Working at construction and demolition sites

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SEPA

What we will cover:

- Section 1: Pollution Prevention Planning
- Section 2: Drainage
- Section 3: Excavations
- Section 4: Materials storage, stockpiles & exposed ground
- Section 5: Oil storage, use and recycling
- Section 6: Nuisance
- Section 7: Cement, concrete and grout
- Section 8: Land contamination
- Section 9: Non-native invasive species
- Section 10: Chemicals and hazardous substances
- Section 11: Waste Management
- Section 12: Incident Response
- Section 13: Case studies

Section 1: Pollution Prevention Planning

Planning will:

- help make the job run smoothly
- improve risk management, reducing risk of pollution incidents and fines
- help identify efficiencies and potential cost savings
- improve relationships with clients, local regulators and neighbours and reduce likelihood of complaints
- reduce damage and clean up costs if an incident does happen
- help you win and maintain contracts

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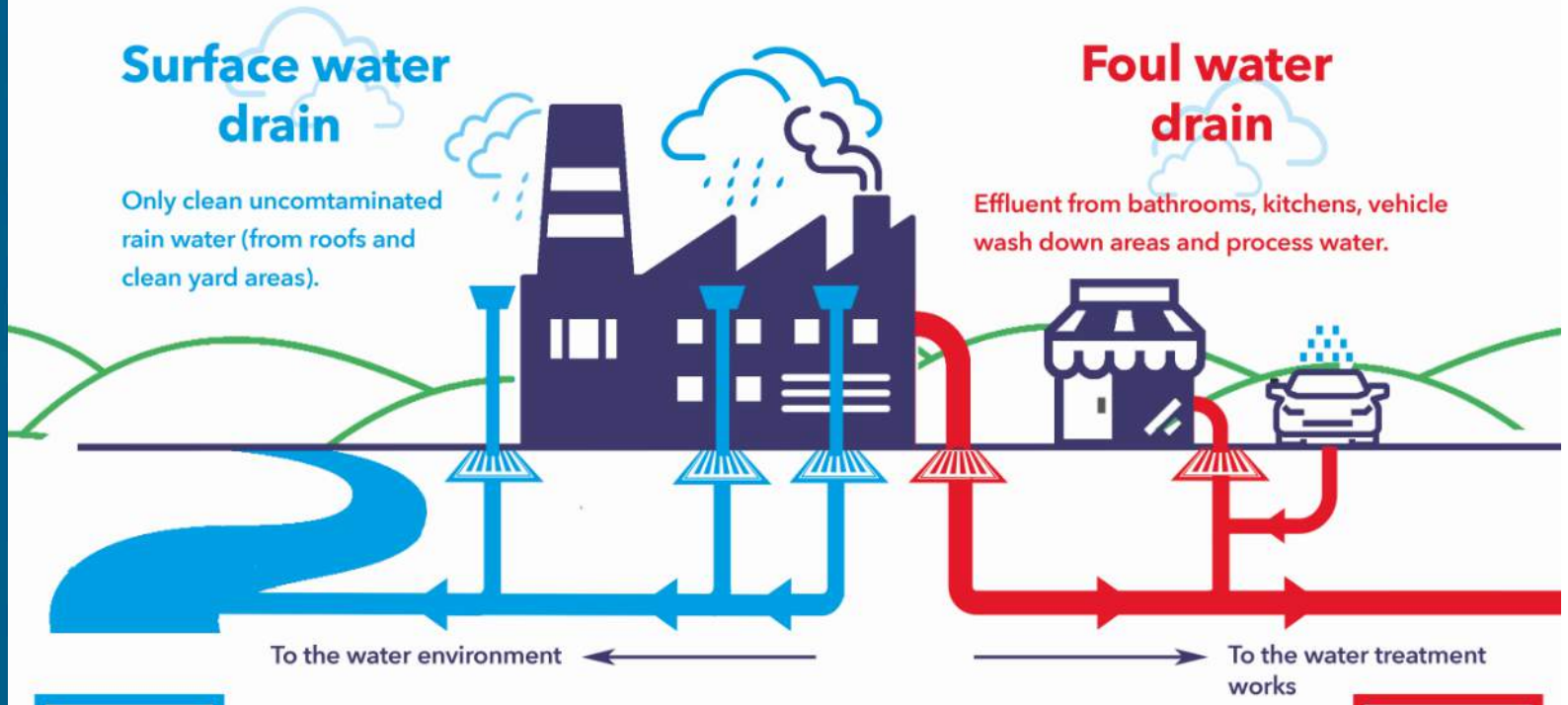
Plan to protect the Environment

