

POLLUTION PREVENTION GUIDELINES HIGHWAY DEPOTS: PPG10

POLLUTION PREVENTION GUIDELINES

These notes are for guidance only and are produced by the Environment Agency for England & Wales, the Scottish Environment Protection Agency and the Environment and Heritage Service in Northern Ireland, referred to jointly as the Agency or Agencies. They indicate the possible pollution risks from highway maintenance depots and how they can be minimised. Although existing sites are encouraged to comply, it is not intended that the requirements should apply retrospectively unless pollution has occurred or the risk that it might is unacceptable. If you have questions relating to the points in the note or believe pollution could be arising from your site, please contact your local Agency office. Contact details will be found at the end of these guidelines.

1. LEGAL FRAMEWORK

- a. The Agencies are responsible for both the protection of “controlled waters” from pollution and for the prevention of pollution of the environment, harm to human health and detriment to local amenity by waste management activities under the Environmental Protection Act 1990 (except in Northern Ireland, where different legislation applies).

“Controlled waters” include all watercourses, lakes, lochs, coastal waters and water contained in underground strata (or “groundwater”) and it is an offence to pollute such waters, either deliberately or accidentally. In addition, the formal consent of the Agency is required for many discharges to controlled waters, including both direct discharges and discharges to soakaways. Such consents are granted subject to conditions and are not granted automatically.

- b. All discharges to the public foul sewer require authorization by the appropriate sewerage undertaker and may be subject to the terms and conditions of a trade effluent consent. Where reference is made in this guidance to disposal to sewer, such approval must be sought.
- c. Any other waste produced will be subject to the Duty of Care (Reference 1) under the Environmental Protection Act 1990 and may also be subject to control under the Waste Management Licensing Regulations 1994. In addition certain wastes such as used oil and oil adsorbent material are subject to the Special Waste Regulations 1996 (Reference 2). See Section 6 for further details.

2. DE-ICING ACTIVITIES

a. Introduction

The prevention of ice formation and the de-icing of highways within the UK is carried out almost exclusively using rock salt complying with BS3247. Approximately 2 million tonnes of rock salt are purchased annually for this purpose. The environmental impact of rock salt is well documented and providing the application rates specified within highway authority guidelines (Reference 3) are followed, the use of salt on highways is unlikely to lead to levels in the water environment that could affect aquatic life or drinking water supplies. However, because of the large quantities stored, there is the risk of pollution of rivers and groundwaters, due to run-off from rock salt stockpiles. This can come from both the salt itself and the sodium ferrocyanide anti-caking agent which is often added to it. Even when a stockpile is removed, the ground beneath it may remain contaminated. Other de-icing products (eg urea) can also pose a pollution hazard.

b. Salt stores and loading areas

It is recommended that salt stores are roofed, or if this is not practicable, covered over with an impermeable membrane, situated on an impervious base and sited at least 10 m away from the nearest watercourse or soakaway. Drainage from stores and loading areas should pass to the foul sewer (see Section 1b), or a sealed tank. Drainage from these areas should not pass to a watercourse or soakaway. If this is unavoidable, a consent will be required from the Agency, which would contain strict quality conditions in order to protect the water environment.

Measures should be taken to ensure that salt from the store is not allowed to encroach onto the open yard, using, for example, a ramp across the entrance.

Uncovered road side salt stores may cause localised problems and the Agency should be consulted about their location and the means of storage.

c. Urea and acetate stores

Stores containing urea or acetate (either Calcium Magnesium Acetate-CMA or Potassium Acetate) should comply with the standards outlined in the appropriate highway authority code (Reference 3). However, it is important to stress that any drainage from the store or loading area should be positively drained and should not pass into the surface water system or to soakaways.

Fires involving urea stores represent a considerable pollution hazard, as any fire water run-off is likely to be extremely polluting. It is therefore vital that the Agency is consulted regarding the location of any new stores and that an emergency plan dealing with the risk of fire is prepared for all stores. The plan should include the management of fire water and the use of fire water retention systems (see Reference 4 for further information). In some cases, where serious environmental damage could be caused by fire water, restitution costs may be very high and consideration should be given to allowing the store to burn down. This may be more cost effective than the installation of a retention system, but will need the agreement of the insurer, the fire service, local environmental health officers and the HSE. In the event of a fire occurring, the Agency must be informed promptly and efforts made to contain any fire water.

3. FUEL, OIL AND BITUMEN STORAGE

a. Above Ground Storage Tanks

Guidelines covering above ground storage tanks in detail is available from the Agencies (Reference 5). All oil storage tanks and drums, including internal installations and waste oil tanks, should be sited on an impermeable base within an oil tight bund. No damp course should be provided in the bund wall structure and there should be no drainage outlet. The volume of the bunded area should be calculated in accordance with the guidance in Reference 5. Any fill and draw pipes, valves and sight gauges should be enclosed within its curtilage and tank vent pipes should be directed downwards into the bund so that in the event of overfilling the discharge is contained. Bunds should be examined on a regular basis and any rainfall that accumulates removed by bailing or by pumping under a manually controlled system. Storage at or above roof level should be avoided.

If served by a remote fill point, the drainage from the fill point area should pass through a suitably sized oil separator. A high level alarm, which provides an additional safeguard, is recommended.

b. Underground Facilities

Underground tanks and pipelines are susceptible to damage and corrosion, and above ground facilities are preferred. In areas of high groundwater vulnerability (Reference 6) the Agency may object to the installation of underground storage tanks. Where underground storage is necessary, protective measures such as double skinned tanks and piping and leak detection may be required. In some circumstances, underground tanks may be fitted within a basement style bund. Regular inspection, stock reconciliation and pressure testing are essential, especially where groundwater pollution could occur. The location of underground piping should be identified and clearly marked in order to avoid damage through excessive surface loading.

c. Refuelling facilities

The risk of water pollution from refuelling areas is particularly high. Such areas should be isolated from general yard drainage, (for example by using a raised kerb or a roll-over bund) and should only be cleaned when measures have been taken to prevent the effluent produced reaching controlled waters. Guidance on fuelling areas is available (Reference 7).

