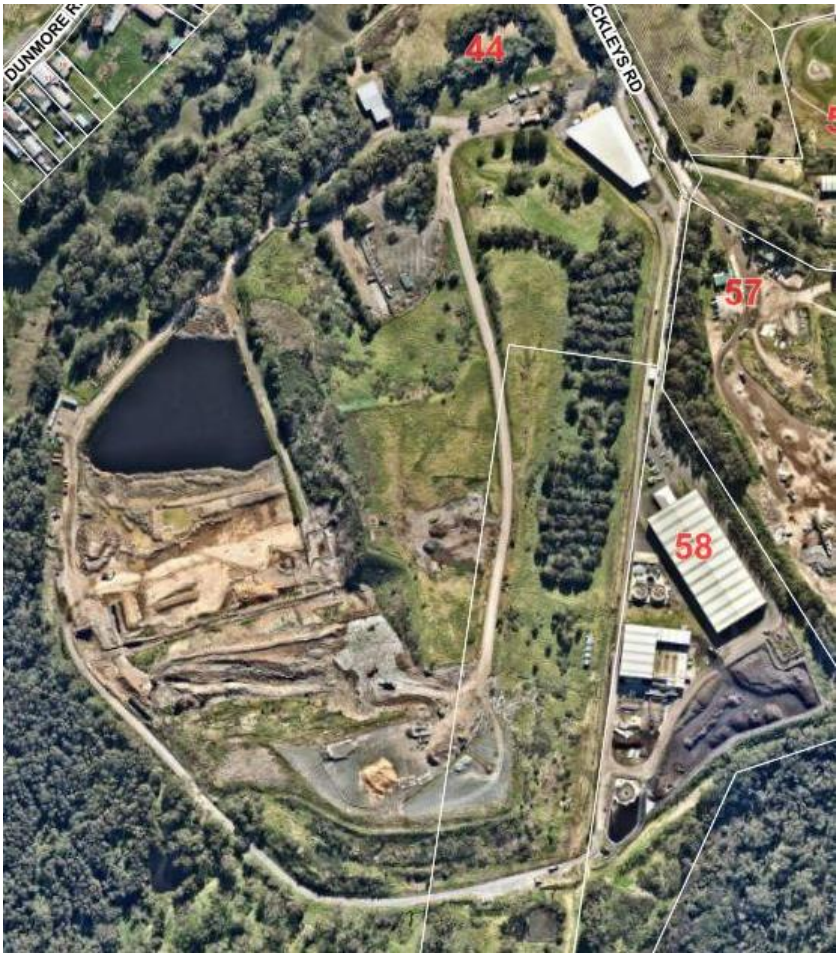
Pollution Incident Response Management Plan

Dunmore Recycling and Waste Disposal Depot (EPL 5984)

September 2023



Executive Summary

The Dunmore Recycling and Waste Disposal Depot is comprised of two licenced sites. One site is the Resource Recovery Centre on Environment Protection Licence 12903, which includes the Transfer Station, Administration Office and Food Organics Garden Organics (FOGO) Facility. The second site represents the Dunmore Recycling and Waste Facility that applies waste to landfill on Environment Protection Licence 5984.

This Pollution Incident Response Management Plan was developed for the Dunmore Recycling and Waste Disposal Depot, 44 Buckley's Road Dunmore NSW 2529, operating under **Environmental Protection Licence 5984.**

This document has been set out to fulfil the requirements of Part 5.7A of the *Protection of the Environment Operations Act 1997* and chapter 4 of the *Protection of the Environment Operations (General) Regulation 2022*. The objectives of this document are to:

- minimise the risk of a pollution incident occurring as a result of licensed activities, by identifying risks and the actions proposed to minimise and manage those risks;
- have established clear and effective notification, action and communication procedures to ensure the right people are notified, warned and quickly provided with updates and information they may need to act appropriately, including people who may need to be involved in incident responses – including staff at the premises; the NSW Environment Protection Authority ; and other relevant authorities (such as Fire and Rescue NSW, NSW Health and local councils) and industrial, commercial and residential neighbours and other members of the community; and
- have properly trained staff and up-to-date incident management information available to ensure the potential impact of a pollution incident is minimised.

This is a working document that requires the changes to site conditions, operating procedures or licence requirements, to be reviewed and incorporated where applicable. This document is reviewed after any incident and following the annual test exercise.

Following is a summary of the immediate steps to be taken in the event of a pollution incident. Refer to Table 2.

Table 1. Table of Revisions

Revision	Date Issued	Author/Reviewer	Organisation	Details
1	30 August 2012	Daniel Robinson	Environmental Earth Sciences NSW	PIRMP
2	31 August 2012	Daniel Robinson	Environmental Earth Sciences NSW	Changes required by council.
3	11 September 2012	Daniel Robinson	Environmental Earth Sciences NSW	Addition of Flow chart and council changes
4	28 April 2015	Nicole Cheung	Environmental Earth Sciences NSW	Reviewed by Shellharbour City Council Waste Services
5	30 August 2016	Dianne Tierney	SCC Waste Services	Changes due to redevelopment and Testing of the PIRMP 3 August 2016
6	4 December 2016	Dianne Tierney	SCC Waste Services	Document review due to EPA incident report C124813-2016, 4 November 206
7	25 May 2017	Dianne Tierney	SCC Waste Planning & Operations	Document review due to testing of the PIRMP 23 May 2017
8	20 July 2017	Dianne Tierney	SCC Waste Planning & Operations	Document review due to change of UHF Channel 1 July 2017
9	29 June 2018	Dianne Tierney	SCC Waste Planning & Operations	Document review due to testing of the Plan 1 June 2018
10	22 May 2019	Joel Coulton	Shellharbour City Council Waste Planning and Operations	Document review due to testing of the Plan 22nd May 2019.
11	15 June 2020	James Brumpton	Shellharbour City Council Waste Planning and Operations	Document review due to testing of the Plan 13th May 2020.
12	17 June 2021	Shanin Neveling	Shellharbour City Council Waste Planning and Operations	Document review due to testing of the Plan 06th June 2020.
13	December 2022	Ryan Stirling	Shellharbour City Council Waste Planning and Operations	Inclusion of operational leachate treatment plant and testing of the Plan on 23/08/2022
14	September 2023	Ryan Stirling	Shellharbour City Council Waste Planning and Operations	Routine review and update

Table 2 - Summary of Pollution Incident Response

Following is a summary of the immediate steps to be taken in the event of a pollution incident

In the event of a pollution incident			**Section of Report**
Step 1	Contact the Operations Coordinator	Operations Coordinator - 0421 044 158	Section 10
Step 2	Is there an immediate threat to human health and the environment?	Call emergency Services (000) or 112 for mobile phones	Section 10
Step 3	Does the site need to be evacuated?	Initiate evacuation procedure Safely follow pollution incident procedures	Section 0
Step 4	Operations Coordinator to contact the Operations Manager and Waste and Resource Recovery Manager	Follow the pollution incident response plan contacting the relevant authorities as required	Section 6
Step 5	**Additional staff responsibilities**		Section 6
Onsite Staff	**Operations Coordinator**	**Waste and Resource Recovery Manager**	
Assist with clean up	Coordinate onsite activities	Call relevant regulatory authorities (EPA, SafeWork NSW) following order specified in **Error! Reference source not found.**	
Follow instructions of Operations Coordinator	Barricade off area and notify staff onsite	Engage appropriate consultants	
	Call relevant regulatory authorities (EPA, SafeWork NSW) following order specified in **Error! Reference source not found.**	Review and submit incident report form to EPA.	
	Complete incident reporting form	Review PIRMP within 30 days of report.	

It is recommended that all sections of this document are read, and the appropriate training undertaken, prior to responding to an incident.

The below table specifies the order these contacts are to be called and who is responsible to contact them as required.

Table 3 - List of Contacts

Name	Position	Role	Organisation	Contact
Kerry Penfold	Operations Coordinator	Chief Warden / Activating the plan and managing on site response.	Shellharbour City Council	0421 044 158
Glenn Holden	Operations Manager	Support Operations Coordinator / Waste and Resource Recovery Manager / 2IC to managing the response	Shellharbour City Council	0492 173 162 (02) 4221 6325
Ryan Stirling	Waste and Resource Recovery Manager	Managing the off-site response	Shellharbour City Council	0416 915 580 (02) 4221 6141
Sean Anderson	Plant Operator	WHS Rep / First Aid	Shellharbour City Council	0432 382 844
Teresa Nolan	Weighbridge Operator	First Aid	Shellharbour City Council	02 4221 6305
Peter Dudley	Plant Operator	First Aid	Shellharbour City Council	02 4221 6200
NSW Fire and Rescue	-	Emergency Response	-	000 or 112 for mobile phones (02) 4224 2000
Police	-	Emergency Response	-	000 or 112 for mobile phones (02) 4295 2699
Ambulance	-	Emergency Response	-	000 or 112 for mobile phones 131 233
EPA Hotline	To be contacted if this is a notifiable incident	Environmental reporting	NSW EPA	131 555 or (02) 9995 5555
SafeWork NSW	To be contacted if this is a notifiable incident	Incident reporting	SafeWork NSW	13 10 50 or contact@safework.nsw.gov.au
Rohan Last **Taite Beeston**	Environmental Consultants	Environmental advice	ENRS	(02) 4448 5490

Name	Position	Role	Organisation	Contact
Public Health Unit	Public Health Officer	Surveillance and public health response	NSW Health (from Wollongong Hospital)	1300 066 055 (Business hours) (02) 4222 5000 (After hours) ask for Public Health Duty Officer on call
Omid Sayar	Process & Operations Engineering Manager	Leachate Treatment Plant Operation	Innaco	0435 158 919
Allan Mitchell	Re.Grow Site Manager	Management of FOGO Facility	Re.Grow	UHF Channel 66 0475 519 962 02 9235 1377

Table 4 - Contact Order

Name/ Organisation	Role	Person responsible to call	24 Hr Contact
Emergency Services: Fire and Rescue NSW, Ambulance, Police	First responders. They are responsible for controlling and containing incidents. Can be used to contact surrounding neighbours	Operations Coordinator	000 or 112 for mobile phones
Waste Services Shellharbour City Council	Contact appropriate regulatory authorities, manage the response	Operations Coordinator	(02) 4221 6141 or 0416 915 580 (02) 4221 6325 or 0492 173 162 (02) 4221 6241 or 0417 494 545
Environment Protection Authority	Regulatory authority under the POEO act for this licensed site	Operations Coordinator to report incident as soon as possible and provide the Incident Number to the Operations Manager and Waste and Resource Recovery Manager.	131 555
Public Health Unit	In the event this could cause impact to the community and workers the Public Health Unit provides advice on the response	Operations Manager	(02) 4221 6700 (Business hours) (02) 4222 5000 (After hours) ask for Public Health Officer on call
SafeWork NSW	To be contacted if this is a notifiable incident	Operations Manager	13 10 50 contact@safework.nsw.gov.au
ENRS or other environmental consultants	Environmental advice on possible monitoring places for surface water, ground water and storm water catchment information	Operations Manager	02 4448 5490

Table of Contents

1. Introduction

The *Protection of the Environment Operations Act 1997 (POEO Act)* specifies within Section 147 that there is a duty to report a pollution incident if there is a threat or material harm to the environment. A pollution incident is defined as follows:

"Pollution incident means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise."

