



# **Boskalis Eastham Aggregates Depot**

## **Environmental Permit Application**

### **Odour Management Plan**

**November 2019**

Prepared on behalf of Boskalis Westminster Limited





## Document Control

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## 1.0 Introduction

### 1.1 Report Context

1.1.1 This Odour Management Plan (OMP) has been prepared by WYG on behalf of the Operator, Boskalis Westminster Limited (Boskalis), for the operation of a dredgings processing facility at Commercial Road, Bromborough in the Wirral.

1.1.2 The report details the management procedures that will be in place to control odorous emissions at Boskalis Eastham Aggregates Depot to ensure that the risk of adverse odour impact on potential nearby receptors is minimised.

### 1.2 Objectives

1.2.1 In accordance with the pre-application advice provided by the Environment Agency, this document has been prepared in accordance with the following guidance:

- Environment Agency guidance note – H4 Odour Management; and
- Environment Agency website – Control and monitor emissions for your environmental permit.

1.2.2 Throughout the operation of the site, Boskalis will seek to:

- Employ appropriate methods, including monitoring and contingencies, to control and minimise odour pollution;
- Prevent unacceptable levels of odour at all times; and
- Reduce the risk of odour releasing incidents or accidents by anticipating them and planning accordingly.

1.2.3 In order to meet the above objectives, this OMP has been prepared to consider the potential sources, releases and impacts of odour pollution and to identify appropriate opportunities for odour management.



## 2.0 Site Context

### 2.1 Site Location

- 2.1.1 The application site is located off Commercial Road, Bromborough, Wirral, CH62 3NL and is centred at approximate National Grid Reference (NGR) SJ 35801 83317. The Environmental Permit Boundary for the site is shown on Drawing Number BWL/A113422/PER/01.
- 2.1.2 The site is located approximately 1.25km north east of the town of Bromborough.

### 2.2 Site Setting

- 2.2.1 Access to the site is achieved from Commercial Road which is to the south of the site. The site is located in an industrial area to the west of the River Mersey. An aggregates recycling facility abuts the south west of the site. Wirral International Business Park is located to the south, south west and west of the site, Dock Road South Industrial Estate is located to the north and a retail and leisure park is located further to the west. The nearest residential dwellings are located approximately 500m to the west of the site on Magazine Road.

### 2.3 Overview of Site Activities

- 2.3.1 The proposal entails the physical treatment (via screening) of non-hazardous maintenance dredging spoil from the Mersey Estuary, together with the landing of virgin (non-waste) aggregates from offshore Crown Estate Licensed winning areas located in Liverpool Bay, together with the discharge of water (used for fluidising and pumping ashore the materials into the depot) back into the Mersey Estuary from where it came.
- 2.3.2 The dredgings will be pumped directly into an existing purpose-built lagoon where the transport water will naturally drain off and return to the River Mersey via the existing outfall infrastructure. The dredgings will then be transferred into the processing facility storage area using loading shovels and/ or 360 degree excavators. The material will then be fed into a screener using the same equipment. Following the screening operations, the dredgings will be stored in bays for loading into trucks for onward sale into the local construction industry.
- 2.3.3 The resultant effluent discharge from the pumping process, which would solely comprise dredging carrier water, shall be made into the Mersey Estuary at National Grid Reference (NGR) SJ 3570 8358, which is consistent with the Waste Management License (reference 50397) for a



dredgings processing facility at the site (W.Maher & Sons Ltd). A sample point shall be provided at NGR SJ 3567 8357 so that representative samples may be obtained. All constituents of discharge shall pass through the sampling point at all times. Sampling of the discharge point for suspended solids shall be undertaken on a monthly basis and the results will be submitted to the Environment Agency.

2.3.4 The location of the lagoon, the storage and processing areas and the discharge and sampling points can be seen on drawing BWL/A113422/PER/01 – Permit Application Boundary.

