



# Hazardous Substances Management Plan

**Project: Peacockes to Whatukooruru Drive**

**Contract No: HCC 1298-2022**

**Downer Job No: DN 1205**



Environment  
ISO 14001

Contract Plan	Document Preparation & Control	Document Authorisation
Issue Date	Project Manager	Project Director

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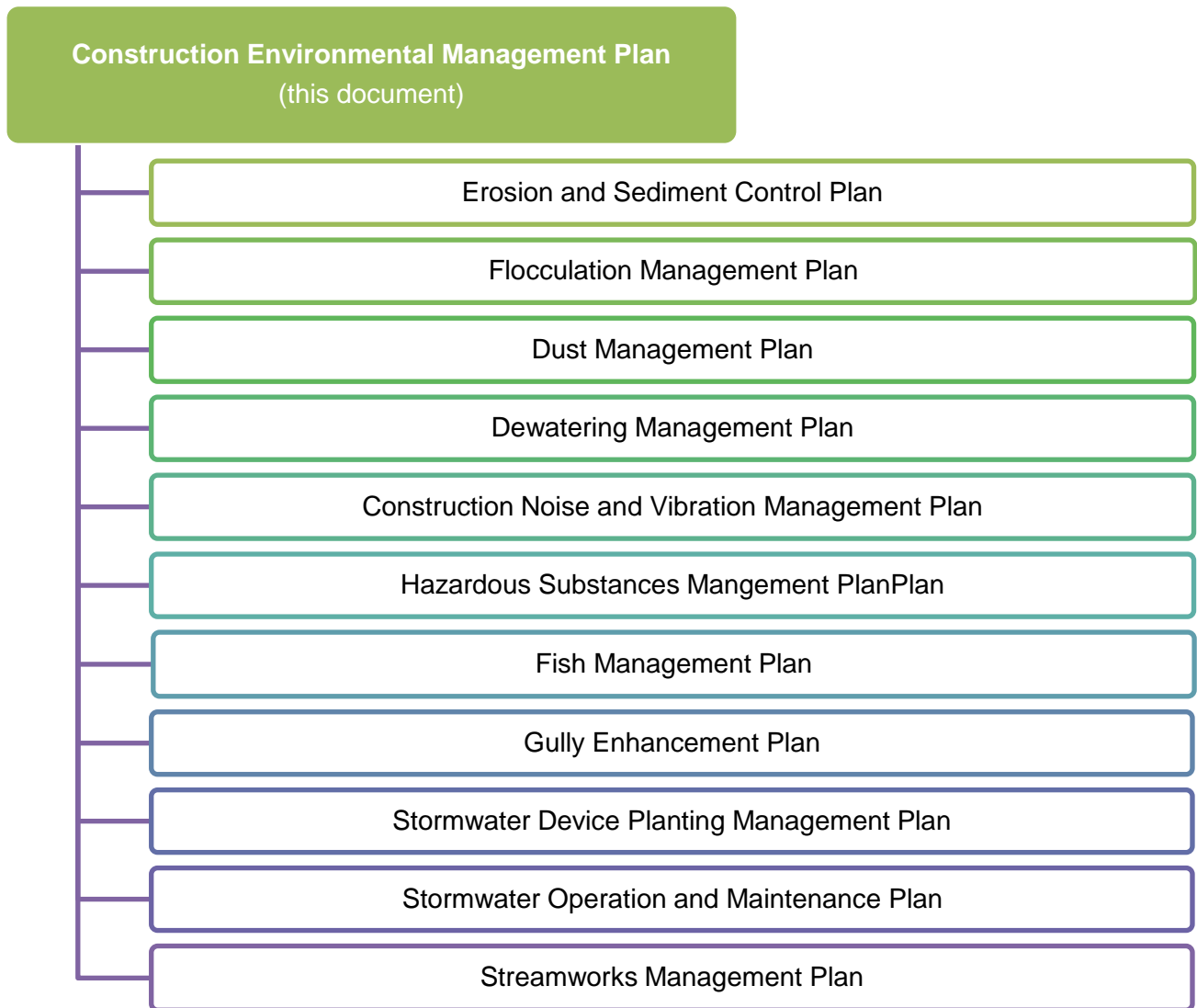
## 0 Introduction

Downer New Zealand Limited has been awarded a contract by Hamilton City Council (HCC) to undertake construction of Whatukooruru Drive, new major arterial road from Peacockes Road to Hall Road, and an accompanying upgrade of Peacockes Road. Works will be undertaken in Peacocke, a southern suburb of Hamilton.

