Forest Group UK
Filter Feeder

FILTER FEEDER TECHNICAL NOTE

- PREPARED BY AN INDEPENDENT ENVIRONMENTAL CONSULTANT

Project Name: Forest Drainage Products Limited - Filter Feeder

Subject Title: Review of compliance requirements for the use of 'Filter Feeder' equipment

1. Introduction

An independent environmental consultant has been appointed by Forest Drainage Products Ltd to undertake a review of their equipment known as the 'Filter Feeder' in the context of its intended use to dewater and filter sweeper waste arising from construction sites and provide a technical overview detailing the waste management legislation and compliance requirements that would likely need to be met for using the equipment.

This Technical Note aims to provide advice and guidance on the waste management legislation and compliance requirements that would likely need to be met for using the equipment on construction sites. The independent environmental consultant's comments herein are provided in an advisory capacity only, based on relevant knowledge and experience of waste and materials management on construction sites and the prevailing legislation and guidance at the time of writing. It is recommended that confirmation is gained from the regulators prior to progressing any of the options discussed below.

2. Background

Forest Drainage Products Ltd have developed equipment known as the 'Filter Feeder' to support in the management of sweeper waste arisings in a construction site setting. The Filter Feeder is a mobile piece of equipment which operates through a dewatering and filtration mechanism to separate the solid and liquid fractions of the sweeper waste together with removal of chemical pollutants and suspended solids from the resultant liquid waste fraction, without the requirement of power of chemical additives.

The Filter Feeder receives wastewater slurries commonly discharged by road sweeping operations originating from construction sites. The process 'cleans' the slurry by using a filtration basket for larger debris and pre-filter units with a specialist EPS filter medium found in the end compartment of the Filter Feeder to separate and cleanse the water content of suspended matter. The EPS filter medium comprises beads made from recycled material which has an armouring function attracting and capturing water soluble chemicals including heavy metals, de-icing agents, nitrates, polyaromatic hydrocarbons and phosphates. Collectively, the beads trap sediment and water-soluble chemicals as contaminated water flows over the beads.

The resultant liquid can then be discharged from the system, and the resultant de-watered solids remaining in the removable pre-filter units are periodically cleaned. The oversized solids captured in the filtration basket can be removed and disposed of as a waste.

Forest Drainage Products Ltd have provided the following information to provide context in relation to the Filter Feeder and its operation:

- Filter Feeder Presentation
- Galliford Try — Filter Feeder Case Study
- User manual — Equipment specification / Maintenance
- Enviro lab test results from pre filter and post filter material through Filter Feeder with a not provided that there was a spike in these results — highlighted in red, this was a result of the paint that was used on the Filter Feeder unit, which has now been changed.
- FDP — Gully Guard research completed by The University of Sheffield regarding chemical retention and sediment and chemical retention uptake when contaminated water encounters the EPS specialist bead — this technology is incorporated within the Filter Feeder.

3. Inputs into the Filter Feeder

Under the EU Waste Framework Directive 2008, and put into UK Law under Section 75 of the Environmental Protection Act 1990, the definition of waste is:

'any substance or object which the holder discards or intends or is required to discard'

Utilising road sweepers on various forms on construction sites to maintain infrastructure produces a waste as this would be discarded by the holder in its current state. Generally, in line with Technical Guidance WM3: Waste Classification - Guidance on the classification and assessment of waste (WM3), this waste would be classed as an absolute non-hazardous List of Waste (LoW) / European Waste Catalogue (EWC) code 20 03 03. However, where the road sweeper has swept up material which may be suspected of containing contaminants or known to contain contaminants, e.g. an oil spill, during the course of its activities, then the waste would require appropriate classification in line with WM3 and it may be a hazardous waste.

Low Risk Waste Position (LRWP) 63, issued by the Environment Agency (EA), was withdrawn in April 2025. A LRWP allows for low-risk waste management activities to be undertaken without an environmental permit, providing all conditions are adhered to. LRWP 63 related to the onsite management of sweeper waste at construction sites, including storing, screening and dewatering prior to disposal off site. However, after consultation, the EA withdrew the LRWP and therefore it could no longer be used.

On the 18 August 2025, the EA updated Regulatory Position Statement (RPS) 65 which relates to 'Storing and bulking sweeping waste by the waste producer'. An RPS allows for certain low-risk activities to be carried out without the need for an environmental permit, as long as the requirements can be complied with. Within RPS 65 the EA indicates that the 'construction site sweepings' could be classified as LoW/ EWC 17 05 04 'soil and stones other than those mentioned in 17 05 03*' or 17 09 04 'mixed construction and demolition wastes other than those in 17 09 01*, 17 09 02*, and 17 09 03*'. Both of the LoW / EWC codes are mirror non-hazardous codes meaning that appropriate testing and classification would be required to determine the final classification. Although the same RPS is not present under Natural Resources Wales (NRW) or the Scottish Environmental Protection Agency (SEPA), there may be possibility that construction site sweeper arisings could also be classified as either LoW / EWC 17 05 04 or 17 05 03* as the waste has arisen from construction activities, but this would need to be confirmed by the regulators. If not classified as either LoW / EWC 17 05 04 or 17 05 03", then it would likely be classified as LoW /

EWC 20 03 03 assuming that it does not exhibit any hazardous properties or is known to have swept up any contaminating substances.

