

Purpose of guidance note

This note is intended to advise NADC members on minimum maintenance activities when providing:

- Quotes to clients for term contract maintenance on Oil Separators
- where the operating instructions have been lost and/or
- no service/maintenance records exist and/or
- the topography or use of the land being drained has changed

It can form part of the development of the drainage management system that should be in place should the installation be subject to an Environmental Permit.

See <https://www.gov.uk/guidance/develop-a-management-system-environmental-permits>

What is an Oil Separator?

Oil Separators, also commonly referred to as Petrol Interceptors, are installed on drainage systems to separate, retain, and prevent oil and other polluting hydrocarbons discharging into the environment or sewer systems. They are primarily installed within surface water systems to treat the run-off from hard standings where there is a risk of contamination or spillage, however they can also occasionally be found on foul systems to treat trade effluent, should their installation be a requirement of the consent or agreement with the receiving water and sewerage company.

Types of Separators

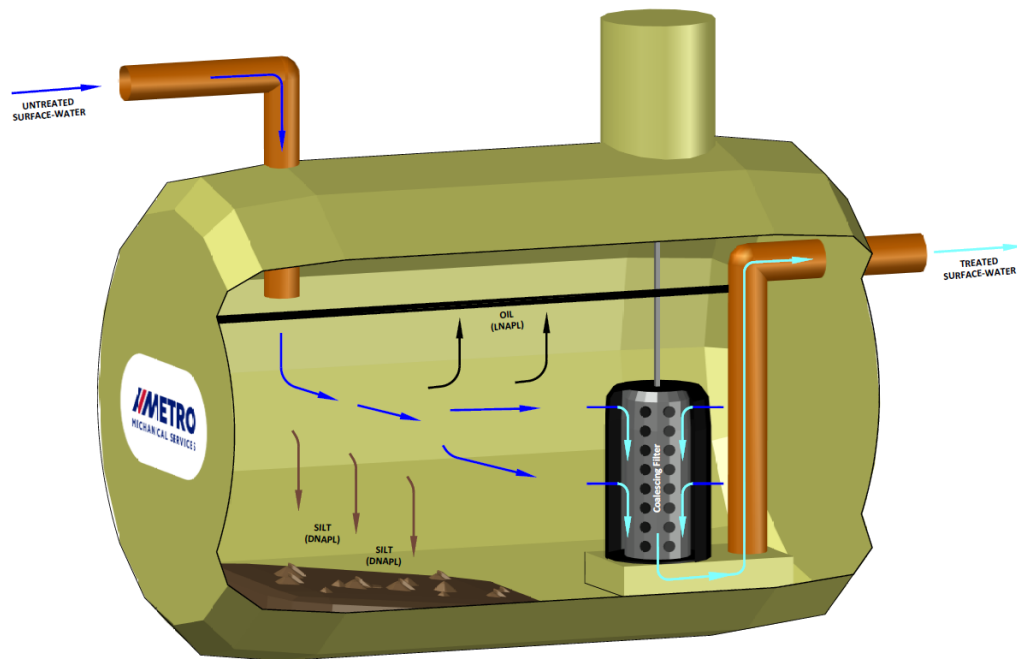
There are three common types of separators likely to be found on surface water systems, prefabricated class 1 Full Retention and bypass separators and an older style 3-stage design. The latter, usually of a brick construction, is often found on older sites and would have been installed before the development and requirement of prefabricated oil separators providing greater protection in accordance with BS EN 858. The old style 3-stage design now manufactured as Washdown Separators are no longer permitted to be installed where discharge is made to the environment or surface water sewer network, as such a comprehensive assessment should be made to whether an installation of this design that is present can still provide suitable and sufficient protection of the environment.

Full Retention Separator (*including "Forecourt"*)

Full retention separators are designed to treat the full flow that can be delivered by the drainage system. During the process lighter contaminants (oil, etc) rise and are trapped at the top whilst heavier contaminants (silt, etc) settle and are held at the bottom. All the remaining flow must pass through a Coalescing Filter which combines any remaining finer droplets of oil together so that they rise and are also retained within the unit. An automatic closure device (ACD) will also be present in the unit (usually within the filter tube) to prevent flow passing through the separator when the quantity of oil in the separator exceeds the oil storage volume.

