

ENVIRONMENTAL FOCUS

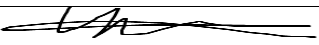
Achieving Compliance & Quality

Storage of Mixed Municipal Waste

Application to Vary Existing Permit

Llantrisant Recycling Centre Ltd (EPR/AB3092/FR)

11th October 2018

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|--------------------------|---|-------------------------------|
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Odour Management Plan (OMP)

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Introduction

This Odour Management Plan (OMP)* has been created for the Llantrisant Recycling Centre (LRC), to help manage and mitigate the odours that are likely to be present when the facility begins the operation of accepting, storing and sorting of mixed municipal wastes**.

The effective management of the process and the facility itself is essential in reducing the risk of odour emissions firstly being created to excessive levels and, secondly, leaving the permitted boundary. The management of the waste, if done correctly, will minimise the risk posed by abnormal operational conditions.

The aim of this OMP is to help the operator identify what conditions are likely to give rise to odour releases and assist the operator in undertaking measures to both mitigate the release and importantly, to help prevent them in the first instance. There are a number of factors that influence the release of odour emissions into the environment, each of which will be dealt with within this plan.

*This OMP has been published in line with the EA guidance note *H4-Odour Management and How to comply with your environmental permit*.

**This report will be reviewed and amended where appropriate annually from permit issue date.

Waste Inputs

The storage and segregation that is to take place at LRC will only involve certain types of waste from contracted sources (outlined within the table 1). The site will operate a materials recovery operation of dry recyclable wastes that will enable the production of a cleaner waste stream for the recovery market. Where possible, the wastes will be segregated at source but where this is not possible mixed skips will have to be used.

Table 1-list of waste codes to be accepted for processing


| EWG Code | Description |
|-----------|---|
| 15 01 01 | Paper & Cardboard Packaging |
| 15 01 02 | Plastic Packaging |
| 15 01 04 | Metallic Packaging |
| 15 01 05 | Composite Packaging |
| 15 01 06 | Mixed Packaging |
| 15 01 07 | Glass Packaging |
| 17 04 07 | Mixed Metals |
| 17 08 02 | Gypsum based construction materials |
| 19 12 01 | Paper & Cardboard |
| 19 12 02 | Ferrous metal |
| 19 12 03 | Non-ferrous metal |
| 19 12 04 | Plastic & rubber |
| 19 12 07 | Wood |
| 20 01 01 | Paper and cardboard |
| 20 01 02 | Glass |
| 20 01 08* | Biodegradable kitchen and canteen waste |
| 20 01 39 | Plastics |
| 20 01 40 | Metals |
| 20 03 01 | Mixed municipal wastes |
| 20 03 07 | Bulky wastes |

For this section, table 2 aims to identify:

- The conditions by which odour may be produced for certain input waste material and the potential of that release to be an issue (risk based approach; these are deemed as being the potentially most problematic waste streams).
- How to mitigate these conditions by effectively managing the input waste types;

Table 2-Likelihood of odour release from green waste inputs

| Waste Source | Composition | Potential Issues | Probable situation | Perceived Risk | Mitigation |
|--|---|--|--|----------------|--|
| Glass from packaging factories | Broken glass or glass that has failed quality control standards of the product. | Wastes may have been stored for periods of time that may be unknown. | Material collected in as the customer requires it to be removed. May be some labelling on the glass. | Low | Pre-acceptance checks will be made to ensure that only clean wastes are being sent for recovery. |
| Glass potentially from commercial or industrial premises | Mixture of glass sources. | Loads can be highly variable and contain larger items. | Material collected in as the customer requires it to be removed. May be some labelling on the glass. | Medium-Low | Pre-acceptance checks will be made to ensure that only clean wastes are being sent for recovery. |
| Mixed municipal type wastes-without food | Mixed wastes collected from local businesses. | Wastes may have been stored for periods of time that may be unknown. The waste may not be washed and so may contain traces of contamination. | The material is collected weekly from businesses. This waste is unlikely to have been stored for long periods of time. | Low-Medium | The wastes will need to be collected regularly (weekly) to prevent odours being created by prolonged stockpiling. |
| Mixed municipal type wastes-containing food | Mixed wastes collected from local businesses. | Wastes may have been stored for periods of time that may be unknown. Food wastes will quickly begin to decompose and create odour in doing so. | This waste is likely to be odorous as it is accepted on to site. It may have been stored for several days before arriving at site. | High | The waste will need to be stored inside the building and then within a sealed skip to reduce the release of odour. The doors to the building will be closed when not receiving a delivery. If required |



odour suppression systems could be installed to reduce the impacts further.