Due to the material entering the Filter Feeder being deemed a waste, then in line with waste legislation, an appropriate mechanism (e.g. environmental permit, waste exemption, RPS etc.) which is compliant with the environmental permitting regulations would be required to manage the waste during treatment through the Filter Feeder and the subsequent outputs.

4. Filter Feeder operation

Although there is no formal singular definition of the treatment of waste, generally treatment is referred to as physical, thermal, chemical, or biological processes that change waste's characteristics to reduce volume or hazards or make it easier to handle or recover for reuse or recycling. Based on this, the processes which the Filter Feeder utilises would likely be deemed 'treatment' based on the regulatory guidance.

Where treatment of waste is undertaken, an appropriate mechanism would be required to allow for this activity to be undertaken, as it would be deemed a regulated activity. Across the UK, there are different regulatory authorities depending on the area of the country, therefore the following considerations are separated by these areas and based upon the areas Forest Drainage Products Ltd have indicated the Filter Feeder may be utilised.

Prior to the application of any environmental permit (if appropriate), it is recommended that pre-application advice is sought from the regulator to confirm the permitting options, suitability and requirements based on the waste types, activities and site specifics proposed.

4.1 England - Environment Agency

England follows the Environmental Permitting (England and Wales) Regulations 2016.

Following the publication of RPS 65, construction site sweeping waste may be classified as LoW / EWC 17 05 04 or 17 09 04. As these are mirror entries, sampling and testing are required to confirm the correct classification.

Initially, a Local Enforcement Position, which is a temporary statement from the regulator which provides their position on a specific activity, could potentially be requested from the local EA team, providing the appropriate details and risk assessments are provided. However, whether this would be granted and the conditions within it would vary depending on the EA officers manag ing the request and these are not known to be issued on a widespread basis. If issued, it would likely be restricted to short term duration and lower volumes than what could be obtained via an environmental permit. If this is not granted, then an environmental permit would be required.

The Environment Agency provides either Standard Rules or Bespoke environmental permits, for the treatment of construction site sweeping waste, a bespoke permit would be required as the activity and waste types do not align with the conditions of a Standard Rules permit.

There may be two options for a bespoke permit, but this would be dependent on the outcome of liaison with the regulator:

- Bespoke mobile plant treatment permit — this would be an overarching permit held by an individual / company which is then 'deployed' for each operation of the plant at individual sites, subject to approval by the regulator and compliance with permit conditions. This could allow for multiple deployments of a mobile pieces of plant i.e. the Filter Feeder, under the one

overarching permit, providing condition or the permit and deployments can be complied with. However, this would likely be limited to one year of operation, after this timeframe the deployment would need to be reapplied for, but it is not guaranteed to be granted as mobile plant operations are typically seen as short term activities by the regulator. This type of permit would likely also have lower treatment throughput volume compared to a bespoke static waste storage and treatment permit. In addition, there is a risk that EA would not grant a deployment under the environmental plant due to the risks not being appropriate mitigated or due to proximity to sensitive receptors.

- Bespoke static waste storage and treatment permit — this would be a singular permit for one site for an indefinite duration, subject to compliance with permit conditions. This would allow for long term treatment, i.e. more than one year, and larger volumes of waste storage and treatment capacity. So would be suitable, for longer-term large-scale treatment activities. However, for each site that the activity is to be undertaken, a new bespoke static waste storage and treatment permit would be required.

The bespoke mobile plant permit would be held by a named entity who then could 'deploy' the operation at multiple sites via deployment applications, depending on approval by the regulator. The application for the initial mobile plant permit would entail:

- Submitting supporting documentation such as management system, competence evidence and operator details.
- EA application forms
- EA application fee

Each deployment of the permit at a site would require a deployment application to be made which would entail:

- Confirmation of waste type and classification
- Preparation of supporting information including site plan, risk assessment, waste source details and confirmation of end use
- EA application forms
- EA application fee

There is a risk that EA would not grant a deployment under the environmental permit due to the risks not being appropriate mitigated or due to proximity to sensitive receptors.

A bespoke waste storage and treatment permit environmental permit would require the following to compile the application:

- Waste types, quantities and maximum throughput clearly defined
- Treatment processes included detailed description of processes, methods, and technology used
- Site design and infrastructure including layout, containment, drainage, and pollution control systems
- Environmental management measures relating to odour, dust, emissions, and spill controls
- Operational procedures and management relating to staff roles, training, waste acceptance, and handling procedures
- Monitoring, record-keeping, and reporting

- Emergency and contingency plans for accidents, spillages and others deemed appropriate.