Roading works include greenfield construction across existing pastoral land with two new bridges across the Mangakotukutuku stream and an unnamed tributary of the Mangakotukutuku stream, and the widening and resurfacing of the existing rural Peacockes Road.

As required by the Contract Documents, Resource Consents and Downer Environmental Management Policy in order to effectively manage the environmental issues on site a number of Environmental Management Plans are required.

These documents are incorporated into the overarching Construction Environmental Management Plan (EMP). This EMP includes the following sub-plans:



This Hazardous Substance Management Plan (HSMP) forms Appendix C of the EMP.

## 1 Consent Conditions

21.0	HAZARDOUS SUBSTANCES MANAGEMENT PLAN
21.1	Prior to the commencement of Construction Works, the Requiring Authority shall prepare a Hazardous Substances Management Plan (HSMP). The HSMP shall be prepared by a suitable qualified and experienced person. The Requiring Authority shall implement the HSMP at all times during the Project. The objective of the HSMP shall be to avoid, remedy or mitigate the adverse effects of Construction Works on human health and the environment which may result from the use of hazardous substances.
21.2	The HSMP shall be provided to the Territorial Authority Chief Executive Officer or nominee for certification at least forty (40) working days prior to the commencement of Construction Works.
21.3	<p>As a minimum the HSMP shall include the following details:</p> <ul style="list-style-type: none"> <li>a) Details of the type and volumes of hazardous substances to be used and stored during the construction phase of the Project;</li> <li>b) Procedures for the proper storage, handling, transport and disposal of hazardous substances in accordance with best practice and national standards and regulations;</li> <li>c) The equipment, systems and procedures to be used to minimise the risk of spills or leaks of hazardous substances;</li> <li>d) Procedures to notify and report to the Territorial Authority within 24 hours of a spill or leak involving 10 litres or more of a hazardous substance occurring; and</li> <li>e) Procedures to be followed to identify causes of spills or leaks of a hazardous substance and to avoid their recurrence.</li> </ul>

## 2 HSMP Purpose

The principal purpose of this HSMP is to demonstrate how Downer will manage the project works to ensure compliance with the requirements of the Contract, Consent requirements and industry best practice.

This HSMP highlights the minimum standards that must be complied with, the nature of the construction activities and machinery associated with the project works as well as best practicable options for management of hazardous substances associated with the project works.

It is intended as a guide for those undertaking the works.

## 3 Objectives

The primary objective of the HSMP plan is to provide a framework for the development and implementation of methodologies to ensure that all Hazardous Materials are appropriately stored and utilised and that appropriate spill contingency plans are in place in the event of spills of these materials.

## 4 Timeframes

The project works are planned to commence in late October 2022 and continue until January 2025.

The requirement for the appropriate management of hazardous materials will continue throughout the construction period.

## 5 Responsibility of the HSMP

The Downer Project Manager, Craig Lingard, has the overall responsibility for meeting the requirements of this HSMP.

Specific consent conditions related to the management of hazardous materials on site have been detailed in Appendix N of the EMP.

## 6 Management Plan Review

Commitment and continuous improvement to the Environmental culture by management is critical to its success and continuation. As part of continuous improvement changes to the HSMP may be appropriate during the course of the project.

These changes may be a result of:

- *Any significant changes to construction activities or methods*
- *Key changes to roles and responsibilities within the Project*
- *Changes in industry best practise standards or recommended spill contingency measures*
- *Changes in legal or other requirements (social and environmental legal requirements, consent conditions, client objectives and relevant policies, plans, standards, specifications and guidelines)*
- *Results of inspection and maintenance programmes, logs of incidents, corrective actions, internal or external assessments*
- *The outcome of investigations into discharges of contaminants.*

Reasons for making changes to the HSMP will be documented. A copy of the original HSMP document and subsequent versions will be kept for the Project records, and marked as obsolete. Each new/updated version of the HSMP documentation will be issued with a version number and date to eliminate obsolete HSMP documentation being used.