Section 2: Drainage

Drainage systems can act as a pathway to spread pollutants

- Identify existing drainage on site by type:
  - surface water drains and soakaways
  - land drains
  - foul water and combined sewers
- Identify pollution risk; what types of pollution could enter the drains?
- Prevent any pollutants entering the drains.
- Identify if drains have existing protection, e.g. oil separators such as interceptors and silt traps.
- Authorisation required to discharge to drain / surface waters /groundwater.
- Use SuDs for the construction phase to control surface water run-off.
- Include drainage incident plans
- Report all pollution incidents to management and via the Hotline

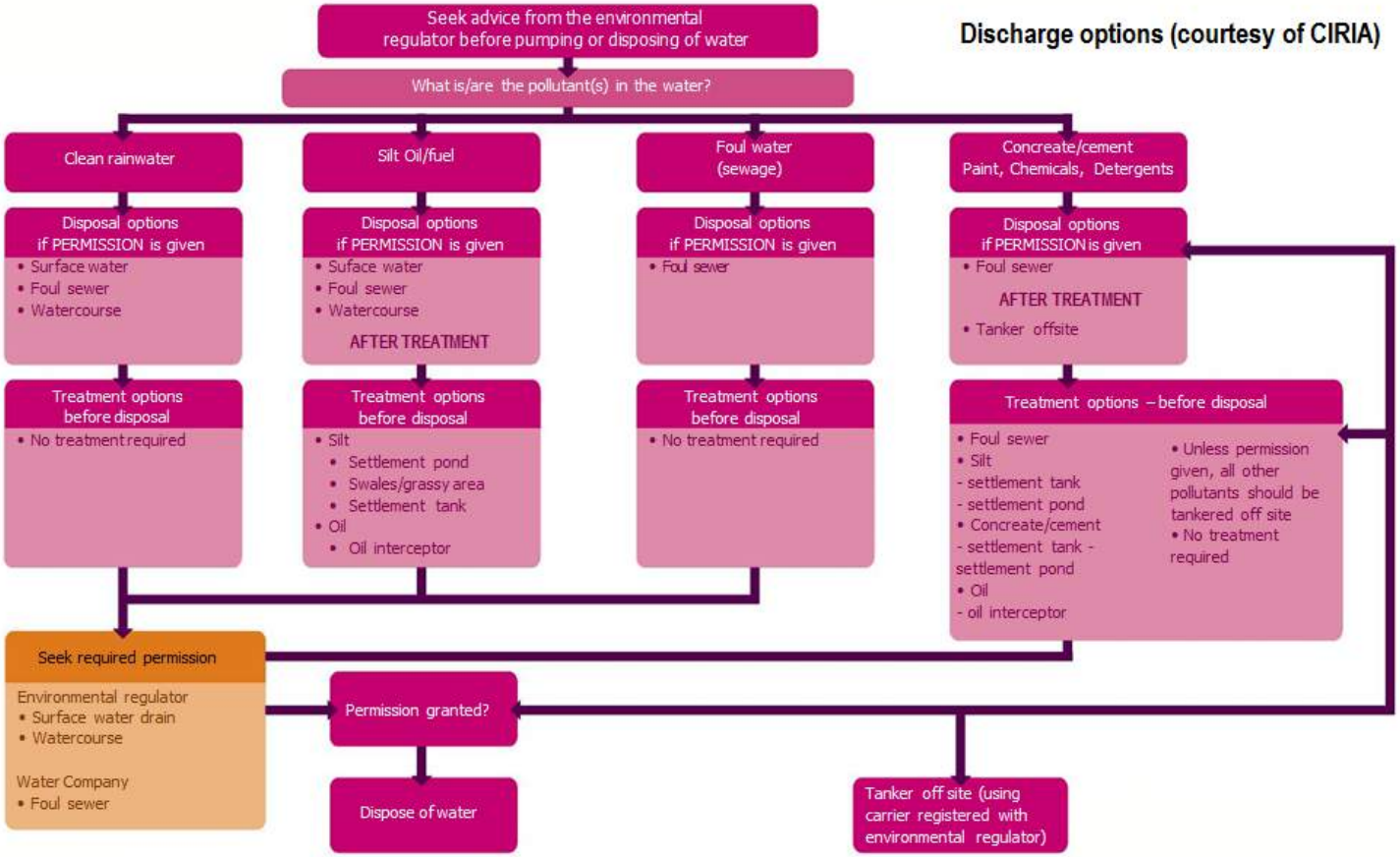
Section 2: Drainage (Further considerations)



