NRA

POLLUTION PREVENTION GUIDELINES

THE USE AND DESIGN OF OIL SEPARATORS IN SURFACE WATER DRAINAGE SYSTEMS

These notes are for guidance only and early consultation with your local National Rivers Authority Water Quality Office is advisable, as each site will be considered according to the individual circumstances. Details of local offices will be found at the end of these guidelines.

Note that throughout these guidelines the term 'separator' is used instead of the more commonly used 'interceptor'. The terms have the same meaning.

1. SITES NORMALLY REQUIRING OIL SEPARATORS

a. Oil storage and handling areas.

b. Industrial yard areas.

c. Areas where vehicle maintenance is likely to take place.

d. Commercial vehicle parks.

e. Large car parks.

f. Certain lengths of motorway and trunk road designated by the National Rivers Authority as high risk.

g. Lock-up garage blocks (in excess of 10 units).

2. SITES NORMALLY NOT REQUIRING OIL SEPARATORS

a. Small car parks.

b. Most normal stretches of highway.

Note: These areas should be provided with deep seal trapped road gullies to BS.5911 1982 with a minimum water seal of 85mm.

3. SEPARATOR DESIGN CRITERIA

a. The maximum flow received by the separator should be given at least six minutes retention. This flow should be calculated in accordance with the design criteria used for the drainage system which, will usually be based on a rainfall rate of 50mm per hour. **See Appendix A.**

b. Conventional separators (i.e those without integral by-passes or separate oil storage compartments) should be of single chamber construction.

c. Multi-chamber units are discouraged but, if used, six minutes retention should apply to each chamber or to the largest chamber only. The total capacity should not be used for calculating retention times.

d. The minimum overall capacity of any oil separator should be one cubic metre.

e. By-pass style separators, approved by the NRA, may be used for large areas allowing flows generated by rainfall in excess of 5mm per hour to by-pass the separator through a properly designed overflow device.

f. The inlet to the main chamber should not be direct to the water surface.

g. Clean uncontaminated water such as roof drainage should preferably be discharged downstream of the device.

h. Adequate facilities must be provided for inspection of the separator and tanker access must be available for cleaning purposes.

i. Where a separator is provided in a drainage system, trapped gullies are not necessary unless required to satisfy any other regulations.

j. Where it is anticipated that large quantities of silt may jeopardise the efficient operation of a separator, an independent upstream silt trap should be incorporated in the system.

k. Adequate venting arrangements should be incorporated in the structure. In many cases ventilated covers will be sufficient.

l. In some cases flow cut-off valves may be required to isolate the separator.

4. MAINTENANCE

It is important to recognise that oil separators require regular maintenance. A routine programme of inspection should be established, and the separator cleaned as required.
NOTE: A separator will not work properly for soluble oils or if detergents or degreasing agents are present.

Appendix A

Separator Size

To determine the minimum separator capacity required for conventional single chamber units, based on 6 minutes retention, multiply the catchment area in square metres by a factor of 5 to give a separator volume in litres.

e.g. for catchment area 800 sq.m.
Single chamber separator capacity = 800 x 5 = 4000 litres

For approved By-pass units, a factor of 0.5 is used

e.g. By-pass separator capacity = 800 x 0.5 = 400 litres.

For further information, please contact your nearest NRA Water Quality office at:-

READING	**0734 311422**	**OXFORD**	**0865 749400**
WALTHAM CROSS	**0992 35566**	**AMERSHAM**	**0494 722361**
LONDON SE	**081 310 5500**	**GUILDFORD**	**0483 577655**

... or at all times on Freefone 0800-252768

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