Odour Emission Monitoring

Drawing 1 identifies odour monitoring points that are being used as part of an existing OMP for the composting operations on site. The odour from the newly requested EWC's will be monitored at locations 6, 7 and 8 for the first month and then monthly for the next 5 months. They range in distance from the site but are focussed on the directions of potential receptors of any odour emissions. If findings from any of the points identify any odour issues, these will be recorded within the Odour Assessment Report (See annex list). This report then initiates a full investigation to be carried out by the Recycling Manager and the mitigation measures, highlighted below, will be used to counter the release of odour from site. The corrective actions are then logged on an Odour Mitigation Report (See annex list) to ensure that the same cause of release is prevented in the future. The FIDOR principles will be worked to in order to determine the degree of odour pollution.

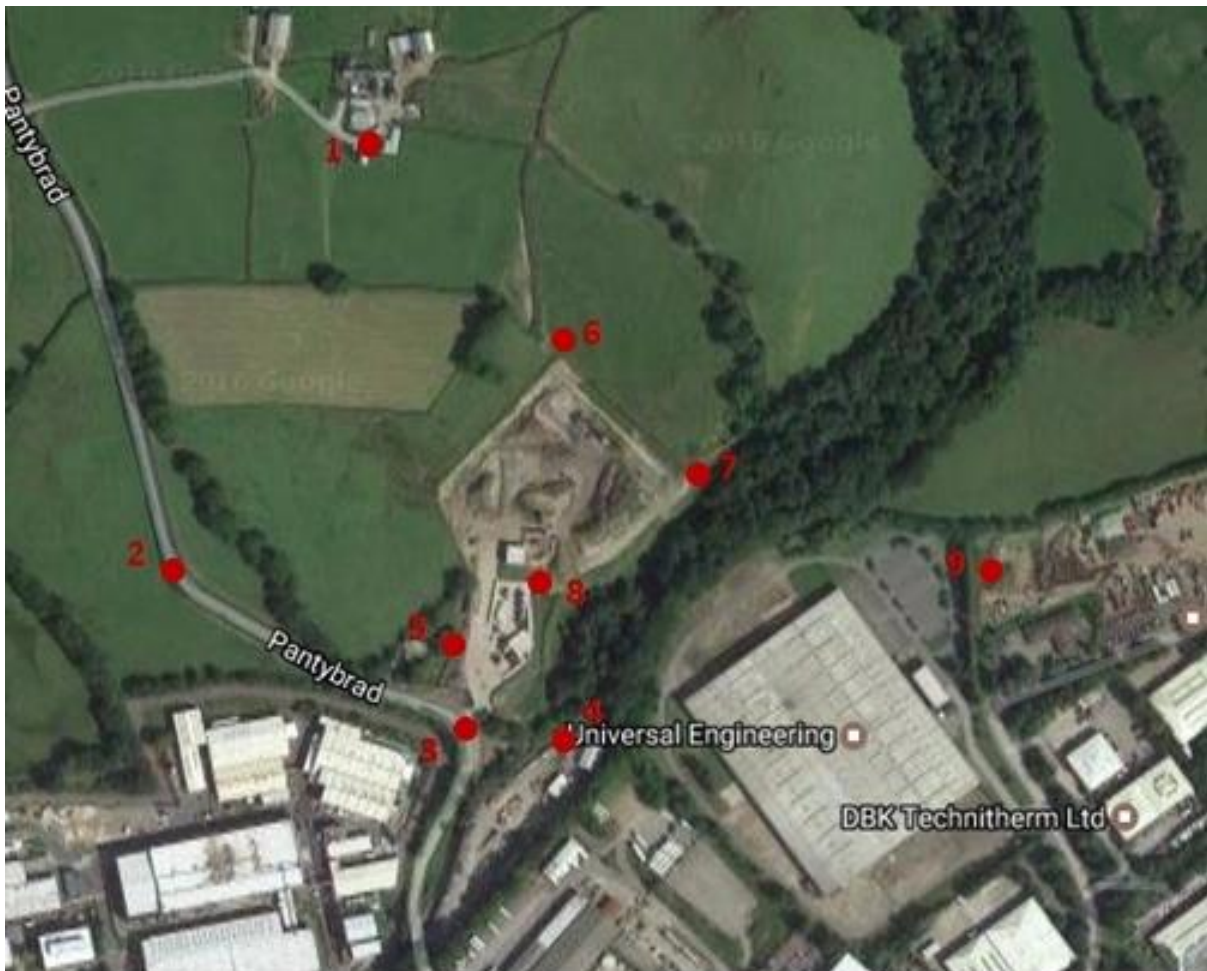
If no odours are noted across the assessment locations, this will be recorded in the assessment form. The monitoring programme will be reviewed after 1 month with the view of reducing the frequency of monitoring from weekly to monthly; it will then be reviewed again to be only initiated upon receipt of complaint from an external source. The review will take into consideration any odour detections and complaints received at the site from all areas.

