SPILL RESPONSE PLANNING & CONTROL

Introduction
Environmental pollution caused by construction activities is a major problem, with wildlife, watercourses, sewers, land, buildings, structures and human health all potentially being affected. Companies found guilty of causing pollution can be fined with individual employees receiving custodial sentences for more serious incidents. Preventing spillages and pollution is essential, but ensuring that an efficient, effective response is implemented in the event of an incident is also critical.

These guidelines are intended for identifying the types of spill control materials available and the actions required when a spill occurs on site. It is a Company requirement that all construction sites carry out periodic practice drills to ensure that staff:

- Are familiar with the site emergency spill response plan
- Know what spill response equipment is available on site and how to correctly use it.

Practice drills also allow site management to assess the effectiveness of the emergency spill response plan, and make improvements where needed.

These guidelines are not prescriptive instructions - site management should adapt them so as to take account of the specific circumstances of an individual site. You must ensure that the relevant requirements of the Spill Response Plan are completed and briefed via toolbox talk / site induction prior to work starting on site.

N.B. Client specific spill response procedures should be adhered to when working on client site(s) or when stipulated in the contract.

1 Types of spill kit

Types of absorbent:
This is important and will make a huge difference to the effectiveness of pollution control and ease of cleaning up. The appropriate type of spill kit to order will depend on the substances used on site and which could potentially be spilt. There are 3 main types of absorbent product available:

Oil Only – The products in this kit will only absorb oil based substances, they will not absorb water based liquids. These absorbents are ideal for absorbing only spilt oils which will float on the surface of any waterbody. This type will not sink in water.

Universal – The products in this kit will absorb oil based products and any non-aggressive chemicals. They will also absorb water and will sink should they be placed on/in a spill involving water.

Hazmat – The products in this kit will absorb any spilt substances, including aggressive chemicals and oil based spills. They will also absorb water and would sink if placed on/in water. This product is useful in a spill involving unknown substances.

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Types of products available in a spill kit:

Sheets and pads	Booms and sausages	Loose granules
• Use for proactive protection in drip trays and under stationary plant. • Good for floating on water to absorb trace oils (oil only type).	• Lay thin sausages on the ground to block pollutant flow. • Use larger diameter booms to float on water to contain floating oils (always overlap the edges).	• Easy to scatter. • Much harder to pick up. • Only use on hard standing to soak up free liquids.

Other points to remember when choosing your spill kits:

Don't get the impression that "oil only" absorbents are not as versatile as others. Spills often involve fuel or oil and these absorbents can be used to mop up spillage from wet ground or from the surface of any water. The size of the spill kit to order will depend on the quantity of substance at risk of being spilt. Check the contents of your spill kits regularly. Re-stock to ensure sufficient and appropriate supplies for site activities.



SPILL RESPONSE

The basic stages of dealing with any fuel / oil / chemical spillage on site are (in order):

1) **Assess Release –** Identify the scale of spill
2) **Isolate –** Control the spill area attempt to prevent more liquid being spilled
3) **Contain –** What's already being spilled
4) **Absorb –** Use spill kits / absorbents on spill
5) **Clean up –** Collect spent spill kits and absorbents for correct disposal
6) **Dispose –** Ensure the spent spill kits are stored and disposed of as hazardous waste
7) **Notify –** The site manager
8) **Reorder –** Stocks must be replenished.

ASSESS RELEASE

- Determine the size of the spill and whether there are any injuries to any person(s) involved.
- If there are injuries medical attention should be sought and the most senior person on site informed
- If there are no injuries, an assessment should be made as to whether the spillage is safe to approach and contain. If there is doubt, the most senior person on site should be consulted
- Consideration should be given of the need to evacuate the site and / or neighbouring buildings. If necessary, the police and / or fire service should be contacted
- If the competent or trained person cannot handle the hazardous material spill then the Company's spill response contractor should be contacted and the appropriate Environmental Regulator
- If action in accordance with the above is required you must also ensure contact is made with the HS&E Department / Regional Environmental Advisor.

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ISOLATE

- Control access to spill
- Do not allow unauthorised access to spillage area
- Identify the source of pollution and stop the flow or emissions as quickly as possible, if it does not endanger the health and safety of people
- Switch off or suppress any potential sources of ignition
- Extinguish naked flames and ensure there is no smoking
- Turn off electrical equipment
- If a valve has been knocked open, close it.