Any relevant revisions to the HSMP will be submitted to the Engineer for review and approval at least 10 days before becoming operational.

## 7 Hazardous Substance Control

This project will involve the use of a variety of construction plant and machinery. The majority of this plant will be motorised and as such will require a regular supply of fuels and oils. These can become a pollutant if discharged to ground or water.

Other materials potentially used in the construction process include drilling muds, concrete, bonding agents, sealants, flocculants and degreasers can result in environmental impacts if they are not managed carefully and are discharged to the environment in an uncontrolled manner.

The following mitigation measures will be implemented to manage hazardous substance use, storage and transport during the project:

- Fuel for all construction plant will generally be delivered by mini-tanker and refuelling and lubrication of construction plant will only be carried out in areas separated from environmentally sensitive areas, wetlands, watercourses (including ephemeral watercourses) or overland flow path.
- Spill kits will be available for use in the event of a spill.

- Hydraulic oils, greases and other construction materials including small quantities of fuel required for hand tools and pumps may be stored at the site compound, in a secure area.
- Any hazardous substances kept on site will be stored under cover in accordance with the relevant regulations.
- Containers of paint, adhesives etc are not to be left open unless being actively used.
- Specific concrete and grout wash-down areas shall be provided.
- Drilling and piling fluids, including bentonite, will be utilised in a 'closed loop' manner where site specific measures are utilised to prevent a discharge of these fluids.
- Wastes will be disposed of in accordance with appropriate regulations.
- Spill kits will be maintained at appropriate locations around the site. These site locations will be detailed at all smoko sheds.
- Major plant maintenance will not be carried out onsite unless absolutely necessary. Minor repairs will be undertaken away from the watercourses or stormwater inlets.
- Hazardous substances are managed through the Health and Safety Management Plan. All MSDS information shall be available to site staff.

## 8 Emergency Procedures

Prompt and effective emergency response reduces losses and the consequences of natural and man-made disasters. The following are standard situational responses. Job/task specific emergencies will be included in relevant Construction Package Method Statements.

Downer employs a range of procedures to ensure proper precautions are taken to mitigate any environmental emergencies. In the event of an incident, a full environmental investigation is carried out utilising **EMSR01** Environmental Incident Reporting and Investigation Procedure.

Guidelines for producing emergency preparedness and response procedures are available in Work Instruction WI-012.

### 8.1 Emergency Plan

In a situation where the Health and Safety of the public or site personnel is at risk, this plan needs to be read in conjunction with the provisions in the Project Safety Plan.

An emergency situation may require isolation of some or all services to the site to minimise damage to the environment.

Service Isolation points for electricity, water, gas and compressed air, are to be clearly identified on the Emergency Plan and marked in the field.

For spills or leaks involving 10 litres or more, the HCC consent offices / regulatory team must be notified within 24 hours; the Engineer and Principal must be notified of any non-compliances within the Monthly Environmental Compliance Report.

### 8.2 Fuel and Hazardous Substance Spills

1. Positively identify the material and then refer to Safety Data Sheet (SDS) information located in the Dangerous Goods or smoko room for Emergency Procedure Guides.
2. Assess whether or not you can safely deal with the spill. Do not under any circumstances attempt to contain any spills containing acids as these fumes are extremely dangerous. Immediately evacuate the building and call the Fire Service on 111 with details of the product and size of spill.
3. If safe to approach the spilled material, follow spill response chart/procedure and site spill response plan.

4. If not, activate the alarms and follow the evacuation procedure

**If large quantities of fuel, or a hazardous or unknown chemical is spill:**

1. Call the fire service and advise the nature of the spill and the quantity involved.
2. If there is a possible risk to people, evacuate the area, ensuring that people remain upwind and the spill area is closed to public access, as per information in the Emergency Procedure Guides.
3. Remove all sources of ignition to prevent an explosion of flammable vapours.
4. Only attempt to contain a spill if you have been trained in spill cleanup for the substance involved and have the proper protective equipment to do so. Otherwise, do not approach or come into contact with the substance.
5. If safe to do so, reposition leaking containers to prevent further leakage.
6. If there is a possibility of the spill entering the drainage system, or causing an environmental problem, create a temporary bund around any drainage sumps and contact the Waikato Regional Council.
7. Should a diesel spill exceed the capabilities of local expertise, then the Fire Service should be rung.