The monitoring process will be undertaken by a suitably trained member of staff from LRC who has not been subjected to significant odour exposure for at least 30 minutes and who is fit and well. This allows for the assessor to be free of odour fatigue where he/she may become desensitised to the odours emitting from the process. 'Sniff tests' will be carried out, at present it is not anticipated that the requirements of BSEN13725:2003 (Dynamic dilution Olfactometry) will be needed.

The following records/procedures will be carried out and kept on site for inspection when required:

- Odour Assessment Reports-carrying out of sniff tests at the locations below.
- Complaints procedure-following the complaint of odours from an off-site source.
- Emissions monitoring-detailed logs of all emissions potentially released from site i.e. odour
- Meteorological monitoring- checks and recordings of the prevailing weather conditions will be made by use of an in-company weather station located on site.
- Odour Mitigation Form-detailing corrective actions to odour release events.
- An odour diary will form part of the site diary completion.

Drawing 1-identifying the 3 assessment points

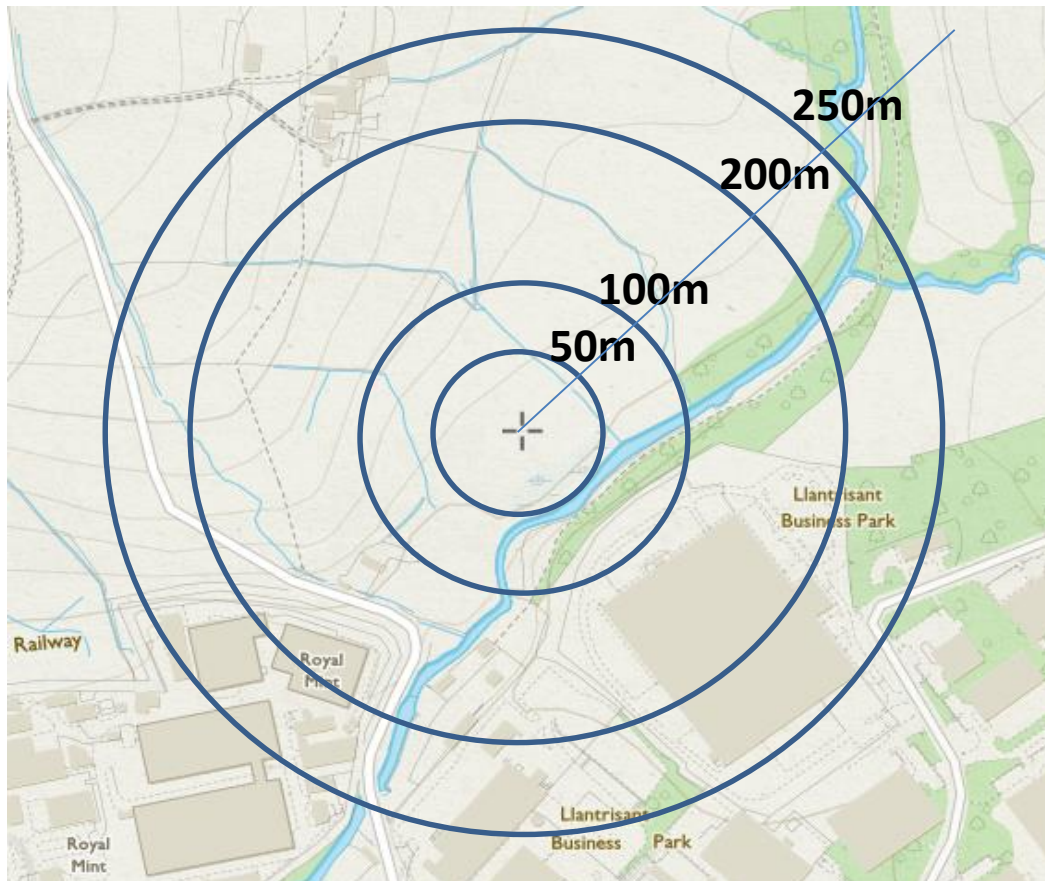


If an odour emission is highlighted as part of the daily monitoring programme, NRW will be notified of the occurrence if it is deemed significant and details of what measures are being undertaken to reduce the odour will be provided.




Local Receptors

Several local receptors have been identified to be within 200- 250m of the waste recovery operation. This can be visualised within the following figure 1 that details the distances to the receptors via concentric rings.

Figure 1- map illustrating the location and approximate distances of the receptors



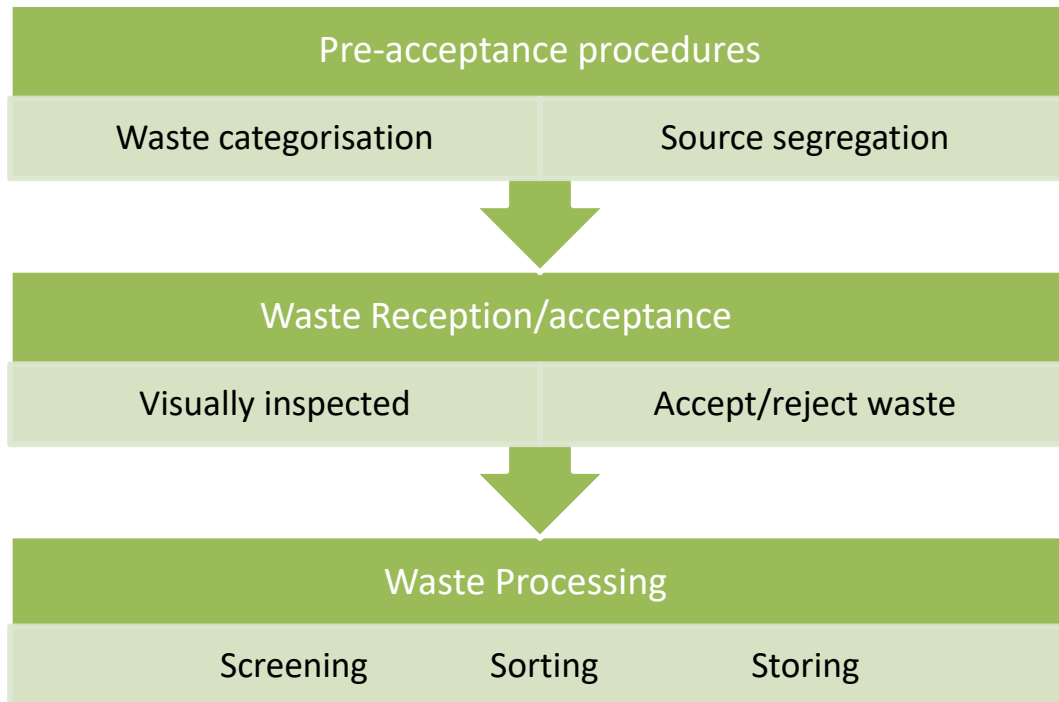
Source-Pathways-Receptor Model