A bespoke environmental permit would hold specific conditions which would require to be complied with, based on the independent environmental consultant's understanding of the Filter Feeder and professional knowledge, this may include:

- Operations being undertaken at an appropriate distance from sensitive receptors
- Operations being carried out on an impermeable surface with sealed drainage
- Inspections by a Technically Competent Manager at least weekly, covering 20°/ of the operating time
- Appropriate record-keeping to demonstrate compliance with the permit, including waste acceptance and monitoring requirements
- Proper storage of wastes with adequate controls in place
- Accidents and incidents being appropriately managed.

Dependant on the location of the operation, additional conditions may be required. In addition, there is a risk that EA would not grant a permit due to the risks not being appropriate mitigated or due to proximity to sensitive receptors.

4.2 Wales - Natural Resources Wales

Wales also follows the Environmental Permitting (England and Wales) Regulations 2016.

As discussed in section 1, the construction site sweeping waste arising from construction sites could be classed as 17 05 04, 17 05 03* or 20 03 03, dependant on regulator approach.

Initially, it is anticipated a Local Enforcement Position, as previously described, may be able to be requested from the local NRW team, providing the appropriate details and risk assessments are provided. However, whether this would be granted and the conditions within it would vary depending on the NRW officers managing the request and these are not known to be issued on a widespread basis. If issued, it would likely be restricted to short term and lower volumes than what could be obtained with via an environmental permit. If this is not granted, then an environmental permit would be required.

The environmental permitting options and process in Wales would follow the same considerations as outlined for England.

4.3 Scotland - Scottish Environmental Protection Agency

The regulatory body in Scotland is SEPA and waste management licencing, as it is known in Scotland, comes under the Waste Management Licensing (Scotland) Regulations 2011. However, from 1 November 2025, these regulations are being replaced by the Environmental Authorisations (Scotland) Regulations (EASR) 2018, following amendments.

Until 1 November 2025, to undertake the treatment of waste classified as EWC 20 03 03 a site specific Waste Management Licence would be required to allow for the treatment of wastes. From the 1 November 2025, an authorisation would be required under the EASR.

An application for a site-specific waste management licence would require similar information to that required for a NRW or EA bespoke environmental permit.

The specific conditions which would be within a Waste Management Licence would be similar to that found within a bespoke environmental permit issued by the NRW and EA, as detailed previously.

Dependant on the location of the operation and the combination of waste streams, additional conditions may be imposed. In addition, there is a risk that the SEPA would not grant a permit due to the risks not being appropriately mitigated or due to proximity to sensitive receptors.

To ascertain, the feasibility of a permit application and potential additional requirements, pre-application with the SEPA may be appropriate to support the application.

Alternatively, it is anticipated, a Local Enforcement Position could potentially be requested from the local SEPA team, providing the appropriate details and risk assessments are provided. However, whether this would be granted and the conditions within it would vary depending on the SEPA officers managing the request and these are not known to be issued on a widespread basis. If issued, it would likely be restricted to short term and lower volumes than what could be obtained with via an environmental permit.

5. Management of resultant outputs and other operational requirements

From the information provided from Forest Drainage Products Ltd, there are two resultant outputs from the Filter Feeder:

- Liquid output resulting from the through flow of liquids from the input waste
- Solid output which is captured within the 'filter baskets'

In addition to the two main outputs, the filtration medium which is contained within removable units, and absorbs the contaminants and suspended solids is required to be removed and hosed down periodically generating a further liquid waste stream.

As the input to the Filter Feeder would be a waste, the outputs would also be considered wastes, due to there not being an 'end of waste' mechanism and therefore require to be managed as a waste stream and all Waste Duty of Care requirements followed. Where wastes have been through a treatment system, this does mean that the appropriate LoW/ EWC chapter would be '19 - Wastes from waste management facilities, off-site wastewater treatment plants, and the preparation of water intended for human consumption and water for industrial use', followed by the appropriate classification.

For the liquid output resulting from the treatment of the construction site sweepings, from test results of the raw input material versus the filtered liquids, shown in Appendix E provided by Forest Drainage Products Ltd, the filtration medium does reduce the concentration of dissolved metals, PAHs and TPHs, and anecdotally from Forest Drainage Products Ltd, the nitrates and phosphates. However, the efficiency of this for different levels of contamination of the input waste, is unknown so it cannot be clarified whether this resultant liquid would be classed as hazardous or non-hazardous and appropriate testing would be required to determine this on a case-by-case basis.

There are several options to be able to manage the resultant liquid waste:

- Disposal offsite to an appropriately permitted waste management facility
- Discharge into a foul water connection under a Trade Effluent Discharge consent obtained from the sewage undertaker
- Discharge under a bespoke discharge environmental permit to a water body provided the permit conditions can be met.

For the liquid output generated from the periodic hosing down of the filtration medium would result in a liquid effluent which would require appropriate control measures in place to prevent environmental harm through appropriate containment and, and appropriate management and disposal of the liquid.

For the solid output captured within the filter baskets, this may be made up of a wide range of detritus dependant on where the waste input has arisen from, e.g. waste arising from gully sucking activities will have a broad range of solid constituents, whereas liquid from dewatering activities may have very minimal detritus larger than that considered ‘suspended solids’. The solid output from the filter basket, would require to be disposed of to an appropriate licenced waste management facility, following appropriate classification under WM3.