Examples:

- If a fuel drum is punctured on its sidewall, roll it over until the puncture is uppermost, or use a proprietary sealant
- If the bottom of a fuel drum has ruptured, turn the drum upside down (check that the top is securely in place first).

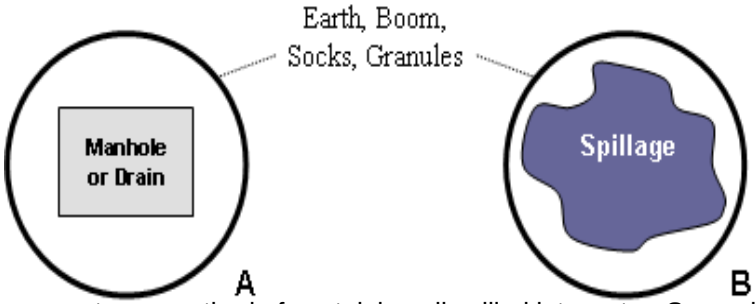


CONTAIN

- Ensure the correct PPE is used
- If the incident involves liquids, steps should be taken to stop it spreading, using earth, sand, or impervious material such as polythene
- If the incident involves liquids, the flow should be diverted from drains and / or watercourses
- Consideration should be given to the use of absorbent materials and / or booms, as a precaution, in environmentally sensitive locations
- Use absorbent materials (sand or earth, as an alternative) to assist spill containment.

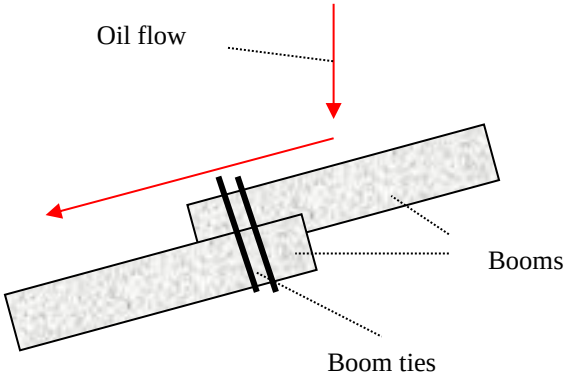
Examples:

- Seal off or isolate drains and manhole covers to contain the spillage on site. This can be done using drain blockers, earth, oil booms, socks or absorbent granules
- Place oil booms / socks / earth around a spillage to contain it in one place
- Use drip trays under punctured or leaking containers etc.

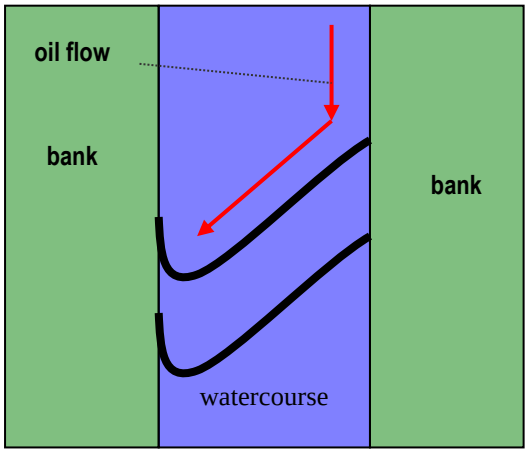


Oil booms – act as a method of containing oil spilled into water. Several can be joined together by rope (usually part of

the boom itself) – see below for how to arrange and tie them:

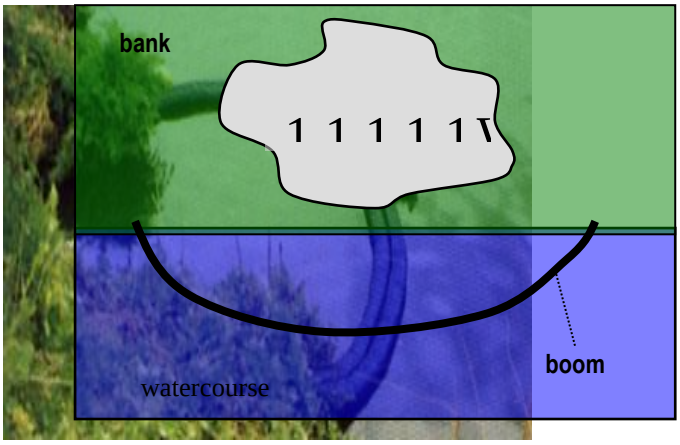


When deploying oil booms across a river, stream etc, it should be set up so that it forms a tick, as shown below. This makes removal of the oil from the water much easier.



