CEL 2 - Non-Technical Summary – Collins Earthworks Limited, Plot 7a, Park Lane Business Park, Park Lane, Kirkby In Ashfield, Nottinghamshire, NG17 9LE - EAWML – 102963

1.0 Introduction

Collins Earthworks Limited, are a market leader of earth works and associated activities within the Midlands. The company also runs a modern fleet of 30 mechanical road sweepers to service these earth works projects and other customer's needs.

The company currently operates under an Environmental Permit at Plot 7a, Park Lane Business Park, Park Lane, Kirkby in Ashfield, Nottinghamshire, NG17 9LE. Environmental Permit number - Permit AB3039DB / EAWML 102963. The permit was issued in its current guise in 2011.

The company currently operates under this environmental permit to recycle construction and demolition (C&D) wastes. These wastes are turned into a recycled secondary aggregate for use in the construction sector.

The company currently has limited outlets for the road sweeping wastes that are generated through the mechanical sweeping process and many earthmoving and construction sites do not offer the option to tip the swept material back on to the site where it was generated.

There are also a very limited number of permitted waste facilities in the midlands that can accept road-sweeping waste European Waste Catalogue (EWC) code 20 03 03 and more importantly as a sludge or a liquid. This is essential as part of the mechanical road sweeping process involves the use of water to loosen and cleanse the road surface and as a result, this water is then sucked back up into the sweeper hopper.

The company wishes to accept road sweepings at their existing facility and in addition screen this waste stream to remove recoverable aggregates and deal with the water element of the waste stream. In addition, the company wishes to add EWC codes for specific C&D wastes streams.

2.1 Waste Acceptance

All waste will have gone through a pre-acceptance process with all waste being booked in before it can come to the site. All incoming waste must report to the site office; a completed waste transfer note must be provided to show the description and origin of the waste. The vehicle will then be directed to the discharge point.

If there is a variation in the waste compared to its description this must be discussed with the on site office. If the description requires changing this will be completed if the waste can be accepted under the environmental permit. If not the waste will be rejected and removed from site.

Any rejected loads, quarantined loads or loads where the description has changed from the original waste transfer note will be noted in the site diary. The relevant code will be assigned in line with Guidance on the classification and assessment of waste (1st Edition v1.2.GB) Technical Guidance WM3. All waste movements are recorded on the company's electronic system.

Sweeping Process

The process of mechanical road sweeping involves a vehicle equipped with brushes, high pressure water jets and a vacuum system. Water is sprayed onto the surface being cleaned, loosening and saturating debris. Brushes further loosen the debris from the surface and a powerful vacuum system sucks up the resulting solids and liquids and deposits them in the hopper on the back of the sweeper. The resulting waste is mixture of solids and liquids and depending upon the amount of water being used and environmental conditions the amount of water in the hopper can vary greatly and as a result the waste in the hopper can be a liquid or a sludge. Specific tasks such a road planings and road chippings the waste will be a solid.

Sweeper Wastes

Road sweepers arrive at site, and the driver will report to the site office and provide a description of the waste that has been collected. This should already be on the system as the waste collected would already be booked in as a job including the source and description. Once the load has been booked into the system the waste will be allowed to discharge into the designated sealed sump.

The sweeper drives up to the designated area for tipping which sits on an impermeable surface and part of a sealed drainage system. The sweeper will then reverse to the designated point. At this point, the sweeper body will be raised and then the rear door will be opened. The waste will then be deposited into the sealed sump in the ground.

6.0 De-watering and recycling process

The proposed process of dewatering and recycling of road sweeper waste is a proven method, which is already in use on a number of large construction sites in England. A number of manufacturers have produced plants that are permitted for this purpose including CDE and Gritbuster, with a number of companies employing these systems. Below are a few examples of the companies that operate similar plants and the relevant environmental permits.

