



# Pollution Incident Response Management Plan

## Grafton Regional Landfill – 704 Armidale Road Elland

**EPA Licence No 7186**

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Title	Doc No	Version	Author	Reviewer	Approver	Approval Date
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## Dictionary and Important Landfill Numbers

**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 (see the POEO Act 1997).

**Harm to the environment:** 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

**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.

## Important numbers for the Grafton Regional Landfill are;

- **Weighbridge (02) 6643 0888**
- **Grafton Landfill Operates on UHF Channel 24**
- **Waste Services Supervisor (Andrew Buchanan) 0407 943 089 or 6643 0860**
- **Senior Landfill Operator (position vacant)**
- **Waste and Sustainability Coordinator (Ken Wilson) 0427 257 679**
- **Senior Waste and Sustainability Officer (Richard Roper) 0438 980 469.**
- **Waste and Sustainability Officer Ben Ellis 0438 061 006**
- **Manager Environment & Regulatory Services (Scott Lenton) 0438 430 234**
- **Organics Recovery Facility (ORF) – JR Richards Site Manager Phil Hayes 0418 591 240 or Brian Tarrant JR Richards Regional Manager 0408 663 758**
- **Materials Recovery Facility (MRF) – Operated by ReGroup (ph) 6642 5875 for JR Richards. Or contact Brian Tarrant JR Richards Regional Manager 0408 663 758**

**The business hours number for CVC is (02) 6643 0200**

**The after hours emergency number for CVC is (02) 6626 6858**

Note: During working hours, calls are taken by staff at the Landfill or the CVC Office switch. If the call is received after hours to the CVC Office number, the caller is directed to a call centre in Lismore, who informs appropriate personnel of issues and incidents. CVC operates a rostered on-call system, ensuring that an experienced staff member is on-call at all times. The call centre will contact the on-call staff member.

## 1. Introduction and Summary

This plan has been developed to document the processes required to prepare for and respond to pollution incidents at the Grafton Regional Landfill (EPA Licence No. 7186) and ensure that hazards to the environment, human health and safety are minimised. It has been prepared in accordance with the requirements of the *Protection of the Environment Operations Act 1997* and *Protection of the Environment Operations (General) Regulation 2009*.

The primary activities carried out at the Grafton Regional Landfill are waste disposal, resource recovery and recycling. The Grafton regional landfill receives and landfills approximately 40 000 T of solid waste per year. The EPA licence (EPL 7186) permits the Grafton landfill to accept;

- general solid waste (putrescible and non putrescible as defined by the EPA's Waste Classification Guidelines),
- asbestos waste,
- tyres
- building and demolition waste
- hazardous wastes (store and removal only)
- community recycling centre (CRC) (store and removal only)
- metal waste (storage and removal)

The majority of waste is received from within the CVC local government area (LGA) with a small amount of waste received from adjoining shires.

At the Grafton landfill there are numerous storm water management drains, a sedimentation dam and a contaminated liquid (leachate) dam as part of the landfilling infrastructure.

The Grafton Regional Landfill has a total design capacity of 3,000,000 m<sup>3</sup>. It is expected that at the current rate of filling the landfill has approximately 50 year of life remaining. The area which has been landfilled with waste is approximately 12 hectares while the entire site, including buffers is approximately 145 hectares. A new cell (4C) and additional leachate dam is currently being constructed and is expected to be completed in early 2023. This will provide approximately 3-5 years of landfilling capacity before a new cell will have to be developed. The additional leachate dam has been designed to cater for the additional leachate generation load.

In 2022 there was a Fire Safety Audit undertaken for the landfill site. From this audit these were several outcomes to improve fire safety. These included;

- Installing an Emergency Information Cabinet at the entrance to the landfill (to be installed early 2023) so that if the Emergency Services attend the site they have access to plans, maps and details of the fire fighting equipment on site.
- The Grafton Fire Brigade have undertaken a Pre-incident plan for the landfill so they are aware of issues, infrastructure and fire fighting equipment should they be called to the site.
- Landfill staff will also be trained (to occur in 2023) in fire fighting.

The site (704 Armidale Road) also contains two other separate EPA licenced facilities including an organics processing facility (ORF) and material recovery facility (MRF). Both these facilities are run by JR Richards and have their own PIRMP's.

This PIRMP is updated annually, and a public version is available on Clarence Valley Council's web site. There is also the requirement to provide environmental monitoring data for the Landfill. Both these documents are available on Council's web site at <https://www.clarence.nsw.gov.au/Environment/Water-and-sewage/Environmental-monitoring-data>

## 2.0 About this PIRMP

If wastes are not properly treated and disposed of there are potential pollution hazards that may occur. This PIRMP has specific procedures, in conjunction with the EPA Licence, to prevent or minimise possible pollution incidents.

Section 3 of this PIRMP deals with managing pollution and/ or health and safety incidents. It is divided into four parts which deal with;

- **3.1 Human Health and Safety Incident Procedure**
- **3.2 Pollution Incident Procedure**
- **3.3 Staff Checklist – Dealing with a Landfill Incident (Human Health and or Pollution) Procedure**
- **3.4 Dealing with specific potential Incidents at the Landfill including;**
  - Landfill, Transfer Station or Hazardous Waste Store Fire
  - Chemical or Fuel Spill
  - Leachate Dam overflow
  - Sediment Dam Overflow
  - Bushfire

For site plan and key site features at the Grafton Regional Landfill refer to Appendix 1 and 2.

### **3.0 Incident Response Management**

#### **3.1 Human Health & Safety Incident**

If there is immediate threat to human health or safety, call triple zero “000” (“112” if using a mobile) and implement the following process;

1. If a person is injured you must first assess the scene for hazards or risks. PPE may be required for yourself and the injured person prior to assisting them.
2. Call emergency services for medical assistance and evacuate the site if required. Where possible provide assistance to emergency services. Note: Site information is available to emergency services in the Emergency Information Cabinet located at the entrance to the Landfill.
3. Contact Supervisor or Manager for assistance Waste Services Supervisor Andrew Buchanan on **0428 403 989** and/or Waste and Sustainability Coordinator Ken Wilson on **0427 257 679** or Senior Waste and Sustainability Officer Richard Roper on **0438 980 469**. Manager Environment & Regulatory Services (Scott Lenton) **0438 430 234**
4. Council’s WHS Unit is to be notified of the incident as soon as possible after the event on 6643 0850.

#### **3.2 Pollution Incident**

A pollution incident which involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial (see definitions at start of this document), Clarence Valley Council must notify the following relevant authorities immediately:

- |   |                                    |
|---|------------------------------------|
| 1. EPA Environment Line (written report to be provided within 7 days) | <b>131 555</b>                     |
| 2. NSW Health   | <b>1300 555 555</b> (Pager 149377) |
| 3. SafeWork NSW   | <b>131050</b>                      |
| 4. CVC Environmental/ Health Officer                                  | <b>66430200</b>                    |

NB- While Section 148(7) of the *Protection of the Environment (Operations) Act* also specifies NSW Fire & Rescue as an authority which must be notified immediately, NSW EPA has requested that Council only notify Fire & Rescue of pollution incidents where they have a role in managing the incident (e.g. chemical spill, fire etc).

**If safe to do so the pollution incident should be controlled or contained, this may include using heavy plant to block drains or construct earth bunds to contain a liquid spill.**

Consideration should also be given to contacting the following as soon as practical:

1. Supervisor, Coordinator and/or Manager (see 3.1 above)
2. Affected neighbours – Refer Appendix 5 for names, addresses, telephone numbers and Appendix 2 for stormwater drainage line plans.

In all situations where there is damage and/or loss to private property or a member of the public due to an incident related to this plan contact:

- **Council's Insurance Officer** (02) 6641 7205

All communications with the above agencies due to incidents that apply to this plan should if possible be made through the **Waste Services Supervisor, Waste and Sustainability Coordinator or Manager Open Spaces and Facilities**. If the Operator cannot contact these people and it is a MAJOR incident, Operator to begin to inform the agencies.

The incident response required depends on the type of incident that has occurred. The following is a list of Council documents that may assist in responding to a pollution incident:

- *Appendix 8 – Clean Up Small Chemical Spills (Safe Work Procedure 077)*
- *Appendix 9 – Safe Work Procedure - Landfill or Hazardous Waste Stores Fire (DRAFT)*
- *Appendix 10 – Safe Work Procedure 023- Spill Control at the Hazardous Waste Store*
- *Appendix 11 - Safe Work Procedure 096 - Methane Gas System*
- *Appendix 14 – Incident Reporting (WHS 003)*
- *Procedure for Management of Sediment Dam (section 3.4.6)*
- *Procedure for Management of Leachate Dam (section 3.4.5)*

### **3.3 Staff Checklist – Dealing with a Landfill Incident (Human Health and or Pollution) Procedure**

After becoming aware of possible emergency situation, the following procedures should be implemented:

1. Contact emergency services (possible multiple agencies) if warranted.
2. Notify Waste Services Supervisor and / or Senior Operator if on site.
3. Decision made if the site should be evacuated.

The following information may be required by Emergency Services.

