

Odour Investigation Report


with respect to

**The Waste and Recycling Facility, 1 Cottage
Road, London, N1 8TP**


for

London Borough of Islington

SIGNED OFF BY:

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Prepared by:

Date: 31st January 2020

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Executive Summary

Set Square Surveyors Ltd (Set Square) commissioned Odournet UK Ltd to undertake a review of odour control measures at a waste transfer facility in Islington, commissioned by the London Borough of Islington (LBI). The waste transfer facility is located close to residential areas and the review was commissioned following odour complaints from residents in the vicinity of the site.

The specific objectives of the review were as follows:

1. To identify the operations and activities with the potential to give rise to offsite odour complaints and undertake a review of historic odour complaint data.
2. To review the effectiveness of the current odour abatement techniques and odour management procedures at the facility.
3. To highlight any areas of deficiency and detail potential improvements that could be applied to reduce odour emissions.

This report details the findings of the review.

The assessment involved a site audit, including an assessment of offsite odour, followed by a desktop review of site operations, odour management procedures and odour complaint history.

The key findings of the assessment are summarised as follows:

1. The operations and activities carried out at the facility which have the potential to generate odorous emissions are those involving active handling of municipal waste (i.e. bulk waste delivery, storage and compaction operations). The magnitude of odour emissions from these activities are likely to vary depending upon factors such as the age, quantity and organic content of incoming waste, and ambient temperature. The highest odour emissions are therefore likely to occur in the spring and summer months when degradation of organic waste will occur most rapidly. The household recycling centre is not considered to generate significant odour emissions.
2. The following routes were identified through which odours could escape from the facility and potentially impact nearby odour sensitive residential receptors:
 - Fugitive odour emissions from the basement area, compactor yard, gully bay and tipping hall (via the vehicle access doors).
 - Intentional release of untreated or partially treated odours from the tipping hall ventilation systems due to the ineffective performance of carbon odour control systems.
 - Intermittent but regular release of untreated odours from the basement area and tipping hall via the booster fans which operate when high NO_x/CO levels are detected.
 - Odours released during routine drain and interceptor maintenance.
 - Odours from the RCV vehicle depot.
3. On the basis of a qualitative assessment of odour impact risk using the Source-Pathway-Receptor methodology as published in guidance prepared by the Institute of Air Quality Management, a potentially significant risk of impact is indicated up to 300 m from the site boundary. These results appear to be supported by historic complaints data, which indicates that the majority of complaints are received from locations <300m from the site.

4. A number of issues have been identified in relation to the effectiveness of existing containment, collection and treatment techniques which require improvement in order to meet best practice and reduce the odour impact of the site to a minimum. A summary of the issues identified, and recommended improvements are listed as follows:

Enhancement of management, monitoring and maintenance procedures

- The OMP was originally written in 2003 immediately prior to commencement of operations and is no longer up to date. The OMP should therefore be updated and restructured to reflect the current facility design and operational regime and current Environment Agency guidance in relation to preparation of Odour Management Plans.
- A number of existing procedures within the OMP are either not fit for purpose or not implemented. The key issues are identified below but will be subject to a more detailed review when the OMP is updated:
 - The results of complaint investigations, which are undertaken by LBI, are not recorded in accordance with the OMP. This procedure therefore needs to be reviewed and updated and the complaints records updated accordingly.
 - The daily sniff testing procedure is not fit for purpose. The procedure should be updated in line with current Environment Agency guidance including appropriate training and testing of monitoring staff and maintenance of records.
 - The daily inspection of the odour control system should be expanded to incorporate sniff testing at the outlet vents. Assessments should be conducted by trained staff using a documented procedure and records (i.e. results and actions) maintained accordingly.
 - The on-site meteorological station, which is operated and maintained by LBI, is not operational. It should be repaired as soon as possible to enable verification of complaints data and provide an understanding of meteorological conditions which are likely to pose a risk from an offsite odour exposure perspective.
 - No odour monitoring has been undertaken since the facility became operational. An odour sampling survey should be undertaken to gain an understanding of the current emissions from the WRC, and to verify the abatement efficiency of the carbon abatement system. The results of the measurements should also be used to establish a site odour dispersion model to provide an understanding of the current offsite odour impact and any improvements which could be made to reduce odour impact.
 - The cleaning and housekeeping in the compactor area and tipping hall require improvement. It is recommended that the procedures are reviewed and should be investigated and optimised as required.

Enhancement of odour containment, collection and treatment

- Fugitive odours from the tipping hall: The review indicates there is a high potential for odours to escape via open doorways as the current extraction rate appears insufficient for containment of odours. The operation of the extraction systems serving this area should be clarified. If required, improved odour control measures could include the installation of fast closing doors, air lock or air curtain systems, or an increase in the extraction rate from the

tipping hall, each of these control measures could act to reduce fugitive emissions from the building.

- Tipping hall extraction and odour control system: There is evidence to suggest that the odour control systems are not fit for purpose in terms of sustaining an effective level of treatment particularly during the summer months. It is therefore recommended that quantitative testing is conducted to confirm the performance of the systems and identify whether additional or alternative treatment techniques are required to minimise offsite odour impact.
- Fugitive odours from refuse vehicles in the the basement area: There is no containment of odours from the basement. Improved odour control measures could be considered, ranging from enhancement of refuse collection vehicle cleaning procedures, through to improvements in containment by installation of fast closing doors, replacement of the chain-link fence with a solid wall and extraction of the basement air via an odour control system.
- Fugitive odours from the compactor yard – Odorous air is displaced during waste compaction and generated from waste and leachate spillage, currently controlled via odour management procedures including daily and weekly cleaning. Improved odour control measures which could be considered range from more frequent/diligent housekeeping/cleaning, review of equipment maintenance schedules including the compactor trailer coupling seals, through to total enclosure and extraction of the compactor yard.
- Fugitive odours from the gully bay -The gully bay is fitted with a roller shutter door which is currently only closed overnight. The use of this door during daytime operations could improve containment, with the contained area being extracted and odours treated using the existing carbon abatement system. However the slow operation of the existing door and the volume of vehicles entering the area make this impractical. Consideration should also be given to control of odours during the 3-monthly clean-out of the interceptor drain which is located outside the area enclosed by the roller shutter door. Odour control measures could include back-venting of the tanker to the odour control system, through to enclosing the area and installing fast closing doors.

Recommendations for further investigation

To determine the extent of any improvements required it is recommended that additional investigative works are undertaken to optimise the understanding of the odour situation at Islington WRC during 'worst case' summer conditions:

- Repeat audit and offsite sniffing assessment of Islington WRC – to provide a more definitive understanding of the key emission sources and the extent of offsite odour exposure during worst case conditions.
- Review of containment of odours – undertake smoke testing to clarify whether existing containment systems are fit for purpose and to confirm where fugitive emissions are occurring.
- Quantification of site emissions and estimation of offsite odour exposure – undertake an odour survey to quantify odour emissions to atmosphere (e.g. emissions from the carbon odour control system, untreated booster fan emissions, fugitive emissions from the tipping hall and basement). The data collected will be used to:
 - Assess the abatement efficiency of the carbon odour control system and determine whether it is fit for purpose.

- To establish an odour dispersion model of Islington WRC. The model will be used to assess the current offsite odour exposure levels and to provide an understanding of the contribution of emissions from each area and therefore the requirements for odour abatement. The model will then be used to investigate suitable odour mitigation options.

