



ACL 11 - Odour Management Plan for Waste Transfer Operations

ACL ENVIRONMENTAL SERVICES LIMITED

Land/Premises at Griffen Close
Staveley
Chesterfield
Derbyshire
S43 3LJ

EAWML – 65557/ HB3233RN

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Appendix A Odour Complaint Form

Appendix B Odour Report Form

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1.0 Operations and odour management plan

1.1 Introduction

The structure of this Odour Management Plan (OMP) has been revised on the basis of the Environment Agency Guidance

available at the website and can be seen in the CONTENTS listing that follows here:

<https://www.gov.uk/government/publications/environmental-permitting-h4-odour-management>

This OMP is aimed at assisting the site management and staff in effectively managing potential odour releases associated with the operations at the site and minimisation of the risk of abnormal operational conditions, which could result in increased risk of odour generation at the site.

This type of operation has been carried out across the country by a number of operators without the requirement for an environmental permit, however a change in case law has resulted in an environmental permit being required due to the manual screening of the waste.

This OMP is for operations for ACL Environmental Services Limited who are currently permitted under Environmental Permit at Land/Premises at Griffen Close, Staveley, Chesterfield, Derbyshire, S43 3LJ. Environmental Permit number - Permit EAWML – 65557/ HB3233RN. The permit was issued in its current guise in 2007.

Since being permitted the site has handled tens of thousands of tonnes of gully and road sweeper waste without a single odour complaint.

1.2 Structure of the Odour Management Plan

The structure of the OMP is laid out in accordance with EA guidance and considers:

- Operations and odour management plan
- Process and emissions
- Prevention
- Dispersion and Receptors
- Procedures

1.3 Objectives This odour management plan is designed to:

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

The OMP will consider sources, releases and impacts, and use these to identify cost effective opportunities for odour management.

2.0 Process and Emissions

2.1 Liquid and sludge waste transfer operations

ACL Environmental Services Limited, are market leaders for the reception and de-watering of road sweeping and gully wastes in the Midlands at their established facility in Staveley Derbyshire. The company used to run a fleet of over 30 gully tankers servicing council gully maintenance contracts across the country and now allow these vehicles to visit the facility to transfer these wastes.

In addition, the company has also see the opportunity to handle other wet wastes and de-water them before discharging the treated effluent to the foul sewer.

The proposed on site activities can be split into four distinct processes.

Direct tanker discharge to foul sewer

Treatment via dewatering

The first process is the dewatering of liquid and sludge wastes before the de-watered liquid is discharged to the foul sewer.

ACL Environmental Services Limited (known from now on as ACL) used to run a fleet of over 30 gully tankers servicing council gully maintenance contracts across the country and now allow these vehicles to visit the facility to transfer these wastes.

The company also accepts wastes from a number of other gully and road sweeping wastes from both private contractors and councils.

The existing operations have dedicated concrete wedge pits forming parts of a sealed drainage system. These bays allow liquid wastes to settle out and the liquid element can be discharged to the foul sewer via the existing trade discharge consent. The remaining solids become a sludge. Once stackable these sludge's are moved to other parts of the sealed drainage system for storage.

The company currently specialise in accepting road sweeper and gully wastes, with the addition of drilling muds and sludge's from vacuum excavators.

These wastes will be dewatered in the existing purpose built wedge pits.

Direct tanker discharge to foul sewer

ACL also currently transfer liquid wastes directly to the foul sewer at their site at – at their Staveley site. The process of transferring the waste to the foul sewer requires the waste to be passed over a metal screen to collect any foreign bodies such as tools and mobile phones.

The act of screening requires the activity to be permitted and as a result an odour management plan being created as part of the bespoke permit application is required. This activity is common place at sewage treatment works, which accept tankered liquid wastes.

The transfer of septic tank waste has the potential to generate malodours from process. This OMP makes an assessment of likely sources of odour generation and sets out good site practice and mitigation that is employed to minimise where reasonably practicable any odour emitted from site.

The likelihood and frequency of exposure to odour arising from the facility is determined by combination of the magnitude of release, the prevailing meteorological conditions, and the distance and direction of receptors in relation to the facility. Each of these factors are discussed in the following sections.

Crushing and Screening soils and inert wastes

The existing permitted allows the most common process for treating waste soils and inert wastes for recovery to produce soils and recycled aggregates.

The process involves the currently permitted methods of crushing and screening the wastes to produced sized and graded products.

Washing / screening wastes

The remaining solids left after dewatering non-hazardous wastes that are left within the wedge pits are removed via a loading shovel. The solids are loaded into a hopper on the first unit. The hopper then feeds a vibrating deck screen where the solids are sprayed with high-pressure jets. The remaining solids are then sized into two grades, a coarse sand and aggregate. Oversize and organic fraction are collected separately. The plant then discharges the sand and aggregate at its rear.

The water that is used to wash the aggregates is then pumped to the second unit. The water is treated with a flocculent to aid the removal of suspended solids. The suspended solids are stored in a sludge tank. These solids are removed and the remaining water is used again within the washing process. The permit already allows for chemical – physical treatment of waste.

