

Tidal Works Methodology at all times-

1. Works within tidal influence will:
 - Be restricted to approved time windows (low tide)
 - Be continuously monitored by Supervisor
2. A minimum safe offset from water's edge will be maintained unless:
 - Specific task requires closer access
 - Additional controls are implemented
3. Works will cease and area evacuated if:
 - Tide encroaches beyond predicted levelsUnsafe conditions arise

Site Clearance & Excavation & Construction Works

1. Debris and vegetation on shore side in the area of proposed hardstanding to be cleared and removed from site. Loose boulders to be removed or re-used where required.
2. Existing wall and any services/assets to be protected.
3. All material to be removed from site via site dumpers.
4. Site Engineer will set out the footprint of the area.
5. Once material removed from site excavation to occur to formation level. Material to be carefully broken up where required and removed from site.
6. A thorough CAT and Genny scan is to take place prior to breaking any ground and following every 150mm of excavated depth thereafter. CAT and Genny results must be marked up including outside the dig area. All excavations within 500mm of a known service will be completed by hand using insulated tools. Any exposed underground services will be suitably protected with bricks or similar, and never subjected to any additional load or used as a footrest/handrest or similar. x2 Scottish water assets are known to be inside a concrete foundation after previous exploratory works. Hand digging will be required if at any point digging is needed at a distance of 500mm around the Scottish Water assets.
7. Trial Hole Locations drawings highlights the levels and Scottish Water assets.
8. SAFETY HOLD POINT Ensure tidal working windows are confirmed to avoid working in unsafe water levels. Assessment to be made by competent supervisor. Tide times will be monitored the day before and plan made in advance of works for the next day.
9. Any excavations will be battered back or angled at a safe gradient and be supported if required. No excavations will be left open.
10. Trenches will be excavated on site for services required as per design specification. Ducting and the required power and water services will be laid and installed as per the design specification for x3 Service points on finished hardstanding.
11. Any soft spots to be excavated and filled with engineered fill.
12. Coordinate delivery schedule with HGV deliveries to prevent site congestion. Tippers to reverse in to slip and tip on specified area.
13. 6F2 layers of dry bound stone to be layered in 300mm levels and compacted.
14. Rock armour will arrive on site via HGV tippers and a banksmen will guide drivers to the laydown area. HGV tippers will reverse onto to allow tipper to be discharged. 6FT, teram and rock armour will be layered as per the design specification and in line with tidal working times.
15. Tracked excavator will handle and manipulate rock armour into place on top of already prepared surface with Teram and dry bound stone.

16. Concrete foundations will be deepened to allow for fence installation around the perimeter of the proposed slab design. These foundations will be around 300mm deep and layered with A252 mesh and filled with concrete in preparation for additional fencing works.

17. Concrete will be delivered to site via Jaeger and directed to laydown area for re-handling. A concrete slab of 100mm will be laid in accordance with Concreting RAMS.

18. Jaeger will discharge concrete into a telehandler with suitable bucket and then be tipped at the specified location. Steel plates will be laid on the slipway to protect the existing surface during HGV operations.

Spill Response Plan

EMERGENCY ACTION PLAN FOR FUEL AND OIL SPILLAGES

Action to contain spillage takes priority over all other ongoing operations

In the event of spillage working in proximity to Campbeltown Loch (leak from plant, burst hydraulic hose, fuel leak): -

1. Stop Further Spillage (Containment)

It may not be easy to stop the flow of fluids from ruptured or upturned tanks and containers. It is of paramount importance that personal safety is assured before working in the vicinity of damaged vehicles. Danger from fumes, heat, electrical shorts and the likely movement of upturned vehicles must be fully assessed, and precautions taken.

Use empty containers and plastic bags to collect and direct further spillage. Use whatever machines or natural materials are available to create dams and bunds to block drains or streams and use Drizit containment products from mobile kits or central stock to prevent downstream movement of oils. Containment is key to prevent further damage to the Loch.

2. Summon Assistance

If necessary, aid should be requested from the Site Engineer/Principal Contractor to deal with the spill. Information must be sufficient to identify the site. Priority must be given to getting defence and absorbency products to the site.

3. Inform Others

Information required by the Engineer is as follows: -

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Err on the high side but try to get as clear a picture as possible. In an accident or overturning, operators may be too shaken to give precise details and may well try to minimise an incident. In the case of incidents abandoned by the perpetrators, assume the worst-case scenario and consider empty tanks to have been full.

b. How far has pollution travelled?

Rough estimate of distance from the incident site.

c. Who is likely to be threatened by the spill?

Describe the locality, the direction in which the pollution is moving, and how fast. Give a realistic assessment of the likelihood of being able to contain it.

What does the spillage consist of?