- **Type of emergencies:** fire, chemical reaction, spill, bomb/explosion, injury.
- **Location-** 704 Armidale Rd, South Grafton. NSW.  
On the right, 500 meters past Orara Way turn off to Coffs Harbour.
- **Contact numbers:**
  1. Weighbridge: **6643 0888**
  2. Andrew Buchanan (Landfill Supervisor):  
**0428 403 989** or Senior Landfill Operator
  3. Ken Wilson (Waste Coordinator): **0427 257 679**
  4. Richard Roper (Senior Officer): **0438 980 469**

4. If evacuation required, direct all customers and contractors to leave the site to the emergency evacuation area
5. Contact ORF waste area personnel (phone and or radio) and evacuate if necessary. Phone ORF Site Manager Phil Hay 0418 591 240.
6. Contact MRF personnel (phone and or radio) and evacuate if necessary. MRF phone 6642 5875.
7. Waive disposal fees if necessary.
8. If evacuation required, staff to assemble at the emergency assembly point adjacent to the landfill office. Assembly point at front gate to be used if first assembly point is unsafe.
9. Ensure all staff and patrons are notified.

10. If evacuation required weighbridge operator to lock weighbridge door on way out if possible.
11. Provide assistance to emergency services as needed. Note: Site information is available to emergency services in the Emergency Information Cabinet located at the entrance to the Landfill.

When Emergency Services arrive, they will take control of the site. Follow all Emergency Services directions.

When "ALL CLEAR" is given by emergency services, proceed back to work stations and re-open the site.

## NOTES:

1. **DO NOT PLACE YOURSELF IN DANGER AND CALL EMERGENCY SERVICES (000) IMMEDIATELY IF THE SITUATION REQUIRES**
2. If it is the weekend or you are on the site alone YOU must decide whether to contact Emergency Services. If warranted, do not hesitate and call **000**.

**If possible keep the weighbridge mobile phone with you during the emergency.**

Then call Waste Services Supervisor (Andrew Buchanan) or Waste and Sustainability Coordinator (Ken Wilson) (numbers shown above in 3.1) and notify them of the incident.

3. If the emergency is a fire, only attempt to extinguish it if you are confident you are able to do so safely (refer section 3.4 below).

4. **FOR POLLUTION INCIDENTS NOTIFY EPA ENVIRONMENT LINE IMMEDIATELY ON 131 555** as well as other authorities shown in section 3.2.

5. If pollution of neighboring properties appears likely, contact impacted neighbors using the contact numbers at Appendix 5. This includes smoke drift from a Landfill fire and downstream neighbors from a major leachate dam overflow.

6. While the incident is fresh in your mind complete an incident report.

### 3.4 Specific Incidents at the Landfill

The following incidents are considered the most likely to potentially occur at the Landfill. The actions in the Incident Response section above (section 3.1-3.3) should be used in conjunction with the information below when dealing with any of these specific incidents.

#### 3.4.1 Landfill Fire

If there is a fire on the landfill face the following process should be followed (also refer to attached DRAFT *Procedure Landfill or Hazardous Waste Store Fire* Appendix 9):

1. Assess the level of risk the situation poses. **Note: The fire may emit plumes of hazardous chemicals in the smoke and cause explosions! If in any doubt call emergency services (000) immediately.**
2. If safe to do so, approach fire from upwind staying out of smoke / fumes to determine extent of fire.
3. Use appropriate PPE (refer attached *Procedure Landfill or Hazardous Waste Store Fire* Appendix 9).
4. If fire is beyond being safely controlled by landfill staff, call 000 fire brigade and determine if neighbors should be notified. Follow other actions in Incident Response section 3.1-3.3. Note: Site information is available to emergency services in the Emergency Information Cabinet located at the entrance to the Landfill.
5. If fire can be safely controlled advise supervisor and other staff. Ensure patrons or other non essential staff are well clear. Use loader &/or compactor to smother fire as appropriate and use water cart to saturate site.
6. Monitor site for two days
7. Notify EPA and prepare incident report
8. **DO NOT PLACE YOURSELF AT RISK AND CALL EMERGENCY SERVICES (000) IMMEDIATELY IF THE SITUATION REQUIRES**

#### 3.4.2 Hazardous Waste Store Fire

If there is a fire in the hazardous waste store the following process should be followed:

1. Assess the risk and refer to DRAFT *Procedure Landfill or Hazardous Waste Store Fire* Appendix 9). **Note: The fire may emit plumes of hazardous chemicals and cause explosions! If in any doubt call emergency services (000) immediately.**
2. Ensure patrons or other non essential staff are well clear.
3. If safe to do so, approach store from upwind staying out of smoke / fumes.
4. Use appropriate PPE.
5. Try to identify which area of the depot is on fire.
6. If fire is visible and is only a small area extinguish with available extinguisher (first check correct type extinguisher).  
“DO NOT PLACE YOURSELF AT RISK”!
7. Try to isolate the offending item if possible.
8. If heavy smoke, fumes or fire are escaping from store follow incident response plan (section 3.1-3.3) and contact emergency services immediately by **dialing 000.**

Emergency Services will take control of the site on arrival. Offer all assistance where possible. Pollution Incident Response Management Plan has information on the likely Hazardous Waste Store inventory (Appendix 7).

If a large volume of water is used to control the fire and the bunded floor area in the Hazardous waste store has or looks as though it may overflow, earthen bunds should be placed in the storm water drains adjacent to the hazardous waste store. First consult with emergency services and with their approval use the front end loader to place buckets of earth in positions to contain the liquid and stop it entering the storm water system. This liquid can later be captured in tankers and disposed of in the correct manner.



In the event that these systems fail, Clarence Valley Council has portable pumps, tankers and other containment options available. If extra liquid waste removal is required you can also contact contractors such as Clarence Valley Septics on 66453100 or another liquid waste transportation company.

### 3.4.3 Transfer Station or Transfer Bin Fire

If there is a fire at the Transfer Station or in one of the transfer station bins the following process should be followed:

1. Undertake a risk assessment.
2. Ensure patrons or other non essential staff are well clear.
3. If safe to do so, approach fire from upwind staying out of smoke / fumes.
4. Use appropriate PPE.
5. If it is considered the fire can be safely extinguished use available extinguisher or fire hose. The loader may also be used to smother the fire with loads of soil.  
“ **“DO NOT PLACE YOURSELF AT RISK”!** “
6. If heavy smoke, fumes or fire is escaping from transfer station follow incident response plan (section 3.1-3.3) and contact emergency services immediately by **dialing 000.**

### 3.4.4 Chemical or Fuel Spills

If there is a chemical or fuel spill (vehicle rollover releasing fuel/ oil) outside the bunded area, if safe to do so, immediately bund stormwater drains to contain spill and or use spill kit/ mulch to absorb spill. If spill contained it may be tankered off site. If spill is excessive and enters stormwater drains immediately contact emergency services by **dialing 000** and follow incident response plan (section 3.1-3.3).

### 3.4.5 Leachate Dam Overflow

Generally, the leachate dam should not overflow without warning. It will require a prolonged period of rain or an unusually heavy storm or rain event. Under the EPA licence conditions the leachate dam is permitted to overflow only if there has been a rainfall event of >305 mm in a 24 hour period. The leachate dam volume should be actively managed to maintain maximum freeboard through irrigation over waste filled areas.

If the leachate dam overflows or is likely to overflow without triggering the EPA licence condition (>305mm/ 24 hrs EPA Licence condition L1.2) then;

- If the leachate dam reaches 80% capacity, tankers should be engaged to tanker the leachate offsite to sewer until the dam level falls below 80%. Council's Water and Sewer section should be contacted to discuss disposal options and locations. Note a liquid trade waste approval is also required from Council's Liquid Trade Waste Officer.
- If leachate escapes downstream and it is believed (when considering quantity and dilution) this may affect downstream landholders or stock they should be notified ASAP (contact details Appendix 5).
- If the leachate dam overflow appears unavoidable (or it has already overflowed) samples of the leachate should be taken from near the overflow point, numbered & dated & stored in the refrigerator until transport to a Laboratory can be arranged. Similar samples should be taken from the sediment dam spillway.
- Notify EPA 131555 and other agencies as per the incident response plan.
- Monitor weather forecasts closely to try to estimate expected wet weather duration.
- Follow other procedures in the Incident Response plan section 3.1-3.3.

### 3.4.6 Sediment Dam Overflow

Under the EPA licence conditions the sediment dam must not discharge if suspended solids exceed 50 mg/L. The only exception to this is if there has been a rainfall event of greater than 50.1 mm over a 5 day period (EPA Licence condition L2.5).

The level in the sediment basin must be returned to the level indicated on the marker within 5 days of cessation of rainfall.

If the sediment dam overflows or is likely to overflow without triggering the EPA licence condition (>50.1 mm/ 5 day period) then;

- The sediment dam must be tested using the turbidity probe and comparing the turbidity result to equivalent suspended solids (i.e NTU result must be below the specified NTU's limit (81 NTU) which is equivalent to 50 mg/L suspended solids.
- If the NTU's are above the permitted equivalent or the dam has already overflowed then samples must be taken at the discharge point for later laboratory analysis and EPA must be notified on 131555.
- Follow other procedures in the Incident Response plan section 3.1-3.3.