The plant then sits upon a sealed drainage system, which is different to the other parts of the permitted area.

The washing of road sweeping wastes and crushing and screening of soils and aggregates are low odour wastes and are not seen as a potential major contributor to odours.

2.2 Conceptual Model

The conceptual model for pollutant linkages identified for the release of odours from the Waste transfer facility is identified in Figure 1 below

SOURCE	PATHWAY	RECEPTOR
		
		
Release of odours during waste transfer to foul sewer.	Airborne transportation.	Nearby sensitive receptors identified in section 7.
HAZARD	Nuisance to local population	

2.3 Source Material

The proposed on site activities can be split into four distinct processes -

Direct tanker discharge to foul sewer

The site will operate a waste transfer and treatment operation through the transfer of septic tank and portable toilet waste from road tanker via a screen to the foul sewer.

In order to understand the odour potential of the different waste streams that enter the process, a feedstock inventory has been provided for the various waste types.

Table 1 below provides an assessment of each waste type by source of material, identifying the typical and abnormal compositions of those waste types and providing an overall odour potential of that feedstock based upon the likelihood of abnormal conditions being encountered at site.

Table 2.3a - Assessment of Odour Potential from source material

Waste Type	Waste Source	Typical Composition	Abnormal Composition	Likelihood	Odour Potential
20 03 04 - septic tank sludge	Construction site and sites requiring temporary toilet facilities	Mixtures of water and wastes from toilet blocks	Unlikely septic tanks only serve toilet blocks. Waste can be up to two weeks old.	Waste can regularly be up to two weeks old.	High
16 10 02 - aqueous liquid wastes other than those mentioned in 16 10 01	Construction site and sites requiring temporary toilet facilities	Mixtures of wastes from portable toilets and sanitising chemicals	Unlikely septic tanks only serve. Waste can be up to two weeks old.	Waste can regularly be up to two weeks old.	Medium

Treatment via dewatering

The second process is the dewatering of liquid and sludge wastes before the de-watered liquid is discharged to the foul sewer.

Table 2.3b - Assessment of Odour Potential from source material

Waste Type	Waste Source	Typical Composition	Abnormal Composition	Likelihood	Odour Potential
01 05 04 freshwater drilling muds and wastes	Construction industry	Drilling mud / sludge	Unlikely	Unlikely	Low
01 05 07 barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06	Construction industry	Drilling mud / sludge	Unlikely	Unlikely	Low
01 05 08 chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06	Construction industry	Drilling mud / sludge	Unlikely	Unlikely	Low
02 03 01 sludge's from washing, cleaning, peeling, centrifuging and separation	Food and drink sector	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium

02 03 02 wastes from preserving agents	Food and drink sector	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 03 03 wastes from solvent extraction	Food and drink sector	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 03 04 materials unsuitable for consumption or processing	Food and drink sector	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 03 05 sludge's from on-site effluent treatment	Food and drink sector	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 04 03 sludge's from on-site effluent treatment	Sugar manufacture	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 05 02 sludges from on-site effluent treatment	Dairy Industry	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 06 02 wastes from preserving agents	Baking Industry	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 06 03 sludge's from on-site effluent treatment	Baking Industry	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 07 01 wastes from washing, cleaning and mechanical reduction of raw materials	Alcohol industry	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 07 02 wastes from spirits distillation	Alcohol industry	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 07 03 wastes from chemical treatment	Alcohol industry	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
02 07 04 materials unsuitable for consumption or processing	Alcohol industry	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium

02 07 05 sludge's from on-site effluent treatment	Alcohol industry	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
05 01 10 sludge's from on-site effluent treatment other than those mentioned in 05 01 09	Petroleum / oil production	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
05 01 13 boiler feed water sludge's	Petroleum / oil production	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
05 01 14 wastes from cooling columns	Petroleum / oil production	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
05 01 16 sulphur-containing wastes from petroleum desulphurisation	Petroleum / oil production	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
05 01 17 Bitumen	Petroleum / oil production	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
16 10 02 aqueous liquid waste other than those mentioned in 16 10 01	Aqueous liquid waste destined for offsite treatment	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
17 06 06 dredging spoil other than those mentioned in 17 05 05	Aqueous liquid waste destined for offsite treatment	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 08 01 screenings	Waste water treatment plants	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 08 02 waste from desanding	Waste water treatment plants	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 08 05 sludge's from treatment of urban waste water	Waste water treatment plants	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 08 12 sludge's from biological treatment	Waste water treatment plants	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector	Medium