### 8.3 Bituminous Spills

Ensure that all sources of ignition are removed from the area.

<u>Minimise the spill</u>	Turn off valves Re-position containers Shutdown pumps etc.
<u>Contain the spill</u>	Build a dam around the spill (if practical). Use catching trays, drums etc (if practical)
<u>Isolate the Area</u>	Cover yard drains or isolate by building a dam around them If required, build a dam at perimeter fences to ensure product cannot flow off site. Notify the Emergency Coordinator as soon as possible.

During any spillage the safety of the people involved must be the first consideration, followed by the environment, surety of capital investment and detainment of product being stored.

In the event of a flammable hydrocarbon spillage all sources of ignition must be shut down and the area thoroughly checked for flammable vapours before deploying any machinery in the area.

Personnel involved in a cleanup must be issued with appropriate protective clothing and avoid the spilled product coming into contact with the skin.

Operations in marginal weather conditions, which would endanger the clean up personnel, must be suspended until conditions improve.

### 8.4 Emulsion Spills

1. Cordon off area
2. **Do not use water or wash down tankers etc**
3. Use squeegees etc to concentrate the volume of the spill.
4. Mop up, pump, skim (or otherwise remove) as much product as possible and place in leak-proof containers (usually drums)
5. Seal containers and arrange for disposal as per normal waste disposal procedures.
6. Sprinkle sand over the area

### 8.5 Kerosene, Diesel, Turpentine and Oil Spills

1. Cordon off area and remove all sources of ignition.



2. **Do not use metal tools**
3. **Do not use water to wash down the area**
4. Use squeegees etc to concentrate the volume of the spill.
5. Mop up, pump, skim (or otherwise remove) as much product as possible and place in leak-proof containers (usually drums).
6. Seal containers and arrange for disposal as per normal waste disposal procedures.
7. Sprinkle sand over the area (if required)

## 8.6 Categories of Spills

All spills will be categorised by the Site Supervisor.

**Type 1 A minor spillage within the boundaries of the site that has been, or is able to be, cleaned up by staff from the company involved and no damage to the environment has occurred.**

Site Supervisor shall:

- Initiate and oversee clean-up.
- Notify Environmental Advisor

Mike McConnell 027 4838923

**Type 2 A spillage that has flowed off-site or has the potential to leave the site (this includes vapours of flammable liquids), or the company staff are not able to clean up the spill and its effects safely.**

Site Supervisor notify:

- NZ Fire Service
- Police (if appropriate)
- Waikato Regional Council
- Hamilton City Council
- 

- 1-111  
- 1-111  
0800 800 402  
0800 800 401

- Project Manager
- Environmental Advisor

Craig Lingard 0274 920 907  
Mike McConnell 027 4838923

## 9 Incident Investigation

See Construction Health and Safety Plan

## 10 Refuelling Procedures

All earthmoving machinery, pumps and generators shall be operated in a manner which ensures that spillages of fuel, oil and similar contaminants are prevented, particularly during refuelling and machinery servicing and maintenance. Refuelling and lubrication activities shall be carried out away from any surface water such that any spillage can be contained and does not enter any surface water.

## **11 Hazardous Substances and Waste Management**

The Dangerous and hazardous substances stored on site are listed in the Hazardous Substances Register (as are the hazard classes and approximate volumes stored).

Substances brought onto site will come with Safety Data Sheets (SDS). Those deemed hazardous will be transported and stored according to good practice as described in the SDS. Subcontractors will provide an inventory of products they will use or bring to site and this will form part of the overall plan.

The site will have an up to date inventory register with the associated SDSs. Depending on what is kept on site, trained and certified handlers will be appointed. Bulk fuel and bulk cement will be managed by certified handlers.

All workers, as part of ongoing training, will be informed about hazardous substances they may come in contact with, how to read and interpret SDSs and what to do in case of emergencies.