When using oil booms in flowing watercourses, two should be used – one immediately downstream of the other. This will allow the oil-saturated (upstream) boom to be removed without allowing the remaining oil to escape downstream. A replacement boom should then be located immediately downstream of the remaining boom.

Booms can also be set-up so as to provide precautionary protection when working on the banks of watercourses – see below:



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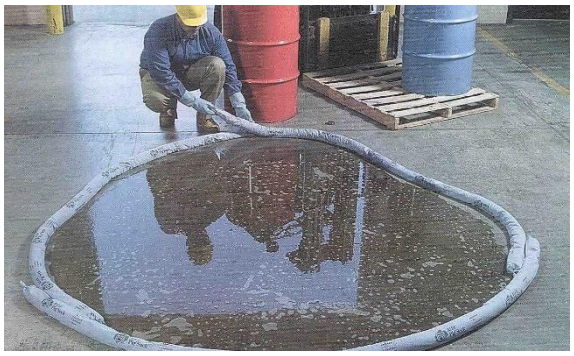
ABSORB

- Spill response pads, sheets, booms and granules should be used to absorb the spilt material
- Sand and earth may be used, as a temporary alternative.

Examples



Absorbent socks – best for deploying on ground rather than on water (can be used on water in an emergency to help contain a spillage). Place the sock around a spillage to contain it. Alternatively, it can be placed around a manhole or drain cover to temporarily isolate a sewer or surface water drain and stop oil getting into it. If using more than one sock, ensure that where the socks meet they overlap (i.e. don't butt the ends of socks up against each other – this may allow oil to seep through the join).

Earth or sand – can be used in the same way as granules and socks to isolate a spillage or a drain or manhole. **Important:** earth and sand are not absorbents, so will eventually allow oil to pass through them. They should only be used to buy you time in which to deploy proprietary spill response equipment.

Absorbent granules – ideal for soaking up oil from both uneven ground and hard standings. Sprinkle around spillage (so as to act like a dam around spillage), and then liberally on the spillage itself. Brush granules around until no more oil can be soaked up (brush inwards towards the centre of the spill so as to prevent spreading). Can also be used to temporarily isolate a drain or manhole from a spillage. Contaminated ground and granules must then be excavated and placed into a separate hazardous waste skip / container (or bagged up if a small amount of contaminated material). The container must be lined to prevent escape of contaminated liquids.

Absorbent pads – best for soaking up oil from smooth, flat surfaces such as floors and hard standing. Also used for soaking up oil floating on the surface of water. When placed over manholes and drains, can also be used in an emergency (in conjunction with granules) to reduce the amount of oil entering a sewer or drainage system. Simply place the pads on the contaminated area and leave them to soak up the oil. When using them on firm ground they can be pressed down with boots to ensure that the whole area of the pad comes into contact with the oil. Should be bagged up and disposed of with contaminated ground.

CLEAN UP

- Contaminated sand, earth or absorbent materials should be placed into sacks or leak-proof containers, as appropriate
- Spilled materials should **not** be washed into the drainage system.

DISPOSE

- Waste contaminated materials should be disposed of appropriately, as per our Waste Management plan.
- All used absorbent materials are classified as hazardous waste.

All material used to clean up a spill will be classed as Hazardous for disposal. Make sure they are stored separately from other wastes prior to removal from site in accordance with Hazardous (Special in Scotland) Waste Regulations.

NOTIFY

If you have not already done so during the assessment of the spill, site operatives must notify their site supervisor. The site manager will then need to notify the relevant regulators, the client or landowner and any other relevant persons e.g. the HS&E Department, as appropriate.

You must complete an incident report when the incident has been dealt with and send a copy to your line manager for minor incidents and a copy to your HS&E Advisor and Regional Environmental Advisor for significant incidents. A copy of the form must also be retained on site for action and close out.