A pollution incident is required to be notified if there is a risk of "material harm to the environment", which is defined in Section 147 of the *POEO Act* as:

a) Harm to the environment is material if:
    i. It involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
    ii. It results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and

b) Loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

If a pollution incident occurs in the course of an activity at the premises so that material harm to the environment (within the meaning of Section 147) is caused or threatened, the person carrying out the activity must immediately implement the pollution incident management response that was developed to meet the requirements of the *POEO Act*.

1.1 Legislative requirements

This pollution incident response management plan (PIRMP) for the Resource Recovery Centre is a document set out to fulfil the requirements of Part 5.7A of the *POEO Act* and the *Protection of the Environment Operations (General) Regulation 2022 (POEO(G) Regulation).* In summary, this provision requires the following:

- All holders of environment protection licences must prepare a pollution incident response management plan (Section 153A, *POEO Act*).
- The plan must include the information detailed in the *POEO Act* (Section 153C) and be in the form required by the *POEO(G) Regulation* (clause 71).
- Licensees must keep the plan at the premises to which the environment protection licence relates or, in the case of trackable waste transporters and mobile plant, where the relevant activity takes place (Section 153D, *POEO Act*).
- Licensees must test the plan in accordance with the *POEO(G) Regulation* (clause 75).
- If a pollution incident occurs in the course of an activity so that material harm to the environment is caused or threatened, licensees must immediately implement the plan (section 153F, POEO Act)

1.2 Site description and operations

The Dunmore Recycling and Waste Disposal Depot is comprised of two licenced sites:

- The Putrescible Landfill, covered by EPL 5984: and
- The Resource Recovery Centre, covered by Environment Protection Licence 12903 (EPL 12903)

This PIRMP only relates to the Putrescible Landfill, covered by EPL 5984, which is located on land at 44 and 58 Buckley's Road, Dunmore, 4 km south of Shellharbour (refer to Error! Reference source not found.). It is over Part Lot 1 DP 110135, Part Lot 1 DP 419907 and Part Lot 21 DP 653009. The site is owned and maintained by Shellharbour City Council.

This waste facility is subject to the conditions of Development Application (DA) numbers 55/1995 and 166/2009 and Environmental Protection Licences (EPL) 5984.

Anecdotal evidence suggests Dunmore Recycling and Waste Disposal Depot is reported to have been established in 1945. Shellharbour City Council has managed the site since 1983, accepting putrescible and non-putrescible general solid waste generated in the Municipality of Shellharbour which is deposited at the Dunmore Recycling and Waste Disposal Depot. Prior to the mid-1980s there was no control on the disposal locations or the types of waste being disposed of at the landfill. In the mid-1980s the landfill operations became more controlled and the present filling is confined under EPL 5984 with a weighbridge and checkpoint station that has been installed to inspect the type and amount of waste being disposed.
In 1983 an environmental impact statement (EIS) was prepared by Council for the commencement of a sand dredging operation. This operation was put into effect in the latter half of 1993 and was located in the south west portion of the site. These works were undertaken by Davidson Dredging and ceased operation in 2015. A larger scale sand mining operation was conducted on the land adjacent to the east of the Dunmore Waste Facility for many years but this ceased in March 2007.

A Site Management Plan (SMP) was prepared by Golder Associates (June 2010) which describes the typical operations of the landfill process. This is separated into various stages:

- vegetation and topsoil stripping (topsoil being used for landfill cover);
- surface sand extraction;
- shallow sand extraction;
- deep sand extraction;
- VENM backfilling;
- construction of a clay liner constituting compacted clay overlain with a geosynthetic clay liner and high density polyethylene liner;
- leachate collection system construction;
- solid waste landfilling;
- covering of waste;
- site capping and revegetation; and
- rehabilitation.

The nature of the waste that Dunmore Recycling and Waste Disposal Depot accepts is:

- mixed municipal waste;
- commercial and industrial waste including asbestos;
- virgin excavated natural material (VENM);
- concrete, rock, brick and tile;
- construction and demolition waste; and
- green and wood waste.

The key components of the operations on the EPL 5984 portion of the site include: -

- **Gas Flare -** Emissions from landfills consist mainly of the uncontrolled release of methane from decomposing organic material, such as food scraps, paper, garden waste and wood. Control measures implemented on site include capturing the gas and diverting it through controlled emission points where it can be combusted in a flare (with methane converted to less potent CO2); with a future option for generating power.
- **Truck Wash/Maintenance Shed –** located along the main entrance road a truck wash with potable water supply and sedimentation dam is provided for cleaning soil and sedimentation from wheels prior to exiting from the site.
- **Leachate Treatment Plant-** located to the south west of the main entrance. Each landfill cell has a leachate collection system, extracting leachate from the bottom of the landfill via submersible and air pumps into a collection system that is connected directly to the leachate treatment plant. This material is primary treated and under a trade waste agreement with Sydney Water and complies with EPL 5984 conditions.
- **Hard Waste Transfer Station** - located to the south west of the main entrance. As well as receiving mixed residual waste, the facility also processes a number of waste streams including garden organics, metals, mattresses, e-waste, batteries, oil (motor sump and cooking), polystyrene and cardboard;
- **Landfilling** - the majority of the site is utilised for depositing putrescible waste from the kerbside pick-ups to landfill. A number of areas have been historically utilised for land filling however filling in these areas have since been completed with the mounds grassed and vegetated. Active landfilling is currently being undertaken in Cell 5A and soon to progress in to Cell 5B;
- **Sand Extraction** - the site has historically been subject to sand extraction including along the western and southern site boundaries. The current area is subject to a licence under the Mining Act 1992 which includes a maximum of 50,000 tonnes per annum of sand to be extracted to be utilised for local developing projects. Currently there is no sand extraction occurring on site however, pond filling with rock is ongoing.

Each of the above facilities are supported by additional infrastructure including weighbridges, road networks, signage, sediment basin, telecommunications, power and water.

1.3 Surrounding land use

The surrounding land is zoned for a variety of uses. Based on the Shellharbour *Local Environmental Plan 2000* and *Local Environmental Plan 2013*, neighbouring land is zoned as: 1(a) 'Rural' 'A', 5(a) 'Special uses', 5(b) 'Special uses (Railways)', 7(a) 'Environmental Protection (wetlands)' or 7(f2) 'Environmental Protection (foreshore)'.

The land use surrounding the site is summarised below.

Reviva Centre – (Tip Shop) Is located at the main entrance, on the northern part of the site. The centre is operated by Resource Recovery Australia, under a contract arrangement with Shellharbour City Council. The Reviva Centre is not a part of EPL 12903 or 5984. The Reviva Centre accepts post-consumer recyclables and at the discretion of the operator, recovers goods and materials for re-sale. Goods include a wide variety of household items such as clothing, furniture, appliances, construction material and tools.

North of Site:

- Approximately 20 houses along Dunmore Road, which are approximately 200 metres from site. A rural fire brigade is also located in the village;
- Endeavour Energy Shellharbour Depot to the north east;
- Shellharbour links golf course 500 metres to the north of site; and
- Residential development to the north and northeast.

South of site:

- SEPP 14 Wetlands on the south eastern boundary fronting Rocklow Creek; and
- Further south is the Minnamurra Waste and Recycling Centre on Riverside Drive

West of site:

- To the South West is an environmental protection area including wetlands part of a vegetated corridor that fronts Rocklow Creek.
- To the immediate west, on the western side of the Princess Highway is:
    - Dunmore Lakes Sand Extraction, operated by Dunmore Sand and Soil.
    - South coast train line and State Highway No. 1; and
    - Blue Metal Industries quarry within 2 km of the site.

East of site:

- The adjoining area to the east of the site is the Community Recycling Centre operating under licence EPL 12903 for the Dunmore Recycling and Waste Disposal Depot. Under this licence we also have a FOGO facility operated by ReGrow PTY LTD on behalf of Shellharbour City Council. The site is owned and operated by Shellharbour City Council.
- Commercial industry operating as "Dunmore Resources and Recycling" is located at 57 Buckley's Road Dunmore. It is an existing sand extraction quarry. Currently reprocessing bricks and concrete and blending soils for sale.
- Further east is the Killalea State Park, which includes a mix of modified and natural landscape fronting the coastline.
- Further east is the Boral Dunmore Quarry and Sand and Soil site.

2. Description and Likelihood of Hazards

2.1 Description of the licensed activity and hazards to human health and environment

The main hazards to human health or the environment associated with the activity being undertaken at the premises, the likelihood of any such hazards occurring, including details of any circumstances or events that could, or would, increase that likelihood.

Scheduled activities include:

- EPL 5984 – Composting, Extractive activities, Waste disposal (application to land), and Waste Storage. Waste processing (non- thermal treatment).

From these scheduled activities, the hazards to human health and the environment have been identified.

These include:

- water pollution (section 3.1);
- air pollution (section 3.2);
- pollution because of an unexpected material disposed on site (section 3.3).

Based on these activities, the severity of any pollution incident should be ranked based on the extent to which a pollution hazard poses a threat to humans and the environment (Refer to the below Table).

Description of the pollution event	Severity score
Pollution could affect only those in the immediate vicinity	**1**
Pollution could affect others within the site	**2**
Pollution could affect surrounding neighbours	**3**

Under licence conditions the site can accept and dispose of potential acid sulfate soil (PASS) material, however this practice is **not** undertaken. Acid sulfate soil has the potential to cause environmental damage if not managed properly and this PIRMP will need to be altered accordingly should these practices be undertaken.

The below **Hazard Assessment Table** identifies a list of foreseeable hazards that could occur on this site as a result of regular operating procedures.

Type of Pollution	Hazard	Likelihood of hazard occurring	Consequence	Risk Score
Soil and Water pollution	Ground water pollution by migrating landfill leachate	Possible	Moderate	2
	High sediment load into receiving waters	Unlikely	Minor	4
	Generation of excessive leachate	Unlikely	Minor	4
	Overflow of leachate system	Possible	Moderate	2
	Runoff of surface water from disturbed parts of site carrying high sediment loads	Possible	Minor	3
	Soil and water pollution as a result of refuelling plant and equipment on site	Unlikely	Moderate	3
	Exposure to radiation caused by damage or malfunction of density gauge	Rare	Moderate	3
Air Pollution	Landfill gas levels above recommended guidelines	Possible	Minor	3
	Accumulation of landfill gas in confined space causing an asphyxiation hazard	Unlikely	Major	2
	Ignition of accumulated landfill gas	Rare	Major	2
	Excessive impurities, pathogens and/ or toxins admitted to the air	Rare	Minor	5
	Landfill fire resulting in the production of hazardous smoke	Rare	Minor	5
Unexpected findings	Discovery of orphan waste on site	Possible	Insignificant	6
	Uncontained asbestos in waste stream	Possible	Major	1

Refer to the below **Risk Management Table** to score the risk associated with any particular hazard.