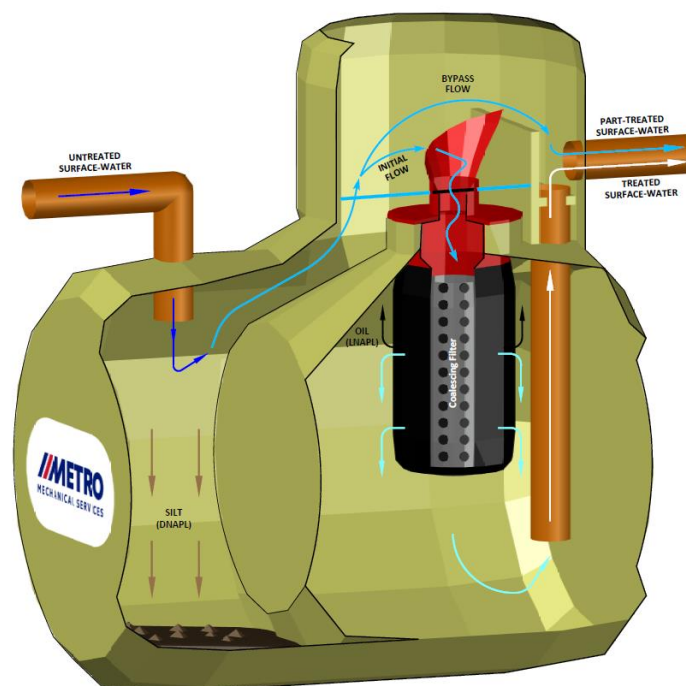
Forecourt Separators are also 'full retention', but as required for liquid-fuel dispensing outlets must be large enough to serve the catchment area of the site and have a sufficient oil storage volume to retain any foreseeable spillages.

Management of Oil Separators



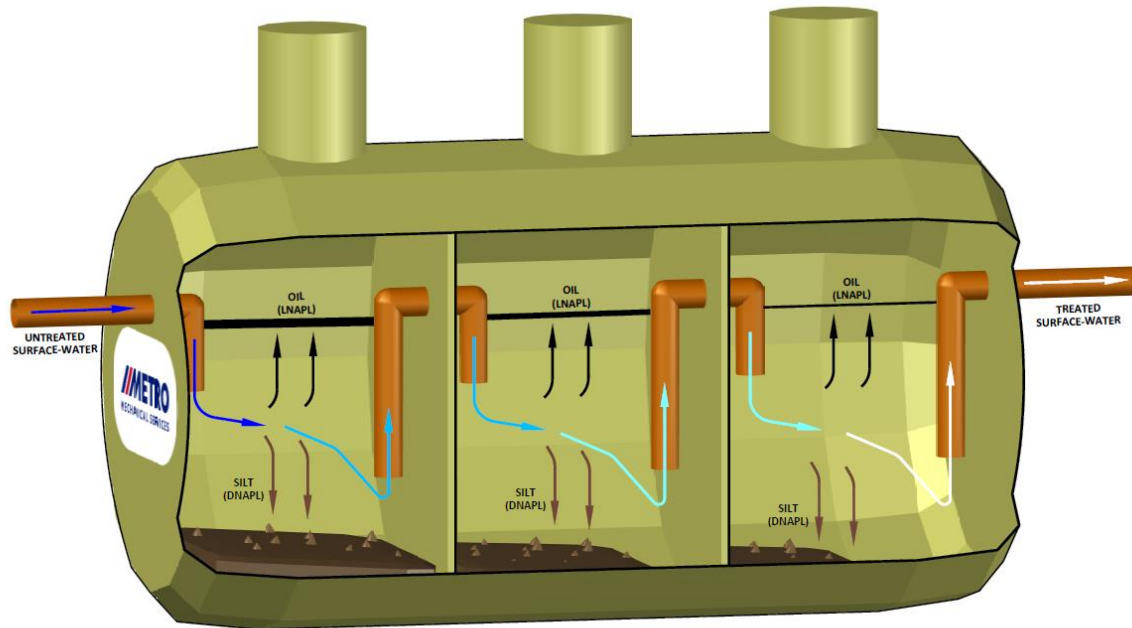
Bypass Separator

Bypass separators fully treat initial flows (anticipated to contain contaminants), however once the flow rate increases during prolonged or increased rainfall the flow is then allowed to bypass the separator. These separators are used when it is considered an acceptable risk not to provide full treatment for high flows, e.g. where only small spillages can occur and the risk of spillage is small such as on short stay car parks.