| Source | Pathway | Receptor |
|---|---|---|
| Release of odour from glass waste processing on site | Wind and airborne transmission. | Local businesses and residential properties identified above. |
|  |  |  |

Management and Mitigation of Odour

The identification of where the odours may originate from is vital to the successful adoption of an Odour Management Plan. At LRC there are several processes and points of the site where odour is potentially going to arise:

Process Flow Chart



- Waste reception area. The waste that is to be delivered has the potential to be several days old and therefore could allow for the creation of odours when deposited at the site (depending on the source as detailed above). The higher risk waste that is delivered from other waste facilities will be inspected as it arrives and as it is deposited on site. If the material is odorous, this will be identified on site as soon as possible. The deposited material will either be loaded back onto the delivery vehicle and returned to the waste producer, stored in a sealed skip to try and contain the odour or sent off site for further processing/cleaning elsewhere.
- Waste processing (storage). Initially, the only waste processing that will be carried out on site is a basic screening phase and a bulking up of the material to gain sufficient quantity to sell into the market. At this point, any materials that are likely to be odorous would have been rejected or stored appropriately at the waste acceptance stage; it is not anticipated therefore for this stockpiled material to create an odour. However, if after a period of storage, the material does begin to present an odour, it will be removed from site. To prevent the long term storage of the waste on site LRC will store the material for a maximum of 4 weeks for non-food and a maximum of a week for food wastes.