Likelihood	Consequences				
	Catastrophic **Death, Permanent disabling injury or extensive permanent environmental damage**	**Major** **Extensive permanent injury or extensive temporary or minor permanent environmental damage**	**Moderate** **Significant non-permanent injury. Overnight hospitalisation. Temporary environmental damage, consultants required for assessment and clean-up**	**Minor** **Medical help needed. Treatment by medical professional. Environmental clean-up done in house**	**Insignificant** **Dealt with in house**
Almost certain to occur in most circumstances	1	1	1	2	2
Likely to occur frequently	1	1	2	2	3
Possible and likely to occur at some time	1	1	2	3	4
Unlikely to occur but could happen	1	2	3	4	5
May occur but only in rare and exceptional circumstances	2	2	3	5	6

3. Preventative and Incident Management

As a condition of Environmental Protection Licence 5984 the Dunmore Waste Facility is required to have in place controls that manage water and air pollution that may occur on site. These have been detailed in the Site Management Plan and are summarised below.

The pollution events that are most likely to occur are those associated with spills on site and extraordinary weather events that could cause overflow into surrounding areas. These should be contained immediately by staff and evaluated by the Operations Coordinator to determine the level of action necessary.

In the event that groundwater monitoring data reports results exceed the licence criteria or threshold limits, this data will be reported and published on the website. Where landfill gas has exceeded its trigger values, the EPA is required to be notified within 24 hours. Additional groundwater monitoring bores and dust monitoring were installed in early 2020.

Groundwater and landfill gas pollution events recorded as part of regular monitoring are not likely to be a discrete pollution event and cannot be mitigated with one off control measures. Monitoring results that exceed guidelines over a period of two or more rounds will need to be investigated and remedial options considered as outlines in the Site Management Plan.

Another pollution event that may occur is a landfill fire that may produce offensive or hazardous fumes. A regular landfill fire is controlled by staff workers using a water truck stored on site until emergency services arrive. Where smoke or fumes are of unknown nature, the fire is to be controlled by NSW Fire and Rescue.

3.1 Water pollution management

3.1.1 Leachate barrier and collection system

An operating condition of the site is to ensure that all cells created after 1 July 1998 have a leachate barrier and collection system on each surface used for the disposal of waste. The requirements of this barrier system are specified in the Site Management Plan.

The purpose of this barrier system is to provide a physical containment for leachate migration to prevent a pollution event of the groundwater or receiving water bodies.

A collection system is also in operation with the objective to collect and direct all leachate to a point for treatment and disposal either to sewer or by irrigation.

Current practice undertaken on all cells constructed after 1998 involves designing the cell to direct the leachate towards a sump. The sump pumps out leachate to the newly constructed Leachate Treatment Plant through a float-controlled pump system. Leachate is treated within this plant and is disposed of through the sewer system under a trade waste agreement with Sydney Water that meet the EPL conditions.

3.1.2 Surface water and sediment

On the site, the surface water has been classified into two categories:

- leachate – any water that falls within the open tip face or daily cover areas;
- stormwater – runoff from areas that have intermediate cover or capped which is either directed to sediment ponds or the former sand mine pond (groundwater)

The objectives of the surface water controls are to:

- prevent unacceptable sediment loads in receiving waters;
- prevent any surface water mixing with waste;
- prevent erosion of cover material and/or waste; and
- avoid the generation of excessive leachate.

Current practice to control surface water and sediment includes stormwater diversion drains and two sedimentation ponds, which are managed in the following ways:

1. Stormwater considered leachate is kept within the active cell and managed as leachate;
2. Stormwater coming from adjoining land is intercepted by a well-vegetated drainage channel and directed into Rocklow Creek. Other clean surface water is diverted away from the active landfill towards the table drain to the east of site and directly to the culvert under the road and discharges offsite. This drainage channel is well vegetated. Stormwater is diverted away from active filling areas. Well-vegetated drainage channels direct this water to either of the two sedimentation ponds. Overflow from sedimentation pond one is diverted into the western diversion drain.

Erosion control methods to minimise erosion and sedimentation are used for all works where there is the potential for erosion to occur. The SMP specifies the following measures used on site:

- reducing the area of exposed soil including sand mining area and recently constructed cells;
- diverting clean water away from disturbed areas;
- reducing flow concentration by the construction of flow spreading bunds over recently capped areas;
- reducing the length and steepness of slopes;
- rehabilitating capped areas in a timely manner;
- applying sedimentary control measures to intercept and retain sediment on site. (e.g. sediment fences, hay bales, existing table drains around perimeter and sedimentation ponds); and
- inspection of maintenance and cleaning program for control structures to maintain capacity and integrity.

3.1.3 Leachate, groundwater and surface monitoring

A regular ground and surface water-monitoring program is required. Monitoring conditions are specified in Chapter 2, Section P1 “Location of monitoring/discharge points and areas”, Chapter 3, Section L2 “Concentration limits” and section Chapter 5, Section M1 “Monitoring records” of the licence.

Monitoring of the leachate upon entering the Leachate treatment plant is carried out on a quarterly basis to determine the properties of the leachate. Post treatment monitoring is carried out to ensure the effluent quality is suitable for the disposal into the sewerage system in accordance with the current Sydney Water trade waste agreement.

Monitoring of the groundwater and surface water is undertaken on a quarterly basis to assess the quality of the groundwater and surface water and provide an early detection

method for pollution resulting from landfill activities. Monitoring locations are provided on Figure 14.3.

3.1.4 Water pollution assessment program

If pollution is encountered during any monitoring event, an assessment and subsequent contingency plan had been detailed in the Site Management Plan and this document. The objective is to have procedures in place in the event that groundwater or surface water pollution is identified.

3.2 Air pollution management

Landfill gas is a by-product generated in the breakdown of waste in a landfill. EPL 5984 identifies the discharge to air and the setting of limits for the emission of pollutants to the air from the gas flare shown on Figure 14.4. Regular landfill gas monitoring of wells and odour observations are undertaken.

NSW EPA Environmental Guidelines Solid waste landfills 2016, recommends that landfill gas should be contained by a combination of the leachate barrier system, capping and revegetation and covering of waste. The general operation of this landfill satisfies this recommendation.

NSW EPA Environmental Guidelines for Solid waste landfills 2016 indicates that a concentration of 500 ppm v/v or 1% LEL is the threshold for potential action to be taken.

R4.3 Stipulates “The licensee must notify the EPA within 24 hours by telephoning the Environment Line service on 131 555 if any landfill gas monitoring required by this licence detects methane above 1% (v/v), and increase the frequency of monitoring to daily, until the EPA determines otherwise”.

3.3 Management of material to landfill

The licence specifies the material that is scheduled to be disposed of onsite and the activity that is allowed for each waste stream. The Site Management Plan details how this material is to be processed, monitored and regulated.

Preventative measures that are in place to prevent a pollution incident as a result of unscheduled material being dumped on site are:

- signage to indicate the types of waste allowed and those prohibited;
- entry via the weighbridge;
- customer declaration of waste;
- if industry waste or asbestos waste is to be disposed of, an application for disposal is submitted and assessed prior to the material being received. This application is assessed by the Depot Site Supervisor and the waste is inspected in-situ prior to transporting to waste facility. This ensures that any risk associated with exposure to asbestos is maintained by appropriately contained material.
- waste is screened at the weighbridge and CCTV is available to visually inspect loads;
- screening, separation and checking waste at tipping face;
- recording of all information and archived for at least four years;
- special waste to be immediately notified to the plant operator; and
- regular training of staff to supervise tipping and screening of waste.

3.4 Early warnings

- In the event of a pollution incident those at the scene are to immediately contact the Operations Coordinator by mobile phone or UHF radio channel 68.
- The Operations Coordinator is to continually assess the situation and inform the staff at the weighbridge of instructions for staff and public.
- The primary means of warning will be across UHF radio on channel 68 (Transfer Station) and channel 66 (FOGO Facility) and mobile telephone.
- Where evacuation procedures need to initialised, the siren is to be switched on and the procedure conducted as described in Section **0**.
- The Weighbridge Operator will make the following announcement twice on channel 68

  Emergency, Emergency- The evacuation procedure for the Dunmore Landfill has been activated. Please proceed to assembly point located near the telecommunications tower".
- After the weighbridge operator completes the announcement, they are to grab the portable T-Way radio and proceed outside and stand in front of the incoming weighbridge to prevent unauthorised vehicle entry and direct emergency service vehicles as required.

Where a pollution event has the potential to have impact offsite, communication with surrounding neighbours will be undertaken. The decision to notify adjoining owners will be made by the Operations Coordinator.

3.5 Updates

Updates to staff and the surrounding community will be required for all pollution incidents.

Monitoring data is required to be presented to the EPA in the form of an annual return. Additional updates to the EPA will be directly requested and provided by Waste Services at Shellharbour City Council.

POEO Act requires that all monitoring data is to be published within 14 days of obtaining the data. This is published on the Dunmore Recycling and Waste Disposal Depot section of Council's website www.shellharbourwaste.com.au

In the event that a pollution incident occurs on site requiring immediate attention in the form of clean-up and containment and or evacuation, the early response by the Operations Coordinator is to assess the risk associated with the incident and initiate the incident response.

When the initial pollution has been stabilised by reducing the immediate threat to human health and the environment updates are required to be made until the pollution incident has been rectified.

Onsite updates are made by the Operations Coordinator and will include:

- communication over UHF Channel 68 to workers on the Transfer Station site;
- communication over UHF Channel 66 to workers at the FOGO Facility;
- briefing the weighbridge operator on the status of the incident and instructing them on the response to calls and queries from the public;
- signage upon entry to the site of the status closed or open;
- regular phone updates to the Operations Manager and Group Manager Asset Strategy; and

- regular updates by phone to on site contractors signed in who do not have access to UHF radio.

The information that is required to be conveyed in these updates will include:

- the status of the area or site. Is it open or restricted?
- the area where the incident has occurred;
- the hazard that is present;
- what is being done to rectify this incident;
- when the next update is due; and any additional safety requirements required by staff working near or around the area.

4. Inventory of Pollutants

The main potential pollutants associated with this site are generated as a result of historical and current land filling activities. These include:

- Leachate
- landfill gas.

These two pollutants are unable to be quantified in terms of volume or locality however, the current monitoring data and groundwater contours, indicate potential leachate migration pathways on this site. Figure 14.3 shows the groundwater contours and Figure 14.4 presents the location of landfill gas monitoring.

Additional goods that are stored on site include:
- domestic quantities of cleaning products;
- asbestos bin;
- 17,000L diesel fuel tank;
- 200L petrol fuel tank
- 20L petrol and diesel containers;
- Posi-Shell material for daily cover

For all chemicals stored on site, a Safety Data Sheet (SDS) is stored in the site office and can be accessed by all staff. In addition, a dangerous goods register and hazard assessment is conducted in line with the Shellharbour City Council operational procedures. Figure 14.5 shows the location of these potential pollutants on site.

5. Safety Equipment

5.1 Personal Protective Equipment

A site risk assessment has been prepared by Shellharbour City Council (risk assessment 10660).

Personal protective equipment (PPE) has been identified in this document and the location of stores on site include the main weighbridge, maintenance shed and in the shipping container located to the rear of the site.

Staff members are issued with PPE that includes leather gloves, protective eyewear and steel toe footwear. Additional safety equipment for designated tasks is located in the storage areas above. These include and are not restricted to:

- long and short PVC chemical resistant gloves;
- leather gloves;
- Ty-vek coveralls ;
- safety goggles;
- gumboots;
- ear defenders; and
- P2 class face masks.