2.3.5 It is considered that the proposed waste activities at the site will fall under the following Recovery and Disposal codes, provided for in Annex II to Directive 2008/98/EC of the European Parliament and The Council of 19th November 2008 Waste.

- D15: Storage pending any of the operations numbered D1 to D14 (excluding temporary storage, pending collection, on the site where it is produced);
- R13: Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced); and
- R4: Recycling/reclamation of other inorganic materials



### 3.0 Potential Sources, Pathways and Receptors

#### 3.1 Sources

- 3.1.1 It is considered that the two main potential sources of odorous emissions associated with the proposed site activities are any inorganic compounds being incidentally dredged and the use of diesels and other hydraulic, lubricant and transmission oils.
- 3.1.2 The only waste type proposed to be processed at the site is Waste Code 17 05 06, which is 'dredging spoil other than those mentioned in 17 05 05.' This is consistent with the Waste Management Licence (reference 50397) that was issued in 2005 to W.Maher & Sons Limited to operate a dredgings processing facility at the same site.

#### 3.2 Pathway

- 3.2.1 Any odours emitted from the sources identified above would be emitted to air and have the potential to be conveyed to the nearby receptors via transfer through the atmosphere.

#### 3.3 Receptors

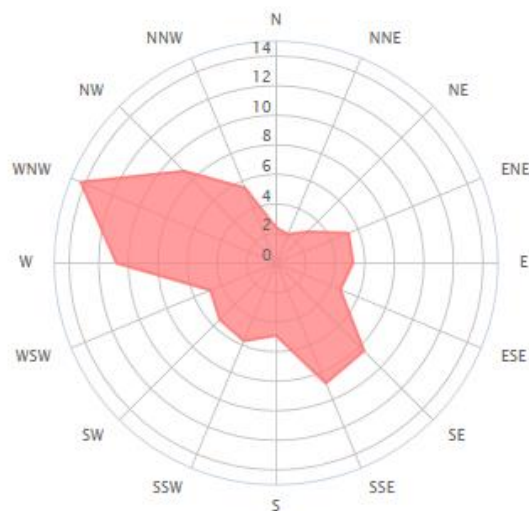
- 3.3.1 The potential odour receptors within 1km of the site's proposed Environmental Permit boundary have been identified in Table 1 below. The location of these receptors is also shown on Drawing Number BWL/A113422/REC/01.

**Table 1: Sensitive Receptors Located within 1km of the Proposed Operation**

ID	Receptor	Direction from Operational Area	Minimum Distances from the Permit Application Boundary (approx. m)
<b>Domestic Dwellings</b>			
1	Dwellings on Magazine Road	W	550
<b>Commercial and Industrial Premises</b>			
2	McTays Marine	N	300
3	F M C Chemicals	S	70
4	Units on Riverwood Road/ Bankfield Crescent	SW	160
5	Riverside Aggregates Ltd	W	Adjacent
6	Tarmac Bromborough Asphalt Plant	NW	275
<b>Highways or Minor Roads</b>			
7	Commercial Road	SW	20
8	Riverbank Road	W	495

3.3.2 The prevailing winds in the local area are from the west-north-west. Therefore, it is considered that the area at risk of higher sensitivity will be situated to the east-south-east. This is shown in the extract below from windfinder.com, which shows the wind direction distribution for Bebington/ Birkenhead, which has been recorded between June 2009 and May 2019 between 7am and 7pm.

**Figure 1 – Bebington/ Birkenhead Wind Direction Distribution % June 2009 - May 2019**



3.3.3 Table 1 shows there are no receptors that will be susceptible to odour emissions located to the east-south-east of the site. The River Mersey is located to the east, east-south-east and south east of the site.





### 4.0 Odour Management

4.0.1 Any odour emissions that arise could cause nuisance to members of the public and to site operatives. The risks identified are based on absolute properties without mitigation measures or sensitivity of receptors taken into account.

#### 4.1 Odour Control Measures

4.1.1 There will be specific measures in place to minimise the risk of the emission of odours beyond the site boundary in relation to each of the potential receptors identified in Section 3.3.