of industrial waste water other than those mentioned in 19 08 11				and on site management	
19 08 14 sludge's from other treatment of industrial waste water other than those mentioned in 19 08 13	Waste water treatment plants	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 09 01 solid waste from primary filtration and screenings	Preparation of water intended for human consumption / industrial use	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 09 02 sludge's from water clarification	Preparation of water intended for human consumption / industrial use	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 11 06 sludge's from on-site effluent treatment other than those mentioned in 19 11 05	Oil regeneration	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 13 02 solid wastes from soil remediation other than those mentioned in 19 13 01	Soil and groundwater remediation	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 13 04 sludge's from soil remediation other than those mentioned in 19 13 03	Soil and groundwater remediation	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 13 06 sludge's from groundwater remediation other than those mentioned in 19 13 05	Soil and groundwater remediation	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
19 13 08 aqueous liquid wastes and aqueous concentrates from groundwater remediation other	Soil and groundwater remediation	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium

than those mentioned in 19 13 07					
20 01 08 biodegradable kitchen and canteen waste	Separately collected fractions	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
20 01 25 edible oil and fat	Separately collected fractions	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
20 03 03 gully waste	Other municipal wastes	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
20 03 04 septic tank sludge	Other municipal wastes	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium
20 03 06 waste from sewage cleaning	Other municipal wastes	Mixtures of organic fractions	Possible due to the age of the waste	Possible due to the sector and on site management	Medium

Crushing and screening soils and inerts

Waste Type	Waste Source	Typical Composition	Abnormal Composition	Likelihood	Odour Potential
17 01 01	Concrete	Concrete wastes from construction and demolition sites	Unlikely due to source	Very low as inorganic	Very low
17 01 02	Bricks	Mixtures of bricks wastes from construction and demolition sites	Unlikely due to source	Very low as inorganic	Very low
17 01 03	Tiles and ceramics	Mixtures of tiles wastes from construction and demolition sites	Unlikely due to source	Very low as inorganic	Very low
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	Mixtures of concrete , brick and tileswastes from construction and demolition sites	Unlikely due to source	Very low as inorganic	Very low

17 02 02	Glass	Mixtures of glass wastes from construction and demolition sites	Unlikely due to source	Very low as inorganic	Very low
17 03 02	road base and road planings (other than those containing coal tar) only	Mixtures of road base wastes from construction and demolition sites	Unlikely due to source	Very low as inorganic	Very low
17 05 04	soil and stones other than those mentioned in 17 05 03	Mixtures of soils wastes from construction and demolition sites	Unlikely due to source	Very low as inorganic	Very low
17 05 08	track ballast other than those mentioned in 17 05 07	Mixtures of track ballast wastes from construction and demolition sites	Unlikely due to source	Very low as inorganic	Very low
19 12 09	minerals (for example sand, stones)	Mixtures of sand wastes from waste management sites	Unlikely due to source	Very low as inorganic	Very low
19 12 12	mixtures of soils, bricks, concrete, tile and block and Commercial industrial fines	mixtures of soils, bricks, concrete, tile and block and Commercial industrial fines	Unlikely due to source	Very low as inorganic	Very low
20 02 02	soil and stones	Soils and stones wastes from construction and demolition sites	Unlikely due to source	Very low as inorganic	Very low

Washing of wastes

Dewatered wastes, predominantly road sweepings and gully wastes, along with small quantities of soils and those from vacuum excavation works will be washed to recover the aggregates within them.

2.4 Waste Acceptance

The proposed onsite activities can be split into two distinct processes -

Direct tanker discharge to foul sewer

The process is very limited in the waste that it will accept due to the nature of the work that company completes and the wastes that the site is designed to handle. The Environmental Permit will also be limited to only two EWC codes for this activity:

- 20 03 04 - septic tank sludge
- 16 10 02 – portable toilet waste

ACL will collect the waste from the customer and transfer it at the site ensuring consistency and adhering to waste acceptance criteria.

All waste will be checked before being collected and if it is now in line with the above waste streams it will be transferred to a permitted waste facility that can accept the waste stream.

Treatment via dewatering

The second process is the dewatering of liquid and sludge wastes before the de-watered liquid is discharged to the foul sewer. This process will accept a variety of wastes from a number of industries that are outlined in Table 2.3b.

All waste will be checked before being collected and if it is now in line with the above waste streams it will be transferred to a permitted waste facility that can accept the waste stream.

2.5 Process

The proposed on site activities can be split into five distinct processes -

Direct tanker discharge to foul sewer

The process is simple whereby a tanker that has collected either septic tank sludge or portable toilet waste discharges it foul sewer. The tanker is a sealed unit and is coupled via a flexible hose to a coupling that connects to the foul sewer meaning no waste is exposed throughout the transfer process.

The discharge point contains a metal screen that is designed to prevent items that had been dropped into portable toilets such as tools and mobile phones entering the foul sewer. This screen is cleared on a daily basis and any solids are collected and placed inside black bags, which are in turn stored within a sealed skip. The process is enclosed as opposed to pumping the liquid waste from a tanker to an open manhole to the foul sewer.

Treatment via dewatering

The second process is the dewatering of liquid and sludge wastes before the de-watered liquid is discharged to the foul sewer.

Waste liquids or sludge's are transferred from the tanker via a sealed hose connector to the first of two sealed tanks. This allows no contact between the waste material and the air.

