Contaminant Spill Emergency Plan

KERDIFFSTOWN LANDFILL REMEDIATION PROJECT

Wills Bros Ltd
CIVIL ENGINEERING CONTRACTORS

Revision and Amendment Status Sheet

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Further revisions since original issue date.

Page Number	Date of Amendment	Details of Amendment	Authorised by	Revision No.
4-7, 9, 10-12, 15, 17, 19,	09/12/20	Revisions made based on ER & KCC comments	JS, KD	01
1, 19	18/12/20	Revisions made based on ER comments	JS, KD	02
4, 6-10, 12-14, 16, 17, 19-24, 26	20/01/21	Revisions made based on ER comments	JS, KD	03
17	12/03/21	Updated to include mobile fuel bowser	JS, KD	04

Contents

1.0 INTRODUCTION

This Contaminant Spill Emergency Plan has been prepared by Wills Bros Limited. This plan forms part of a comprehensive suite of environmental controls within the Construction Environmental Management Plan (CEMP) for the remediation phase of Kerdiffstown Landfill Remediation Project.

The Contaminant Spill Emergency Plan addresses the potential adverse environmental effects resulting from encountering contaminated spill during the construction of the Project. The principal purpose of this Plan is to highlight the minimum standards that must be complied with as well as best practicable options for management of contamination for the Project. It is intended as a guide for contractors on how to manage contaminated spills and on site to minimise effects on health and safety and to reduce the impact on the environment. The Contaminant Spill Emergency Plan will be updated, with the necessary approval, throughout the course of the Project to account for changes to construction techniques or the natural environment and consent conditions. A copy of any revisions of a material nature will be passed to Kildare County Council and the Employers Representative for comment.

1.1 Objectives

Accordingly, Wills Bros Ltd will carefully plan works so as to minimise and mitigate any contaminated spills occurring on site. The Contaminant Spill Emergency Plan will be revised as required to confirm/update the details of construction provided within the document (e.g. actions and control measures).

The main objective of this Contaminant Spill Emergency Plan for the project will be to:

- Identify the key contaminant spill sources on site and the mitigation measures to prevent spillages occuring;
- Facilitate the prompt, efficient and safe clean-up of materials during remediation works;
- Identify the responsibilities and reporting procedures of trained site personnel in the event of an emergency or spill;

1.2 Project Overview

The Project involves the remediation of the Kerdiffstown Landfill site and development of the site as a multi-use public park. This is to be achieved by clearing and reprofiling the existing site, installing an engineered capping system, improving the management of landfill gas, leachate and surface water and the provision of landscaped and recreational areas. The site is approximately 30 hectares in size and is located at Kerdiffstown, Naas, Co. Kildare.

1.3 Contract Overview

The Contract Overview (Scope of Work) for the Kerdiffstown Landfill Remediation Project includes the following:

- Reprofiling of waste mounds to ensure the capping system works effectively and to facilitate the use of the site as a public park;
- Preparation and placing of a regulation layer in areas to be capped
- Installation of a permanent capping system across all existing waste areas to prevent rainfall infiltration, to manage surface water runoff, to reduce the production of leachate and to capture landfill gas;
- Installation of new systems to manage and control leachate and landfill gas which will include the construction of a dedicated landfill infrastructure compound and landfill gas flares (where extracted landfill gas is burned off);
- Construction of a leachate pipeline from the site, which will cross under the Morell river and N7 into Johnstown Pumping Station;
- Construction of a foul/wastewater pipeline connecting the site with Johnstown Pumping Station. This pipeline will run parallel to the leachate pipeline and will carry foul/wastewater from the site office and changing room building;
- Installation of surface water drainage to manage water on, and draining from, the site including surface water ponds and a surface water outfall point to the Morell River;
- Decommissioning of existing services, in particular an underground storage tank approximately 20m3 in capacity. There are also a large number of concrete structures (walls of former buildings) to be demolished;
- Processing of demolished concrete and other waste materials on site to produce engineering grade materials for re use on site;
- Development of a public park with multi-use sports pitches, car parking, a changing room building, children’s playground and a network of paths across the site;
- Landscaping works across the site including grass seeding, planting of trees and shrubs, and ongoing maintenance period of the works.

2.0 CONTACT DETAILS

Wills Bros Limited site management team will be responsible for ensuring that this Contaminant Spill Emergency Plan is correctly implemented on site.

Contact details for Wills Bros Limited and Kildare County Council are provided below.

Contractor: Wills Bros Limited			
Address	Wills Bros Limited Ballylahan Bridge Foxford Co. Mayo		
Contact	PQ **EHS Manager** YG **EHS Officer**	Mobile	xxx-xxxxxxx
Telephone	xxx-xxxxxxx xxx-xxxxxxx	e-mail	

Client: Kildare County Council			
Address	Áras Chill Dara, Devoy Park, Naas, Co. Kildare, W9 X77F		
Contact	Ultan Downes **KCC Senior Executive Scientist** James Mulligan **KCC Senior Executive Engineer**	Mobile	0879559494 0863841655
Telephone		e-mail	udownes@kildarecoco.ie jmulligan@kildarecoco.ie

3.0 LIMITING CRITERIA

3.1 Working Hours

Wills Bros Limited will comply with the working hours as set out in Appendix 1/13 programme of works 3.b of Volume A1 – Works Requirements. WBL hours are from 08.00 to 18.00 Monday to Friday. Depending on the works during the project, WBL will work to the hours outlined in the contract as shown below on Monday to Friday.

Day	Time
Monday to Friday	07.00 to 19.00
Saturdays	08.00 to 14.00
Sundays and Bank Holidays	No Work Permitted

Wills Bros shall gain prior written approval for any intended out of hours works in accordance with the Contract requirements.

Saturday work is not routine and will be;

- Co-ordinated with KCC and RPS
- Is on a “needs-must” basis

3.2 Contaminant Spill Minimisation Requirements

The following requirements (in accordance with Appendix 1/73AR: Hotspot Protocol of Volume A1 – Works Requirements relates to the potential of contaminant spill on site.

Excerpt of Appendix 1/73AR of Volume A1 – Works Requirements

A hotspot is defined as material uncovered in the course of the works by the Contractor which lies outside the bounds of the materials previously uncovered on site. This shall be considered to be any contaminant that is uncovered which has not been assessed or the identification on site of temporary containment systems that have the potential to break down over the design life of the project. Should such containment systems be identified they shall be deemed a hotspot and the protocol as outlined in this Appendix will apply.