Refer to:

- DN-ZH-ST024 Hazardous Substances Management
- Annex A – Hazardous Substances Inventory

### **11.1 Emergency Drills**

Emergency Procedures shall be regularly tested by way of drills and the NCR/OFI system used to follow up any identified actions.

## **12 Materials/Hazardous**

### **12.1 Supplier Controls- Hazardous Materials.**

This procedure is to ensure that environmental procedures are considered and in place, "prior to use or operation" of purchased plant, equipment, materials and chemical substances.

At the time of ordering, Safety Data Sheets (SDS) shall be sought from all suppliers for purchases of all hazardous substances, this is to ascertain special precautions that are necessary for the use of those items, including any exposure monitoring requirements.

All proposed purchases of hazardous substances shall be approved by a suitably qualified employee prior to purchase. Equipment and spillage management materials shall be available prior to delivery of the hazardous material.

Hazardous materials shall be stored appropriately to ensure compliance with applicable legislation and the manufacturer's recommendations. Disposal of toxic materials shall be to a Regional Council approved toxic disposal site.

### **12.2 Fuel supplies**

Fuel will be supplied directly to plant, machinery via Mini Fuels on an as needed basis as the default process.

For isolated sites trailer tanks may be required. This will be specified within the SSEMP.

### **12.3 On site storage of chemicals**

Minimum amounts of site chemicals will be stored on site. Site chemicals that are stored will be stored in an approved lockable facility, fitted with an internal liner to contain any chemical spills. SDS sheets are to be kept on site for the chemicals stored and a register must be kept

containing the volumes of these chemicals. Staff exposed to the chemicals must wear approved PPE (gloves, face shield, approved chemical suit and safety footwear.) staff must be trained and competent to use the chemicals PPE equipment.

#### **12.4 Concrete / Grout use**

Specific concrete and grout washout areas will be provided and identified on site for washing of concrete / grout placing tools, concrete pump, concrete chutes and trucks.

Where concrete or grout placing activities are near a watercourse or overland flowpath (typically within 10m) bunding or other physical barriers will be implemented to prevent a discharge of concrete or grout. In these locations concrete or grout will not be placed where rain is forecast within 24 hours of placement.

In the event that a spill of concrete or grout occurs to a watercourse or overland flowpath:

- the source of the spill is to be stopped.
- Additional bunding to prevent further discharges is to be installed.
- As much of the concrete or grout as practical is to be removed.
- The Engineer and WRC is to be informed as soon as practical.

#### **12.5 Drilling / Piling Fluids**

The specific control measures to be utilised to manage the drilling and piling fluids will be influenced by which specific fluids are used.

Notwithstanding this, the general management process will be to utilise these products in a manner which isolates them from the receiving environment.

This will utilise a 'closed loop' process where bunding and other physical barriers are utilised to retain these fluids. The drilling fluids will be collected within this bunding and pumped back through the drilling operation until the effectiveness of the fluids is such that they no longer provide the required benefit.

As this time the drilling fluid will be pumped to a tanker for offsite disposal.

For clarity, sediment control measures are (typically) not appropriate as a primary control measure as the specific requirements of a drilling fluid means that sediment control devices are not effective in retaining drilling fluids.

In the event that a spill of drilling or piling fluids occurs:

- the source of the spill is to be stopped.
- Additional bunding to prevent further discharges is to be installed.
- As much of the fluid as practical is to be removed.
- The Engineer and WRC is to be informed as soon as practical.

### 13 Annex A - Hazardous Substance Inventory

Site Name:			Person in Control:		Certified Handler(s):					
Product Name	HSNO Approval Number	HSNO Hazard Classification(s)	UN Class and Packing Group	Date of SDS available	Specific Storage and Segregation Requirements	Container size	Container open or	Gas, liquid or solid	Location on site	Maximum likely amount
SDS Section 1	SDS Section 15	SDS Section 2	SDS Section 14	SDS Header/ Footer (must be <5yrs old)	SDS Sections 7 and 10	Eg L or kg	Keep closed where possible	As handled (eg LPG =	Show all locations on site plan	Check trigger quantities