### 3.4.7 Bushfire

In November 2019 there were sever bushfires in the Clarence Valley LGA. A bushfire near Coutts Crossing threatened the Grafton Landfill. Council had several days to prepare the landfill for the potential impact of the bushfire but this may not always be the case and a bushfire could impact the landfill at any time. If there is time to prepare the Landfill for a coming bushfire the following steps should be taken;

- Minimise exposed waste face (to minimize embers/ flames entering open tip face).
- Have water truck full and on standby at all times
- Slash any long grass near active landfill cell/ cells to minimize grass fuel loads.
- Maintain existing grader line (3 m bare ground) around landfill perimeter and Office/ ORF/ Landfill and MRF
- Ensure waste tyres or other flammable items stored around the landfill are stored correctly to minimize direct flame or ember attack
- Advise ORF and MRF to prepare

If a bushfire threatens or impacts the Landfill without warning the following process should be followed;

1. If the fire is imminent or already impacting the site ring 000 and advise of bushfire threat if RFS or Fire Brigade are not already aware of this fact.
2. Advise ORF and MRF if they are not already aware
3. Undertake a risk assessment
4. Ensure patrons or other non essential staff are well clear.
5. If safe to do so, approach fire from upwind staying out of smoke / fumes.
6. Use appropriate PPE.
7. If it is considered the fire can be safety extinguished use available extinguisher or fire hose. The loader may also be used to smother the fire with loads of soil.  
" DO NOT PLACE YOURSELF AT RISK"!
8. If heavy smoke, fumes or fire is uncontrollable follow incident response plan (section 3.1-3.3) and contact emergency services immediately by **dialing 000.**

## 4.0 Community Notification

Impacts on the general community apart from closure of the site is considered unlikely, however short term impact on neighbours from fire, chemical and leachate spills is possible and the early warning of neighbours must be considered.

Clarence Valley Council when warranted will provide notification and communication during and after an incident to advise those affected with information, advice and updates. Notification and communication methods will be determined on a case by case basis and the following methods may be used:

- Phone calls
- Media releases (radio/television/newspaper/internet/social media as required)
- Site visits/door knocking
- Letter drops
- Warning signs
- Other methods as the situation requires

Regular communication and notification is to be provided until the incident and clean up of impacted site and an affected area has been complete.

## 5.0 Incident Investigation

All emergencies must be investigated. For all other incidents, the manager (with guidance from review personnel) will decide whether an incident investigation will be conducted. When an incident investigation is required, the relevant manager is responsible for:

- Forming the investigation team
- Co-ordinating the investigation

Note: Council's OHS Unit has incident procedures and documentation which should be used when conducting the investigation.

A de-brief is to be conducted on all emergency incidents. The responsible manager may also initiate de-briefs for other incidents where they feel it is appropriate.

## 6.0 Pre-emptive Measures to Prevent, Control or Minimise a Pollution Incident

### 6.1 Preventative Measures

The Landfill has the following preventative measures in place to prevent, control or minimise a pollution incident.

Activity	Preventative Measure
Waste Disposal/ Landfilling	<ul style="list-style-type: none"> <li>• EPA licence conditions regarding types of waste accepted, filling areas, volume, cover, leachate, odours, gas</li> <li>• Screening waste loads at weighbridge to prevent unauthorised materials from entering the site.</li> <li>• Staff training and compliance with Safe work procedures</li> <li>• Fire safety audit undertaken 2022. Local NSW Fire undertaken Pre-emergency Plan for the landfill and CVC will install (est early 2023) Emergency Information Cabinet.</li> </ul>
Chemical Storage (Hazardous waste Store and CRC)	<ul style="list-style-type: none"> <li>• Bunding to contain spills</li> <li>• Spill Kits</li> <li>• SWMS for Spills</li> <li>• Hazardous Waste Store and CRC Procedures</li> <li>• Staff training</li> </ul>

Asbestos Disposal	<ul style="list-style-type: none"> <li>• Specific licence conditions</li> <li>• SWMS 238 – Acceptance and Disposal Requirements for Asbestos</li> </ul>
Leachate Dam Management	<ul style="list-style-type: none"> <li>• EPA Licence Conditions</li> <li>• Leachate Dam management procedure</li> <li>• Irrigation Procedure to reduce dam volume</li> <li>• Backup leachate dam</li> <li>• Tankering leachate off-site</li> <li>• Independent testing and sampling undertaken by consultant for EPA licence</li> </ul>
Sediment Dam Management	<ul style="list-style-type: none"> <li>• EPA licence Conditions</li> <li>• Procedure to actively manage sediment dam to maximise freeboard</li> <li>• Independent testing and sampling undertaken by consultant for EPA licence</li> </ul>
Erosion and Stormwater Management	<ul style="list-style-type: none"> <li>• Staff training in erosion and sediment control</li> <li>• Revegetating disturbed areas / minimising soil disturbance</li> <li>• Installing sediment and erosion controls in disturbed areas</li> </ul>
Gas Capture System	<ul style="list-style-type: none"> <li>• Safe Work Procedure for gas capture system (Appendix 11).</li> <li>• Gas monitoring at surface undertaken as part of EPA Licence conditions</li> </ul>

If it is not possible to eliminate the chance of escaping liquid or gas becoming potential pollutants, physical barriers should be installed to prevent pollutants from entering the environment such as bunding and spill drainage containment.

## 7.0 Training

All staff required to implement this plan and associated documents must receive initial and on-going training. This is to ensure that staff are aware of the content, processes and requirements of this plan and can competently implement it if necessary. In the event of a significant incident, an investigation and debrief will be conducted, documentation updated if required.

The PIRMP shall at least every twelve months be included on the agenda of a staff tool box meeting.

## 8.0 Responsibility

The Waste and Sustainability Coordinator, Landfill Supervisor and Senior Waste and Sustainability Officer are responsible for the implementation of this Plan.

## 9.0 References

- EPA NSW Environmental Guidelines: Preparation of pollution incident response plans
- Local Government Act 1993

- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (General) Regulation 2009
- Landfill Environmental Management Plan (LEMP)

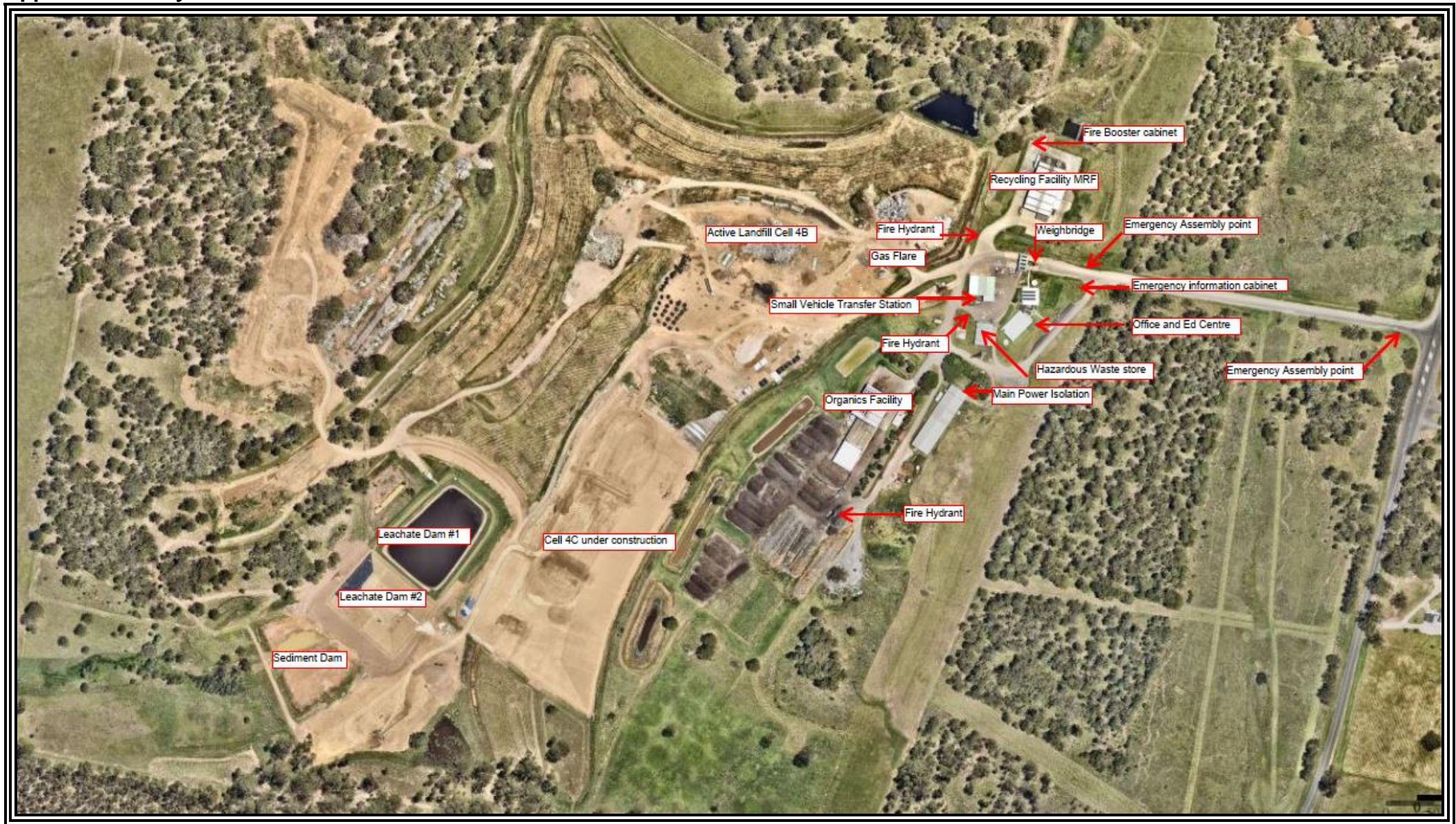
## Appendix 1 – Grafton Regional Landfill Aerial Photographs