Excerpt of Appendix 1/75AR of Volume A1 – Works Requirements

15. In compliance with Condition 3.5 of P1063-01, the Contractor shall clearly label and provide safe and permanent protection / access to all existing and proposed on-site sampling and monitoring points.

16. In compliance with Condition 3.6 of P1063-01, all Tank, Container and Drum Storage Areas shall comply with the following requirements:
    a. All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to EPA guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).
    b. All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:
        i. 110% of the capacity of the largest tank or drum within the bunded area; or
        ii. 25% of the total volume of substance that could be stored within the blinded area.
    c. All drainage from bunded areas shall be treated as contaminated unless it can be demonstrated to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal, unless it can be deemed uncontaminated and does not exceed the trigger levels set for storm water emission limits under Condition 6.14 of IE Licence P1063-01.
    d. All inlets, outlets, vent pipes, valves and gauges shall be within the bunded area.
    e. All tanks, containers and drums shall be labelled to clearly indicate their contents.
    f. All bunds shall be uniquely identified and labelled at the bund.
    g. The Contractor will apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.

17. In compliance with Condition 3.7 of P1063-01, the Contractor shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used, the absorbent material shall be disposed of at an appropriate facility. This shall be subject to the acceptance of the Employer's Representative in advance of disposal/removal from Site.

18. In compliance with Condition 3.9 of P1063-01, the Contractor shall install and maintain silt traps and oil separators at the Site as follows:
    a. Silt traps to ensure that all storm water discharges, other than from roofs, from the installation pass through a silt trap in advance of discharge;
    b. An oil separator on the storm water discharge from yard areas. The separator shall be a Class I full retention separator.

19. In compliance with Condition 3.10.2 of P1063-01, in the event of a fire or a spillage to storm water, the Contractor shall ensure that the site storm water shall be diverted for collection.

20. In compliance with Condition 3.11 of P1063-01, the Contractor shall ensure that all pump, sumps,

storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separators shall be fitted with high liquid level alarms (or oil detectors as appropriate).

21. In compliance with Condition 3.12 of P1063-01, the Contractor is responsible for the provision of a catchment system to collect any leaks from flanges and valves of all over-ground pipes used to transport material other than water. Details of this system shall be subject to the acceptance of the Employer's Representative in advance of use.

22. In compliance with Condition 3.13 of P1063-01, the Contractor shall ensure that all wells and boreholes shall be adequately sealed to prevent surface contamination. In addition, the Contractor shall, if and as requested by the Employer's Representative, ensure that specific identified wells and boreholes shall be decommissioned according to the UK Environment Agency. Guidelines "Decommissioning Redundant Boreholes and Wells" (or as otherwise may be agreed by the Agency). All wellheads shall be adequately protected to prevent contamination or physical damage.

23. In compliance with Condition 3.16 of P1063-01, the Contractor shall ensure that only natural gas or biodiesel (meeting CEN standard FN14214) shall be used in the boilers on site. In the event of an interruption to the supply of natural gas or biodiesel, an alternative fuel such as gas oil may be used with the prior approval of the Employer's Representative.

Excerpt 9.4.1 of EPA Industrial License

All significant spillages occurring at the installation shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.

Excerpt of Condition 9 of EPA Industrial Emissions License

Condition 9 of the license requires the licensee, to ensure that a documented Accident Prevention Procedure is in place that addresses hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. Condition 9 of the license also requires the licensee to have a documented Emergency Response Procedure in place that addresses any emergency situation on-site which should include provision for minimizing the effects of any emergency on the environment.

Wills Bros Ltd will adhere to emergency procedures and these are detailed in our Health and Safety Plan. The plan includes all contact details of our personnel responsible for contaminant spill. Emergency procedures and

drills are found in our health and safety plan (Appendix 1 – Emergency Drills (IP30)).

Excerpt of Appendix 1/73AR of Volume A1 – Works Requirements

As per the Works Requirements, appendix 1/73AR Hotspot Protocol. A hotspot is defined as material uncovered during the works by WBL which lies outside the bounds of the material previously covered on site. This will be considered as any contaminant uncovered which has not been previously assessed. WBL will follow the protocols in the appendix which deals with the excavated hazardous waste. A summary of the clauses is described below:

- In the event WBL undercover material considered to be a hotspot, WBL will cease work at the location and will inform the ER immediately.
- WBL and ER will jointly mark out the area of ground considered to be a suspected hotspot. Localised trail holes will be carried out by WBL under the supervision of the ER to determine the extent of the suspected hotspot. WBL shall erect fencing (Herras or equivalent), appropriate signage and any other environmental containment measure requested by the ER.
- WBL will continue the works in the other areas of the site adjacent to that area of ground fenced off and containing the suspected hotspot.
- WBL will take a minimum of 3 samples of the material within the hotspot for laboratory and testing and analysis. The testing shall be a detailed assessment of the contaminants most likely to be found in the waste. Waste Acceptance Criteria (WAC) testing shall be performed on the samples. WBL will classify the material in accordance with EPA Guidance: *List of waste and determining if waste is hazardous or non-hazardous.* WBL will provide the results of the testing to the ER. The ER shall determine if the material uncovered lies outside the bounds of the materials previously uncovered on site
- If the material uncovered in the suspected hotspot is deemed by the ER to lie outside the bounds of the material previously uncovered on site, then the ER in conjunction with WBL, shall develop a methodology for treating/removing/burying/altering the works requirements in relation to the hotspot. WBL will implement the agreed methodology for dealing with the hotspot. If the material uncovered is deemed to be hazardous following testing it will be removed off site to a facility licensed to accept hazardous waste.
- If the material uncovered in the suspected hotspot is deemed by the ER to lie inside of the bounds of the material previously uncovered on site. WBL will resume the works in accordance with the CEMP in the area.

4.0 MANAGEMENT MEASURES

4.1 Introduction

Wills Bros Ltd will have the following procedures in place in order to reduce the impact of contaminant spill during the Contract of works.

Table 4.1 summarises the activity, management measures and responsibility during the works.

Activity	Management Measure	Responsibility
Induction	Online inductions will be issued through electronic format to inductees, records will be retained on site. A copy will also be made available on site. A copy of the induction is shown in Appendix A.	**Wills Bros Limited**
Working Hours	Construction site working hours. Refer to section 3.1	**Wills Bros Limited**
Site Works	All reasonable and feasible contaminant spill source controls will be investigated	**Wills Bros Limited**
Monitoring	Carry out contaminant spill monitoring and keep records	**Wills Bros Limited & Employer**
Complaints	Should complaints be made regarding the effect of contaminant spill from the work, they will be treated by Wills Bros Ltd in a constructive manner. ER & KCC to be notified immediately.	**Wills Bros Limited & Employer**

4.1.1 Induction – Training and Awareness

The site induction, health and safety and environment training programmes will reinforce Wills Bros Limited employees and subcontractors the need for controlling environmental performance at each works location. Contaminant spill and management will be specifically addressed during the online induction and training. All Wills Bros Ltd employees will have responsibility for avoiding contaminant spills from their work activities. Induction is attached to this report in Appendix A.