- Waste processing (sorting). The processes and controls that need to be monitored to reduce and control odour at this stage are the type of material being sorted, the quantity of material, source of material and the rate of the feeding line into the plant (if used). Additionally, the wind directional data will need to be consulted before the operation takes place. This will ensure that conditions are favourable to local receptors. An odour monitoring round will also be undertaken when the waste is being sorted to ensure that no nuisance is being caused at the locations previously identified.
- Storage of product material (separated fractions). This is where the treatment phases are complete and storage requirements have been achieved. The different grades of product will be held in the relevant bays awaiting either customer collection or delivery direct to another recovery site. The waste will be bulked up here to ensure that the process is commercially viable for transportation. The doors will be kept closed wherever possible to reduce the impact of any odours given off by the stored wastes.

Stock Monitoring

Monitoring of the stockpiles held on site needs to be carried out routinely to ensure that the piles of waste at all stages are being managed correctly. This is vital if an early response to problems is to be achieved and mitigated with minimal disruption both on and off site. Effective pre-acceptance and acceptance procedures in line with SGN5.06 are to be adopted ensuring that odorous wastes do not get accepted onto site.

Additional Measures

Occasionally the on-site mitigation measures that will be undertaken to suppress and prevent the release of odours may fail. In these unlikely instances, the first measure that will take place is that the waste due to be delivered to site over the next few days will not occur and it will be diverted to an authorised facility that is licensed to accept it. This will enable the management of the facility to further investigate the cause of the odour and to put additional measures (cover the entire pile with woodchip and as a last resort remove the waste from site) in place to aid in the reduction of off-site emissions. For the time period that these mitigation works are being undertaken, the odorous waste in question will be stored in isolation (detailed in the EMS-new activities) from the rest of the waste being treated and covered with chipped oversize that will act as a bio-filter, until either the problem is resolved or the waste will need to be removed from site (whichever is sooner).

If the problem persists for a period of longer than 3 days; then odour suppression systems could be considered and installed on the perimeter of the site that is closest to those receptors affected by the odour. If it is deemed that the odour suppression system is not sufficient, the waste will be removed and taken to a facility licensed to accept it, within 2 days of the suppression system being installed.

The removal of any un-processed material on site would also occur to prevent this waste releasing any odour.

Throughout this unlikely set of events, the site management will be in contact with the local receptors, firstly by letter, that will detail what actions are being undertaken and a likely cause of the problem and secondly, if required, in person.

Complaints Procedures

LRC as part of this document have committed to a series of procedures that aim to highlight any odour releases from site that may become a nuisance for surrounding receptors. If an odour is identified within the odour assessment monitoring rounds, this is logged and reported to the site management who initiate an investigation into the source of the odour.

If a complaint is made to the site that has already been identified within the daily assessment, no further action beyond what has already been instigated on site will occur. The complainant will be made aware of what remediation is taking place to mitigate the odour release.

In the event that a complaint is made regarding odour that was not identified within the daily assessment it will be directed to the Recycling Manager and company Director. An External Compliant Form will be completed for the incident and logged formally. The Recycling Manager will initiate an on-site investigation as soon as possible after the complaint is received. Any findings and resultant corrective actions will be detailed to the complainant.

All complaints and odour releases will be logged on the Assessment Report forms and any investigation findings/remedial action will be documented on the Odour Mitigation Report form.

In the event that multiple complaints are received from different complainants (3 within an hour of each other from different complainants) the above procedures will be initiated in addition to the following:

- A repeat of the odour assessment rounds at each location identified above.
- An assessment of the type of on-site activity taking place compared to the current meteorological conditions.
- A review of the management and mitigation procedures.
- Further assessment of the location of the complaints to understand if there are any other reasons e.g. geographic etc that may have concentrated the odour to a particular location.

All reports will be made available to NRW if requested.