##### Incidental Dredging of Inorganic Compounds

4.1.2 Any malodorous wastes that are incidentally dredged will be reported to the site manager at the earliest opportunity. The wastes will be stored in a dedicated area of the site and it will be arranged for the wastes to be removed from site to be treated/disposed of at an appropriately permitted facility as soon as possible.

4.1.3 It is however considered unlikely that odorous wastes will be dredged into the site and, if this does happen, it will be an infrequent occurrence.

##### Diesel and other hydraulic, lubricant and transmission oils

4.1.4 There are a number of possible odour sources from diesel and other hydraulic, lubricant and transmission oils within the site. All these materials are individually contained either within vehicles or within dedicated storage vessels and therefore have minimal chance of creating an odour issue.

4.1.5 All lubricants and oils used will be those recommended by the manufacturer's guidance. It is essential that the appropriate fuels and oils are available at the site to ensure efficient and continuous use of the plant and machinery, which is required in order for the site to operate.

4.1.6 In order to fulfil the requirements of a Management System, a procedure is in place that ensures the continual improvement of techniques used on site, as well as the long-term monitoring of innovative techniques that appear on the market during the life of the site. These may include further energy efficient measures, potential 'cleaner' fuel options and energy efficient systems for environmental protection.



## 5.0 Monitoring

### 5.1 Monitoring Overview

- 5.1.1 Regular on-site odour monitoring will be undertaken in order to assess the effectiveness of the control measures described above.
- 5.1.2 The monitoring procedures will ensure that should there be any odour emissions from the site, the operator will be aware as early as possible and will implement the necessary remedial action.

### 5.2 General Monitoring

- 5.2.1 All site personnel will be vigilant at all times and will report any odour problems to the Site Manager or Site Supervisor as soon as possible.
- 5.2.2 The Site Manager will record any reported odour problems, in accordance with the procedures in the company's Environmental Management System (EMS).
- 5.2.3 Odour problems beyond the site boundary will be traced wherever possible to establish the source. Once this has been identified relevant action can then be taken.

### 5.3 Off-site Odour Monitoring

- 5.3.1 An off-site 'sniff-testing' exercise will be conducted on a regular basis, the protocol for which is presented in Appendix A. It may be decided in liaison with the EA to reduce the frequency of the exercise if there is a continued period of no odour issues. If complaints relating to odour at the site are received, the frequency of monitoring will be increased in response.
- 5.3.2 The monitoring exercise will be conducted by the Site Manager or an appointed member of staff; it will only be undertaken by a person who has received the necessary training.
- 5.3.3 A record will be kept of all monitoring undertaken. This record will include details on any odour problems that arise, and any remedial actions taken in response.
- 5.3.4 If the monitoring exercise results in the detection of odour offsite, appropriate corrective and preventative measures will be investigated and the existing operational procedures will be reviewed if necessary, as detailed in Appendix A.



## 6.0 Abnormal Events

### 6.1 Possible Events

- 6.1.1 A range of possible events considered to have the potential to result in an increased risk of off-site odour impact have been considered. The events and response measures to be implemented are presented in Table 2 below. If any of these events take place the Environment Agency will be informed.
- 6.1.2 If any abnormal events do occur, they will be recorded in the appropriate section of the EMS along with any actions taken in response. If deemed necessary, operational procedures may be reviewed and amended following the event.

**Table 2: Abnormal events, impact and response measures**

Event	Location	Likely Effect	Response Measures
Severely odorous non-conforming wastes included within pumped dredgings.	Waste reception area.	Increase in emissions from reception area while severely odorous materials are present.	Priority will be given to containing this waste and arranging for this waste to be removed from site to be disposed of an appropriately permitted facility.
Plant breakdown.	Whole site.	Increase in emissions if there is a backlog of waste, although proposed waste streams are not considered to be malodorous.	Any necessary repairs and maintenance work will be carried out in a timely manner.  Receipt of waste will cease if necessary, until machinery is functioning again.  Plant could be sourced from another site or hire company.
Power failure.	All operational and administrative areas .	Increase in emissions if there is a backlog of waste, although proposed waste streams are not considered to be malodorous.	Instigate immediate investigation and remedial action as required.  If the failure is for an extended period, the site will cease or minimise the acceptance of potentially odorous waste, as necessary.
Restricted staff availability.	All operational areas.	Increase in emissions if there is a backlog of waste, although proposed waste streams are not considered to be malodorous.	Several members of staff will be trained to operate the plant on site.