All site personnel working on site will be required to sign the online environmental induction document. This will be made available online through an online portal. In the event, that the online service is not accessible, a copy of the inductions will be made available on site and all site personnel will be required to sign this induction sheet. WBL will ensure that this environmental induction document is to be read and signed by all site personnel.

WBL will conduct regular emergency spill exercise to test the response capabilities of the team, the exercises are geared to spills and other emergencies that could happen on site. SSI Environmental will conduct a number of training exercises to site personnel in relation to dealing with potential contaminant spills.

4.1.2 Working Hours

Wills Bros Ltd will comply with the specified working hours as defined in Appendix 1/13 3.b of Volume A1 – Works Requirements. Should works outside of these specified hours be required, prior agreement will be sought from the Client and other relevant authority. Refer to section 3.1.

4.1.3 Internal Reviews

Review of work practices and on-site equipment to identify where practices can be improved will be undertaken. This process will involve:

- Identifying the contaminant spill particular to the site.
- Random audits will be used to proactively anticipate contaminant spill issues and instigate a resolution process and to ensure that previously identified control measures continue to be implemented.

4.1.4 Communication

Communication with local residents and local community liaison groups will be coordinated with the KCC Landfill Site Management Team. WBL are aware that it cannot be guaranteed that all spills will be contained within the site confines, a diesel spill, leachate spill, concrete spill, waste spill all have potential to happen on site. If a major incident was to occur on site or on the road outside the site, local authorities will be notified immediately. Persons involved with KCC emergency service will be contacted as appropriate, fire brigade, guards, ambulance etc. Refer to the Accident Prevention and Emergency Response Plan for all the relevant details, action plans and contact numbers.

The Standard Operating Procedures will be enacted in the event of an emergency spill relevant to the particular spill. The subcontractor dealing with the removal of the leachate can supply the response plan relevant to the site at the request of the ER. The subcontractor supplying the diesel to the site will supply a response plan relating to a spill occurring. Also, the Hotspot Protocols will be followed is a hazardous waste is excavated which could potentially spill. Action will be taken if severity and quantity of the spill on site shows that it be potentially harmful to the public. KCC will be informed and communication will be coordinated and approved by KCC and ER.

5.0 CONTAMINANT SPILL SOURCES

5.1 Introduction

Will Bros Ltd will ensure that every measure will be taken to prevent spills happening in the first place. Safe secure storage, careful deliveries and staff training, on site and for drivers, are essential for pollution control. Some of the common causes of contaminant spills on site include:

- Overfilling or poor handling of containers
- Damaged containers
- Containment failure
- Failure of pipework or underground tanks
- Collision or accident
- Weather related problems e.g. flooding
- Fires
- Vandalism
- Leachate spillage
- Items in the landfill when construction works are ongoing
- Concrete or cementitious products (including bentonite/slurry for directional drilling)

Appropriate storage and settlement facilities will be provided on site. Areas of high risk include;

- Landfill
- Leachate area
- Fuel and chemical storage
- Refueling Areas
- Vehicle and Equipment washing areas
- Site Compound
- Directional drilling

6.0 MANAGEMENT MEASURES

6.1 Contaminant Spill Control Measures

The pollution control hierarchy shown below in figure 6-1 gives various options on how a spill can be managed. These good practice guidelines will be used by Wills Bros Ltd to ensure that contaminant spills will be effectively controlled on site. Each phase of the hierarchy will be discussed in greater detail below.

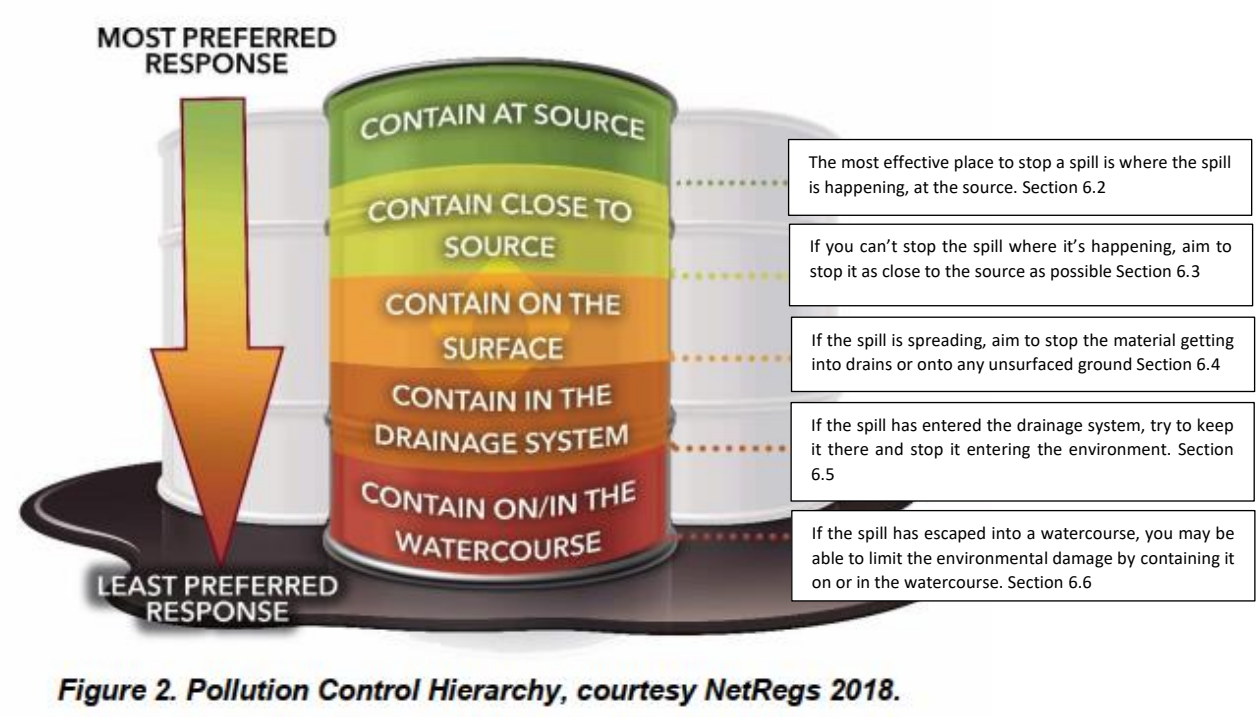

Figure 6-1 Pollution Control Hierarchy (NetRegs, 2018)

6.2 Contain at source

This is most effective place to stop a spill where the spill is happening. The reduction in the quantity of material being released will in turn reduce the cause of pollution. This option involves physically blocking the leak and stopping any more material being spilled.