6. Contact Details

- Table 3 provides the list of contacts in the case of a pollution incident or emergency, and
- Table 4 provides the contact order.
- The Operations Coordinator, Operations Manager and Waste and Resource Recovery Manager must be contacted in the case of any pollution incident or emergency as soon as practical and prior to the close of business depending on the time of event.
- **Section 10** of this plan outlines in detail the actions immediately to be taken in the event of an incident.

7. Communication

Communication between Dunmore Recycling and Waste Disposal Depot and the community will be through updates on the website located at: *www.shellharbourwaste.com.au*. This website displays quarterly environmental monitoring information and Pollution Incident Response Management Plans under the Environmental Reports link.

Community concerns can also be made in the "contact us" email feedback section. More urgent enquiries can be made by directly calling Waste Planning at Shellharbour Civic Centre, Shellharbour City Centre on (02) 4221 6111.

When a pollution event occurs, the severity of the event will be established by the Depot Site Supervisor and reported to Waste Planning as licensee of the site. The following procedures for communications are as follows:

- **severity 3 pollution event** – neighbours, surrounding businesses and workers notified;
- **severity 2 pollution event** - workers notified as per protocols; and
- **severity 1 pollution event** - workers notified as per protocols and the area cordoned off.

The proximity of neighbours is outlined in Figure 14.1 and described in Section 1.3.

Based on the nature of pollutants at this site, it is unforeseeable that a pollution event on this site could occur that would pose an immediate threat to the surrounding neighbours. In the event that one does occur, the following will be undertaken to inform the identified neighbours:

- NSW Fire and Rescue will be utilised to doorknock residents of Dunmore Village;
- In the event that NSW Fire and Rescue cannot inform the local residents, they will be door knocked by the Waste Planning and Operations staff or a Council representative and informed of the incident; and
- In the event a resident is not home, a concise note with detailed information will be left on the door. This will include the nature of the hazard to the resident, any action the neighbour is to take and the contact number to call for regular updates.

The below Table presents the businesses operating in the vicinity of Dunmore Recycling and Waste Disposal Depot. These will be contacted in the event a pollution incident.

Business Name	Location	Phone Number
Reviva Shop: Resource Recovery Australia Attention Matthew Curtis	North of site	(02) 4237 5193 0407 898 246
Endeavour Energy Shellharbour Works Depot 7 Buckleys Road Dunmore	North East of Site	Emergency 131 003
Dunmore Resources and Recycling; Glenn Steggles 57 Buckleys Road Dunmore	East of site	(02) 4237 5033
The Links Shell Cove (Golf Course) Corner of Southern Cross Boulevard & Shellharbour Rd Shell Cove	500m North East of site	(02) 4237 5955 6am-6pm
Minnamurra Waste & Recycling Centre. Kiama Council, 446 Riverside Drive Minnamurra	500m to the south of the site	(02) 4237 5148 8am-4pm
Re.Grow		02 9235 1377

8. Minimising harm to persons on the premises

8.1 Persons likely to be onsite

Persons likely to be on site are:

- employees of the Dunmore Recycling and Waste Disposal Depot;
- employees of Re.Grow;
- employees of Shellharbour City Council Works Depot;
- contractors e.g. Resource Recovery Australia, Flagstaff, ALS;
- subcontractors working on site e.g., electricians and plumbers; and
- customers.

The site is open to the public during the hours of:

- 7.30 am - 4.00 pm on weekdays;
- 8.00 am - 4.00 pm on weekends and public holidays; and
- Closed Christmas Day and Good Friday with the exemption of kerbside collection vehicles.

Staff will generally be situated around the site within 30 minutes of the opening and closing times. During this time the weighbridge records all vehicles/visitors in and out of the facility.
Subcontractors are required to be inducted onto the site by the Operations Coordinator. They are required to sign in and out at the weighbridge. As part of their induction the Operations Coordinator, Re.Grow Site Manager and/or Supervisor of Resource Recovery Australia are required to sight their safe work method statement (SWMS) for the work they are conducting.

8.2 Measures used to minimise harm to persons on the premises

Minimising harm to persons on the premises is conducted through:

- training;
- signage;
- personal protective equipment;
- administrative procedures; and
- engineering controls.

8.2.1 Training

Staff training is an important measure used to minimise harm to persons on the premises. Practices and procedures can be reinforced to those working on site and updates communicated at toolbox meetings. Details of staff training are specified in Section 11 of this plan.

8.2.2 Signage

Personal safety and visual warning signs are used across the site. These also include pedestrian marking to indicate safe walking areas or loading zones.

8.2.3 Personal Protective Equipment

Personal protective equipment has been detailed in **Section 5.1** of this plan. Shellharbour City Council requires a risk assessment be undertaken for all tasks conducted. This assessment specified the required PPE for the job.

8.2.4 Administrative Procedures

Administrative procedures that are in place to minimise harm to persons include systems and instructions that are followed by all staff at the Dunmore Recycling and Waste Disposal Depot. These procedures relate to the various site areas, including:

- Resource Recovery Centre (EPL 12903);
- FOGO Facility (Re.Grow); and
- The landfill (EPL 5984).

A copy of these systems pertaining to each site are located in the various Operations Coordinator's offices.

These are detailed in the Site Management Plan, Operations and Management Handbook CRC, FOGO Facility Site Management Plan and employee intranet requirements of Shellharbour City Council. Procedures most relevant to this site include:

- Inductions for all staff members;
- Risk assessments undertaken for work on site;
- Daily reports completed by the Operations Coordinator;
- Measurement and recording of wastes received;
- Replacement of signage across the site;
- Dangerous goods register;
- Asbestos Policy and Procedures;
- Operations and Management Handbook-2nd Edition Community Recycling Centres.

These procedures are in place to inform staff of the hazards on site and the different mechanisms to control materials entering the site and those operating on the site.

8.2.5 Engineering solutions

Engineered solutions to isolate and control the hazards that are in place on site to mitigate harm to persons on site include:

- Drainage lines designed to divert surface water;
- Sedimentation ponds to manage surface water sediment loads and retain sediment on site;
- Safety showers – located in the weighbridge, Transfer Station, Leachate Treatment Plant and FOGO Facility;
- Fire hose reels
- Fire extinguishers (powder and wet).

8.2.6 Evacuation Procedure

An evacuation procedure is in place in the event that the Operations Coordinator needs to assembly all staff onsite to control an incident that has the potential to cause harm to human health on site. The Operations Coordinator and/or the Operations Manager are to assess the extent of the incident and initiate the procedure where there is a risk to persons on site.

NOTE: 000 is the first contact for an emergency as the primary responders to an incident that poses an immediate threat to human health. Section 10 details the procedure for action during a pollution incident.

Duties
The primary role of the duty wardens is to ensure, as far as practicable, the safety of the occupants and the orderly evacuation from the danger zone to the muster point.

Chief Warden
This position assumes control of the occupants of the entire site from the time that an incident occurs until the arrival of relevant emergency services. The Chief Warden on site is to be the Operations Coordinator or person appointed to this position in their absence.

Warden
Appointed to a particular work area to facilitate the evacuation and communicate instructions from the Chief Warden. Wardens are required to know who is working in their area and the safe passage to the emergency muster point. Wardens will be the most senior staff member for a particular work group and will be addressed during the toolbox talk each morning.

Evacuation Procedure

When the evacuation procedure has been initiated:

- The Operations Coordinator is to switch on the siren located in the weighbridge. The siren is to be left on until the risk has been mitigated and switched off by the Operations Coordinator;
- Over UHF 68, the Operations Coordinator is to contact wardens and broadcast over this radio channel that an evacuation procedure has been initiated;
- If members of the public, contractors or subcontractors are present, the warden is to communicate to any public that an evacuation procedure has been initiated and they will be escorted to the emergency muster point by a staff member in the area;

- Wardens are to ensure all staff in their area have safely shutdown and isolated their machinery and direct staff to the emergency muster point;
- The wardens are to walk around their work area and ensure everyone has left their area;
- At the assembly point the wardens are to account for all staff members and signed in visitors and await instructions from the chief warden; and
- Once emergency response staff have been called, the Operations Coordinator is to assess the situation and if the risk has been mitigated determine if it is okay to return to work or to direct staff to leave the premises.

8.2.7 Muster Points and Alarms

The muster point for this site is to the east of the weighbridge below the telecommunications tower. In the event that this site is unsafe, the Operations Coordinator will announce a new muster point based on site conditions.

An audible alarm is located to the north west of the site near the muster point. This can be heard across the site. The control switch for the alarm is located in the main weighbridge near the site offices.

8.2.8 Contact details for available consultants

In the event that a consultant is required at short notice for a pollution incident the following contacts are available.

If a hazardous waste contractor is required one will be appointed by a Technical Officer from Waste Services. Waste disposal and spill containment services operate 24 hours.

These numbers do not replace the need to report to the appropriate regulatory authority or call emergency services if there is immediate threat to persons and the environment.

Contact details for available consultants.

Consultant	Role	Contact Number
ENRS	Environmental consulting and monitoring of ground water bores, surface water, leachate, gas and dust monitoring	(02) 4448 5490
Ivan Chinnock Chinnock Plumbing Services	Plumber for internal services including potable water, onsite sewage system and leachate	0408 423 725, 4296 1897
Sydney Water	Plumbing to the street junction	Report a fault 132 090 Questions 132 092 Connections 1300 082 746 (Mon-Fri)
Endeavour Energy	Power outage/restore power to site	Emergency 131003 Enquiries 133718/131081 Dial before you dig 1100
Graham Jurd Graham Jurd Electrical Contractors	Power installation and repairs inside the site.	0418 603 259, 4256 6535

Consultant	Role	Contact Number
Brendan Fraser Operations Manager - Landfill Gas Industries	Landfill gas installation and monthly monitors of flare and vertical and horizontal gas lines	Tel: 07 3211 2225 Mob: 0475 607 277 brendan.fraser@lfgas.com.au www.lgi.com.au

9. Attachments

Maps, documents are figures located at the end of this document. Brief description is outlined below.

1. Site Boundaries
2. Historical Filling on Site
3. Groundwater Contours
4. Landfill Gas Monitoring Locations
5. Pollutants Onsite
6. Drainage and Surface Water Flow Direction
7. Site Map and Evacuation Muster Point
8. Incident Report Form
9. Incident Investigation Report
10. WorkCover NSW Incident Notification Fact Sheet
11. Toolbox Meeting Record
12. Training Register

10. Actions during and after incident or pollution event

10.1 Actions during and after incident a pollution incident

The following information details the action to be taken during and after a pollution incident. Following this, additional information has been included based on site specific hazards.