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			If required additional staff may be hired on a temporary basis to cover the absent staff.
Extreme wind/gales.	All operational areas.	Increased risk of emissions beyond the site boundary, depending on the prevailing wind direction.	Operations may be temporarily suspended, and no further waste will be accepted on site.
Extreme cold/snowfall.	All operational areas.	Difficult vehicle access could result in a backlog of materials awaiting deposition and staff not being able to access the site to carry out operations.	If possible, snow will be cleared to enable normal access into and within the site.
Fire.	Plant.	Disruption to site activities may result in a backlog of materials awaiting deposition.	Should a fire occur at the site, operations may be temporarily suspended, and no further waste will be accepted on site.
Flood.  According to data currently available on the Environment Agency website, the site is not within an area at risk of flooding.	All operational areas.	Difficulty in accessing parts of or the entire site could result in increased risk of odour emissions, i.e. if odorous materials cannot be accessed for removal.	In the unlikely event of flooding, operations may be temporarily suspended, and no further waste will be accepted on site.
Failure of containment	All operational areas.	Breach of engineered drainage containment leading to uncontrolled emissions to groundwater.	Operations may be temporarily suspended, and no further waste will be accepted on site.  Remedial works to be undertaken as a matter of urgency to ensure that uncontrolled emissions from the site are curtailed promptly.



## **7.0 Odour Complaints Management**

### **7.1 Complaints Investigation**

- 7.1.1 Any external complaints will be handled in accordance with the Complaints Procedure in the company's EMS.
- 7.1.2 It will be the responsibility of the Site Manager to ensure that the complaint is dealt with appropriately.
- 7.1.3 A record of the complaint will be made in the appropriate documents in the EMS and the cause of the complaint will be investigated. If necessary, remedial actions will be identified and implemented. If appropriate, the complainant will be informed of any actions taken.



## **8.0 Liaison and Document Review**

### **8.1 Liaison**

8.1.1 Boskalis will have clearly defined and accessible communication channels in place for local residents to report odour issues. These will include: -

- Contact details (including telephone number and emergency 'out of hours' telephone number), displayed on the main site notice board positioned at entrance to the site; and
- Website giving relevant contact details, including email, telephone and postal address.

8.1.2 Boskalis are committed to ensuring that any issues identified by the local community are promptly acted upon to ensure on-going co-operation between the two parties.

### **8.2 Document Review**

8.2.1 This OMP will be formally reviewed by Boskalis on an annual basis as and when odour issues arise. It will also be reviewed following any changes in site operations that may have an influence on the risk of odour emissions. This will ensure that the controls in place continue to be effective.



## **Appendices**



## **Appendix A – Off-site Monitoring Protocol and Action Plan**





### Odour Monitoring Protocol and Action Plan

A subjective sniff testing exercise will be undertaken on a weekly basis. Sniff testing will also be undertaken should there be any complaints relating to odour at the site.