Image taken December 2019 by Council Drone



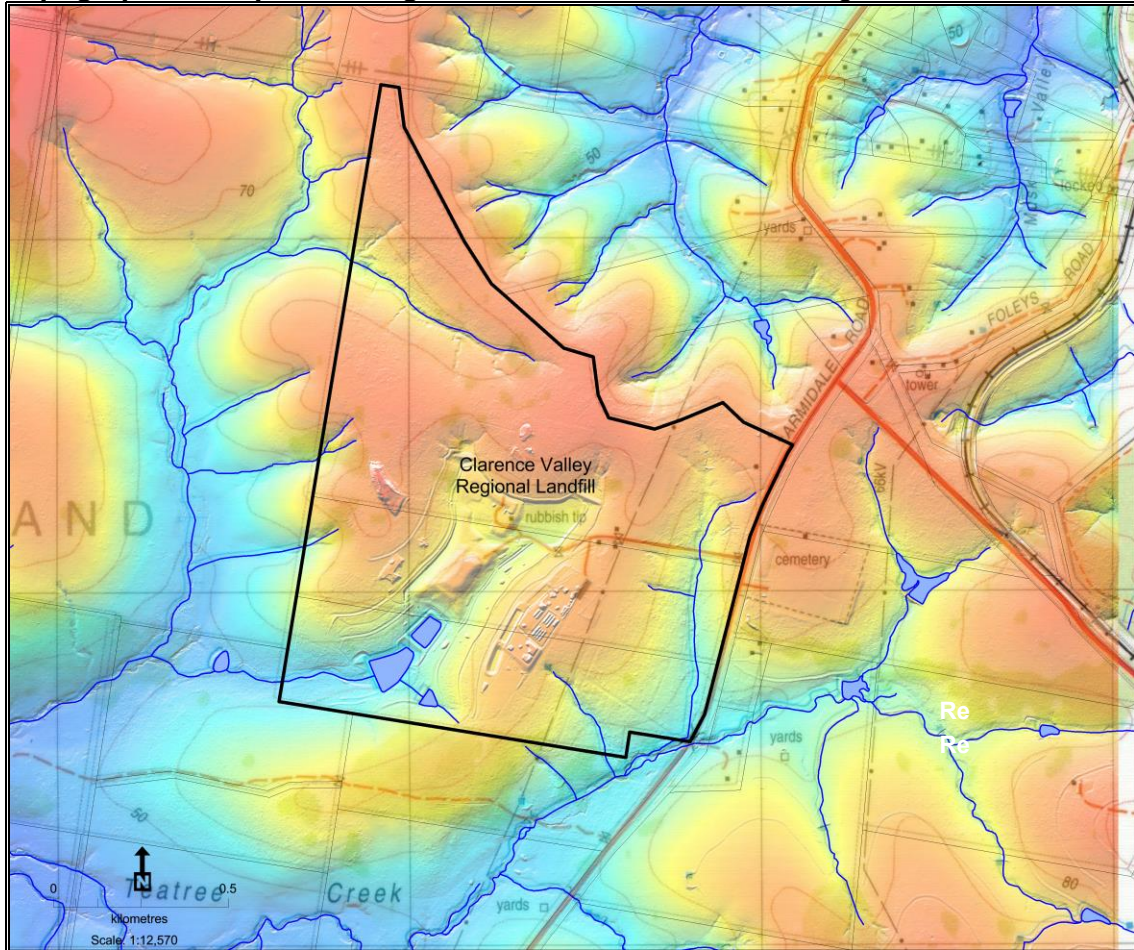


## Appendix 2 – Key Site Plan





## Topographical Map indicating Water Catchments and Drainage Lines



Note: Drainage line shows leachate dam discharges onto CVC owned land (Lot 87 DP 751370) then from this land onto land owned by Preston (Lot 1 DP 1179361- see Appendix 5 – Contact details)

## Appendix 3 - Site Chemical Register

### Tool container- Approximation of what may be on site at any one time

- 1 Petrol, Unleaded
- 2 Degreaser
- 3 Trefolex Cutting Compound
- 4 Hardies Hardie Join
- 5 CRC Belt Grip Aerosol
- 6 Spray Paint/Line Marker
- 7 Castrol FN Grease
- 8 AdBlue
- 9 Titan Cargo SAE 15W-40
- 10 John Deere Therma-Gard
- 11 John Deere Cool-Gard II
- 12 Hitachi Genuine Super Wide 10W-40 Engine Oil
- 13 Hitachi Genuine Hydraulic oil 46TP
- 14 Castrol Agri MP Plus 20W-40
- 15 Castrol RX Super Plus 15W-40
- 16 Castrol Axle AP 85W-140
- 17 BP Hypogear 80W-90
- 18 Castrol TFC 410
- 19 Maintain Fricofin LL (Coolant)
- 20 Caltex Cat ELC (Coolant)
- 21 EXXON Cat Hydraulic Oil SAE 10W
- 22 Titan Supergear SAE 85W-140
- 23 Titan Cargo MC 10W-40
- 24 Castrol Hyspin AWH 46
- 24 Cummins TEC PGXL Coolant
- 26 CT-18 Superwash
- 27 CAT Prime Application Grease
- 28 BP Oil Castrol Vecton 15W-40 CJ-4/E9
- 29 BP Autran TO 410

### Office / Weighbridge

1. CANDAN INOX-MX3- AEROSOL
2. SEPTONE WAX AND GREASE REMOVER
3. RECKITT BLACK FLAG RAPID KILL BLOWFLY STENGTH AEROSOL
4. JOHNSON RAID COMMERCIAL RESIDUAL
5. AEROGARD ODOURLESS PUMP SPRAY
6. METHYLATED SPIRITS
7. BAXTER SEA & SKI REGULAR (ORGANIC) SPF30 SUNSCREEN
8. THORLEY RID MEDICATED LOTION REPELANT PLUS ANTISEPTIC
9. CUSSONS MORNING FRESH DISHWASH LIQUID – ORIGINAL
10. AJAX SPRAY N' WIPE MULTI PURPOSE CLEANER
11. WD-40 AEROSOL
12. SELLEYS POLYGLAZE DASH AND TRIM CARE
13. HOMEBRAND DISHWASHING LIQUID
18. SIGNET LINE MARKING PAINT
19. CITRUS RESOURCES ZEST
20. ELITE FLUSH
21. ELITE DERMAPRO HANDS ABOVE
22. CYNDAN MEDIPURE HANDS

## Appendix 4 - Safety Equipment Register

### SAFETY EQUIPMENT REGISTER.

1. Gas masks SR 75 TPE half mask.
2. P2 dust masks.
3. Hearing protection.
4. UHF radio communication.
5. Protective clothing. [steel cap boots, Hi Vis. Vests & long sleeve shirts].
6. Leather gloves.
7. Chemical gloves.
8. Disposable overalls.
9. Spill kits.
10. Fire extinguishers.
11. Fire hose.
12. First aid kits.
13. Signage.
14. Front end loader.
15. Excavator.
16. Clay, crushed concrete & mulch type material.
17. Water truck & water tanker.
18. Sun screen.
19. Hard hat.
20. Broad brim hat.
21. Methane gas testing meter.
22. Water PH testing unit.

## Appendix 5 – Landfill Neighbour Emergency Contact Details

NOTE- INFORMATION REMOVED FOR WEB VERSION FOR PRIVACY REASONS

Owners Name	Address	Contact Details	Dwelling Onsite
	112-158 Ellandgrove Road, Elland, NSW 2460		Yes
	620 Armidale Road, Elland, NSW 2460		Yes
	636 Armidale Road, Elland, NSW 2460		Yes
	694 Armidale Road, Elland, NSW 2660		Yes
	673 Armidale Road, Braunstone, NSW, 2460		Yes
	825 Armidale Road		Yes
	765 Armidale Road, Braunstone, NSW, 2460		Yes
	793 Armidale Road, Braunstone, NSW, 2460		Yes
	Armidale Road, Elland, NSW, 2460		No
	704 Armidale Road, Elland, NSW, 2460		No
	925 Rushforth Road, Elland, NSW 2460		No
	670 Armidale Road, Elland, NSW, 2460		Yes
	830 Armidale Road, Elland, NSW, 2460 (Postal Address 544 Armidale Road)		Yes