In the event of a pollution incident:

- The Operations Coordinator/primary person at the pollution incident, where safe to do so, will initiate a response to ensure any immediate threat to human health and environment is reduced. This will include, and not be limited to, removing surrounding people from the danger area;
- The primary person is to ensure all members of the public in the immediate area are removed from any potential danger and asked to proceed to the assembly point;
- The primary person will contact the Operations Coordinator to initiate the response. The Operations Coordinator is responsible for managing the response on site;
- The Operations Coordinator is responsible for documenting the incident. An Incident Reporting Form (**Appendix** Error! Reference source not found.) is required to be complete for each incident; and
- The nature of the incident should be established to whether it is a chemical spill, fire or other;
- The Operations Coordinator will call the emergency response authorities (Fire and Rescue, Ambulance, Police) if required;
- The primary person at the site of the incident, where safe to do so, will initiate spill containment measures appropriate to the pollutant at the instruction of the Operations Coordinator. Information on the chemical/pollutant will be found the SDS located at the “Safety Centre”, red manifest box and/or Administration Office and the risk assessment for the appropriate task:
- In the event that it is unsafe to do so, the staff member will be directed to move a safe distance away from the area and prevent others from entering the area until the Operations Coordinator advises otherwise;
- The Operations Coordinator will call the Waste and Resource Recovery Manager and assess the risk based on the pollutant and the severity score;
- The Waste and Resource Recovery Manager will contact the Group Manager Asset Strategy. If the Group Manager Asset Strategy cannot be contacted, the Waste and Resource Recovery Manager will directly call the Director of Amenity and Assets;
- The Waste and Resource Recovery Manager is required to contact the appropriate authorities, dependant on the nature of the incident, as specified in Section 6:
- Appendix B presents a fact sheet on when to notify SafeWork NSW;
- If the **severity score is 1**, it is a localised low risk incident. The Operations Coordinator is to assign appropriately trained staff or contractors to combat the incident. The area is to be cordoned off with hi-visibility markers and signage:

a) the Operations Coordinator will inform staff over the UHF Channel 68 or Channel 66 on the incident if required; and

b) the Operations Coordinator is to brief the weighbridge operator to inform the public not to enter the area and provide information to staff if required

- If the **severity score is 2**, the incident requires site evacuation. The Operations Coordinator is to turn on the siren and announce over UHF Channel 68 and Channel 66 that an evacuation procedure is in place and to assemble at the emergency assembly point:

    a) Staff from different work areas are to follow the evacuation procedure directing public and staff to the assembly point;

    b) the Operations Coordinator will ensure no one is left on site and will provide directions as informed by the emergency response crews and in consultation with the Waste and Resource Recovery Manager;

    c) where safe to do so, a Weighbridge Operator will be directed to return to the weighbridge by the Operations Coordinator and provide information to any queries.

- Where the **severity score is 3**, the incident requires site evacuation and surrounding community consultation:

    a) the Operations Coordinator is to initiate the evacuation procedure on site;

    b) Staff from different work areas are to follow the evacuation procedure directing public and staff to the assembly point;

    c) once at the assembly point, employees may be directed by the Operations Coordinator, to door knock the appropriate residences with the potential to be exposed to the pollution incident;

    d) where safe to do so, a Weighbridge Operator will be directed to return to the weighbridge by the Operations Coordinator to provide information to any queries from neighbours; and

    e) once emergency services have the incident under control, access to site will be at the direction of the Operations Coordinator, Operations Manager and/or as instructed by Waste and Resource Recovery Manager.

10.1.1 Chemical Spills

There is the potential for a chemical spill to occur on this site in the form of leaking or ruptured fuel tanks, and other chemicals that are used onsite

The following points should be enacted in conjunction with the actions to be taken for any pollution event listed above. These points should only be conducted if the area is safe to do so:

- identify the type of incident and chemical involved. The chemical should be detailed on the dangerous goods register onsite;
- determine if the spill can be safely contained by staff on site and that it will not enter any drains;
- where no immediate safety hazard exists read the SDS for the spill clean-up information;
- machinery on site will be utilised to clean up spills and sand/clay will be used from the site to prevent liquid migration into drainage lines;

- if the **spill occurs on an unsealed surface**, initial response will be to stop the leak. The Safety Data Sheets (SDS) should be read for safe handling of the chemical and no open sources of ignition should be in the area:
    a) an excavator or bulldozer will be used to move the contaminated soil into a bunded stockpile and where practical move to a sealed surface. If a sealed surface is not possible, medium density polyethylene (MDPE) sheets will be laid out on the ground and the soil stockpiled on this. All stockpiles will be covered with MDPE; and
    b) the soil will need to be tested to determine it the material is suitable for disposal on site or offsite; and
    c) a 24hr hazardous waste contractor may be called to dispose of the chemical waste.

10.1.2 Fires

Fires in landfills are common and can occur due to high ambient air temperatures and combustible materials in the landfill. Licence conditions specify that the licensee must take all necessary steps to extinguish all fires burning as soon as possible. The operational procedures in the SMP details fire management protocols. A fire is considered an incident and will need to be reported to the EPA as specified in the site management plan.

In the event a fire is to occur in the landfill, the safety of persons in the area is of primary importance and should be assessed prior to combating an incident. Emergency services should be contacted where there is any risk to the health and safety of workers. Evacuation and incident procedures detailed in Section 10.1.

The following points should be noted for a fire incident:

- the Operations Coordinator will immediately contact emergency services and the local Dunmore fire brigade;
- a fire should always be approached from the upwind side to prevent exposure to smoke and potentially hazardous fumes;
- determine the source of fire. Check the area for surrounding hazards such as fuel or other flammable liquids. Where safe to do so, remove these from the area;
- in the case of a fire, one truck mounted water tanker and two 500L mobile units can be utilised for firefighting;
- all plant on site must have an appropriate fire extinguisher. Extinguishers are also located at each weighbridge; and
- the fire needs to be documented for incident reporting. This should include;
    a) time, date and location of any fire ignited or reported at the site;
    b) prevailing weather conditions and observations regarding smoke directions and dispersion; and
    c) time and date the fire was extinguished

10.1.3 Landfill gas

In the event that regular monitoring detects a landfill gas exceedance, the information recorded in the Table below is a guide to manage this pollution incident.

Quarterly monitoring points as per EPL licence conditions.

Air

EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
12	Landfill Gas Monitoring		Above areas where intermediate or final cover has been placed
13	Landfill Gas Monitoring		Inside all buildings within 250 metres of deposited waste
14	Discharge to air Air emissions monitoring	Discharge to air Air emissions monitoring	Landfill Gas Flare as shown on Drawing No. M7494-02-E1, dated 15 October 2015 (EPA Reference DOC15/415378).

The Environmental Guidelines Solid Waste Landfills second edition, 2016 landfill gas surface emissions required outcomes include: -

- Minimise emissions of untreated landfill gas to air and through sub-surface strata and services.
- Minimise greenhouse gas emissions (methane, the major bulk component of landfill gas, is 20 to 25 times more potent than carbon dioxide)
- Minimise emissions of offensive odour
- Minimise the explosive risk to humans from gas build-up in confined spaces
- Ensure that, wherever feasible, landfill gas is sustainably utilised for energy recovery.
- Minimise emissions of air pollutants from the combustion of landfill gas in flaring or electricity-generating equipment.

Landfill gas is contained by installing low-permeability engineered barriers on cell floors and walls and in final capping.

A network of wells, drainage layers, pipework, and an extraction system installed within the putrescible waste cells collects landfill gas.

A landfill gas monitoring procedure has been established to demonstrate the achievement of these outcomes.

The threshold level for further investigation and corrective action is 500 parts per million or v/v (volume/volume) of methane at any point on the landfill surface for intermediate and finally capped areas.

Gas accumulation monitoring in enclosed structure is undertaken quarterly. The threshold level for further investigation and corrective action is detection of methane at concentrations above 1% v/v. This includes all buildings and other enclosed structures within 250 metres of deposited waste or leachate storage. If methane is detected at concentrations above 1% v/v or 500 ppm the occupier must notify the EPA within 24 hours. Within 14 days of this notification, the occupier must submit a plan to the EPA for further investigation and/or remediation of the elevated gas levels. Depending on the circumstances, this plan may include:

- Daily testing of the building or enclosed structure until ventilation or other measures have been put in place to eliminate the methane build up.
- Installation or adjustment of source and receptor landfill gas controls
- Further sub-surface monitoring to delineate any potential migration of landfill gas.

CH_4 concentration	Location	Action to be taken by person undertaking monitoring	Action to be taken by Waste Operations	Action to be taken by Waste Planning
500ppm (1% v/v)	Monitoring wells on site	Inform Waste Planning. Closer investigation and potential action is required. Review monitoring frequency and prepare for additional monitoring measures.	Repair or replace cover material and/or adjusting or installing gas extraction equipment.	Report readings and corrective actions to waste.operations@epa.nsw.gov.au
	At the surface of the landfill after intermediate or final cover	Inform Waste Planning Closer investigation and potential action is required.	Repair or replace cover material and/or adjusting or installing gas extraction equipment.	Review monitoring frequency and prepare for additional monitoring measures. Report readings and corrective actions to waste.operations@epa.nsw.gov.au
	In buildings or services on site	Inform Waste Planning Receive instruction to inform site occupant and follow evacuation procedure.	Initiate evacuation procedure of building. Inform relevant stakeholders Implement safe working procedures (i.e. stop working until gas dissipates)	Review monitoring frequency and prepare for additional monitoring measures. Inform EPA and other relevant stakeholders of gas concentration and that evacuation procedure has been implemented

10.2 Spill containment equipment

Plant equipment is made available to manage and contain the foreseeable pollution spills on site. In the event of a spill, onsite plant equipment will be used to move soil to bund and prevent the pollutant moving into the drains or waterways. Immediately notify the Operations Coordinator or Operations Manager

The sedimentation ponds will be the collecting point for any surface drainage that occurs outside the active landfill. If required these can be pumped out if they are grossly impacted in a pollution event.

A spill kit is recommended to be kept at the weighbridge to manage small chemical spills that may occur around the office and weighbridge area.

10.3 Shutdown of processes/equipment

Plant and machinery is operated by suitably trained personnel. In the event that staff need to leave their equipment as a result of a pollution incident the following measures will need to be undertaken to ensure the machinery is shut down and left correctly:

- move the machinery to a position where there is no risk to the operator or others on site. Following directions of the Operations Coordinator;
- follow shut down procedures appropriate for the equipment; and
- if the machinery is going to elevate or increase the risk associated with the incident, the Operations Coordinator is to be contacted and an alternative area nominated for shut down.

10.4 Clean-up procedures

When a pollution incident has been stabilised and any immediate threat to human health and the environment has been mitigated clean-up will be required of the material. The SDS for each chemical provides clean-up instructions for stored chemicals on site.

Although this site is a landfill, licence conditions specify the type of waste allowed to be accepted. If the material is not permissible to be disposed of on site, it is to be disposed of by a suitably qualified contractor licensed to handle the material.

Waste Planning as the licence holder will be responsible for arranging for the disposal of this waste. Appropriate waste handling contractors may be engaged to collect and remove solid waste and also pump out liquid waste that may have collected in the sedimentation ponds as a result of pollution to the drainage system.

11. Staff Training

The objectives of the training that is to accompany this plan is to ensure all staff members on site are aware of the hazards in the workplace and the contents of the PIRMP such that they know of their responsibilities in the event of a pollution incident.

There are four elements that make up how training is undertaken at the Dunmore Waste Facility. These are outlined in the site management plan and include:

- position competency requirements;
- general induction training;
- site specific induction training; and
- ongoing training.

The SMP details the specific competency requirements for each position. All training and inductions are required to be recorded in an onsite register that is available in the SMP.

11.1 Inductions

The general induction is specified by the corporate policy of Shellharbour City Council and is relevant to the position of the employee. This general training also incorporates the WHS requirements for the relevant position. Contractor personnel are required to undertake this WHS training.

