expect buyers of estate homes in an otherwise rural area to be tolerant of frequent, unpleasant odours. It is more reasonable to expect that buyers will choose the properties in anticipation of a relatively clean, natural environment, and that frequent unpleasant odours will not be tolerated by the future residents. Odour complaints to the MECP can be expected. The Ministry can require Rothsay to take abatement actions (and has done so in the past) as a result of complaints or potential adverse effect(s). Such further actions will be very costly, if at all possible.

ODOUR IMPACT AND MITIGATION

Section 14 of the Additional Assessment discusses odour impacts on the subject development, and odour mitigation measures that will be implemented on the subject development. There is little that is new in this section, but we have commented on the statements made in the subsections.

Odour Impact.

Ortech compared the odour level predicted at the Shakespeare Road receptor (R19) to contours covering the subject property in the modelling results of the source test reports. The table in this section indicates that the peak odour concentration on the subject property will be similar to the peak concentration at Shakespeare Road, plus or minus only 0.1 ou.

Ramboll reviewed the dispersion modelling and concurs that peak concentrations on the subject property are similar to peak concentrations at the Shakespeare Road receptor. That is, peak concentrations of about 2.3 ou can be expected on the subject property.



Mitigation measures in the Rothsay plant

This section indicates that odour mitigation measures have been undertaken at Rothsay, and this is expected to continue.

It is true that Rothsay has spent tens of millions of dollars on odour mitigation, but the odour impacts described in the assessment represent operation with these mitigation measures in place. While Rothsay is always striving for improvement, no feasible measures have been identified that are expected to reduce impacts further on the subject property. The development should not be approved based on the false hopes that impacts will continue to be reduced.

Mitigation at the Development Land

This section suggests that odour impacts are mitigated by the fact that Rothsay is in a valley, and there are existing trees between Rothsay and receptors to the east. Terrain can impact odour dispersion (though not necessarily as described), but there is no evidence that trees can impact odour levels significantly at this site. Regardless, this is the existing condition, and the odour impacts that have been described throughout these documents have been assessed with Rothsay in a valley and trees between the properties. That is, under these conditions:

- a) Complaint history indicates that odour impacts continue to occur in the neighbourhood adjacent to the subject property and much farther away;
- b) Observations by Ortech personnel documented in the assessment demonstrate that odour impacts from Rothsay are frequent on the subject property, and are considered unpleasant or slightly unpleasant;

This section also repeats the claim that a 5.8m high noise barrier and some additional trees will be installed on the subject property as odour mitigation measures.

As we have stated in previous reports, there is no evidence to support the assertion that a barrier or tree line will significantly reduce odour levels on the subject property. In more than 20 years of consulting related to odour assessment and abatement in Ontario, and interaction with industry, the Ministry and other consultants, we have not heard any similar claims.

In a previous report (May 24, 2019) Ramboll commented in detail on information provided by the proponent related to use of trees and bushes as a means of reducing odour impacts from farms. We concluded there is no research or even suggestions in the literature that such measures are applicable to industrial facilities. In addition, the possible rationales given for how trees give odour reduction are not applicable to the situation at Rothsay.

The simplistic explanation given in the Additional Assessment is that a barrier and tree line will direct wind upwards and improve odour dispersion. The assessment also states that the odour reduction at the development due to the barrier has not been calculated.

This ignores the fact that any such barrier/tree line would also have a downwash effect on the downwind side of the barrier that would tend to bring contaminants back down to ground level. One could equally argue that elevated plumes (there are numerous elevated emission sources at Rothsay, including the 45m tall stack on the biofilter) could be effectively brought down to ground level in the downwash, actually increasing odour at ground level. This potential odour increase has not been calculated either.

We note that there is an existing woodlot of over 150m wide separating much of the Rothsay operations from the proposed residential development, and bordering the proposed residential development. Therefore, any such treeline/barrier implemented on the perimeter would only serve to extend this woodlot by a few metres onto the proposed residential development property. This means that even the suggestion



that the barrier will direct wind upwards is not defensible. Further, the assessment documents the fact that odours attributed to Rothsay were detected on the proposed residential development property, despite the existing woodlot.

Any assessment of odour impacts on the subject development would need to follow MECP guidance documents, and these documents do not account for any use of barriers or trees to reduce impacts. That is, Rothsay would not be able to demonstrate any benefit of such barriers in an odour assessment, or in odour concentrations reportable to the MECP.

Therefore, we see no credible evidence to support the suggestion that a noise barrier and/or line of trees on the proposed residential development property will significantly mitigate odour impacts on that property.

Warning for Purchasers

The Ortech report recommends that prospective purchasers of residences should be given an environmental warning about the potential impact of odours, and we understand Rothsay is supportive of such a warning being placed on title. However, such a warning prior to purchase does not in any way limit the ability of the initial purchaser or any subsequent purchaser/resident to complain to the MECP. The Ministry typically will not take any such warning into consideration when responding to complaints or potential adverse effect.

Given the frequent and unpleasant odours documented by Ortech, and the likelihood that many new residents will not be tolerant of the odours, we do not believe that any such warnings will substantially reduce the likelihood of odour complaints to the MECP, or the likelihood that the MECP will require Rothsay to abate odour.

CONCLUSIONS

Due to the nature and scale of Rothsay's facility, it must be considered a Class III facility regardless of the fact that mitigation on some sources has been implemented. This is consistent with the view expressed by the MECP and the opinion of the City's peer reviewer. When new information presented in the Additional Assessment is correctly interpreted, it does not support Ortech's assertion that the facility should be considered a Class II facility, and such claims are without merit. As a result, the minimum separation distance is 300m, and the potential influence area extends 1,000 m.

The Additional Assessment suggests any separation distance should be measured from Rothsay's main stack, but this is based on misinterpretation of facility emissions and relative impacts. The new information added to the assessment (source test results) shows that peak concentrations at the subject development result entirely from fugitive sources, located mainly on the east side of the Rothsay facility. Regardless, Guideline D-6 specifies the separation distance shall be measured between the property lines of the industrial and sensitive land uses to allow "full use and enjoyment of both the sensitive land use and the industrial properties."

The Additional Assessment again reported frequent, unpleasant odours on the proposed residential development property that were attributed to Rothsay. Complaints have been received from residences in the same direction, but farther from Rothsay than the proposed residential development. It is not reasonable to believe that purchasers of new homes will be tolerant of potentially frequent unpleasant odours. Odour complaints are likely to result, and the MECP can require Rothsay to take abatement action even though it is complying with the Odour Performance Limit in its ECA.

The suggested mitigation measure of adding a noise barrier or planting trees on the western perimeter of the development will not reduce odour impacts, or the likelihood of odour complaints. Similarly, environmental warnings to potential purchasers will not substantially reduce the likelihood of complaints.



In summary the report has not provided any new information to support the position that the residential development, as proposed, will meet the minimum requirements of Guideline D-6, and has not provided reasonable evidence of compatibility between the land uses. In fact, the information provided in the report continues to support Rothsay's view that the proposed development is incompatible with Rothsay's operation, and if allowed, is likely to adversely impact Rothsay's business.

Ramboll

A handwritten signature in black ink, appearing to read "P. Geisberger", written over a light gray rectangular background.

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