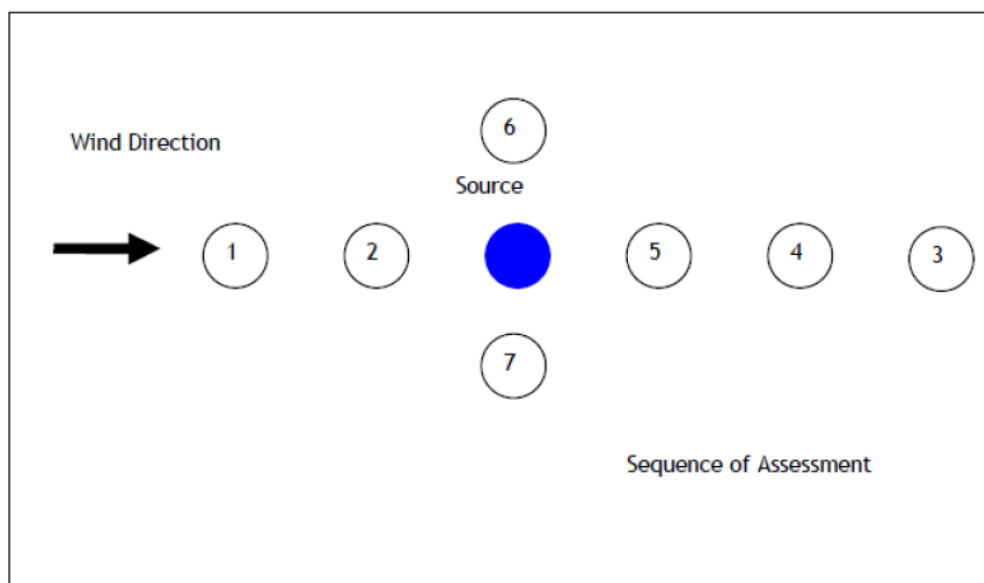
The assessor will be a member of site personnel who is trained in this procedure. The assessor will use their sense of smell to detect odours in the vicinity of the site and identify their sources.

To ensure that the assessor is not suffering from odour fatigue, they will not enter the site on the day of the assessment until they have completed the monitoring exercise. The assessor must also not be suffering from a cold, sinusitis, or a sore throat as these may affect their sense of smell. In addition the assessor should be a non-smoker and will avoid food and drink (except water) for at least half an hour before undertaking the assessment. These measures will ensure that the results of the assessment are robust and reliable.

The meteorological conditions during the assessment will be recorded and any relevant information relating to site operations will be noted. A note will also be made if there are any other noticeable sources of odour in the vicinity.

The exact locations for monitoring will depend on the meteorological conditions at the time of the exercise, but in general terms the following sequence of assessment (Figure 1) will be followed, with areas of weaker strength inspected prior to stronger. The assessor will ensure that they assess the odour level at the site boundary and beyond if significant levels of odour are detected. The form below will be used as a basis for reporting the monitoring results.

**Figure 1: Odour monitoring locations**



# Boskalis Eastham Aggregates Depot – Odour Management Plan



Odour report form				Date	
Time of test					
Location of test					
Weather conditions (dry, rain, fog, snow etc)					
Temperature (very warm, warm, mild, cold)					
Wind strength (none, light, steady, strong, gusting)					
Wind direction (e.g. from NE)					
Intensity (see below)					
What does it smell like?					
Receptor sensitivity (see below)					
Is the source evident?					
Action Plan Implemented?					

Intensity	Receptor sensitivity
0 No odour 1 Very faint odour 2 Faint odour 3 Distinct odour 4 Strong odour 5 Very strong odour 6 Extremely strong odour	Low (e.g footpath, road) Medium (e.g. industrial or commercial workplaces) High (e.g. housing, pub/hotel etc)



**Odour Action Plan**

Actions	Scenarios					
	Normal operations	Receipt of odorous waste	High Risk weather conditions	Abnormal events	Odour found at site boundary	Complaint received
Regular review	●					
Remain vigilant for odours around site	●	●	●	●		
Inform Site manager		●	●	●	●	●
Check boundary and receptors for odour	●	●	●	●		●
Inform Environment Agency				●	●	●
Trace source (if for e.g. non dredging related odour such as oils/ diesel)	●			●	●	●
Investigate and review incident					●	●
Update OMP					●	●
● Compulsory		● If deemed necessary				



## **Drawings**

BWL/A113422/REC/01 – Receptor Plan