Site specific induction training is a requirement of all landfill staff and is to be delivered by the Operations Coordinator. This training will be specific to the individual role of the staff member and will require a detailed review and acceptance of these documented procedures. The specific induction is to include but not be limited to:

- safety and operating procedures and the correct identification of hazardous waste;
- operation of earthworks and compaction equipment;
- gas testing, water testing and water sampling;
- identification of wastes;
- accurate data recording; and
- pollution incident response management plan.

A training register is to be kept onsite and updated when a staff member undertakes training. This form is included in Appendix 15.5.

11.2 Ongoing training

A review of ongoing training requirements should be conducted on an annual basis and established based on but not limited to:

- changes in procedures;
- changes in regulations;
- changes in equipment;
- errors or deficiencies in job performance; and
- errors in data reporting.

Hazard identification and safe work method statements are required when any new task is to be undertaken on site. This is to be reviewed by staff undertaking that task and will be need to be included in the training register.

Types of ongoing training that may be required for a specific duty may include:

- First Aid Training;
- Chemical Handling Training;
- Training in use of fire extinguishers/ fire management;
- High Risk Work Training; and
- Workplace Health and Safety Training.
-

11.3 Other Training

11.3.1 Daily toolbox talks

A toolbox talk is a brief discussion to be undertaken daily by the Operations Coordinator. This is to be undertaken each morning prior to the start of work.

The objectives of the toolbox talk are to conduct a regular safety discussion relevant to the specific work being undertaken that day. A more detailed monthly toolbox talk will be done on the first Thursday of the month and register will this will include (Appendix 15.3):

- health and safety issues;
- environmental issues; and
- procedural/general issues.

11.3.2 Simulated exercises

A simulated test of this PIRMP is to undertaken annually. The objective of this exercise is to test the effectiveness of the plan and provide an interactive training exercise for staff. This training exercise can either be a desk top exercise or a training scenario.

Waste Services is responsible for ensuring these exercises are undertaken. The planning of this exercise is to be undertaken by the Waste Operations Manager and the Operations Coordinator.

The goal of this exercise is to provide a situation that is reflective of an incident that may be encountered on site. Safety is paramount for this exercise and no actual hazard should be conducted (such as the lighting of a fire) these will include:

- Spill; or
- Fire.

Requirements of these exercises are to:

- inform those on site that a simulation will be taking place that day;
- inform the public that a simulation will be taking place at the weighbridge and on the website. Specify the time and the date;
- at the toolbox talk on the morning of the simulation, the works coordinator will refresh the staff on the PIRMP and inform them that the simulation will occur that day;
- designate a location on site for the incident to occur;
- define the incident. This will include a pollutant common to site, volume or size of the pollutant, the people involved;
- activate the evacuation procedure and muster all staff to the assembly point; and
- allocate an officer for auditing/supervising this simulation (this should be an officer who is not responsible for the activation of the plan, e.g. Council's WHS officer or a representative of Waste Planning).

The expected outcomes of these exercises are:

- instruct staff on how to implement this plan;
- contain and manage an incident relative to the site;
- initiate an evacuation;
- document an incident;
- ensure all reporting paperwork is filled and the relevant authorities contacted (only call internal staff and indicate this is part of a simulation. Do not call external authorities); and
- provide feedback to all staff. Where there are non-compliances with the plan, this can be used to refine the PIRMP and provide further training if required.

11.3.3 Frequency of training

The following table indicates the frequency and location of each type of training on site.

Training type	Frequency	Reporting Requirement	How records are kept
General Induction	Commencement of employment	Signed on to the induction record	With the employment records of staff at Shellharbour City Council
Site Specific Induction	Commencement of employment	Understanding and sign onto the induction record	Induction records to be managed in accordance with Council's document management system
Toolbox talks	Daily and additional at discretion of Operations Coordinator	Not Recorded	Not Recorded
Toolbox talks	Monthly and additional at discretion of Operations Coordinator	Recorded on form	Kept in the site office

Training type	Frequency	Reporting Requirement	How records are kept
Other job specific training	On a needs basis or when: • There is a change in procedure • Change in regulations • New equipment • Deficiencies in job performance • Errors in data reporting/procedure	Complete the training record form	Training record form to be kept in the site office
Simulation exercises	Yearly	Complete the exercise simulation form	Form stored in the site office and a copy send to Waste Services. PIRMP is reviewed and updated as required.
Performance self assessment	Yearly	Complete checklist	Managed in accordance with Council's document management system
Fire/evacuation Drill	Yearly	Record this with the WHS training	Form stored in the site office and a copy send to Waste Services

12. Testing of the Plan

12.1 Manner in which the plan is to be tested and maintained

To ensure compliance with Part 5.7A Section 153E of the *POEO Act* and Chapter 4, Section 75 of the *POEO Regulation*, testing of the PIRMP will occur:

a.) routinely at least once every 12 months; and
b.) within one month of any incident occurring.

Testing will ensure that information contained within it is accurate and that the PIRMP is capable of being implemented in a workable and effective manner.

Testing will be conducted via either desktop simulation, or practical exercises and drills in accordance with **Section 10** above. These will be used to test the practical effectiveness of the PIRMP and define areas of improvement. All tests will be documented using the record sheet template provided in **Appendix 15.6**.

12.2 Review of the Plan

The objective of this PIRMP is to provide a description of the hazards and operations associated with the Environmental Protection Licence on site and the procedures and actions in place to mitigate any pollution event that may arise for them. Consequently, this PIRMP is a working document that is designed to ensure any changes that could affect a pollution incident are captured.

Table 1- "Table of Revisions" is the register of review identification the current version of the PIRMP. This will include the document name, the person responsible for the review, the date of change and the changes that were made.

The requirements for the document review are:

- the review is to be conducted annually from the date of the first version of the document;
- the document is to be reviewed if there is any significant change in process or operation on the site;
- the document is to be reviewed where there is a change in the legislation or the requirements of the Environmental Protection Licence 5984;
- the document is to be reviewed where the testing of the plan identifies a failure or inefficiency; and
- a review is required to be completed within 30 days of a pollution incident.

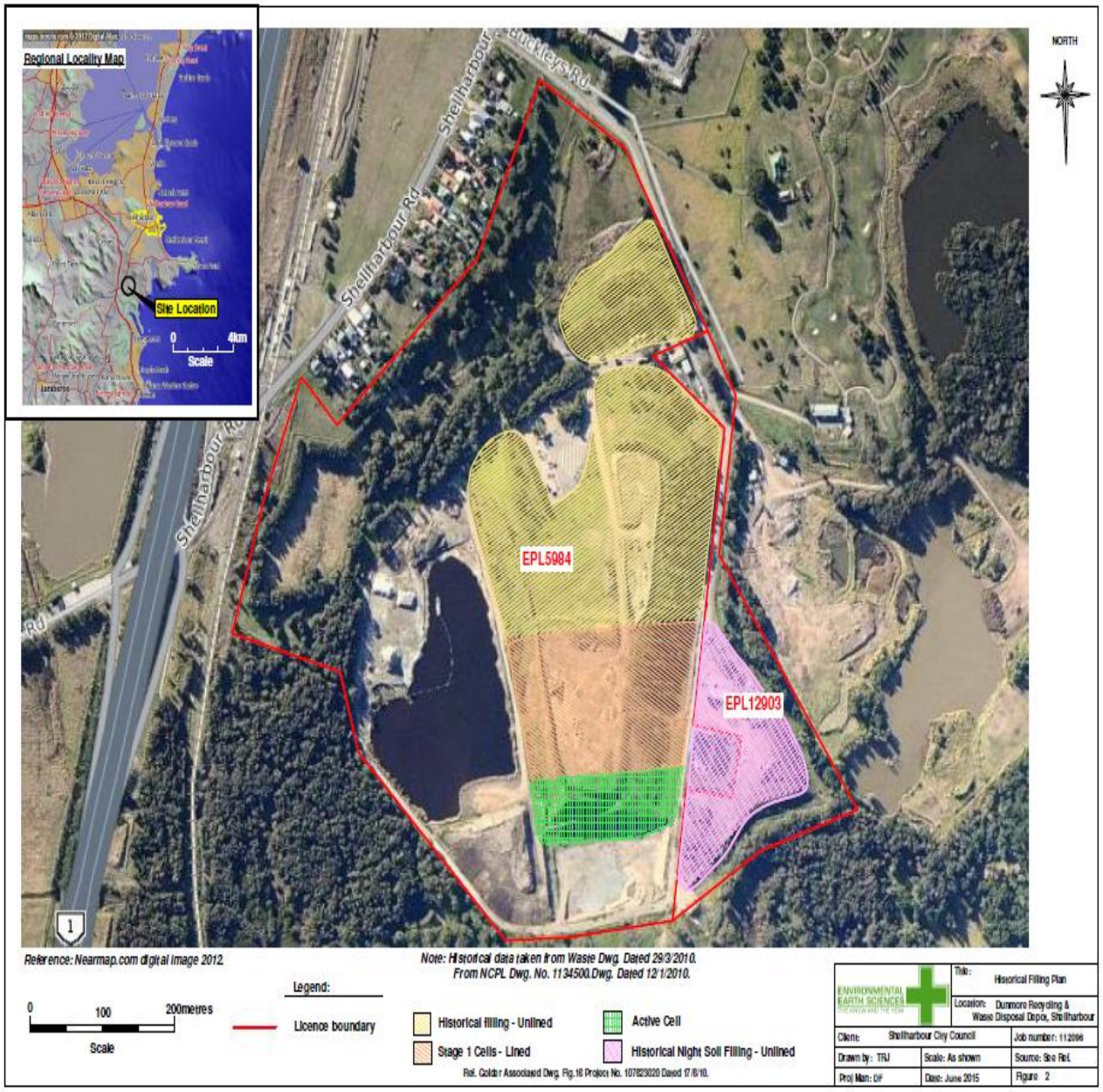
13. References

1. Protection of the Environment Operations Act 1997
2. Protection of the Environment Operations (General) Regulation 2022
3. Golder Associates 2010, Site Management Plan: Dunmore Recycling and Waste Disposal Depot. (Report Number 107623020-001-R-RevD)
4. Environmental Protection Authority NSW, *Environmental Guidelines: Solid Waste Landfills,* Second Edition 2016
5. Shellharbour Local Environmental Plan 2000
6. Shellharbour Local Environmental Plan 2013
7. Shellharbour City Council Hazard/Risk Assessment (No. 10660).