The liquid / sludge passes through screen via gravity within the first sealed container. The remaining liquid is then pumped again via sealed hoses to a second tank. At the point of pumping a flocculent is added. Once within the second sealed container the liquid with the aid of the added flocculent settles under gravity allowing the suspended solids to remain and the resulting liquid to be discharged to the foul sewer.

The process of discharging to the foul sewer will be the same as with the first site process of direct tanker discharge to the foul sewer where by the liquid is pumped via a sealed flexible pipe.

Wedge pits for dewatering



Washing

The washing of road sweeper and gully wastes involves washing dewatered solids. These wastes are low in odour and the site has accepted and dewatered them since the permit was issued without odour complaints.

The washing removes small particles of silt that are captured within the sludge tank. The washed waste is then recovered as a washed aggregate for recovery.

Aggregates and soils

The screening of soils and wastes to produce recycled aggregates such as brick, tiles and concrete is not an odorous process.

2.6 Contingency Planning

Should the above processes controls fail at any point during the transfer of liquid waste a spill was to occur, the tanker pump would be switched off and the transfer stopped.

Any liquid would be contained on the sealed concrete pad and immediate hosed to the foul sewer via open manholes. If in the event of the discharge point was damaged receipt of tankers shall not recommence until a full review of this Odour Management Plan has been conducted and process controls (including critical limits) amended as required.

If at any point any component of the dewatering process equipment failed or was damaged the process would be stopped and the container emptied of all waste until the equipment was repaired.

The company uses a network of permitted waste management sites that tankers could be diverted to until the site was ready to accept waste again.

2.7 Releases

The direct discharge process involves connecting the tanker to a purpose built discharge point or the storage tank via a flexible hose, meaning there are no release points and the process is fully enclosed. This is the same transfer system that is used at sewage treatment works for accepting tankered liquid wastes.

Dewatering of waste sludges is in the open within wedge pits. Waste is stored for the minimum period of time and the bays are cleaned immediately after the waste is removed.

As a result, there will be no evaporation of liquids that can be a key creation of odour.

There are no point source discharges of odour due to the use of the of the purpose-built connection (Appendix A) points and as a result exposure is low.

Treatment via dewatering

The process of dewatering of liquid and sludge wastes before the de-watered liquid is discharged to the foul sewer.

The process involves connecting the tanker to a purpose built coupling that connects the tanker to the first of two sealed tanks discharge meaning there are no release point. The two tanks are connected again via sealed hoses and the final tank is emptied via coupling to the purpose built discharge point. This completes a sealed process to prevent releases to air.

As a result, there will be no evaporation of liquids that can be a key creation of odour.

Once full the two tanks are shut off via purpose built valves and they are removed from site for offsite recovery or disposal. This process again is sealed meaning there is no open are loading or unloading.

There are no point source discharges of odour due to the use of the of the purpose built connection (Appendix A) points and as a result exposure is low.

2.8 Odour Release Point Inventory

All identified odour release points have been collated into the table below for quick reference. The inventory assists in identifying the physical locations that require management.

The proposed on site activities can be split into two distinct processes –

Direct discharge to foul sewer

The direct discharge process is simple as it allows liquids to be transferred directly to the foul sewer from tankers, not exposing the waste to the air.

Odour Release Point & Description	Location and Process
Transfer of tankered waste	Coupling on tanker and discharge point
Transfer of waste to foul sewer	Coupling on tank and discharge point

Treatment via dewatering in bays

The second process is the dewatering of liquid and sludge wastes before the de-watered liquid is discharged to the foul sewer.

Odour Release Point & Description	Location and Process
Transfer of tankered waste	Discharge into wedge pit
Transfer of waste to foul sewer	Release of liquids to the foul sewer
Storage of waste in wedge pits	Release from stored wastes

Crushing and screening

The soils and wastes which will be processed to create recycled aggregates will not be odorous.

Washing

The fourth process is the washing of de-watered wastes, primarily road sweeper and gully wastes

Odour Release Point & Description	Location and Process
Transfer of solid wastes	Transfer from solids bay to wash plant
Washing of waste	Washing process
Storage of washed wastes	Release from stored wastes

2.9 Storage

Storage of waste can be split into three distinct areas –

- Storage of dewatered wastes
- Storage of screened / washed wastes

2.10 Chemical additives and flocculants

Wastes deriving from portable toilets will include an additive that reduces odours. The additive is added to the toilets when they are in use.

As a result, the odour associated with this waste stream is much reduced at the point of transfer.

The flocculants that are added to aid the settling of suspended solids is odourless and only used in the wash water treatment process.

2.11 Frequency

There discharges to the foul sewer each day will not be constant. As a result, the frequency of potential odour releases is varied.

The time of the time of the discharges will be within the sites opening hours.

Discharge of wastes into dewatering wedge pits will be within the sites operating hours.

Washing, crushing and screening will only take place within sites operating hours.

2.12 Alternative to proposed transfer system

The proposed on site activities can be split into two distinct processes -

Direct discharge to foul sewer

The direct discharge to foul sewer is a proven method, allowing liquids to be discharge directly to the foul sewer without contact with the air.