Old style 3-stage / Washdown Separator

As the name suggests, a 3-stage interceptor consists of three separate chambers connected in series by dip pipes. As contaminants enter the first chamber, separation within the water occurs, whereupon lighter contaminants rise and are trapped at the top and heavier contaminants settle to the bottom, thus allowing the now “cleaner” water from the middle of the chamber to pass via the dip pipe into the next chamber, this process is repeated in the second and third chambers, where progressively any remaining contaminants should be trapped before final discharge.



Initial Inspection and maintenance

Where no service/maintenance records exist, it is recommended that the Oil Separator be emptied and given a thorough overall inspection to test the integrity of the unit and all internal parts, this will also allow for accurate monitoring and assessment of the separator's performance moving forward.

When emptying a multi-chambered separator it is advised that the contents are removed evenly from each chamber to avoid damage to internal walls and or baffles. All separators must be refilled with clean water following such a clearance, failure to do so can affect the unit's performance and may cause structural damage.

On-going Maintenance

The following list should be considered when quoting for maintenance work on an existing installation. This list should be used when quoting for work and identifying defects in the existing set-up which require correcting.

- Physically inspect the integrity of the separator and all mechanical parts
- Assess the depth of accumulated oil and silt and remove if required
 - refill with clean water following clearance
- Check the condition of any coalescing device and replace it if necessary
- Service all electrical equipment present such as alarms and separator management systems
- Establish and complete records/site log of the inspections and work done with identified further work required or recommendations made

Frequency will depend on your assessment of the installation on site and in particular any changes that may affect the efficiency of the installation as an interceptor which may require more frequent action. However, where a site is largely unchanged since installation then an initial 6 monthly maintenance regime should be put in place. If you are unfamiliar with the site, the area drained is heavily contaminated or there have been material changes to the site, then this should be increased to more frequent inspections.

Is the installed separator fit for purpose?

On taking on a new contract and periodically after that, it is good practice to review the drainage into the interceptor to confirm if it is and remains fit for purpose

Assessing the drainage from the site – is there a risk oil contamination of drainage from the site?				
Yes Low risk – infrequent, light contamination or small spills – for example, car parking	Yes High risk – regular contamination of hard surfaces likely – for example vehicle maintenance areas, goods vehicle parking	Yes High risk – drainage also contains oils from industrial or trade processes – for example, vehicle wash water	Yes High risk – oil and petrol delivery and storage areas – for example, fuel forecourts	No Very low risk – drainage from uncontaminated areas – for example, roof areas, pedestrian walkways No separator required

As well as looking at the type of contamination you should also consider the area drained and therefore the volume of water that passes through the interceptor.

Of most concern would be new areas of impermeable surface draining to the interceptor – for example extended parking areas or new buildings where the additional drainage passes through the interceptor.

If this assessment identifies issues with existing set-up then you should discuss this with site operator with recommendations in writing for work required to reduce the risk.

Management of Oil Separators

The Environment Agency along with SEPA (Scotland) and EHSNI (Northern Ireland) issued PPG3 in 2006 which provides good technical guidance on this. The EA withdrew this guidance in 2015 and now requires site owners to refer to the previously mentioned guidance on implementing environmental management systems and Pollution Prevention for Businesses. However, it still remains a valid document and should be referred to for detailed guidance when assessing an existing installation - [Link to PPG3](#)

Disposal of waste material

Removed materials from oil separators are classified as hazardous as per List of Wastes (LoW) chapter 13 - sub chapter 05 'oil/water separator contents' and must be handled and disposed of in accordance with the Hazardous Waste Regulations. All movements of hazardous waste must be accompanied by a correctly completed consignment note and taken to a destination that holds the required environmental permit to accept such waste.

- As a waste carrier, you are required to keep a record (known as a 'register') of the consignment for 1 year.
- The site Producer / Holder of the waste must keep a record of the consignment for 3 years

Emergencies

The site operator should have a Pollution Incident Response Plan (PIRP) that will include any oil separators as part of the protection measures in place. This will be dependent on the site and the materials being stored or handled. The oil separator should not be used as the primary containment in the event of a large spillage from storage tanks, separate containment tanks or bunds should be provided – [Link to PPG2](#)

Your contract with the operator will likely include a requirement to respond to emergencies and you should give careful consideration on how you resource this and how this is charged for within the contract.