4. PROTECTION OF THE SURFACE WATER SYSTEM

An accurate site drainage plan should be kept available. All highway depots should be served by an oil separator on the surface water drainage system. Separators must be regularly inspected and cleaned as required. A detailed guidance note on oil separators is available from the Agencies (Reference 8). Surface water drains should be colour coded, for example red for the foul sewer and blue for surface water drains, or otherwise clearly identified. Roofwater downpipes should be directly connected into the surface water system rather than discharging into open grates. Staff should be informed of pollution risks and trained in how to deal with spillages on site. A suitable stock of absorbent materials and drain covers or bungs should be held for use in the event of a spillage.

5. MAINTENANCE WORKSHOPS

A detailed guidance note dealing with vehicle workshops is available from the Agencies (Reference 9). Internal gullies or grids must not drain to the surface water system. If the workshop pit is subject to infiltration water and is served by a gully and pump, this should be directed to the foul sewer. Care should be taken in handling waste materials such as antifreeze, batteries and oil to avoid contamination of surface water drains and an appropriate stock of oil absorbent materials should be held to deal with spillages. Guidance on storage and disposal of used oil is available (Reference 10).

6. WASTE MANAGEMENT

The correct handling, storage and disposal of waste materials and fluids is vital if pollution is to be avoided. Schemes which aim to minimise waste and increase recycling are encouraged. The Duty of Care requires that waste producers and holders ensure that waste does not escape from their control and is passed only to an authorised person, accompanied by a full written description. For information on workshop wastes, see Reference 9. Waste materials containing oil, for example absorbents used in clearing up oil spills and in some cases oil separator wastes are subject to the Special Waste Regulations 1996 and there are additional controls on their storage, movement and disposal. Care should be taken to identify those wastes which are "Special", to understand the requirements and ensure compliance (Reference 2).

7. VEHICLE AND PLANT CLEANING

The cleaning of loading areas, vehicles and other plant must not be carried out on unmade ground or in areas which discharge to surface water drains, watercourses or to soakaways, as the effluent is likely to contain a wide variety of contaminants. In order to avoid pollution, it is advisable to designate a wash bay which should be connected to the foul sewer (see Section 1b). This should be isolated from the surrounding area using a kerb surround or roll-over bund to prevent wash waters from entering nearby surface water drains. As an alternative, vehicle wash recycling systems are available, or the effluent may be contained within a sealed drainage system or catchpit for off-site disposal by a registered waste contractor.

Mobile high pressure water and steam cleaners can cause particular pollution problems and separate guidance dealing with these is available (Reference 11).

8. EMPTYING OF GULLY CLEANSING VEHICLES

Gully pot liquors are highly polluting and must not be discharged to underground or surface waters or into any surface water drain. Alternative disposal options include discharging the liquors to the foul sewer after solids settlement (see Section 1b) or disposal at a suitably licensed waste disposal site. (See Reference 12 for further details.)

9. CHEMICAL STORAGE AREAS

A range of chemicals are often held on site. A full inventory should be maintained. Drainage from chemical stores, particularly those where herbicides are kept, may present special problems and should normally be totally contained (Reference 13). Where chemicals such as antifreeze, paint, detergents, degreasers, solvents and hydraulic fluids are stored, bunding arrangements similar to those described in Section 3 may be used. Alternatively, or in addition, secure bunded storage cabinets could be considered. They are available in a variety of sizes to suit the required capacity. Particular care should be taken to ensure that containers and bunds are resistant to attack from the stored substance. Storage vessels should be labelled to show their contents and should be kept as close as possible to the point of use and as far from surface water drains as possible. Full consultation with the Agency should take place to minimise the risk of pollution.

10. REFERENCES

1. Waste Management - The Duty of Care - a code of practice: The Stationery Office: ISBN 0-11-753210-X
2. Classification of special waste: Information Sheet 1: Environment Agency
Use of the consignment note: Information Sheet 2: Environment Agency
Obtaining and sending consignment notes: Information Sheet 3: Environment Agency
A Guide to the Special Waste Regulations: SEPA
3. In England & Wales: Highways Agency Trunk Road Maintenance Manual, Volume 2 (Routine and Winter Maintenance Code)
In Scotland: The Code of Practice - Winter Maintenance for Trunk roads: Scottish Office Industry Department
4. PPG18: The control of major spillages and fire fighting run-off
5. PPG2 : Above ground oil storage tanks
6. Policy and Practice for the Protection of Groundwater: Environment Agency:
The Stationery Office: ISBN 0-11-310145-7
The Groundwater Protection Strategy for Scotland: SEPA
7. PPG7 : Fuelling Stations: Construction & Operation
8. PPG3 : The use and design of oil separators in surface water drainage systems
9. PPG19: Garages and vehicle workshops
10. PPG8 : Safe storage and disposal of used oils
11. PPG13 : High pressure water and steam cleaners
12. Management of gully pots for improved runoff quality: CIRIA: ISBN 0 86017 4905
13. PPG9: Storage and use of pesticides

The Pollution Prevention Guidance notes (PPGs) are available free of charge from the Agencies

All the Agencies' pollution prevention guidance notes are available on the web sites listed below.

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