## Appendix 6 – Fire wardens & First Aiders

<b>Fire Warden and First Aider lists</b>			
<b>Fire Wardens</b>			
<b>Position</b>	<b>Name</b>	<b>Location</b>	<b>Contact Number</b>
Chief Warden	Andrew Buchanan	LANDFILL	0407943089
Deputy Chief Warden	Anthony Moran	LANDFILL	
Alternate Area Warden	LISA LUZZI	LANDFILL	66430888
Alternate Area Warden	Ben Ellis	LANDFILL	0438 061 006
<b>First Aiders</b>			
<b>Name</b>	<b>Location</b>	<b>Contact Number</b>	
RICK COWAN	LAWN CEMETERY	0418 472 223 or 66422995	
	LAWN CEMETERY	0477 584 674 or 66422995	
Andrew Buchanan	LANDFILL	0428403989	
LISA LUZZI	LANDFILL	66430888	

## Appendix 7 – Hazardous Waste Store and Community Recycling Centre – Types and Quantities of Chemicals Stored

<b>Dangerous Goods Safety Cabinets</b>	<b>Cabinet Capacity</b>
Flammable Liquids	Up to 250 L
Toxic	Up to 250 L
Oxidizing Agents	Up to 250 L
Corrosives – Acids	Up to 250 L
Corrosives – Alkalis	Up to 250 L

<b>Community Recycling Centre (CRC) Items</b>	<b>Quantity</b>
Waterbased Paint	Up to 5 x B12 cages (each cage approx. 1000L capacity)
Oil Based Paint	Up to 3 x B12 cages
Batteries (lead/ domestic/ lithium ion)	Up to 5 x Pallets
Waste Oil	2000 L Tank capacity – separate tank away from CRC
Smoke Detectors	Up to 3 Buckets
Fluro Tubes	1 x crate
Gas cylinders/ Fire Extinguishers	3 x FP cages
Unknown products (no labels)	1 x B12 Crate

Note 1: Hard copy 'Safety Data Sheets' for materials stored in the CRC are kept in the Weighbridge Office

Note 2: Actual quantities of material stored is kept online with the NSW EPA's drop off CRC waste reporting system

## Appendix 8 – Safe Work Procedure 077 Clean up Small Chemical Spill

### SWP 077 Cleaning up small chemical spills

#### PPE that may be required



Long gloves



Foot protection



Sun protection



Hi vis



Hand protection



Eye protection



Hard hat



Face protection



H Face respirator



Disposable overalls

#### Tools that may be required

- Spill kit
- Broom/Shovel
- Backhoe
- Emergency eye wash

#### Associated Documentation

- SWMS 009 Traffic Control
- SWMS 297 Working near or in water
- Safety data sheets

#### Procedure – Cleaning up chemical spills

NOTE: If the incident presents an immediate threat to human health or property, or is too dangerous to contain Fire and Rescue NSW, the NSW Police and the NSW Ambulance Service should be contacted first for emergency assistance - phone 000.

This procedure is not intended for the treatment plants, water reservoir or the landfill chemical store there are site specific emergency management plans for large spills.

#### Land based spills

- Try to identify the source of the spill and the chemical or gas and if it is safe to approach, visually assess the severity. If ammonia or chlorine odour is detected or suspected clear the area of people immediately, moving them upwind. Don BA before approaching the source of the leak to determine the severity and try and shut off the leak. Put an exclusion zone in place and refer to the Emergency management plan for the site.
- If the liquid is flammable, remove any ignition sources from the area if safe to do so.
- Check the safety data sheet for instruction on appropriate PPE, handling and clean up method.
- If safe, rectify the source of the spill.
- Isolate the area from the public and other workers to prevent the spread of the spill.
- Where possible, try and contain the spill by creating bunding either with a spill kit or available materials such as soil or sand.
- Put on required PPE before attempting to clean up the spill as per SDS sheets. Use available materials to absorb the spill, once absorbed shovel into waste bags and take to Landfill advising them of chemical type.

**Water based fuel and oil spills**

*Note: When working around/near water, a spill kit should be on site. If spill is in the waterways absorbent material will be required to try and remove it. Materials used are a containment boom to prevent the spill from spreading, an absorbent boom and absorbent pads to soak up the fuel/oil from the surface.*

- If there is no spill kit available advise your supervisor of the incident and the need for absorbent materials.
- Assess the need for a boat to access the spill for containment, if required refer to relevant boat handling SWP.
- Deploy the containment boom if not already in place, it should be placed on the outside of the spill. (image 1)
- Lay out the absorbent boom to contain and absorb the fuel/oil spill along with the absorbent pads. (image 2)
- Absorbent boom and pads are to be disposed of in a secure container or heavy duty garbage bags and taken to landfill.



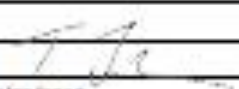
Image 1



Image 2

**Reporting**

- In all cases an incident report must be completed, form WHS002 can be found on the intranet.
- In the case of serious injury or illness Safework NSW will be notified by the WHS unit.
- A dangerous incident can be any of the following and is to be reported to the Environment Protection Authority on 131 555
- Council WHS unit must be notified and will then contact SafeWork NSW 13 10 50.
  - + an uncontrolled escape, spillage or leakage of a substance, or
  - + an uncontrolled implosion, explosion or fire, or
  - + an uncontrolled escape of gas or steam.

Responsible Manager	Tim Jenkins	
Manager authorisation	Date: 06/03/2018	Signature: 
WHS Committee endorsement	Minute No: 6.1.1	Date: 07/03/2018



## Appendix 9 – **DRAFT** Safe Work Procedure - Landfill or Hazardous Waste Store Fire

### SWP 134 – Landfill or Hazardous Waste Store Fire

#### PPE required



Hand protection



Eye protection



Foot protection



Protective clothing



Half face mask

#### Procedure – Managing Landfill & Hazardous Waste Store fires.

- Conduct a risk assessment and establish whether the fire can be controlled by staff or if emergency services must be called. Advise if there is a suspicion of asbestos in the fire or fire path.
- Notify Waste Services Supervisor or Waste Services Coordinator.
- Refer to Pollution incident response management plans (PIRMP)

**NOTE: Asbestos – Full asbestos PPE must be worn if asbestos is suspected of being in the fire.**

#### Available equipment

- Compactor
- Loader
- Excavator
- Water truck or water tanker trailer
- Fire extinguisher
- Shovell or spade

#### Associated documents

- SWMS 027 Working with and around plant/equipment
- Relevant plant SWP

#### Hazards

- Smoke & toxic fumes.
- Fire flaring with wind.
- Machine becoming stuck in burning waste.
- Machine catching on fire.
- Potential explosion.

#### Fires Requiring Emergency Services assistance

- Call emergency services requesting assistance, remain on the line until the operator has all of the information they require.
- If there is a risk to people, evacuate landfill and the transfer station and proceed to the appropriate emergency assembly point.
- Phone and notify recycling and green waste contractors in neighbouring buildings.
  - Recycling plant 0423 654 538 / 6642 5875
  - Organics 0407 338 052 / 0418 591 240 or UHF channel 4
- Notify Waste Services Supervisor, Waste Coordinator or the Senior Sustainability Officer if either are unavailable
- Notify any affected neighbouring properties.
- Emergency services will take control of the site on arrival and their directions must be followed.

### Control Landfill Fire - Staff

- Assess the situation ensuring gas, fumes, smoke levels or fire is not excessive.
- Close landfill and/or transfer station if needed or move the tipping face to a new safe area.
- Ensure the water tanker trailer and/or water truck is full of water.
- Stay upwind of the fire if possible to avoid smoke and fumes and wear the required PPE in the event of a wind change direction.
- If the fire is small enough to be dealt with using a fire extinguisher select the correct fire extinguisher if possible and use the PASS method



- Decide whether to use the compactor, loader, excavator or water truck for larger fires.
  - Water truck - use necessary PPE and stay upwind. Direct water flow onto burning waste from a distance.
  - Excavator - Dig or drag burning waste away from tip face.
  - Loader - Push or scoop burning waste with bucket and remove from tip face.
  - Compactor - Gradually cut tip face surface toward designated point removing burning waste. Progressively work burning waste into a lower corner of the tip face and compact.
- If needed, wet the tip face surface after the machinery has removed the burning waste and cover with clean fill if needed
- Saturate the removed burning waste and cover with fill if needed.
- Monitor the site until potential for escalation is no longer possible, if the situation escalates reassess the methods used and the need to call emergency services.

### Control Hazardous Waste Store Fire - Staff

- If safe to do so, try to approach the store from upwind to avoid smoke and fumes.
- Assess the location and severity of the fire, use the ABE powder extinguisher if it is a small fire and can be safely extinguished.
- If fire is near or approaching combustibles (gas cylinders, aerosols, flares or flammable liquids) and can not be safely extinguished call 000 or 112 on mobile phone.
- An assessment of evacuation will need to be ongoing based on the contents of the hazardous waste store, weather conditions, size of the fire and location of personnel and public.
- If assessed as necessary, evacuate the staff to the assembly point that is upwind of and a safe distance from the fire, smoke and or fumes, either at the front gate or outside the office building near the road.
- Monitor the site until the potential for escalation is no longer possible.
- Place burnt material into hazardous waste storage bags using a square mouth shovel.
- Place waste filled bags in the correct depot for storage.