The transfer method is used at sewage treatment works across the country to transfer waste liquids from tankers to vessels.

Dewatering of sludge's

The second process is the dewatering of liquid and sludge wastes before the de-watered liquid is discharged to the foul sewer.

The use of the bays is established at the site and is a proven method, it also used less energy than high energy processes such as sludge plants.

As a result, this method was deemed the most suitable and least likely to result in odour complaints as the waste is not agitated, but dewatered under gravity and reduces handling.

Washing

Washing is a long established method of treating wastes containing high levels of aggregates such as grits and sands to recover aggregates.

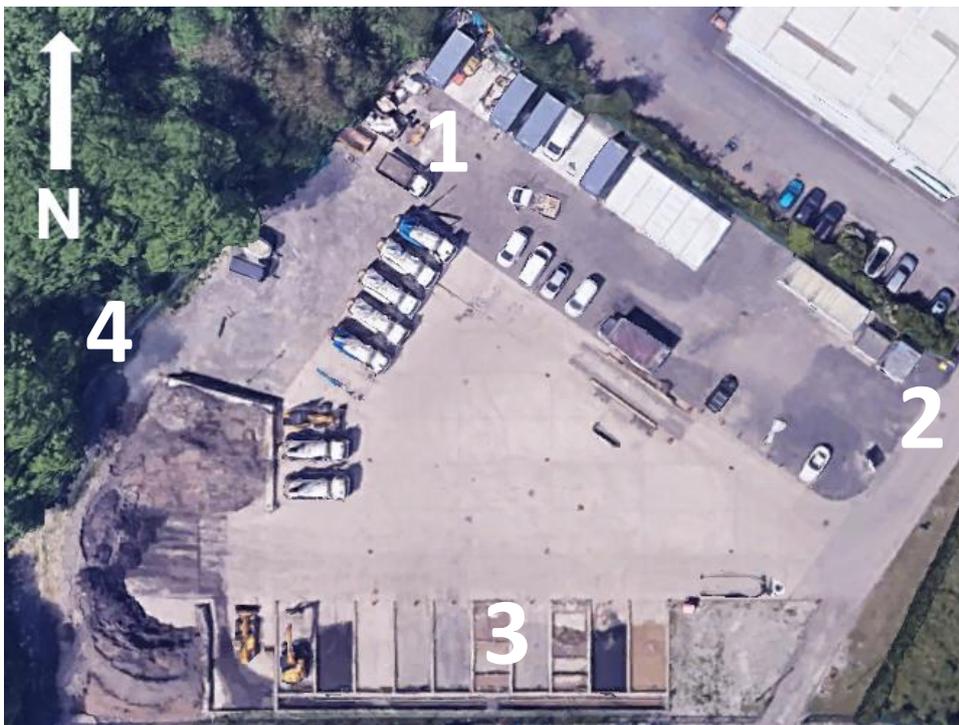
The methods are common especially those for the recovery of road sweeper and gully wastes.

3.0 Prevention

3.1 Internal Odour Assessment and Monitoring

ACL will carry out odour checks at 4 points around the perimeter of the site on a daily basis (shown in figure 3.3) when transfers are taking place. Monitoring is undertaken at various times to build in an element of random checks. In the event that a perimeter odour at 3 or above is recorded, then off site odour checks will be carried out in the prevailing wind direction and details recorded in the site diary. Office staff and other visiting staff are encouraged to check odour to reduce the risk of site staff becoming normalised to the tankered waste. Records will be maintained for two years.

Figure 3.0 Internal odour monitoring points



3.2 Daily Checks

A Daily Checklist will be implemented which is to be carried out daily and available to the Environment Agency on inspection. The checklist will be filled in daily by the site manager or other appropriate person in order to monitor the site cleanliness and weather conditions which may affect odour controls. The monitoring will take place on a daily basis and is designed to reduce the potential for odour. This checklist will be kept in the site office and will be produced upon the request of the Environment Agency.

3.3 Cleaning

The site will have operate a strict cleansing regime of the permitted area to ensure that any residues from the transfer of the liquids are not allowed to remain exposed to the air, this will include –

- Cleansing of the discharge point via hosing.
- Flushing of the hose used for the transfer of liquids from the tanker to the discharge point.
- Flushing the de-watering system.
- Hosing of the transfer area to the foul sewer.
- The grid collecting the solids is cleared and hosed down on a daily basis.
- Cleaning of wedge pits.
- Cleaning of the concrete pad with use of hoses and mechanical road sweepers.
- Cleaning of the wash plant.
- Cleaning of the wash plant sludge tank.
- Cleaning of loading shove.

When required the wedge pits can be cleansed to remove solids or even be removed from the site for tipping. When fouled screens can be cleansed via jet washing from inspection and access hatches on the top of all tanks (remain closed when in operation).

Once the pits are full of solids they can removed from the sites loading shovel and moved to solid storage areas.

All processing and handling equipment will be cleansed when required to remove the build-up of residues.