Colour coding drains

You should colour code drain covers, drainage grills and gullies.
Foul water drains should be painted RED, surface water drains BLUE and combined drainage systems can be marked with a red letter C.

Section 2: Drainage



Section 3: Excavations

Essential Pollution Prevention

- Know site history, potential specialist removal/treatment.
- Always try to prevent water from entering excavations, by using cut-off ditches.
- Minimise the exposed earth to reduce silt transportation.
- Settlement tanks/lagoons to remove sediment from water.
- Do not discharge silty water to a watercourse or surface water drain as it will cause pollution.
- Authorisation required to discharge settled water to the foul sewer.
- Authorisation required to discharge anything to a watercourse.

Section 4: Materials storage, stockpiles & exposed ground

- Stockpiles /exposed ground can cause pollution (water run-off / dust)
- Locate away from watercourses, ditches and drains, and on level ground (or ensure slope stability if not possible)
- Contaminated stockpile run-off must be contained and legally disposed of.

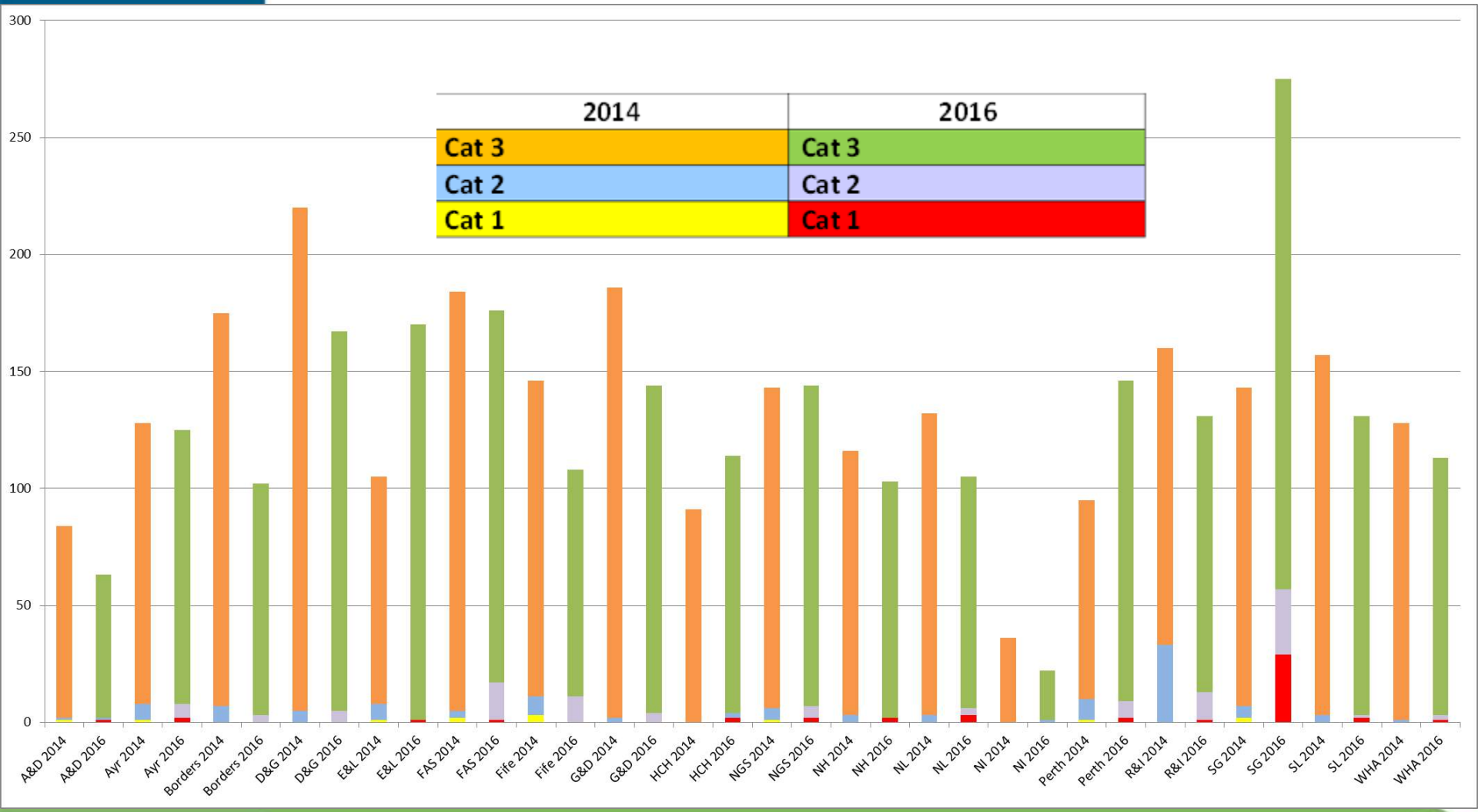
Prevent stockpiles from:

- drying out, by covering or damping down; to reduce dust
- getting above the height of the site boundary
- being eroded by rain water or surface water run-off

Packaging:

- Ensure suppliers take back their packaging when delivering materials to site.
- Where packaging is held on site – e.g. to protect materials in storage – ensure that you provide suitable enclosed waste disposal facilities.

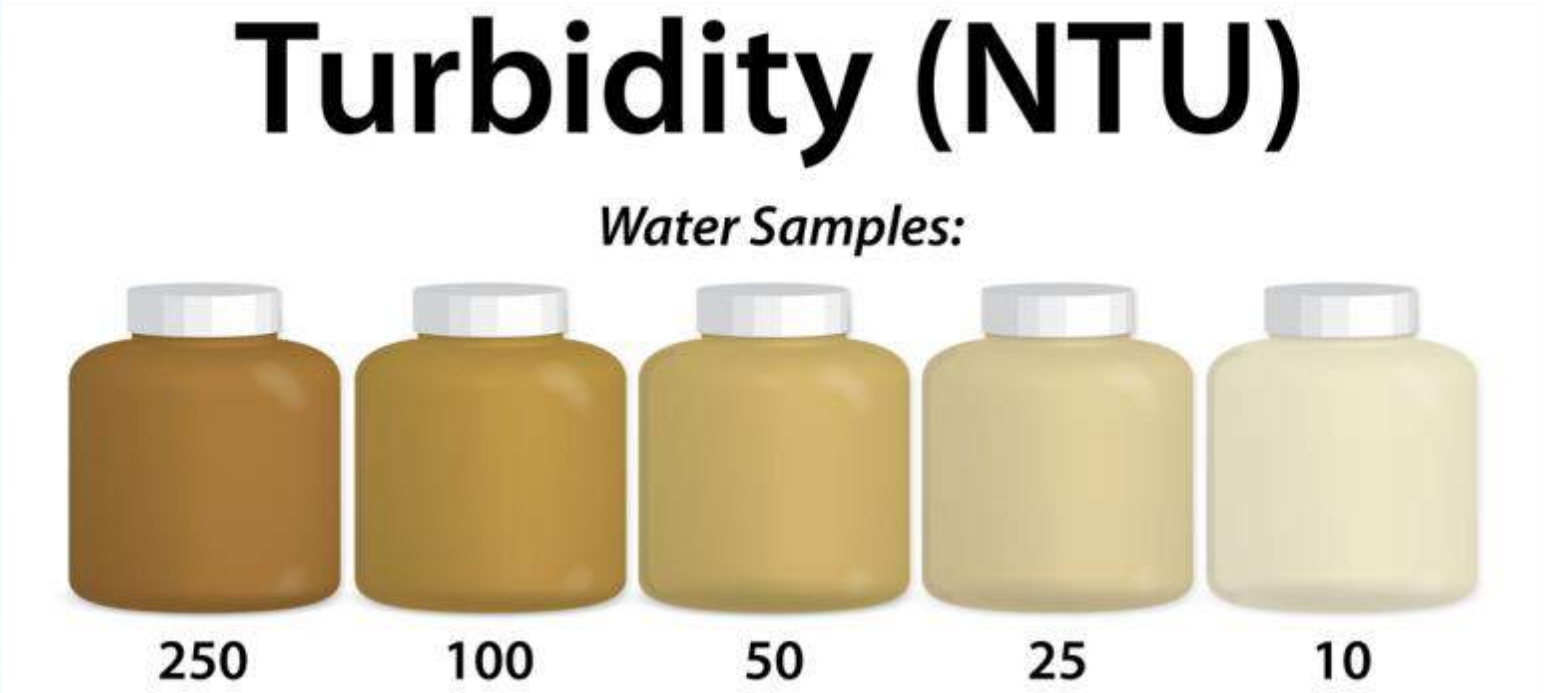
Sediment incidents Events by team
2014 vs 2016