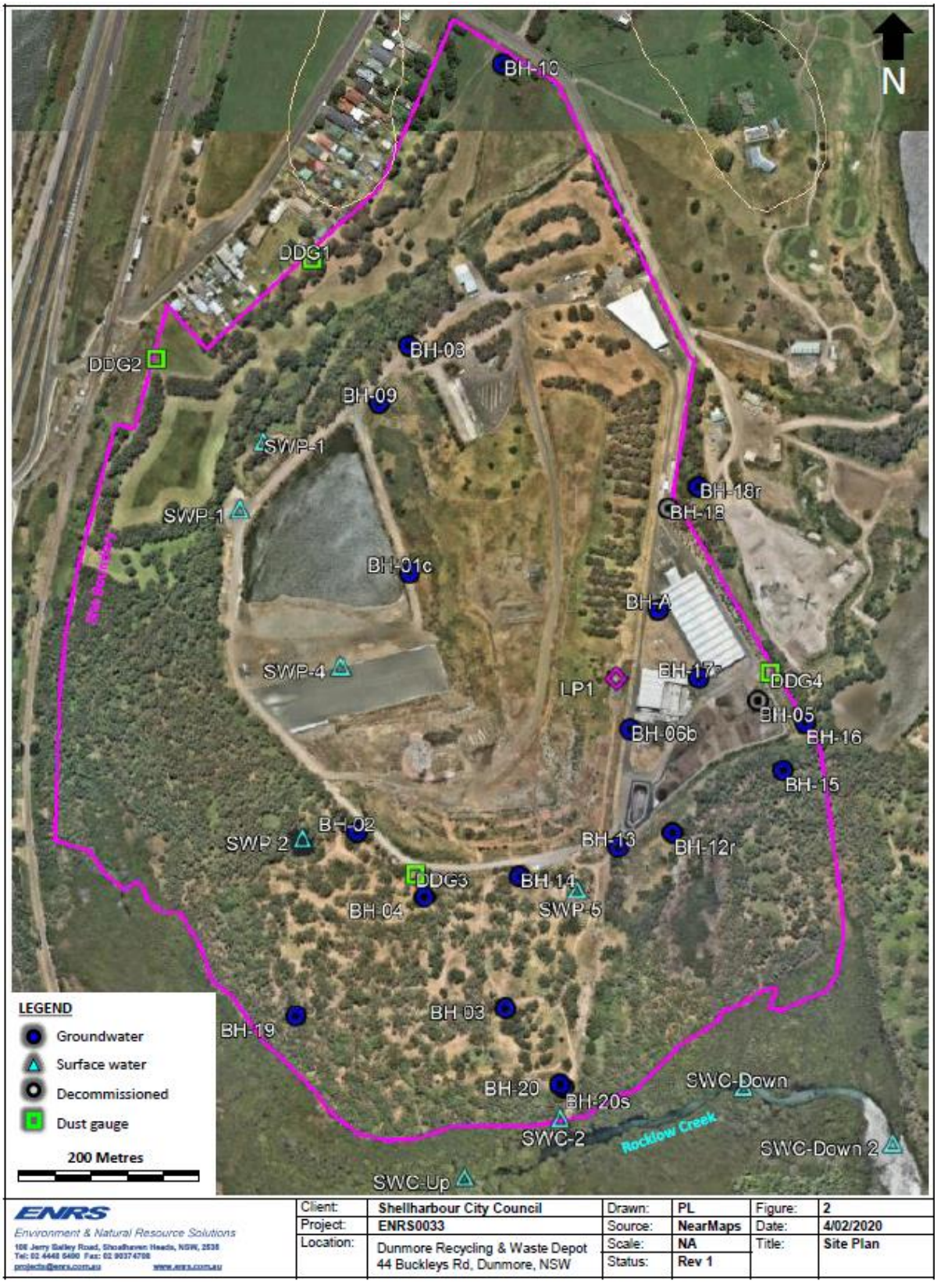
14. Figures

14.1 Site Boundaries – EPL 5984

14.2 Historical Filling on Site

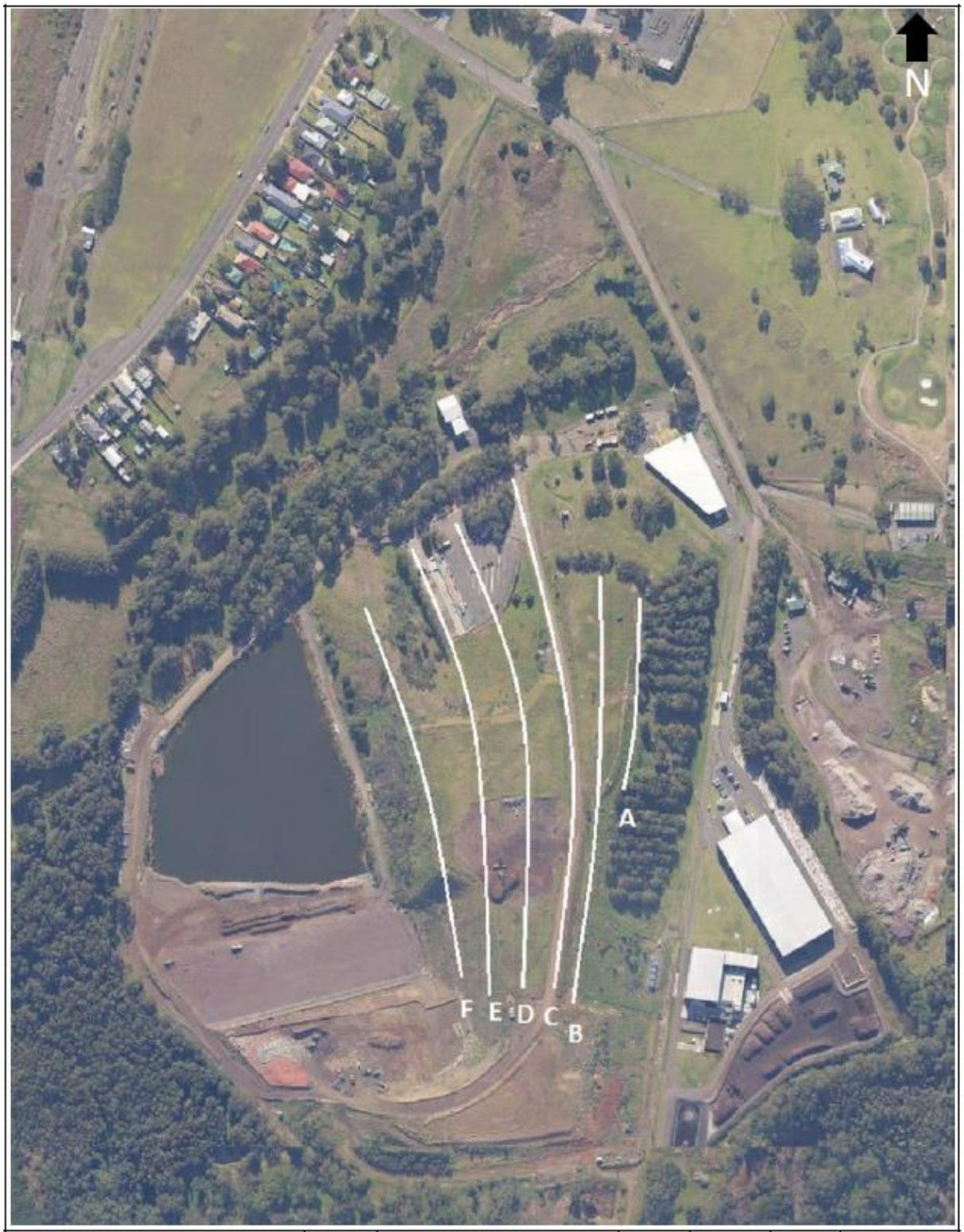


14.3 Groundwater, Surface water and dust monitoring



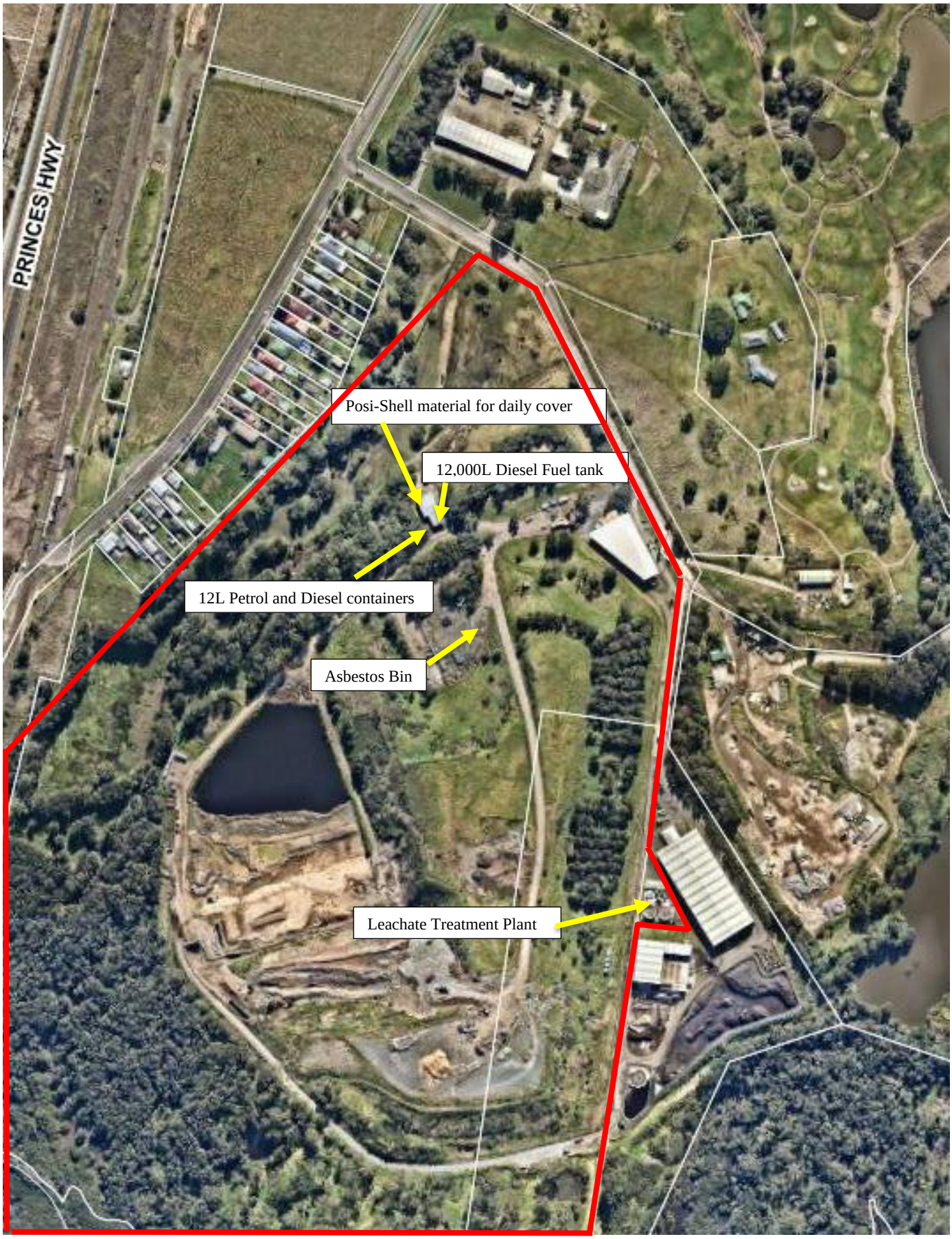
ENRS Environment & Natural Resource Solutions	Client:	Shellharbour City Council	Drawn:	PL	Figure: 2
	Project:	ENRS0033	Source:	NearMaps	Date: 4/02/2020
	Location:	Dunmore Recycling & Waste Depot 44 Buckleys Rd, Dunmore, NSW	Scale:	NA	Title: Site Plan
			Status:	Rev 1	