The whole site is laid to concrete as part of the maintenance of the site it will be hosed and cleansed with a mechanical road sweeper.

3.4 Maintenance

The site will have operate a strict maintenance regime of the equipment integral to the transfer and treatment of wastes permitted area and those making up the permitted area to ensure that and failure or damage of equipment does not give rise to odour. This will include –

- Checking all coupling points on the discharge point and tankers are functional and free from leaks.

-
- Checking all couplings and valves on the dewatering tanks.
- Checking the hose used for the transfer of liquids from the tanker to the discharge point is free from splits, holes and damage.
- All curbing and bunding is intact to prevent any runoff from the pad spreading across the site.
- All drain lids are fitting correctly and free from damage.
- Inspection hatches are closed and tight fitting
- De-odouriser system is operational
- Washing of the loading shovel
- Cleaning of the concrete pad to prevent the build-up of waste materials.
- Washing down the screens of the wash plant.
- Cleaning wedge pits once emptied of dewatered wastes.

4.0 Dispersion and Receptors

4.1 Dispersion

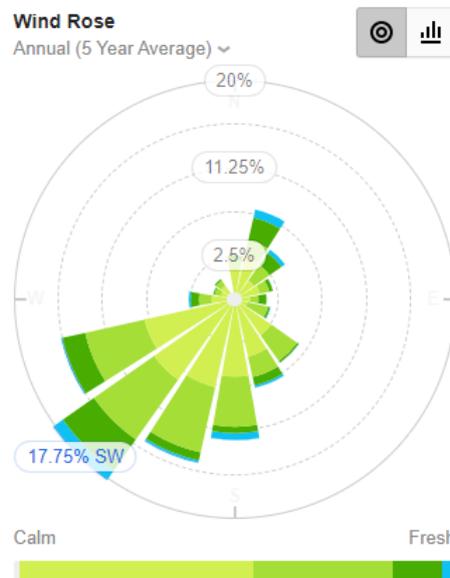
The following section identifies the prevailing weather conditions on site, in particular the wind direction in order to predict the path of likely aerial dispersion of odours generated on site. By constant monitoring and even forecasting of poor dispersion conditions, ACL can trigger contingency measures to temporarily cease operations.

Information on wind direction has been derived from the Willy Weather based upon the last five years. This data is illustrated by the wind rose in Figure 2. Wind data is collected daily as part of the

routine monitoring on site. 16-point wind directions are provided below, note that calm days are also included to provide a complete data record.

Wind Direction

Direction	Percentage
N	3.55
NNE	7.40
NE	4.89
ENE	3.12
E	2.53
ESE	2.92
SE	6.24
SSE	7.28
S	11.32
SSW	13.49
SW	17.75
WSW	14.24
W	3.70
WNW	1.80
NW	2.00
NNW	0.00



Wind rose for Watnall Observing Station taken for the last five years

The predominant wind blows from the west-south-west towards receptors to the east north-east of the Site. This area is less populated by industry with part of the area giving way to farmland.

4.2 Site Location and receptors

The site is located on a small industrial estate to the south of the village of Staveley. To the North, East and West the site is surrounded by a large number of business's falling into the following categories –

- Plant and vehicle hire
- Plant and vehicle repair
- Storage and distribution
- Light manufacturing

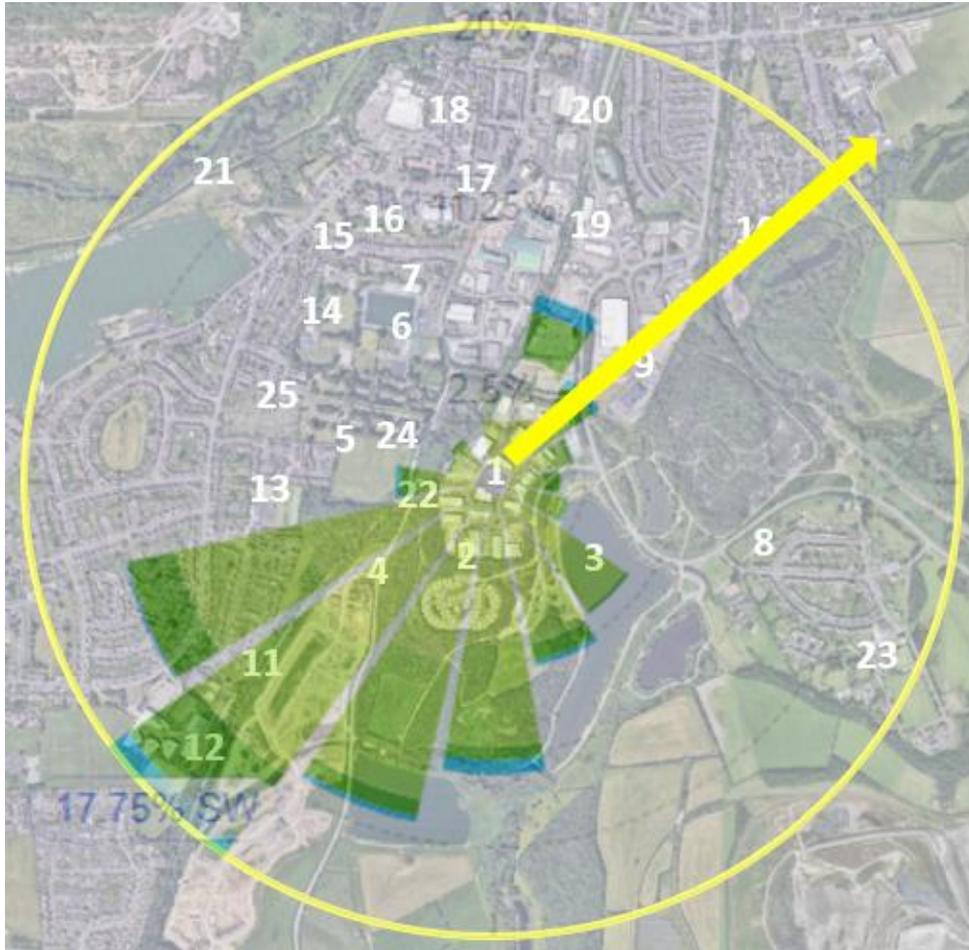
Based upon the guidance document - H4 Odour Management How to comply with your environmental permit states the following 'Some receptors are more sensitive than others. Domestic residences, or a pub with a beer garden are more likely to be sensitive than an industrial complex'.