6.2.1 Safety Data Sheets

WBL will have a copy of the Safety Data Sheets (SDS) at the source for review. They are available through the WBL online safety management system on Share point. A paper file will be available on site in the chemical store. A Control of Substances Hazardous to Health (COSHH) chemical risk assessment will be carried out to ensure all site personnel are familiar with the content in the safety data sheets. Contact numbers and procedures are all contained with the SDS.

For example, this will ensure that putting a leaking container into another secure container will be a safe procedure. It will be checked the new container is from free from contamination and won't be damaged by the

leaking material. Also, it will be checked that the new container has the capacity to take the volume of the leaking fluid and if additional containers are required for the spill.

6.3 Contain close to source

If the spill can't be stopped where it's happening, the aim is to stop it as close to the source as possible and stop it spreading. Some of these measures can include:

- Transferring the leaking material into an undamaged container
- Use sorbent products to soak up the spill
- Use small portable containers to collect the spill

Appendix B shows the plant nappy will be used on site in the event of a contaminated spill. It is designed to replace existing, traditional drip trays.

6.3.1 Contain on the surface

If the spill cannot be effectively contained near the source. The aim is stopping the material from getting into the drainage system or unsurfaced ground. Once a spill has been contained, it will be easier to remove or transfer into a suitable temporary container to stop more contamination. The options for containing a spill on the surface are:

- Booms prevent the material spreading;
- Drain mats to cover surface drain openings and manhole covers;
- Temporary storage container, portable tank.

Appendix C shows the De-watering silt bag to be used on site during the works. It shall contain sediment and oil pumped out during dewatering operations.

6.3.2 Contain in the drainage system

This containment can be utilised when closing the drainage system temporarily to hold the pollutant safely. The spill material must be checked to make sure it won't cause an explosive atmosphere within the drainage system. A drainage survey shall be carried out and this material will be removed safely by a registered waste carrier.

- Closing oil separators;
- Closing penstock valves or pollution control valves in the drainage system;
- Pipe blockers.

6.3.3 Contain on or in the watercourse

In the event, that spill has escaped the drainage system into a watercourse, we will ensure to limit the environmental damage by containing it on or in the watercourse before it spreads. Placing a boom across the water will help to contain a spilt material that floats on water. If this is not the case the watercourse may need to be dammed. This could be achieved by the placing of sandbags or wooden planks.

- Booms are a physically barrier that shall be ultised when collecting oil flowing down a watercourse. They will be deployed and secured by suitably trained people.

6.3.4 Improvised equipment

In the unlikely event that a spill and pollution control equipment isn't readily available, using material already on site might have to be used. This could include:

- Salvage sheets or wooden planks to create a temporary boom in a river;
- Fire hoses used in a boom;
- Straw bales used as a boom and sorbent;
- A shovel to spread sand or earth onto small spillages or to construct a dam;
- A car foot mat or a sheet of polythene, weighed down with sand or earth as a drain seal

6.4 Fuel/Chemicals/Oil Leak

All plant will be fueled at the start of the working day within the plant yard. The purpose of this plant yard is to have a dedicated, controlled area for refueling on site. This will ensure that refueling is contained within this area. Localised bunding for the re-fueling of items of machinery (pumps, generators, lights) where these items remain "in-situ" overnight will be used.

As shown below in figure 6-2. The lighting tower is double bunded and this will be the standard WBL will be using throughout the project.

A diesel bowser which will be double bunded is shown below in figure 6-3. This diesel bowser will be located in the compound area.

Figure 6-3 Diesel Bowser double bunded

Figure 6-2 Lighting Tower double bunded

6.5 Mobile Fuel Bowser

Further to the dedicated refueling area in the compound and due to the size of the site, WBL are proposing the use of a mobile fuel bowser. This will save time for plant to be tracking up and down the site from the various zones. WBL are proposing the following measures for the mobile fuel bowser to be used on site:

- The mobile fuel bowser will be located in the plant compound area when not in use.
- The capacity of the mobile fuel bowser is 1,000 litres.
- There will be a spill kit on board.
- There will one designated WBL person to run the bowser and refill the plant on site. If this designated person is not available on the day, a deputy will be designated to fulfil the role.
- Mobile bowser will not go off designated haul roads or on soft ground. This will be to minimise the risk of the bowser becoming bogged down.
- Both designated persons will be aware and competent in the event of a spillage of the correct procedures to take.
- Where refuelling is to take place on the site, the driver will adhere to the site speed limits of 15km/hr, site TM Plans and site rules.
- All plant being refuelled shall switch off the plant and remove the keys as to isolate the plant when the operative is refuelling. All ignition sources will be removed from the refuelling location (no phones).

- The vehicle will be parked as safely as possible to the fill pipe for the bunded tank, or the plant tank. The driver will ensure that they are not causing an obstruction and will put out cones and signs to protect the vehicle and the hose. They will ensure they are not creating a trip hazard for other employees.
- Once the vehicle is in position the driver will pull out the delivery hose. The valve at the end of the hose will be securely closed to prevent any leakage of fuel. The driver will pull out a sufficient length of hose to reach the storage. The driver will check the contents gauge or dip rod on the fuel tank and will estimate the quantity to be delivered. The driver will pre-set the meter for the amount required, this will be at less than the available capacity of the fuel tank.
- The driver will take the hose to the tank. After the hose nozzle has been securely connected to the fill pipe, the driver will start the pump.
- The driver will slowly open the valve and monitor the tank as the fuel is pumped into it. They will remain in attendance at the tank for the entire duration of the delivery and will be ready to close the nozzle and shut off the pump in the event of any emergency.
- When the preset amount is reached, the meter will stop the flow of product. The driver will then close the valve on the hose and remove it from the tank. In the event of an error in estimating the available capacity of the fuel tank, the fuel tank is fitted with an over fill device to prevent a spill.
- The driver will return the hose to the vehicle and then they will then engage the motor to rewind the hose onto the reel. They will print off a meter ticket for the plant operator.
- The driver will remove the cones and drive slowly back to the compound.