REASON FOR CHANGE?

The Good, The Bad and The Ugly

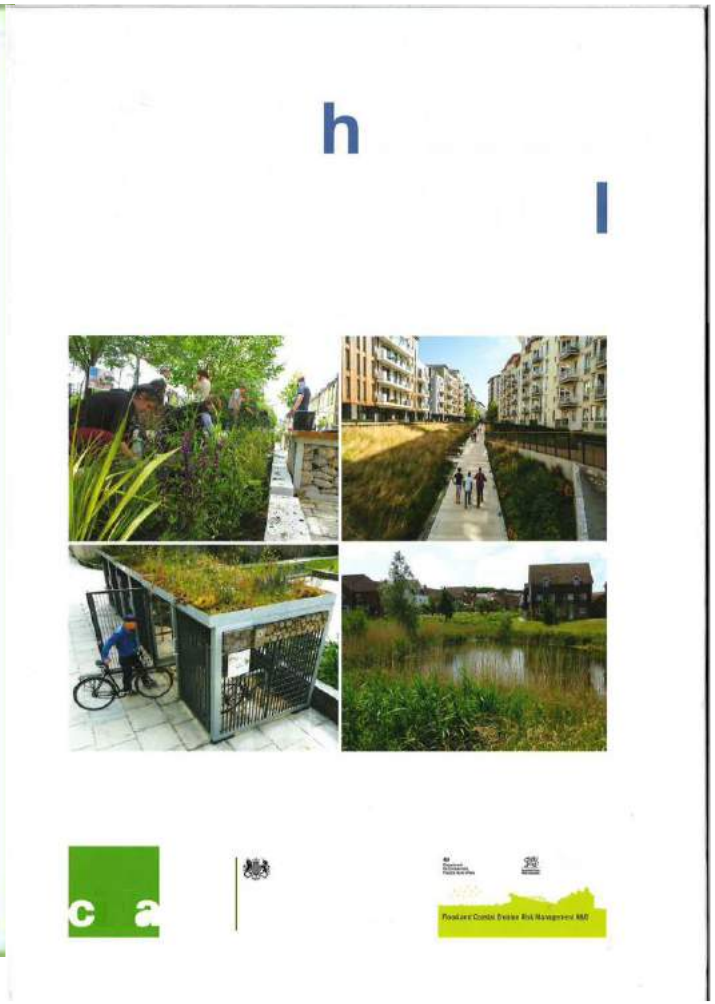
WHY ARE WE DOING IT?



CONSTRUCTION ACTIVITIES

- The requirements for a licence will be where a construction site, including any constructed access tracks:
  - has an area of 4 hectares or more;
  - a length of 5 km or more; or
  - includes any area of more than 1 hectare or any length of more than 500 metres on ground with a slope in excess of 25°.
- Below this level the activity will be regulated via the GBR.

CIRIA Manuals



Section 5: Oil use, storage & refuelling

- Oil storage regulations apply to storage of oil over 200 litres (excluding uncut bitumen)

- When dealing with oils, you should pay special attention to:
  - The location of oil storage tanks and refuelling areas.
  - The requirements for the containers to store oil.
  - How you handle and use oils on site.
  - Dispensing pumps for re-fuelling plant and site vehicles – ensuring these are fit for purpose.
  - Inspection and maintenance of containers, secondary containers and storage areas.
  - Site security.

Section 11: Waste management

Legal waste storage and disposal are essential for effective pollution prevention.