14.4 Landfill Gas Monitoring Locations

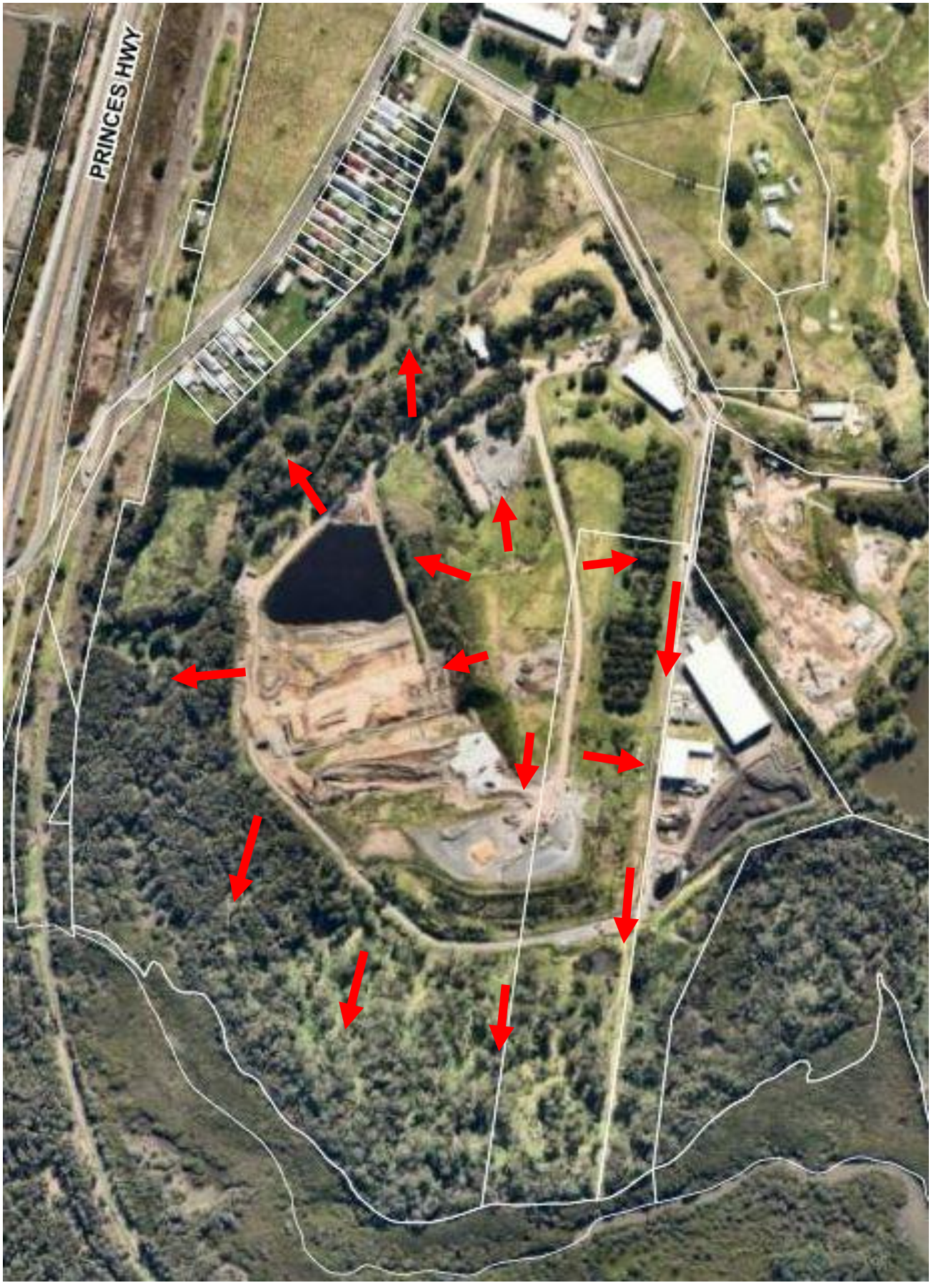


ENRS Environment & Natural Resource Solutions 106 Jerry Bailey Road, Shoalhaven Heads, NSW, 2536 Tel: 02 4448 0480 Fax: 02 96374788 projects@enrs.com.au www.enrs.com.au	Client:	Shellharbour City Council	Drawn:	PL	Figure:	3
	Project:	ENRS0033	Source:	SixMaps	Date:	16/01/2020
	Location:	Dunmore Recycling & Waste Depot 44 Buckleys Rd, Dunmore, NSW	Scale:	NA	Title:	Surface Gas Sample transects
			Status:	Rev 1		

14.5 Pollutants Onsite



14.6 Drainage and Surface Water Flow Direction



14.7 Site Map and Evacuation Muster Point

Appendix

15.1 Incident Report Form

Incident / Hazard Investigation Report

This form to be completed by the person(s) involved in the incident / hazard and the matter closed out by the Work Health & Safety Manager. Waste Management Officer to endorse prior to filing.	Office Use	
	Report No: (Allocated by Work Health & Safety Manager)	Date Received:

Incident / Hazard report details – To be completed by Incident Reporter

Name:		
Incident / hazard date & time:	Reported to:	Report Date & Time:
Location:		

☐ First Aid ☐ Medical treatment	☐ Work Related Illness ☐ Fatality	☐ Drill rig incident ☐ Property/Plant/Vehicle Damage	☐ Environmental Damage ☐ Hazard / Near Miss

Describe the incident or hazard:

Pollution incidents	
Chemical Name:	Volume of chemical:
Describe Action Taken:	

Incident Mechanism:				
☐ Slip, Trip or Fall ☐ Contact with Infectious Agent	☐ Motor Vehicle Accident ☐ Manual Handling Task	☐ Contact Hazardous Substance ☐ Struck by Moving Object	☐ Struck by Falling Object ☐ Other	
Nature of Injury:				
☐ Sprain/Strain ☐ Dislocation	☐ Burn ☐ Fracture	☐ Bruising ☐ Concussion	☐ Injury to Nerve/Spinal Cord ☐ Internal Injury	☐ Cut ☐ Other.....
Body Location of Injury:				
☐ Eye ☐ Ear	☐ Face ☐ Head	☐ Back ☐ Trunk	☐ Shoulder/Arm ☐ Hand/Fingers	☐ Leg/Foot/Toes ☐ Internal Organ	☐ Other .....

Describe first aid or medical treatment:		
Who provided the treatment:	Phone no:	☐ MTI ☐ LTI
Staff member signature:	Date:	No. of days off work:

Incident / Hazard Investigation Report

If witness/witnesses present, please complete witness section.

Were there any Witness's present?	☐ YES	☐ NO
Witness Name:		Phone Number:
Witness comments:		

Work Health & Safety Manager (Root cause analysis, safety bulletin requirements, investigation details)

Detail all deviations from standard conditions, practices and management system failures:

Has this happened before?	☐ YES	☐ NO
Has a Risk Assessment been run for the Task/Hazard related to the incident? Specify the date the risk assessment is to be completed or review.	☐ YES	☐ NO
Was the incident a "Notifiable Incident" under NSW OH&S Law? If yes, attached details of notification?	☐ YES	☐ NO
Did the Incident Require other External Notification? If yes, give details?	☐ YES	☐ NO
Is a Safety Bulletin Required? If yes, what date was the Safety Incident Alert distributed?	☐ YES	☐ NO
Long term injury / follow-up required?	☐ YES	☐ NO

Work Health & Safety Manager endorsement:		
Name:	Signature:	Date:

Waste Management Officer		
Name:	Signature:	Date:

15.2 SafeWork NSW

Notifying us

If there is a serious injury or illness, a death or a dangerous incident, you must report it to us immediately and notify your insurer within 48 hours.

You must also:

- provide first aid and make sure the worker gets the right care
- record it in the register of injuries
- help the worker recover at work by identifying and offering suitable employment, staying connected and planning with your worker, their doctor, and your insurer

2 Problems reporting a workplace injury

If you are a worker and your employer has not notified your workplace injury to the insurer or will not provide you with their workers compensation insurance policy number, our Customer Service Centre (call 13 10 50) can look up the employer details so you can call the insurer direct.

3 Notifying us

If a notifiable incident occurs, you must notify us immediately on 13 10 50 as an urgent investigation may be needed. The incident site must be preserved until an Inspector attends (or the inspector or regulator directs otherwise).

A "notifiable incident" under the work health and safety legislation relates to:

- the death of a person
- a serious injury or illness of a person
- a potentially dangerous incident

Significant penalties apply if you fail to notify an incident.

4 Other incidents where workers compensation is payable

You must notify your insurer within 48 hours of becoming aware a worker has received a workplace injury if workers compensation is payable or may be payable (such as for time lost and/or medical expenses). You may avoid paying a claims excess if there is an injury by notifying your insurer within 48 hours.

4.1 Contact details for regulators

To notify a 'notifiable incident' contact your local regulator:

Jurisdiction	Regulator	Telephone	Website
New South Wales	SafeWork NSW	13 10 50	safework.nsw.gov.au
Illawarra Region	WorkSafe Regional Operations	Assistant State Inspector (02) 4222 7341	Address: Level 1, 60 Burelli st, Wollongong NSW 2500

15.3 Toolbox Meeting Record

Shellharbour CITY COUNCIL

Dunmore Recycling & Waste Disposal Depot - Monthly Toolbox Meeting

7th September 2023, 7.00am - 7.30am

Attendees:

Apologies:

1. General Items

Item Raised	Comment from Management / Action

2. HR Items

Item Raised	Comment from Management / Action

3. Safety Items

Item Raised	Comment from Management / Action

STANDING SAFETY ITEMS

4.

COLLABORATION • ACCOUNTABILITY • INTEGRITY • RESPECT • SUSTAINABILITY

15.4 Training Register

Name of Trainee	Date of Course	Course Name	Description of Course

15.6 Testing of the Plan

15.6 Testing of the Plan

Pollution Incident Simulation

Name of Supervisor: K. PENFOLD

Date & time: 19/09/23	Reported to: G HOLDEN	Report Date & Time: 19/09/23 8.45
Location: DUNMORE WASTE DEPOT – LANDFILL		

Names of Attendees

K. PENFOLD, G HOLDEN, T.M NOLAN, M. RIGBY, L. CONLON,
DELTA GROUP REP, RRA REP (2)
(2)

Describe the situation to be simulated

Location: LANDFILL

Type of incident: BOMB LOCATED ON TIP FACE.

Describe the scenario:
LANDFILL OPERATOR NOTICED WHAT LOOKS LIKE A BOMB WHEN HE WAS CLIMBING OFF THE MACHINE.

Outcomes

Did the PIRMP get executed in a timely manner?	YES AROUND 8-10 MINS
Were all staff aware of their responsibilities?	YES
Was the incident handled in accordance with the PIRMP?	YES
Did all relevant authorities get considered?	YES
Was the handling and containment of the incident appropriate?	YES - ISOLATION

Comments and areas for improvement

ALARM COULD BE HEARD FROM LANDFILL, AND ANOTHER CONTRACTOR ON SITE (OTHER SECTION) DID CALL TO SEE WHY THE ALARM WAS ON

Waste Depot Supervisor		
Name: K. PENFOLD	Signature:	Date: 19/09/23
Landfill Operations Manager		
Name: G. HOLDEN	Signature:	Date: 19/9/23