6.6 Silt

There is potential for silt to enter surface and groundwater during works. WBL Surface Water Management Plan gives greater detail on how mitigation measures are to be implemented during works. Some of measures included in the plan are

- Silt Fencing - The location will be dictated by circumstances on site, but the intention is to place as far from the site boundary as possible but not too close to affect the works or risk being damaged due to plant movement.
- Silt curtain – where this is a further risk of impact on the stream a silt curtain will be used. Following communication and agreement with all parties concerned, the specific RAMS for this element of the works will provide further details on the mitigation measures to be used and their exact location.
- Silt Dewatering bags - It is the intention to use these bags during Groundwater pumping works at the interface with the Morell river when crossing under the M7. These bags will be used in areas where groundwater pumping works will be taking place.

6.7 Cement and Cementitious Products

Concrete or cementitious products (including bentonite / slurry for directional drilling) also have the potential to

contaminate ie. Watercourses and groundwater. WBL are currently involved in ongoing consultation with all relevant parties with regards to the directional drilling during the works. The specialist contractor will advise on the necessary mitigation measures including how frac out will be dealt with. WBL will adopt these accordingly and will be incorporated into this plan.

6.7.1 Concrete washout

WBL will install concrete washout on site, this location to be agreed within the compound layout. The concrete washout will require a 110volt electricity power supply and this will be factored into the desired location. Siltbuster Limited's Roadside Concrete Waste (RCW) units are a combined concrete washout and pH adjustment designed to capture solids and neutralise the water resulting from the washing off, of truck mixer chutes on concrete delivery lorries. The RCW Concrete Washwater Treatment System will be ultilised on site during concreting operations

The principle features of the system are:

- High pH cement and aggregate laden washwater from truck mixer chute runs off straight into one of the RCW's reception hoppers as shown below in figure 6-4;

Figure 6-4 Siltbuster RCW unit in operation

- Cement solids and aggregates are retained in specialist RCW geotextile dewatering bags;
- Bleed water seeps through the dewatering bag fabric into the main RCW chamber for pH adjustment;
- Carbon Dioxide from standard industrial gas suppliers and a battery powered control system automatically adjusts the pH of the washwater;
- Settlement of any fine precipitated solids produces crystal clear water of near neutral pH for capture and re-use or even discharge of water to ground;

- When dewatering is full of hydrated cement fines from numerous washouts, the dewatering bags are easily removed and replaced with a new or recycled RCW bag and the treatment cycle continues;
- The RCW can accommodate up to 30 chute washouts per unit. Providing an effective solution for the site's environmental and operational needs during concrete operations.

6.8 Leachate

The management and potential spillages of leachate has been outlined in the Accident and Prevention Emergency Plan. A compressive suite of measures is already in place on site to prevent the potential spillage of Leachate. Wills Bros Ltd will ensure the prevention measures will be in place in the event of a leachate spill.

6.9 Stockpiling Controls

To prevent possible contamination of clean materials by site wastes separate stockpiling areas for imported materials and site won materials will be established. Stockpiling arrangements are summarised in the table below figure 6-5. Stockpile locations are retained on existing concrete hard-standing areas as far as practicable, to offer a separation to and protection of the underlying materials. A berm shall be installed around the stockpile to prevent runoff from leaving the area and storm water from other areas entering the stockpile area. Stockpiles shall not be places near drains or watercourses.

Stockpiling Arrangements

Stockpile	Location	Uses
Existing sub-soil	Retained adjacent to existing site entrance.	Zones 1 and 4 capping
Imported 'clean' soils	Zone 2A	Zone 3 toe bund Zone 4 ponds bunds Zones 1 to 4 capping.
Crushed / screened concrete (aggregate)	Zone 2B	Gas wells, access tracks.
Site wastes (including fines from crushing of concrete)	Zone 2B	Infill to Zones 1 and 3 Export from site if classified as hazardous during waste classification

Figure 6-5 Stockpiling Arrangements (EIAR)

7.0 RESPONSE PLAN

Emergency Procedure – Spill Response

WB.IMS.IP030.FM005

Spill response plan

1. If any spillage of fuel/chemicals/oil occurs, contact the relevant section Foreman immediately so they can activate the emergency spill response procedure. The Project Manager, client and EHS Adviser should also be informed. Contact the company EHS Manager for advice.
2. Try to identify the source of the pollutant and if possible and safe to do so, stop the flow.
3. Switch off or remove any source of ignition close to the spill.
4. Locate the nearest spill kit that is in the area. (Absorbent granules and pads can be applied to spills on land, absorbent pads and sausages can be used to contain direct spills and absorbent booms can be used to prevent the spread of spills on the surface of the water).
5. Prevent the spill from spreading and contain it in as small an area as possible, using absorbent sausages, earth, sand etc, to dam the flow. Divert any flow away from drains, sewers or watercourses. Never dispose of a spill into drainage system and never use detergents.
6. If any pollutant is at risk of entering a watercourse then absorbent booms or an earth bund must be positioned to prevent the spread of the pollutant. If the spill is static, then clean up with absorbent pads to soak up the pollutant. Ensure that the booms are long enough and have suitable anchorage point.
7. Ensure the appropriate waste disposal containers are used for the contaminated material.
8. The used items then have to be disposed of in a labeled bag/container as hazardous/special waste.
9. Record details and prepare an incident report. Implement controls to prevent occurrence and review the effectiveness of the response procedure. Undertake some awareness refresher training.

As per item 9 above, an Environmental Incident Report is prepared recording all the relevant details. This report is shown on page 22.

7.1 Emergency Contact Numbers

Wills Bros Ltd have set out an emergency response plan which is appended to our Health and Safety Plan. Our plan covers a comprehensive suite of emergency procedures and all personnel responsible along with their contact details. This plan is set in place in the event of minor or major accident's on site. The following is the emergency procedure in the event of a contaminant spill. The table below gives a list of names, position and contact numbers in the event of a spill. WBL will notify ER/KCC immediately in the event of a contaminant spill.

Emergency Contact Numbers

Name	Position	Contact Numbers
	Emergency Services	112/999
KD	Project Manager	xxx xxxxxxx
PO'G	Foreman	xxx xxxxxxx
SC/CB	Site Agent	xxx xxxxxxx / xxx xxxxxxxx
YG	Safety Officer	xxx xxxxxxx
CC	Engineer	xxx xxxxxxx

Environmental Incident Report

WB.IMS.IP042.FM006

NOTE: Circle all Applicable Sections as appropriate.