Company name - U B U Environmental Limited
Environmental permit - RP3498CT
Address - Linnyshaw Industrial Estate, Moss Lane / Sharp Street, Linnyshaw Industrial Estate, Worsley, M28 3LY

Company name – Go Plant Limited
Environmental permit - HP3092EU
Address - Stafford Park 13, Stafford Park 13, Stafford Park, Telford, Shropshire, TF3 3AZ

Company name – Sweeptech Environmental Services Limited
Environmental permit - NB3933AW
Address - Unit 1 The Old Brickworks, Shoreham Road, Henfield, West Sussex, BN5 9SE

Company name – PMG (Waste Management) Limited
Environmental permit - KB3304CL
Address - Land Off Church Road, Church Road, Severn Beach, Bristol, BS35 4PW

Company name – 2 Z L F Limited
Environmental permit - AB3904UQ
Address - West Meadows Waste Recovery Facility, Downing Road, West Meadows Industrial Estate, Derby, Derbyshire, DE21 6HA

Company name – ADMEC Environmental Services Limited
Environmental permit - MB3930RL
Address - Rowletch Burn Industrial Estate, Station Lane, Birtley, County Durham, DH2 1AJ

Company name – SUEZ Recycling and Recovery UK Ltd
Environmental permit - EB3708XH
Address - Consolidation House, Neachells Lane, Willenhall, West Midlands, WV13 3RG

The included document - Road Sweeper De-watering and treatment process flow chart, shows the steps taken in the process of receiving the sweeper waste and how the waste is dewatered and the resulting liquid has suspended solids removed from it.

When a sweeper returns to the depot containing waste it tips into a purpose built sealed sump. The waste is allowed to settle with the heavier grit, stones and sand settling to the bottom. The liquid containing suspended solids, which sit, above the heavier waste. The liquid is then allowed to flow to the foul sewer via a trade discharge consent.

Purpose built sealed sump

3.0 Discharge and Screening process

Treatment via dewatering

The remaining solids that are left within the sump are removed via a clamshell attachment on a 360 excavator. 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 course sand an 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 the 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 the stored in a sludge tank. These solids are removed and the remaining water is used again within the washing process.

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

Plant sat on sealed drainage system

4.0 Tank Cleaning

When required the containers can be cleansed to remove solids or even be removed from the site for tipping. When fouled, screens can be cleansed using the jet washing from the inspection and access hatches on the top of all tanks (remain closed when in operation). Once the tanks are full of solids they can removed from site via a hook loader and tipped at a suitable permitted waste facility. On returning to the depot, the tank can be further cleansed on the wash down area, which discharges to the foul sewer.

5.0 Sites and industries serviced

Collins Earthworks service a variety of industries; however, the industries that provide high levels of waste that requires removing from sites are construction, ground works, muck shifting and house building. These sites require the waste to be removed to keep the sites clean, prevent run-off into water courses and keep roads free from mud. As a result, the waste that is collected is a reflection of the debris on the surface swept, which the majority is soil, aggregates, sand. In addition, the water on the surface or used by the sweeper is also collected.

6.0 Hazardous waste

Collins Earthworks does not collect any hazardous waste such as oils and fuels from road traffic accidents or environmental spills. As a result, there will be no hazardous waste accepted at the proposed de-watering transfer station.

7.0 Kirkby facility

The existing Collins Earthworks recycling facility is well established and helps support Collins Earthworks recover aggregates and soils.

The Kirkby facility is situated on an industrial estate and the site itself is flanked by a number of industrial companies including a commercial joinery and utilities.

8.0 Wastes received and stored

Non-hazardous wastes

The tonnages of wastes received will not change from that of the existing permit at 75,000 tpa.

9.0 Storage of Waste

The maximum waste storage will not change from the existing permit.

10.0 Drainage

All liquids will be stored and treated within a sealed sump forming parts of an impermeable drainage system.

Discharging of waste liquids to the foul sewer takes place in a controlled manner.

Spillages within sealed drainage system will be dealt with initially identifying the source of the spill or leak. If it is, a leak once identified the leak will be stopped. Then the spill will be cleansed using onsite spill equipment by trained staff. Used spill kit will be placed within designated bins for onwards movement to a relevant permitted facility, the bund will then be cleansed. Spillage on the tanker discharge point will be treated within the same manner, however in the scenario the sites drainage will be locked down whilst the spill or leak is dealt with.

11.0 Emissions and Fire

The waste stream is not flammable and as a result, a Fire Prevention Plan is not required.