### Vehicle fires [vehicles arriving with hot loads]

- Assess situation ensuring gas, fumes or smoke levels are not excessive.
- If there is any danger to the driver then driver should exit the vehicle immediately.
- Contact 000 and isolate the area if necessary.
- If there is no danger to the driver direct the vehicle to a designated area away from accelerants.
- If the contents of the fire are known, extinguish with the appropriate extinguisher i.e. water truck, tanker trailer or extinguisher if possible.
- If the situation escalates reassess the situation and the need to call emergency services.
- Do not empty remaining waste materials from the truck unless it is safe to do so.

### Chemicals or water entering stormwater system

- Contain the water used for fire fighting as it may be contaminated with hazardous chemicals.
- Remove cover material in front of the tip face to allow water to enter the burning waste.
- Stop contaminated water entering the stormwater system with earthen bunds and loader.
- If water enters the stormwater drains use organic material to control the flow of material or as mop.

### Finalise incident management

- Monitor the site until potential for escalation is no longer possible.
- If needed, wet waste surface with water after machinery has removed the burning waste and cover with clean fill if needed.
- If contaminated liquid entered the stormwater system arrange for a tanker to remove and dispose of as required.
- Remove all contaminated residue, including grass and soil, from stormwater drains and arrange for the disposal of waste products.
- Top dress drains and seed if necessary.
- Complete an incident report.
- Follow all steps in the Pollution Incident Response Management Plan.

### Pollution Incident

A pollution incident which involves actual or potential harm to the health or safety of human beings or to ecosystems is notifiable. Clarence Valley Council must notify the following authorities immediately:

- |    |  |                             |
|----|--|-----------------------------|
| 1. | EPA Environment Line (written report to be provided within 7 days) | 13 15 55                    |
| 2. | NSW Health   | 1300 555 555 (Pager 148377) |
| 3. | SafeWork NSW   | 13 10 50                    |
| 4. | CVC Environmental / Health Officer                                 | 6643 0200                   |

**Notifications to be performed by Waste Services Supervisor, Waste Coordinator or Senior Waste & Sustainability officer. If these persons are not available the most senior person on site must notify.**

### Choosing the right Extinguisher

TYPE OF EXTINGUISHER Colour scheme: AS 1841.1 Per [ ] Part 1841	A Wood, Paper & Plastics	B Flammable & Combustible Liquids	C Flammable Gases	E Energised Electrical Equipment	F Cooking Oils & Fats	COMMENTS: Refer Appendix B of AS 2444
Powder ABC	✓	✓	✓	✓	✗	Special Powders are available specifically for various types of metal fires. Seek expert advice.
Powder BC	✗	✓	✓	✓	✓	Special Powders are available specifically for various types of metal fires. Seek expert advice.
Carbon Dioxide (CO <sub>2</sub> )	✗	✓	✗	✓	✗	Generally not suitable for outdoor fires. Suitable only for small fires.
Water	✓	✗	✗	✗	✗	Dangerous if used on flammable liquid, energised electrical equipment and cooking oil/fat fires.
Foam ***	✓	✓	✗	✗	✗	Dangerous if used on energised electrical equipment.

<b>Responsible Manager</b>	Peter Birch	
<b>Manager authorisation</b>	Date:	Signature:
<b>WHS Committee endorsement</b>	Minute No:	Date:
<b>Note</b>	Refer also to induction list	

## Appendix 10 – Safe Work Procedures 023 – Spill Control at Hazardous Waste Store



Safe work procedure

### SWP 023 – Spill control at hazardous waste store at Grafton Regional Landfill

#### PPE that may be required



#### Equipment that may be required

- Fire extinguisher – Powder
- Emergency spill kit
- First aid kit
- Emergency shower and eye wash
- Front end loader
- Excavator
- Broom/Shovel
- Safety Data Sheets

#### Procedure – Emergency Spill Clean up in the Hazardous Waste Store

The following steps are to be followed in the case of an emergency spill or fire in the hazardous waste store, by personnel that have received spill kit training, fire fighting training and safe handling of chemicals in the hazardous waste store training.

A dry powder fire extinguisher is located on the right-hand side wall inside the hazardous waste store.

A hazardous chemical spill kit is located in the wheelie bin, with laminated instructions inside.

If at any time you are unsure of the chemicals and the associated risks, call 000.

#### Identify and Assess the of Type of Spill

- Try to identify the source of the spill and the chemical and if it is safe to approach, visually assess the severity.
- If spill is a flammable liquid, check the area for ignition sources and remove if safe to do so.
- If spill is suspected to be from the white toxic locker or the unknown chemical bin, exit the store and isolate the area from the public.



- Collect the Safety Data Sheets from the weighbridge office.
- A bundled pallet will be placed at the transfer station if it is assessed as a safe distance from the chemical leak/spill, to enable public access and the dumping of small quantities of hazardous waste.
- If spill is assessed to be too dangerous to contain contact the fire brigade.

#### If the Spill can be Contained

- Don safety glasses, chemical gloves and disposable overalls located in the storeroom in the administration building. If spill is from the Toxic locker and manifest shows that contents can safely be

SWP023 Spill control at hazardous waste store

cleaned up, don above PPE along with the twin filter half face respirator (Ensure workers are clean shaven as per the RPE Protocol).

- If safe, shut off or block the source of the spill.
- Isolate spill using the spill kit located in the spill kit bin inside the hazardous waste store.
- In the case of a chemical splash an emergency shower and eye wash station is located inside the waste store and a second station located outside the main office building. First aid kits are located in the main office building and the trucks.
- If chemical is known, refer to the safety data sheet, located in the weighbridge office for specific first aid/medical requirements.
- If chemical is from the unknown chemical bin use the emergency shower or eye rinse, if necessary, seek medical treatment.
- In the case of a chemical splash in the eye, first aid treatment should be sought after rinsing.

**Fire**

- If safe to do so, try to approach the store from upwind to avoid smoke and fumes.
- Assess the location and severity of the fire, use the ABE powder extinguisher if it is a small fire and can be safely extinguished.
- If fire is near or approaching combustibles (gas cylinders, aerosols, flares or flammable liquids) and can not be safely extinguished call 000 or 112 on mobile phone.
- An assessment of evacuation will need to be ongoing based on the contents of the hazardous waste store, weather conditions, size of the fire and location of personnel and public.
- If assessed as necessary, evacuate the staff to the assembly point that is upwind of and a safe distance from the fire, smoke and or fumes, either at the front gate or outside the office building near the road.
- Phone and notify recycling and green waste contractors in neighbouring buildings.
  - Recycling plant 6642 5875
  - Organics 0418 591 240 or UHF channel 4.

**Emergency Services**

- Provide the fire brigade with the Safety Data Sheets of chemicals and combustibles in the Hazardous waste store. This is located in the weighbridge office.
- Advise fire brigade of the quantity of unknown chemicals.
- If the bunded floor is at risk of overflowing through excessive water flow, advise the fire brigade of the location of the storm drains, available organic materials and location of the loader to create compost bunds.

**Reporting**

- In all cases an incident report must be completed, form WHS002 can be found on the intranet.
- In the case of serious injury or illness SafeWork NSW must be notified.
- A dangerous incident can be any of the following and is to be reported to the Environment Protection Authority on 131 555
- Council WHS unit must be notified and will then contact SafeWork NSW 13 10 50.
  - an uncontrolled escape, spillage or leakage of a substance, or
  - an uncontrolled implosion, explosion or fire, or
  - an uncontrolled escape of gas or steam.

**Clean up**

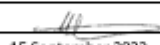
- Once all liquid has been absorbed, place all material into hazardous waste bags using a square mouth shovel.
- Bags are then to be stored in the appropriate hazardous material locker.

## SWP023 Spill control at hazardous waste store

- Using the same PPE used for spill containment, clean all equipment used. If unusable, bag and store in the appropriate chemical locker.
- Excess liquid from fire fighting to be pumped into a waste liquid tanker.

**Restocking emergency equipment**

- Replace contents of spill kit if used.
- Replace fire extinguisher if used.
- Restock PPE used in the store locker.

<b>Responsible Manager</b>	Scott Lenton	
<b>Manager <del>authorisation</del></b>	Date: 3/11/22	Signature: 
<b>WHS Committee endorsement</b>	Minute No: 6.2	Date: 15 September 2022

I hereby certify that I have been inducted into and understand the requirements of this SWP: SWP 023v2

Name	<del>Organisation</del>	Signature	Date

# Appendix 11 – Safe Work Procedure 096 Methane Gas

## SWP 096 – Methane gas system

### PPE required



Long sleeves



Foot protection



Sun protection



Breathing apparatus may be required



Hand protection



Eye protection



Hard hat



Clean fitting/protective clothing

**NOTE:** Smoking is not permitted on site, lighters, matches and sources of ignition are not to be carried on site.



### Tools required

- + Gas monitor
- + Lifting equipment
- + Bobcat / skid steer
- + Excavator/End loader
- + Electrofusion welder
- + Generator
- + Fire Extinguisher
- + Hand tools/Drill/Grinder
- + Fan

### Associated Documentation

- + Contractor SWMS
- + Landfill hot works permit
- + Plant SWMS and related SWP's
- + Methane gas and oxygen levels check form

### Training/license requirements

- + Operators are to have received information, training, instruction or be under supervision to monitor methane gas readings and operate plant.
- + Contractors and staff may be engaged for extending or capping methane pipes.