Environmental Incident Record Form

Site Name			**Date Occurred** _____/_____/_____	
Site Type*	Development (inc SI)	Construction	Operational	Decommissioning
Category of Incident*	Major	Minor	Near Miss	
Location of Incident including chainage reference or coordinates (if available).				

Type of Incident*	**Emissions to Land**	**Emissions to Water**	**Emissions to Air**	**Littering or Fly Tipping**	**Nuisance Complaint**	**Other (specify)**
Est. volume / quantity						

Notifications*	**Landowner**	**SEPA/EA/ NIEA/EPA**	**Local Authority**	**Water Utility**	**Supplier**	**Emergency Services**	**WB Director/ Mgr / Site Supervisor**
Date							
Person notified							

Description of the incident; what happened? where did it happen? when did it happen? (date and time)

Witness(es):

Response / Corrective Actions

Why did it happen? (cause of the incident)

Measures to remedy and prevent a recurrence	**Owner**	**Priority (H/M/L)**	**Due By**	**Sign Off**

Responsibilities	**Name**	**Position**	**Date**
Incident reported by			
Incident Investigated by			
Incident close out sign Off			

7.2 Emergency Equipment

Wills Bros Ltd will ensure that emergency equipment/spill kits will be made available in a secured location within the site compound. A collection of pollution control equipment will be held in one place and specific to the materials on site.

7.3 Spill Kits

Wills Bros Ltd will ensure that emergency equipment/spill kits will be made available in a secured location within the site compound. The spill kit will be stored near to where it may be needed, for example next to storage containers or delivery areas and in an alternative location in case it isn't safe to reach some of the spill kits during an incident. The spill kit will be placed in a wheelie bin and the contents inside. Each bin will be marked by a black permanent marker and labelled appropriately. Either by numbering or by location on site. This will be important when checks/monthly audits are undertaken, and bins are replenished when required. A machine will delegate these to the desired location These contents will include granules which will be covered and kept dry. Sausages will be also included in the spill kit where these can contain and absorb oil spills and and containing construction site run-off.

Figure 7-1 and 7-2 give the indicative locations of the spill kits on site. These are strategically located throughout the entire site to allow staff to quickly and safely respond to spills. Spill kits are to be placed at the entrance to each zone which will be clearly indicated on site by signs. WBL will ensure vehicles as reasonably practicable will contain a spill kit.

7.3.1 Spill Kit Training

Emergency spill kits will be kept on site at all times. All staff will be made aware of the location of spill kits and trained in their use. WBL will conduct regular emergency spill exercise to test the response capabilities of the team, the exercises are geared to spills and other emergencies that could happen on site.

SSI Environmental will provide training on site to all site personnel throughout the course of the project. This will be vital to highlight how the contaminant spills can be dealt with on site. WBL are proposing the idea of capturing some of the demonstrations on video which can be edited and used in further training throughout the project.