Everyone on site must comply with the waste ‘Duty of Care’, you must:

- store your waste safely and securely on site
- prevent any liquid wastes leaching from bins or skips
- develop a site procedure for selecting and managing waste contractors
- only pass your waste to authorised persons and companies
- have appropriate duty of care documentation - waste transfer notes (waste) / consignment notes (hazardous waste)
- prevent hazardous wastes mixing with other non/hazardous wastes
- keep all waste transfer notes 2 years and consignment notes 3 years.
- Dry recyclable materials such as paper, card, glass, metals and plastics must be collected separately

Section 12: Incident Response

Accidents can still happen. Be prepared!

You should produce an Incident Response Plan, to include :

- site risks
- list of key external and internal contacts (include your environmental regulator, Local Authority, Fire Service)
- reporting procedures
- site plan including drainage and location of storage/refuelling areas
- list of stored materials
- details of local environmental sensitivities e.g. abstractors, high amenity areas and fish farms
- location of spill equipment
- procedures for spill containment and remediation
- Train your staff and contractors in the use of spill equipment and how to manage and dispose of waste materials legally.

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In the event of an incident call -

Pollution hotline

0800 80 70 60

24 hours a day, 7 days a week

•High risk oil storage tank – breaking all the rules!

•About the site

•Housing development in a built-up area.

•Issue / incident

•Commercially available integrally bunded oil storage tank but safe oil storage was compromised by poor installation (see picture).

• Raised so dispensing by gravity, cf a pump.

•Base not supported, increasing rupture risk.

•Vulnerable to damage by impact / vandalism.

•Pollution prevention measure

•The tank needed to be relocated to a properly designed standing which could support the entire base of the tank and away from high risk locations.

•Lessons learnt

•Install oil storage tanks according to the manufacturer's instructions, preferably using qualified oil tank technicians. Take into account safe filling and dispensing.

•Use pumped dispensing if possible as it is easier to control. Tank contents are less likely to be lost by gravity, and it avoids working at height.

•Follow the requirements of the Oil Storage Regulations, and locate oil stores where they are away from risk of damage and / or provide adequate protection.

How not to install an oil storage tank!

•Case Study 9: Managing silt near watercourses

•Managing silt near watercourses

• About the site

•Large housing development next to a watercourse and a stream ran through the centre of the site.

•Issue / incident

•Silt management hadn't been considered.

•A large quantity of suspended solids entered the stream and caused a pollution incident.

•Pollution prevention measure

•Ensure awareness of all watercourses on and near the site.

•Put measures in place to prevent silt entering watercourse before beginning work.

•Measures such as silt fencing and silt settlement lagoons can be very useful for preventing incidents.

•Lessons learnt

•Consider pollution prevention measures before starting work.

•Be aware that the regulator may visit large scale construction sites. Seek their advice before pollution occurs.

•Case Study 10: Silt pollution prevention measures

•Silt pollution prevention measures

• About the site

•A motorway widening project crossing multiple watercourses.

•Issue / incident

•With three wet summers in a row, silty run-off became a major pollution concern.

•Pollution prevention measure

•Terram wrapped straw bales lined river bank.

•Silt fences (terram on a wooden frame).

•A filtration chamber created from an IBC with holes punched in the sides and lined with cloth.

•Series of lagoons connected with overflow pipes.

•A further lagoon at the bottom of the haul road with a cut-off ditch to direct run-off into it.

•Lessons learnt

•Mitigation measures need to be planned and implemented before works start.

•An assessment needs to be made of likely problem areas and the most appropriate measures chosen.

•Case Study 14: Pollution caused by alkaline leachate from concrete and lime

•Pollution caused by alkaline leachate from concrete and lime

•About the site

•Drainage outfalls to a local watercourse.

•Issue / incident

•Drainage outfalls discharging from construction site had high pH (9-12).

•Lime stabilisation works undertaken and crushed concrete used. The lime / concrete fines leached into the drainage system.

•Pollution prevention measure

•Be aware of potential pollution - concrete (high pH).

•Be aware of site drainage systems.

•Use appropriate drainage protection.

•Lessons learnt

•Don't use inappropriate materials.

•Be aware of pollutants that could enter drainage systems and put in place appropriate controls.

•Monitor discharge from site to ensure water quality.

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