**NOTE 1:** If necessary Gas Flare to be shut down at the methane flare cage before starting any maintenance works on wells, manifolds or main gas lines and then restarted after completion of works.

**NOTE 2:** Methane gas levels and oxygen levels must be checked before commencing work on an excavation or prior to entering an excavation.

**NOTE 3:** Check the methane system map before work starts to avoid damage to pipework.

**NOTE 4:** Alarm will sound at 10% LEL or 50000 PPM.

### Methane entry levels

0%	Hot work permitted – permit required
0% - 5% of LEL (lower explosive level)	Cold work only
Above 10% of LEL	No hot or cold work/no entry

### Extending Verticals Wells Capped and Non Capped

- + Identify the diameter of well pipe to be extended making sure correct sized parts are on hand.
- + Select correct type of pipe perforated or non-perforated and length required.

- For capped wells identify the well tap at manifold taking note of tap position then turn tap off or if unable to identify the well and tap shutdown the methane gas flare.
- Assess the area and close off to members of the public and unnecessary workers.
- Using a handsaw carefully remove the cap from the well, once removed all workers are to move at least 10 metres away to allow the gas to vent.
- After 5 minutes, using the gas meter monitor the gas level at the well head and repeat every 5 minutes until there is no gas detected. Monitor will alarm if gas is present.
- No work is to be carried out on well until the well head is clear of gas. Gas should disperse quickly.
- Clean pipe extension ends using a hand scraper for preparation for fitment of the collar and cap.
- Clean well head pipe end using a hand scraper for preparation for fitment of the collar.
- Install extension onto well head ensuring correct fitment and support extension.
- Attach electrofusion welder and operate as per instructions.
- If no error displayed remove leads and allow for cool down time as shown on collar.
- Attach lifting equipment to outer pipe and excavator at correct points and lift outer pipe up required distance and support with waste or soil.

#### Installing Lateral pipes

- Assess the area to be excavated and close off access to members of the public and unnecessary workers.
- Excavate trenches in planned position to the correct depth as required.
- Prefill the trench approximately 200mm deep with 60mm rock.
- Using a hand scraper, scrape the pipe ends and fit the collar to the pipes.
- Lay pipe in trench or on top of ground.
- Using the gas meter, check for gas prior to connecting the Electrofusion welder.
- Attach electrofusion welder and operate as per instructions.
- If no error displayed remove leads and allow for cool down time as shown on collar.
- Continue with each pipe section until the length is complete.
- Lay pipe into trench if not already done.
- Extend pipe ends clear of ground and seal with duct tape or cap.
- Cover the pipe with approximately 200mm of rock.
- Cover the rock with geofab if necessary then complete with clean waste until the trench is filled to ground level.
- Track roll with excavator to achieve compaction.
- Mound with 200mm soil and wheel roll.
- Update the landfill gas system map to show new pipe extensions.

#### Capping pipes

- Ensure the work area around the methane pipe to be capped is isolated from the public and other workers.
- Using the excavator dig out a sloping crater around the pipe, approximately three metres deep and wide enough to allow safe access to the well.
- Do not enter the crater unless the sides are sloping, there is easy access in and out and there is no risk of cave in.
- Using the gas monitor, check for pooling of methane gas at the bottom of the crater. If reading is above 10% or 5000 ppm leave the area and allow the gas to dissipate. Use industrial fan and generator to clear gas from excavation if needed.
- Use work boards to work from if work area is uneven and difficult to walk on.
- Using a saw, carefully remove the cap from the well, workers are to move at least 20 metres away to allow the gas to vent.
- After 5 minutes, using the gas meter check the gas level at the well head and repeat every 5 minutes until there is no gas detected. The gas meter alarm will activate if gas is present.



- No work is to be carried out until the well head is clear of gas, after a few minutes re-check with the gas meter to ensure gas has dissipated.

**Connecting to the manifold**


- Ensure there is a spare valve on the manifold.
- Expose the end of the extension pipe and scrape clean to fit the collar, positioning the extension pipe on the manifold for welding.
- Fit the welding clamps and using the gas meter, check for gas prior to connecting the Electrofusion welder. Complete fusion as per machine instructions.
- Remove the clamps from the pipe, taking care as the clamps will be very hot.
- Update the landfill gas system map to show new pipe extensions.
- Using the gas meter check the gas flow rate through the manifold tube and adjust the flow if required.

Note 1: Gas flow rate will be adjusted by LGI or other 3<sup>rd</sup> party if they do the install.

Note 2: Leave lateral off. Gas flow will be turned on and adjusted by LGI when they conduct a field tune.

**Closed cell methane gas monitoring**

- All closed cell areas of landfill are checked every three months by walking a 25 metre grid pattern using the methane gas monitor. Do not take readings after rain, ensure the area is dry.
- Quarterly checks are also carried out at pipe crossing 1, inside the machine parking area in the transfer station shed and inside the ELF and office block.
- During the quarterly checks surface methane should not read more than 1% or 2%, contact supervisor if above this.

Responsible Manager	David Sutton		
Manager authorisation	Date: 3/10/2019	Signature:	
WHS Committee endorsement:	Minute No: 6.1.1	Date:	4 September 2019

I hereby certify that I understand the requirements of this Safe Work Procedure: SWP096 Methane gas

Name	Organisation	Signature	Date

## Appendix 12 - Risk Assessments and Actions and Potential Hazards and Causes

No	Risk	Impact	Risk LxC = Rating	Controls
<b>Grafton Regional Landfill</b>				
1	Landfill or Transfer station fire	Burn injuries staff/ customers Possible waterway contamination from run off, emitting of smoke – possibly toxic.	C3 = M	<ul style="list-style-type: none"> <li>▪ Monitor waste at all times</li> <li>▪ Ensure adequate covering of waste</li> <li>▪ Keep water cart filled on weekends</li> <li>▪ Train staff in SWMS – Landfill fires</li> <li>▪ Call 000 if warranted</li> </ul>
2	Hazardous waste store fire	Burn injuries staff/ customers Possible waterway contamination from run off, emitting of smoke – possibly toxic.	B3 = M	<ul style="list-style-type: none"> <li>▪ Store material in correct area</li> <li>▪ Isolate burning material</li> <li>▪ Fire training</li> <li>▪ Current waste store inventory</li> </ul>
3	Leachate overflow due to storm event	Land contamination, possibly enter a waterway	B3 = L	<ul style="list-style-type: none"> <li>▪ Commence tankering at 80 % capacity</li> <li>▪ Utilise back up dam.</li> <li>▪ Take samples if overflow imminent</li> </ul>
4	Chemical truck incident outside of bunded area	Land contamination, possibly enter a waterway. Possibility of chemicals mixing.	B3 = M	<ul style="list-style-type: none"> <li>▪ Only use transport companies with evidence of driver licensing and training</li> <li>▪ Load chemicals for disposal into sealed chemical drums before loading truck.</li> </ul>
5	Chemical spill due to Bund failure	Land contamination, possibly enter a waterway. Possibility of chemicals mixing.	B3 = M	<ul style="list-style-type: none"> <li>▪ Bund inspections</li> <li>▪ Annual bunding tests</li> <li>▪ Maintenance and renewal</li> </ul>
6	Chemical spill due to Vandalism	Land contamination, possibly enter a waterway	A3 = M	<ul style="list-style-type: none"> <li>▪ Site security fences</li> </ul>
7	Oil / Liquid spills	Land contamination, possibly enter a waterway	B2 = L	<ul style="list-style-type: none"> <li>▪ Spill kits on site</li> <li>▪ Stormwater management drains can be blocked</li> </ul>
8	Chemical spill due to Bund failure	Land contamination, possibly enter a waterway. Possibility of chemicals mixing.	B3 = M	<ul style="list-style-type: none"> <li>▪ Bund inspections</li> <li>▪ Annual bunding tests</li> <li>▪ Maintenance and renewal</li> </ul>
9	Chemical truck incident outside of bunded area	Land contamination, possibly enter a waterway. Possibility of chemicals mixing.	B3 = M	<ul style="list-style-type: none"> <li>▪ Only use transport companies with evidence of driver licensing and training</li> <li>▪ Only use experienced chemical handlers.</li> </ul>
10	Fire in Landfill gas system or Gas overwhelm site users	Smoke from fire and possibility of fire spreading to waste filled areas. Risk to staff from exposure from gas	B4=H	<ul style="list-style-type: none"> <li>▪ SWP for Landfill Gas</li> <li>▪ Monitoring of gas at surface as per licence conditions</li> <li>▪ Staff training and awareness</li> </ul>

No	Risk	Impact	Risk LxC = Rating	Controls
11	Bushfire	Ignite Landfill and waste products stored at the site leading to smoke impacts on staff and surrounding properties / areas	B3 = M	<ul style="list-style-type: none"> <li>RFS and onsite fire fighting capacity</li> <li>Maintain surrounding firebreak and reduced fuel loads near active cells</li> <li>Ensure wastes are stored correctly</li> </ul>