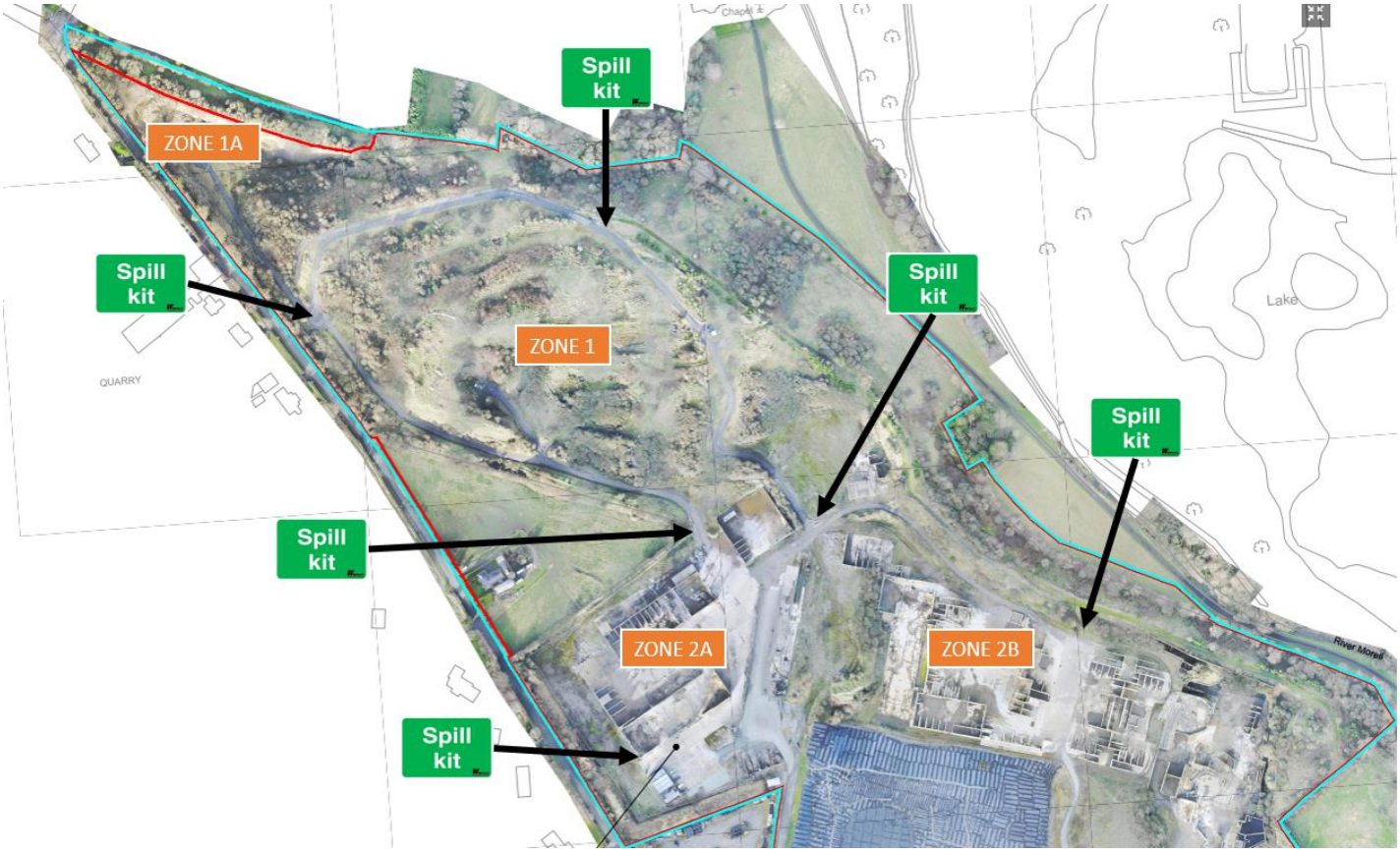

Figure 7-1 Spill Kit Locations - Zone 1, 1A, 2A & 2B

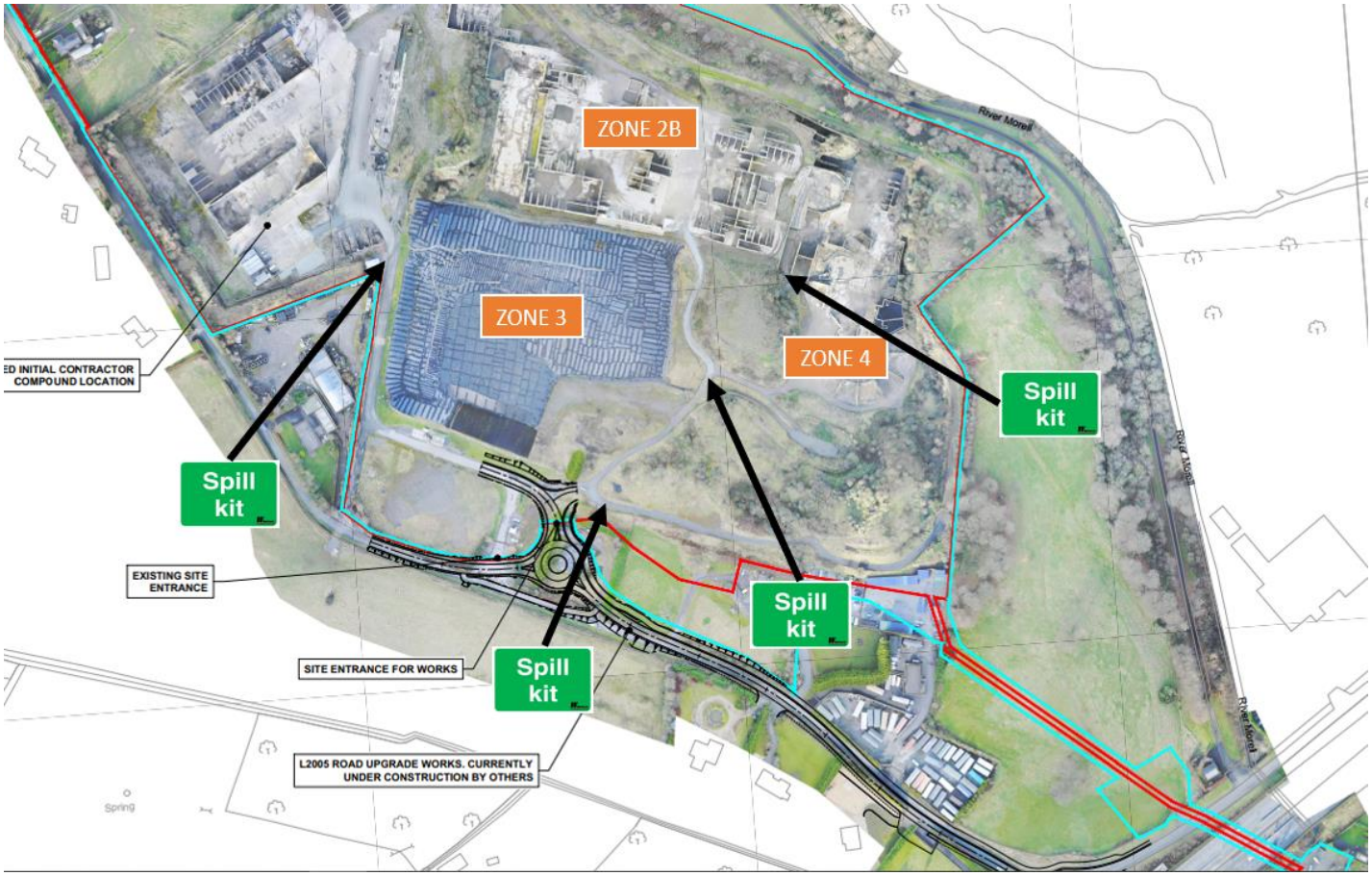

Figure 7-2 Spill Kit Locations - Zone 3 & 4

7.4 Containment Booms

Within the Industrial License there is a condition stating the requirement of containment booms;

In compliance with Condition 3.7 of P1063-01, the Contractor shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used, the absorbent material shall be disposed of at an appropriate facility. This shall be subject to the acceptance of the Employer's Representative in advance of disposal/removal from Site.

WBL will ensure that there will be an adequate supply of contaminant booms and corrective measures will be in place for disposing of the absorbent material.

7.5 Hydrogen Peroxide

Wills Bros Ltd are aware of the principle concerns over Hydrogen Peroxide that relate to storage and handling issues. Also ensuring that in the event of a spillage, adequate controls are in place (spill kits, bunding and training) to protect sensitive environmental receptors. Hydrogen Peroxide is a strong oxidising agent and as such must not be allowed to come into contact with incompatible materials. Hydrogen peroxide treatment advantages include:

- Hydrogen Peroxide has several key advantages over alternative chemical oxidising agents for leachate treatment applications. It does not produce toxic chlorinated by-products, nor any increase in AOX, as does chlorine and hypochlorite, nor does it increase salinity.
- Hydrogen Peroxide can provide a temporary buffer against septicity, in the form of dissolved oxygen, because it readily decomposes to water and oxygen within the environment.

8.0 MONITORING, REPORTING AND RECORDING

8.1 Contaminant Spill Monitoring

Wills Bros Ltd will maintain on site a monitoring report for contaminant spills if they shall occur. After any spill or pollution incident, Wills Bros Ltd will assess the damage and take any necessary action to restore the environment. Depending on what was split, how hazardous it is and local conditions, an experienced consultant may be needed to help investigate if any land contamination or groundwater pollution has been caused. There will be appropriate monitoring put in place. If there is contamination or pollution, mitigations measures will be put in place.

A copy of all records of any contaminant spill will be maintained on site, available for inspection at all times.

8.1.1 Groundwater Monitoring Wells

Groundwater monitoring wells are easily susceptible to infiltration of flowing contaminants. WBL will ensure that these wells are highlighted on site and clearly visible to all site personnel. A buffer zone will be set around these groundwater monitoring wells. The environmental inductions will highlight the sensitivity regarding this issue. Daily site briefings and toolbox talks will provide regular awareness of this issue.