There may be a mixture of oils. Mixed oils may travel faster when hydraulic oils are involved. If petroleum spirit has been spilt, help may urgently be required from the Fire Brigade to deal with volatile liquids.

4. Dealing with the Spill

a. Diverting flow and constructing dams

If possible, an approach should be made from the downstream end of burns and

drains to try to ensure that protective measures are in place below the pollution. Summon the nearest machine to throw a dam across a drain or minor stream quickly and divert the polluted water to a less sensitive area or holding area to be dealt with later. Where possible a pipe can be incorporated near the base of the dam to allow clean water to flow out and the oil can be skimmed off the top with pads or cushions.

A series of dams with pipes at the bottom can be an effective means of gradually cleaning the flow over a short distance if placed 10 - 20 metres apart. The flow of water through the pipes must be regulated to maintain sufficient depth behind each dam, but also to prevent overtopping of the dam. A simple sandbag placed over the upstream end of the pipe allows water to build behind the dam and when sufficient has accumulated the bag can be adjusted to allow the desired amount through the pipe. Care must be taken to ensure that changes in stream flow do not negate the effectiveness of the measures taken. During the cleaning operations, sufficient supervisory visits must be made to take account of changes in weather and any other likely causes of alteration to flow.

When machinery is not available for dam construction, sandbags, stakes, boards and logs can be used to construct a serviceable dam by hand.

If a stretch of drain or stream does become polluted before containment can be achieved, the construction of a series of dams is the most cost-effective method of mopping up oil. Oil spreads very thinly over a considerable distance on water. The dams can be used to trap oil as it flows downstream over the coming weeks and make clearance straightforward.

b. Using oil absorbent materials -

Sorbents (loose granules, sheets or rolls, pillows or booms) will be available in the site spill kit and should be used to soak up a spill and stop it spreading. There are different types of sorbents available in the spill kit and the contents list will identify what is contained in the spill kit. Using sorbents will generate additional waste and waste must be disposed of according to the Duty of Care and if soaked in oil and chemicals this waste will be classed as special waste. Straw bales will only be used as a secondary option when there is no spill kit available.

c. Constructing a large boom

Despite efforts with oil absorbents and dams, oil may still get past these defences and threaten major watercourses, ponds, lochs or reservoirs. In these circumstances, a large boom may be the answer.

Several smaller booms can be joined together and cross the confluence of a burn with a river or at the point at which the burn enters a loch.

It will be necessary to pass a rope across the burn at this point and haul the string of booms from bank to bank or to tow the booms out into the lake with a boat and travel in an arc to the far bank. Whatever method is used, each end will need to be firmly anchored to a tree or a stake driven into the ground.

5. Pollution Incident Recording

It is important that all supervisors keep a note of events. As soon as is practical, one officer shall be appointed to keep a record of events, paying particular attention to the following points:

Complete a report on the sequence of events, ensuring accurate recording of times, dates and locations.

Keep the report updated as the situation develops

Take photographs of the site, recording times and dates of photographs

e. Who must be immediately informed?

The Contractor must ensure SEPA and all properties with water supplies in the area are informed as soon as possible. These should include:

- the source of the pollution;
- the point of entry of pollution into the watercourse;
- the watercourse above the point of entry and at measured, recorded intervals below the point of entry;
- gravel beds above and below the point of entry;

- and a repeat of the above exercise as water and silt levels subside.

Water samples should be taken at recorded intervals below the point of entry to establish the size of the problem. The exercise should be repeated after remedial action to establish its effectiveness.

6. Cleaning Up Operations

Oil absorbent materials should be collected in stout plastic bags. The weight of oil involved will mean that bags must be strong. Where a large quantity of material is involved, a skip should be brought to a central collecting point. In any event, contaminated material must be disposed of by an authorised waste disposal agent, or through burning in a safe and acceptable manner. Advice from SEPA or other competent body should be sought on dealing with streamside soil (and spoil from drains) that has been contaminated by spillage. Direction to be given by Principal Contractor in the event of hazardous substances entering the river

7. Conclusion

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Speed is of the essence when dealing with fuel and oil spills. A logical and practical approach coupled with the correct materials and equipment will prevent, or at least reduce, the spread of pollution. Be realistic in assessing the size of the problem and engage the help and advice of outside bodies, e.g., SEPA, early in the proceedings.

POLLUTION CONTROL EQUIPMENT TO BE HELD ON SITE

Polythene bags – heavy duty x 20
Polypropylene rope – 10mm ext. dia. x 20m
Chemical proof gloves
“Drizit” Absorbent Materials
Booms x 3 bags (2 booms per bag)
Mini Booms x 2 bags (4 booms per bag)
Cushions – 4
Pads - 100