The closest sensitive receptor in line of the prevailing wind being dwellings 825m away.

The closest receptor associated with human are adjoining light industrial properties.

The closest residential properties are 265m away.

Site location and prevailing wind direction



Receptors

Ref	Receptor	Description	Direction from site boundary	Approximate distance from Site Boundary (m)
1	Industrial Estate	Light Industrial	N, S, and E	0
2	Caravan Park	Touring Caravan Park	S	220
3	Country Park	Poolsbrook Country Park	S and E	200
4	Dwellings	New Housing Estate	SE	300
5	Dwellings	Existing housing estate	W	265
6	Park	King George Park	NW	275
7	Football Club	Staveley Miners Welfare FC	NW	330
8	Dwellings	Existing housing estate	SE	665
9	Industrial Estate	Light Industrial	NE	350
10	Dwellings	Existing housing estate	NE	825
11	Community Centre	The Staveley Centre	SW	715
12	College	Springwell Community College	SW	840
13	Primary School	St Joseph's Church of England	SW	370
14	Junior School	Staveley Junior School	NW	375
15	Infants School	Speedwell Infants School	NW	475
16	Clinic	Staveley Clinic	NW	530
17	Leisure Centre	Staveley Healthy Living Centre	NNW	570
18	Shops	Shopping area	NW	750
19	Industrial Estate	Light Industrial	NE	250
20	Fire Station	Staveley Fire Station	NR	725
21	Canal	Chesterfield Canal and Footpath	NW	820
22	Bridleway	Bridleway	W	10
23	Primary School	Poolsbrook Primary Academy	SE	970
24	Playing Fields	Chantry Playing Field	W	120
25	Allotments	Allotments	WSW	360

4.3 Dispersal Control

There are no sensitive receptors in various directions from the site. Given the varying directions to non-sensitive receptors it will not be practicably possible to restrict activities by wind direction. As the receptors are a mix of commercial properties operating around the clock it would also not be possible to restrict activities by time.

4.4 Other Sources of Odour

The Industrial Estate has a variety of different industries located upon it with a variety of sites that will produced their own distinct odours, including:

- Refuse vehicle maintenance.
- Plastic extrusion

In addition to the above, the site is located 980m to the Northwest of the Viridor Waste Management Limited Erin Landfill. The site has the potential to produce high levels of odours within the vicinity. Below are details of the site taken from the Environment Agency Public Register.

Permit EPR/BW0991IX - VIRIDOR WASTE MANAGEMENT LIMITED

Permission number	EPR/BW0991IX
Name	VIRIDOR WASTE MANAGEMENT LIMITED
Site address	MARKHAM LANE, Erin Landfill EPR/BW0991IX, DUCKMANTON, CHESTERFIELD, DERBYSHIRE, S44 5HS
Site postcode	S44 5HS
Activity Type Description	Waste Landfilling; >10 T/D With Capacity >25,000T Excluding Inert Waste - 5.2 A(1) a)
Site grid reference	SK4490073000
Easting	444900
Northing	373000
Local Authority	Chesterfield (opens in new tab)
Permission date	03/11/2022

5.0 Procedures

5.1 Responsibilities

The overall responsibility for the site shall remain with the Companies' Managing Director.

Day to day operational responsibility for the transfer to foul sewer process is maintained by the site's competent persons or COTC holders (Certificate of Technical Competence Holder's in the event of an odour complaint the Odour Complaint Form as shown in Appendix B will be used and if complaint is validated the cause investigated and remedied

5.2 Procedures when Odours Arise

There is an internal odour report form (see Appendix C) and an external complaints procedure (as outlined below and in Appendix B) to ensure any odour issues are dealt with quickly and effectively.

