Lawrence Landfill and Recycling LTD

Process Description, Management and Controls

Introduction

Overview

A brief description of the waste management activities to be carried out under an environmental permit authorised by the Natural Resources Wales are as follows:

Pembrokeshire County Council Highways own vehicles arrive at the depot carrying gulley wastes and Road Sweepings which are generated from the Councils own highways maintenance, construction and repair operations.

Gulley wastes are generated from the removal by dredging of accumulated sediment from surface water road drain gully pots and other similar catch pits.

The objective is to recover the sediment (by de-watering, bio-remediation and soil screening) to produce an aggregate and a compost like material (CLO). Both fractions will be tested each quaterly. The aggregate will be incorporated with the inert materials on site or can be reused as a road construction material by the Local Authority. The CLO fraction will be recovered in the construction of a sound bund on the Lawrence Landfill site. Planning has been approved for the construction of the sound bund and the current Environmental Permit has been varied to include the use of CLO construction. The compost like material will not be used for agricultural benefit.

The processes involves discharging the gulley and road sweeping wastes into a bay where they are allowed to drain freely by simple dewatering under gravity into acro drains on an impermeable surface equipped with a connection to a sealed sump. When the sump is full a tanker will collect the leachate

Previous successful trials conducted at the site demonstrated that typical accepted wastes can be treated on site and result in a quality aggregate and a Non Hazardous CLO.

Waste Acceptance

Waste Pre-acceptance Procedures

Wastes to be accepted at the Waste Recycling Depot are pre-determined and are generated from Pembrokeshire County Councils Highways own maintenance operations carried out on the dredging (de-silting) of surface water road drains and Road Sweeping within the County of Pembrokeshire.

Gully wastes are generated by the Highways operatives at source during gully emptying operations, which are either from pre-planned maintenance schedules, construction or emergency works and repairs to flooded roads and blocked drains.

Where there is known contamination to road drains e.g. from chemical spillages from commercial/industrial premises or road accidents, where polluting wastes that have entered the drains, an independent waste contractor is employed to clean the drains and remove the contents to another suitably authorised site that can accept them

Visual and olfactory checks are carried out on the gullies (the gully wastes) prior to and during de- silting of the gully pots by the Highways operatives, where there is suspected contamination, each vehicle is equipped with a sampling tube and container so that the operatives can take a sample to examine the gully wastes closely for any visible contamination, what the contamination is likely to be and to determine whether the wastes are likely to be unsuitable for removal or for removal for onward treatment and recycling/recovery at the Waste Recycling Facility to the nature of the wastes (surface water sediments), the likelihood of removing contaminated wastes are low, however.

Arrival of Incoming Waste
The County of Pembrokeshire Highways own vehicles deliver the waste to the facility via the site entrance.

The driver parks the vehicle and reports to the reception area of the site. The driver then reports to the senior site operative for approval and authorisation prior to offloading the wastes into bay 1 for primary de-watering.

The information recorded by the site manager and kept at the site office prior to the vehicle offloading includes:

Steps	
1.	Time and date details
2.	Registration/fleet identity number
3.	Area(s) and location of drains that have been emptied of waste received
4.	Waste description and waste code nature 20 03 03
5.	Acceptance checks (risk areas, checks and sampling) irregularities with the load, prior to offloading and on inspection after deposit, e.g. contamination, odours, unsuitable debris, hazardous items etc.
6.	Rejected waste/loads for alternative off-site treatment/disposal waste transfer notes or hazardous waste consignment notes for redirected,or removed wastes.

Waste rejection and/or quarantine

If the site manager finds any irregularities with the load prior to deposit into bay 1, then the vehicle will be quarantined within the reception area pending further enquiries, and where appropriate, sampling and analysis. Unsuitable loads will re-directed to another appropriately permitted facility.

Where there are irregularities found e.g. unsuitable debris or heavy contamination found within the waste after deposit the following procedures will be employed depending on the nature and scale and risk assessed where appropriate:

Emissions Control

Point source emissions to air, surface water and groundwater
There are no point source emissions to air, surface water or groundwater from the waste management operations.

Point source emissions to sealed sump

There is a point source emission to sealed sump.

Source of emissions are from Bay 2 (secondary dewatering) and Bay 1 (primary dewatering) resulting from the settlement by gravity and fall to a contained drainage channel of the wet soils from the highway maintenance and gully emptying operations carried out by the Highways department.

Type of emissions to sewer are entrained uncontaminated surface waters which have been separated from the soils by gravity by allowing the soils to drain freely within the contained bays over several days within each bay, substances and parameters include:

•Suspended solids
•pH
•Oils and grease
•Flow

Quantity of drained waters directed to sealed sump via emission point is variable depending on waste input and seasonal variations.

Site checks

During operational periods, daily, weekly, monthly and annual checks are made by the site supervisor to inspect waste storage areas, site surfacing, drainage channel and perimeter security fencing. Checks carried out are recorded and any defects detected and necessary repairs made are also recorded in the site diary.

Controls to prevent fugitive emissions

The following management controls to ensure that fugitive emissions are adequately prevented or minimised (insignificant) are as follows:

Measures to prevent emissions to surface and controlled waters and land and groundwater:

1. Inspection of integrity and maintenance of impermeable site surfaces and retaining walls to bays 1, 2 and 3.
2. Inspection of integrity and maintenance of drainage channel (by regular cleaning/de-silting) and catch pit.
3. All waste reception, treatment and storage operations to be carried out within the designed impermeable and contained areas on the site.
4. Keep absorbents readily available on-site for use in containing any spillages outside the contained drainage areas.

Measures to prevent emissions to air:

1. Gully wastes and screened soils to be stored fully within the confines of each bay and stockpiles to be kept below the high of the walls (2 meters) to prevent wind erosion.
2. Stock piles within the bays to be covered during periods of prolonged dry weather and/or high winds (greater than Beaufort scale 3(11 knots)
3. Screening activities to be carried out only during low wind speeds

Measures to prevent dust, mud and litter:

1. Keep site surfaces clean by sweeping. Ensure skip containing litter and debris is kept closed.
2. Retrieve any loose litter or debris at the end of each working day.

Lawrence Landfill Site Operational Stages:

Stage 1:	Waste received
Stage 2:	Waste acceptance procedure checks
Stage 3:	Weighbridge
Stage 4:	Vehicle movement to the waste reception building
Stage 5:	Waste deposited in bay 1
Stage 6:	Waste is stored in bay 1 for primary de watering
Stage 7:	After 48 hours waste is moved to storage bay 2 for secondary de-watering for 5 working days
Stage 8:	After 5 working days waste is moved to storage day 3 for bio-remeditation.
Stage 9:	After 4 weeks waste is screened into aggregate and compost like material clo.
Stage 10:	Screened aggregate and clo are stored separately.
Stage 11:	Both materials are analysed using the basic characteristic suite as specified in waste acceptance testing methodology.
Stage 12:	If materials pass the GAC analysis levels. Materials are then moved from the operations building and into the dedicated storage areas on site.
Stage 13:	Aggregate will be incorporated with inert stock. CLO will be stored prior to being used in the construction of the sound bund on site.

Sample Test Results from Site Trials of Road Sweeping and Gully Wastes at Lawrence Landfill Ltd can be seen in Lawrence Landfill Appendix 1 Test Results .