8.2 Contaminant Spill Review

Wills Bros Ltd will ensure the review of any spill incident will be recorded. The aim is to find what happened so you can stop it from happening again. The review should identify what went well and what could be improved. All personnel involved in the contaminated spill will be included in the review.

The following shall be investigated for the spill review:

- What was the source of the spill;
- How did the spill happen;
- What was the response reaction to the spill;
- How well executed was the incident response plan;
- Did the response plan work, what worked and what didn't;
- The overall impact of the spill and what impact it had on the environment.

Following the spill review, the following protocols will be made:

- review and improve management procedures to make sure whatever caused the spill can't happen again;

- review staff training for management procedures and incident response;
- update your pollution incident response plan if something didn't work or could be improved

9.0 COMPLAINTS

Should complaints be made regarding the effect of the mitigation measures for contaminant spill from our work, they will be treated by Wills Bros Ltd in a constructive manner. The specific procedures will include (but not be limited to):

- Inspection of the location from which the complaint originated.
- Comparison of the measured levels with limiting criteria.
- Identification of engineering control or management procedure (if appropriate) to be adopted to reduce the levels at the complainant location.
- ER and KCC to be notified immediately in the event of a spill.

Complaints from outside the site will be treated by WBL and the above procedures will be taken.

Each complaint will be thoroughly investigated, and appropriate remedial action carried out promptly. Where corrective measures have been taken, the complainant will be updated by Wills Bros Ltd of the corrective action implemented.

10.0 RECORDS

All records and documents associated with monitoring of the Works will be retained by Wills Bros Limited. On completion of the Works, Wills Bros Ltd will issue all this information to the Employer and Employer's Representative in electronic format.

Information retained will include:

- All monitoring data collected, including data files, and calculations used in processing the data
- Maintenance schedules and records for the maintenance of the instrumentation and the monitoring system including calibration certificates.
- Records of systems checks, and testing and commissioning carried out.

11.0 REFERENCES

- Volume A Works Requirements, Book A1 Part 1 Specification
- P1063-01 Industrial Emissions License
- GPP 21: Pollution incident Response Plans – NetRegs, 2018
- EIAR Volume 2 of 4: Main Report, 2017

APPENDIX A

CONTAMINANT SPILL INDUCTION

Wills Bros Ltd – Kerdiffstown Landfill Remediation Project
Contaminant Spill Emergency Plan
November - 2020

Contaminant Spill Induction

All site personnel will be made aware of the sources and safety procedures of a contaminant spill on site.

Water way contamination

Local Authorities are able to trace where the source of contamination has come from and will prosecute.

Spillage Prevention

There are many precautions that can be taken to avoid spillages. These include the use of bunds around oil storage tanks and the use of drip trays around mobile plant. Advance planning can avoid the need for emergency response if things do go wrong. For example, sandbags, or even sand, can be used as a barrier to protect sensitive areas, or block off drains, during refuelling.

Spillage Response Procedure

Work immediately and prevent any more material spilling e.g. right an oil drum, close a valve. Eliminate any sources of ignition, e.g. switch of engines.

The spillage using bunds of earth, sand, drip trays etc immediately. Check that the spillage has not reached any nearby drains/manholes, watercourses, ponds and other sensitive areas. Bund the drains/manholes to stop the spillage entering the drainage system.

NOTIFY

Your foreman/ supervisor immediately giving the following information:
Whether the spillage has entered the drain/watercourse or is affecting the environment.
Material/substance involved
Location -Reason for the incident
Quantity involved

Disposal of spillage waste e.g. oil granules or pads should be bagged up and placed in the designated special waste skip.

APPENDIX B

PLANT NAPPY DATA SHEET

SSI Environmental Ltd.
Unit 243, Block A
Blanchardstown Corporate park 2
Blanchardstown,
Dublin 15

Tel: 01 8855555
Fax: 01 8855599

Mail: enquiries@ssienvironmental.ie
Web: www.ssienvironmental.ie

NEW

THE PLANT NAPPY

The Plant Nappy® is a new, light and user friendly method of spill containment; designed to replace existing, traditional drip trays. Designed to withstand all weather conditions, it is rugged enough to stand plant on it all year round to contain the odd mishap that could occur on site.



Sizes – 500 x 685mm 2 litre, 1000 x 685mm 4.5 litre, 2000 x 1370mm 16 litre




Whilst encapsulating any drips or spills of oil the mat freely allows passage of water, such as rainfall, thus eliminating costly emptying of contaminated trays after use. The mat can be stood on uneven ground or slight inclines with no loss of performance ensuring your company is protected at all times.
The Plant Nappy® is an easy and cost-effective way to ensure environmentally friendly practice on site, avoiding possible prosecution or monetary fine for contamination of ground and water.

The Plant Nappy® liner is a useful addition to complement and extend the life of the Plant Nappy®. The liner sits snugly onto the base of the Plant Nappy® but is easily removed for cleaning or replacement. Just as the Plant Nappy® has a non-permeable base and a tough top cover so has the liner to give prolonged efficient service.

Cleaning of the liner couldn't be easier, simply remove the liner from the Plant Nappy® and squeeze out the oil into a suitable receptacle, and then replace back into the Plant Nappy® for reuse. Because the liner is flat, a pair of rollers such as a mangle would prove quite useful for this procedure.

The capacity of a standard liner is approximately 4.5 lts and may become quite heavy, in which case it would probably be beneficial to clean at 50% capacity.

SSI ENVIRONMENTAL – SOLUTIONS DRIVEN

Visit our website: www.ssienvironmental.ie

APPENDIX C

OIL AND SILT DE-WATERING DATA SHEET

Oil & Silt De – Watering Sack

Contain Sediment and Oil Pumped out During Dewatering operations.

- Detains both oil and sediment, offering a combination of benefits not available in alternative dewatering bags.
- Standard and custom sizes available.
- Accommodates up to 4" discharge hose.
- Helps comply with NPDES, 40 CFR 122.26 (1999) when used as Best Management Practice in Storm Water Pollution Prevention Plans.

Contain Sediment And Oil Pumped Out During Dewatering Operations.

Detains both oil and sediment,, offering a combination of benefits not available in alternative dewatering bags.

- Accommodates up to 4" discharge hose.
- Helps comply with NPDES, 40 CFR 122.26 (1999) when used as Best Management Practice in Storm Water Pollution Prevention Plans. Compliance 40 CFR 122.26
- SSI ENVIRONMENTAL – PRODUCT DRIVEN – SOLUTION FOCUSED