5.3 External Complaints Procedure

Any complaints relating to the odour of the site will be taken seriously and channelled through a senior member of staff. Staff taking note of the complaint will use the appropriate Odour Complaint Form (see Appendix B).

Once the complaint is taken, the Site Manager will investigate the complaint and the site activities and respond to the complainant in writing outlining any findings and actions taken to mitigate the source of odours. Any complaints, investigations and mitigating actions will be recorded in the site diary.

The complaints procedure, including a survey of the complaints to date will be re-assessed by the Operations Manager and the Managing Director on a yearly basis, unless the number of complaints warrants additional reviews. It should be pointed out there have been no substantiated odour complaints by the Environment Agency for the last 2 years at this site.

5.4 Response to Complaints

The receipt of a single odour complaint during normal operations is treated as an exceedance of control levels. The primary response will be as detailed in accordance with the site's complaints procedure. An investigation shall be initiated into the cause of the complaint; this will involve as necessary:

- An olfactory survey as outlined below;
- An examination of the site activities at the time of the complaint;
- An examination of the meteorological conditions at the time of the complaint; and
- A review of the effectiveness of operational and odour control procedures. If the complaint is validated it will be treated as an exceedance of the control level. The outcome of the investigation will determine the corrective actions to be implemented.

5.5 Abnormal Meteorological Conditions

In the event that meteorological conditions prevent delivery or dispatch vehicles, or staff arriving on site, emergency contingency plans will need to be followed to ensure the site can be remotely managed until the site can return to operation under normal conditions. The site manager and staff operatives will undertake daily weather checks to ensure that any abnormal weather conditions can be foreseen as much as possible and contingency arrangements can be put in place prior to any problem occurring on site. In the event that the site has to be closed due to severe weather conditions deliveries will be diverted to an alternative suitably authorised site for either recovery or disposal.

5.6 Breakdown of Process Equipment and Plant

In the event that there is a breakdown of equipment or plant that cannot be repaired within 24 hours, hire equipment will be brought in. The wider group of companies behind GAP has significant resources and will be able to ensure relevant plant can be sourced.

5.7 Staffing Issues

The general manager ensures holidays are properly covered by staff from the wider group of companies. In terms of illness if a member of staff was not able to attend work on a particular day the site will manage but if that person or several staff at the same time were to be off for a longer period, staff can be sourced from the wider group of companies.

5.8 Odour Management Plane Review

The odour management plan will be reviewed annually and the version and review date modified accordingly, however if any of the following occur the odour management plan will be updated accordingly -

- Change to the permitted activities of the site.
- Change to the infrastructure and technology used to facilitate the transfer of liquid waste.
- Receipt of substantiated external odour complaints.
- Recording of odour internally that are likely to give rise to external complaints.
- A request made by the Environment Agency.

Appendix A

Odour Complaint Report Form	
Time and date of complaint:	
Telephone number of complainant	
Date of odour:	
Time of odour:	
Location of odour, if not at above address:	
Weather conditions (i.e., dry, rain, fog, snow):	
Temperature (very warm, warm, mild, cold or degrees if known):	
Wind strength (none, light, steady, strong, gusting):	
Wind direction (eg from NE):	
Complainant's description of odour: What does it smell like?	
o Intensity (see below):	
Duration (time):	
Constant or intermittent in this period:	
Does the complainant have any other comments about the odour?	
Are there any other complaints relating to the site?	
Any other relevant information:	
Do you accept that odour likely to be from your activities?	
What was happening on site at the time the odour occurred?	
Operating conditions at time the odour occurred (eg flow rate, pressure at inlet and pressure at outlet):	
Actions taken:	
Form completed by:	Signed

Appendix C

Odour Report Form				Date:	
Time of test					
Person conducting test					
Location of test e.g. street name etc					
Weather conditions (dry, rain, fog, snow etc):					
Temperature (very warm, warm, mild, cold, or degrees if known)					
Wind strength (none, light, steady, strong, gusting) Use Beaufort scale if known					
Wind direction (e.g. from NE)					
Intensity (see below)					
Duration (of test)					
Constant or intermittent in this period or persistence					
What does it smell like?					
Receptor sensitivity (see below)					
Is the source evident?					
Any other comments or observations					

Appendix D

Odour Diary					Sheet No:
Name and contact number	Address				
Date of odour:					
Time of odour:					
Location of odour, if not at above address (indoors, outside):					
Weather conditions (dry, rain, fog, snow etc):					
Temperature (very warm, warm, mild, cold or degrees if known):					
Temperature (very warm, warm, mild, cold or degrees if known):					
Wind direction (eg from NE):					
What does it smell like? How unpleasant is it? Do you consider this smell offensive?					
Intensity – How strong was it? (see below 1-5):					
How long did go on for? (time):					
Was it constant or intermittent in this period:					
What do believe the source/cause to be?					
Any actions taken or other comments:					