REORDER

- Remember to replace used spill response equipment supplies.

SPILL RESPONSE PRACTICE DRILLS

It is important to make any practice drill as realistic as possible, without creating a genuine incident. Fuels, oils, chemicals etc. **must not** be used to simulate a spillage on site. Tap water may be used to simulate a spillage **only if** any associated run-off would not give rise to pollution (e.g. by entering a watercourse). Practice drills should be conducted as far away from watercourses, drains, aquifers etc as possible. Ideally, drills should be 'dry' - no liquids are used at all, suitable 'props' can be used to represent spillages, drains, manholes etc. Below are examples of how practice drills may be conducted:

Scenario 1 – Spillage onto the ground
A spill of polluting material is identified on site of approx a few litres. The spill is not running / moving off site. Spill response equipment is deployed to isolate the spill (i.e. absorbent socks, rolled up pads, earth, etc.). The spillage is then contained *in situ* using similar equipment, and absorbent pads and granules deployed over the spill to clean up.

Scenario 2 – Spillage into drain / manhole.
The spill is of sufficient volume to be running / moving around site and has entered or is about to enter a drain located on site. Site operatives / subcontractors should be asked to contain the spill and clean up as shown using the supplied spill response materials.

Scenario 3 – **Spillage into a watercourse**
It is not practical to use a watercourse for practice drills. The best approach is to mark out on the ground the imaginary banks of a watercourse and the imaginary direction of water flow. Identify the direction of flow and inform site operatives / subcontractors to contain the spill if possible. In this scenario the key requirement is to ensure all site personnel are aware of the external reporting requirements e.g. Environment Agency / external spill response contractor and this knowledge can be demonstrated during the spill test.

Scenario 4 – **Punctured drum**
A marker pen is used to draw the outline of a puncture hole on the sidewall of a drum. Spill response personnel roll the drum over so that the puncture is uppermost, or seal the hole with a proprietary sealant.

To make the scenario more realistic the drum could be filled with water and the drum actually pierced (if it is initially pierced near the top, further drills can be conducted by making piercings which are progressively lower down the sidewall). This alternative scenario must **only** be enacted if the inside of the drum being used is completely free from oil, fuel, chemical residues etc and there is no impact on health and safety or the environment.

Scenario 5 – **Combined incident**
All of the above scenarios can be enacted together in order to highlight the need for the response team to think quickly and prioritise actions to be undertaken when dealing with multiple incidents.

These are suggested ways in which practice drills could be conducted on sites. **It is at the discretion of the Site Manager how a spill drill is to be conducted.**

IMPORTANT POINTS TO NOTE

- Material contaminated with oils or fuels will be classed as Hazardous (Special in Scotland) waste for disposal purposes. This means that contaminated ground and response equipment must be safely stored (separately from other wastes). Always remember health and safety when dealing with any spillage – no smoking or eating, use of PPE.
- Do not hose down spillages, and do not use detergents (e.g. washing up liquid) – these only make matters worse.
- The Site Manager should ensure that the Spill Response Plan (SRP) is tested at least once on-site with the results (including photographic evidence, when relevant) being retained for the duration of the project to demonstrate that the SRP has been effectively tested. It is recommended that practice spill drills are conducted within one month of starting work. Further drills should also be conducted when there is a substantial change in the site workforce.
- Preventing incidents is equally important. Make sure that drip trays are used under plant, small containers (e.g. jerry cans) and during refueling operations. Make sure large containers are suitably bunded with a bund capacity of 110%. Do not accept leaking plant and containers onto site and ensure equipment developing leaks once on site is immediately repaired or replaced.

For the containment of 45 gallon oil / fuel drum the containment tray used must have a minimum capacity of 25% of the storage capacity (i.e. approx 50 litres). For multiple drums the capacity must be 25% of the aggregate capacity.

Plant Nappy ™ is a versatile alternative to the metal drip dray. They can be used to control spills, drips and leaks from equipment such as generators, pumps and compressors. They absorb oil / fuel spills within the flexible tray and allow water to pass through the liner. No requirement to lift heavy metal trays full of water or disposal of ‘oily’ water has hazardous waste. More information on this equipment and how to purchase can be found at www.**plant-nappy**.co.uk