Corrective actions from confirmed odour identification

The investigations mentioned above will result in corrective actions to be implemented to reduce/remove the odour and to mitigate the effect of poor conditions on site that resulted in the odour release initially. The corrective actions will include procedural reviews included in the following non-exhaustive list:

- Waste acceptance review-if issue is not resolved waste input will cease
- Meteorological interpretation review-to identify whether site staff reading the data incorrectly

Odour Prevention and Dispersal

The levels of potential releases of odour will be controlled so far as reasonably practicable on site by adopting the measures outlined within this section of the plan. Tom Prichard Contracting have purchased a weather station that is a permanent fixture at the site and are to also install a wind sock for an accurate 'on the ground' indication of wind direction and strength.

To avoid the unnecessary nuisance off site from site operations, LRC will ensure that operations will only take place in the first instance:

- when the wind direction and speed would allow for the adequate dispersal of odour (if it is deemed to be an issue), and;
- If this isn't possible due to prolonged adverse (from an operational perspective) weather conditions, will occur outside of peak working hours for the local receptors.

Weather conditions and forecasts will be monitored closely so that swift action can be taken if a window of opportunity presents itself. Community engagement will also be undertaken to ascertain information from the local resident surrounding any planned trips away from home. This could be an opportunity to carry out site operations and significantly reduce the impact on the resident. The LRC management will also advise that before leaving their property, the resident may want to close any windows etc if the level of odour release is likely to be high.

Additionally, dispersion rates may be high when the wind speed is high, in some situations this may lead to the odour being diluted as weather conditions may take the odour higher into the atmosphere and so the local receptors may be unaffected by site operations. This is dependent on accurate monitoring of meteorological conditions.

Annex List

A--External Complaint Form

| | |
|--|-----------------------------|
| Date and time of complaint: | Complaint reference number: |
| Name of complainant (if available): | |
| Contact details of complainant (address and phone number): | |
| Date and time of incident (if different): | |
| Detected location of odour emission (NGR if available): | |
| Weather conditions: | |
| Wind direction and speed: | |
| Complainant description of odour: | |
| Other comments/observations from complainant: | |
| Receptor Sensitivity: (Low, medium or high) Previous complainant (Y/N): | |
| Odour Mitigation Report reference number: | |
| Form completed by (sign and date): | |

| Odour rating | Description |
|--------------|-----------------------------------|
| 0 | No odour (unsubstantiated report) |
| 1 | Very slight odour |
| 2 | Slight odour |
| 3 | Distinct odour |
| 4 | Strong odour |
| 5 | Very strong odour |
| 6 | Extremely strong odour |

Receptor Sensitivity: Low (footpath, road) Medium (ind./com. premises), High (Residential)

B--Odour Assessment Report

| Monitoring Point | Time | Odour Rating | Interrupted? (Y/N) | Description | Weather Conditions | Wind Direction |
|------------------|------|--------------|--------------------|-------------|--------------------|----------------|
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |

Assessment undertaken by:

Assessment Reference number:

Date:

The assessing employee must use the rating system below to identify any odours throughout the monitoring round.

| Odour rating | Description |
|--------------|-----------------------------------|
| 0 | No odour (unsubstantiated report) |
| 1 | Very slight odour |
| 2 | Slight odour |
| 3 | Noticeable odour |
| 4 | Strong odour |
| 5 | Very strong odour |
| 6 | Extremely strong odour |

Action required at points:



C—Odour Mitigation Report

| | |
|----------------------|--|
| Report Completed by: | |
| Date and Time: | |

| | |
|---|--|
| Responsible member of management: | |
| Odour Assessment Report Reference: | |
| External Complaint Reference Number: | |
| Confirmed Source of Odour: (if appropriate) | |
| Suspected Source of Odour: (if no odour remains) | |
| Weather Conditions: | |
| Wind Speed and Direction: | |
| Further Action Required on Site? | |
| Corrective Actions Undertaken: | |
| FIDOR assessment | |
| Frequency of detection: | |
| Intensity as perceived: | |
| Duration of exposure: | |
| Offensiveness: | |
| Receptor sensitivity: | |
| Odour Eliminated at Site: | |
| Odour Eliminated at Detection Location: | |

| | |
|---------------------------|--|
| Complainant Contacted by: | |
| Date and Time: | |
| Incident Closed by: | |
| Date and Time: | |