Likelihood	Consequences	Rating	Likelihood					
			Consequence	A	B	C	D	E
A <b>IMPROBABLE</b> - May occur only in exceptional circumstances	<b>1. INSIGNIFICANT</b> - No injuries, minimal level of pollution, Employee grievances dealt with on site, Loss <5% of job cost, service, business failure resulting in delay < 1 week and costs, plant/equipment loss < \$1,000 <b>2. MINOR</b> - First aid treatment, limited/localised impact, Employee grievances dealt with by senior management, loss 5-10% of job cost, business failure resulting in delay < 1 month and costs, plant/equipment loss < \$10,000 <b>3. MODERATE</b> - Medical treatment & several days off work, significant pollution requiring outside assistance, Employee grievances taken to the union, loss 10-20% of job cost, non-compliance with legislation/Licence conditions, business failure resulting in delay < 3 months and costs, plant/equipment loss < \$50,000 <b>4. MAJOR</b> - long term illness/serious injury, significant pollution requiring outside assistance & long term environ damage, threatened industrial action, loss 20-70% of job cost, loss of production capability, order placed on Council by Authorities, business failure resulting in delay < 6 months and costs, plant/equipment loss < \$100,000 <b>5. CATASTROPHIC</b> - Death or permanent disability/illness, serious permanent environmental damage, Actual industrial action, loss >70% of job cost, potential prosecution by Authorities, business failure resulting in delay > 6 months and costs, plant/equipment loss > \$100,000	L = Low						
B <b>REMOTE</b> - Could occur at some time		M = Medium						
C <b>OCCASIONAL</b> - Might occur at some time		H = High	1	L	L	L	M	H
D <b>FREQUENT</b> - Will probably occur in most circumstances		V = Very High	2	L	L	M	H	V
E <b>CONTINUOUS</b> - Is expected to occur in most circumstances		X = Extreme	3	M	M	H	V	X
<b>Refer also to Councils Hazards, Risks and Controls Guidelines</b>		4	H	H	V	X	X	
		5	V	V	X	X	X	

### Potential Pollution Hazards and Causes

- Fire – Landfill, Transfer Station or Office - potentially caused by:
  - Storms (lightning/wind)
  - Spontaneous combustion
  - Hot loads arriving on site
  - Chemical reaction
  - Machinery failure
  - Vandalism
  - Bushfire / ember attack
  - Electrical faults
  - Ignition of landfill gas (methane) see below
- Fire – Hazardous waste store - potentially caused by:
  - Storms (lightning/heavy rainfall/wind)

- *Spontaneous combustion*
- *Chemical reaction/ inappropriate chemical storage*
- *Vandalism*
- *bushfire*
  
- *Chemical spill – potentially caused by:*
  - *Tank/storage failure*
  - *Traffic accident – including public vehicles and landfill plant and machinery*
  - *Delivery incident*
  - *Damage to chemical storage*
  - *Vandalism*
  - *Inappropriate chemical use*
  - *Bund failure*
  
- *Oil / Liquid spill - potentially caused by:*
  - *Vehicle accident*
  - *Machinery failure*
  - *Delivery incident*
  - *Vandalism*
  - *Tank/storage failure*
  
- *Leachate dam overflow/ release - potentially caused by:*
  - *Excessive or prolonged rain event*
  - *Dam wall failure*
  - *Tankering incident*
  - *Damage to irrigation system*
  - *Vandalism*
  - *Untrained staff*
  
- *Non Compliant Sediment dam overflow/ release - potentially caused by:*
  - *Rain event*
  - *Dam wall failure*
  - *Damage to irrigation system*
  - *Vandalism*
  - *Untrained staff*
  
- *Fire from or within Methane Flaring System- potentially caused by:*
  - *Ignition during work on gas system*
  - *Machine/ staff failure*
  - *Careless staff or landfill patron with cigarette*
  - *Vandalism*
  - *Bushfire*
  - *Started from secondary fire from fire in the waste*
  - *Flare malfunction*

## Appendix 13 - Additional Emergency Contacts

<b>AMBULANCE</b>	<b>000</b> <b>131 233</b>
<b>FIRE BRIGADES</b>	<b>000</b>
Grafton	6643 3491
<b>POLICE STATIONS</b>	<b>000</b>
<b>GRAFTON</b>	<b>6643 0222</b>
<b>RURAL FIRE SERVICE</b>	<b>000</b>
<b>ULMARRA OFFICE</b>	<b>6644 5135</b>
<b>STATE EMERGENCY SERVICES (SES)</b>	<b>132 500</b>
<b>CLARENCE NAMBUCCA REGION OFFICE</b>	<b>66 416900</b>
<b>LOCAL CONTROLLER</b>	<b>0403 395 686</b>
<b>HOSPITALS</b>	
<b>MACLEAN</b>	<b>6640 0111</b>
<b>GRAFTON</b>	<b>6640 2222</b>
<b>ROADS &amp; MARITIME SERVICES (RMS)</b>	<b>66 401300</b>
<b>SOUTH GRAFTON</b>	<b>66 401064</b>
<b>AFTER HOURS EMERGENCY</b>	<b>1800 644 116</b>
<b>TRANSPORT MANAGEMENT CENTRE</b>	<b>131700</b>
<b>ELECTRICITY (ESSENTIAL ENERGY)</b>	<b>132 080</b>
<b>WIRES</b>	<b>6643 4055</b>
<b>SafeWork NSW</b>	<b>131 050</b>
<b>LOCAL EMERGENCY MANAGMENT OFFICERS</b>	
<b>Robyn Monk</b>	<b>0428 994 318</b>
<b>M I Organics Ben Wheaton (Leachate Transport)</b>	<b>042 209 490</b>
<b>Clarence Valley Septics (Leachate Transport)</b>	<b>66453100</b>

## Appendix 14 - Incident Investigation Report

### WHS003 Incident Investigation



**Incident Investigation Registration Number ECM:**

**Incident Registration Number:**

**Investigation Team**


**Brief Description of Incident**

**Date of Incident**

**Date of Investigation**

**Injury/Incident Report Registration No.**

**Location of Incident**

**Details of person(s) involved in incident**

Name	Position	Injured or Witness

**Details of any Injuries**

**Describe how incident/ injury occurred and any facts relating to the incident**

# WHS003 Incident Investigation



### Contributing factors

<i>Investigation Team Recommendations</i>	<i>By Who</i>	<i>Estimated Completion Date</i>

### Investigation Team

<i>Name:</i>	<i>Position:</i>	<i>Signature:</i>	<i>Date:</i>
<i>Name:</i>	<i>Position:</i>	<i>Signature:</i>	<i>Date:</i>
<i>Name:</i>	<i>Position:</i>	<i>Signature:</i>	<i>Date:</i>
<i>Name:</i>	<i>Position:</i>	<i>Signature:</i>	<i>Date:</i>

### Distribution and Final Sign Off

<i>Departmental Manager:</i>	<i>Signature:</i>	<i>Date:</i>
<i>HS Coordinator:</i>	<i>Signature:</i>	<i>Date:</i>
<i>HS Committee Rep:</i>	<i>Signature:</i>	<i>Date:</i>

**HS Unit Contact:**      **PH: 6643 0822 / 6643 0820**      **Fax: 6643 0871**

## Materials

What materials were in use?

Was a risk assessment conducted for activity?

Where SWP and/or SWMS followed?

List relevant SWP and/or SWMS

Were Material Safety Data Sheets available to the user?

**Investigation team recommendations:**

**Referred to for action:**

**Date:**

## Supervision

Who are the supervisor(s) of the person(s) involved?

1.

2.

3.

4.

What supervision was required for the task?

What supervision was provided for the task?

**Investigation team recommendations:**

**Referred to for action:**

**Date:**

## Risk management

Was a risk assessment undertaken before commencing task?

If not, reason:

What hazards were identified in the risk assessment for this task?

What risk controls were recommended in the risk assessment?

Were risk controls applied?

If not, reason.

Are Safe Work Procedures available for this task?

Please list:



Are Safe Work Method Statements available for this task?

Please list:

**Investigation team recommendations:**

**Referred to for action:**

**Date:**

### Personal protective equipment

What PPE was in use?

What PPE should have been in use?

Was suitable PPE supplied/ provided?

If not, reason.

Was the PPE used correctly?

**Investigation team recommendations:**

**Referred to for action:**

**Date:**

### Induction and training

Had the person(s) involved received appropriate induction?

What training had the person(s) received for the task?

Copies of induction available?

What additional training is required?

**Investigation team recommendations:**

**Referred to for action:**

**Date:**

### Contributing factors

List the contributing factors that have been established from this investigation that may have had impact on incident.

1.

2.

3.

4.

5.

**Investigation team recommendations:**

**Referred to for action:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Evidence log**

Please list all evidence gathered

Statements	
Drawings	
Photographs	
Inductions	
Risk Assessments/ SWP/ SWMS	

**Corrective action report**

C.A.R Number	Required Action	By Whom	By When

**Safety alert**

Safety Alert to be issued  Yes  No

**Investigation team**

Name:	Position:	Signature:	Date:
Name:	Position:	Signature:	Date:
Name:	Position:	Signature:	Date:
Name:	Position:	Signature:	Date:
Name:	Position:	Signature:	Date:

**Distribution and sign off**

Departmental Manager	Date:
OHS Coordinator	Date:
OHS Committee Chairperson	Date:

**OHS Unit Contact:**

Phone: 6643 0813  
 Fax: 6643 0871

**OHS Unit Office Use Only**

- Reporting employee notified of outcome
- OHS Committee notified
- Close out and review