



POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

Tenterfield Council 2022

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POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN for Tenterfield Shire Council

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Part 1 Regulation

Purpose

This Pollution Incident Response Management Plan (PIRMP) is to meet the requirements of §153A of the *Protection of the Environment Legislation Amendment Act 2011* (POELA Act). The Act includes a new requirement under Part 5.7A of the *Protection of the Environment Operations Act 1997* (POEO Act) to prepare, keep, test and implement a pollution incident response management plan.

The Plan is to assist employees of Tenterfield Shire Council identify the potential risk of a pollution incident occurring, introduce measures to mitigate that risk and to give direction in making quality decisions should a pollution incident occur.

This PIRMP contains guidance in determining the actions to take to prevent material harm to the environment and contact information to be used in the event of a pollution incident and is to be followed by all staff in dealing with such incidents.

The objectives are to:

- Ensure comprehensive and timely communication about a pollution incident to staff at the premises, the Environment Protection Authority (EPA), all other relevant authorities specified in the Act (e.g.: local councils, NSW Ministry of Health, WorkCover NSW, Fire and Rescue NSW etc.) and people outside the facility who may be affected by the impacts of the pollution incident
- Minimise and control the risk of a pollution incident at the facility by requiring identification of risks and the development of planned actions to minimise and manage those risks
- Ensure that the plan is properly implemented by trained staff, identifying persons responsible for implementing it, and ensuring that the plan is regularly tested for accuracy, currency and suitability.

Scope

This Pollution Incident Response Management Plan applies throughout the whole of Tenterfield Shire and must be prominently displayed at all premises, including;

Part 2 - Water

- Tenterfield Water Supply Dam - EPA Licence 7661
- Tenterfield Water Treatment plant - EPA Licence 4304
- Urbenville Water Treatment plant

Part 3 - Sewage

- Tenterfield Sewage Treatment plant - EPA Licence 4305
- Urbenville Sewage Treatment plant - EPA Licence 4306

Part 4 - Waste

- Landfills
 - Boonoo Boonoo - EPA Licence 11435
- Waste Transfer Stations
 - Tenterfield, Urbenville, Drake, Liston, Legume, Torrington

Copies of the PIRMP are to be kept in all water and waste maintenance vehicles. All water and waste services operators must familiarise themselves with the content of this plan and refer to it in the event of any pollution incident. A copy must also be held at the Tenterfield Shire Council Office.

Emergency Management Context

The four recognised elements of emergency management are:

- Prevent or mitigate hazards from impacting the community or environment
- Prepare for emergencies
- Respond to emergencies
- Recover from emergencies

Table 1 Examples of Emergency Management Elements

Emergency Management Element	Examples
Prevention/ Mitigation	Asset management framework Robust design codes and practices Reliability and redundancy design and strategy Water/sewer main replacement programs System control interlocks Preventative maintenance strategies and activities
Preparation	Employee Training Emergency management exercises Vulnerability and risk assessment processes Networks with emergency services and NSW Government agencies Operating policies and procedures
Response	24 hour On-call service Highly trained staff Containment Emergency management plans, guidelines, procedures, networks Contingency plans – emergency generators, bypass
Recovery	Emergency management plans, guidelines procedures, networks Highly trained staff Contingency plans Post Incident debriefs Review effectiveness of PIRMP

What is a Pollution Incident? [Clause 98C (1) (d) and (e)]

A pollution incident means an incident / 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 / circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident / circumstances involving only the emission of noise.

A pollution incident must be notified if there is a risk of 'material harm to the environment', defined in the POEO Act (section 147) 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 as prescribed by the regulations), and
- (b) Loss includes the reasonable costs and expenses incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

Under the POEO Act a duty to report an incident immediately applies where a pollution incident causes or threatens material harm to the environment. It does not matter that harm to the environment is caused only in the premise where the pollution incident occurs.

Immediate response [clause 98C (1)(g) and (h)]

The on call operator or any other staff member observing a pollution incident must *immediately* notify all relevant authorities about the incident, including the following:

Table 2 Immediate Response Contact Details

Priority	Contact		Phone
1	Relevant on-call operator	Tenterfield Urbenville	0411 770 703 0427 496 541
2	Manager Water & Waste	Gillian Marchant	0427 248 273
3	Director Infrastructure	Matthew Francisco	0439 954 562
3	NSW EPA Pollution Hotline		131 555
3	NSW Public Health Unit		02 6764 8000
3	Emergency Services		000
3	NSW WorkCover Authority		13 10 50
4	General Manager (If required)^	Hein Basson	02 6736 6030
* If Manager is not available			
^If Director Infrastructure is not available			

Communicating with neighbours and the local community [98C (1)(i)]

Communicating with neighbours and the local community is an important element in managing the response to any pollution incident.

In a pollution incident the telephone should be used as a means of notifying those individuals/organisations responsible for activating this Plan and managing the incident response. Mobile phones will be the accepted means of communications.

Council has an obligation to inform members of the local community should a pollution incident occur that could affect their property or their safety. If early warning is not possible, Council will communicate during and after an incident. Communication mechanisms include site visits/door knocking, letter drops, phoning occupiers of neighbouring properties, issuing media releases and providing information of Council's web site.

In the case of an overflow of sewage to the environment, downstream landholders and users should be considered. If an operator suspects that this is relevant then the Manager Water & Waste is to be advised immediately. If that person is not contactable the information is to be passed to the Chief Operating Officer, or the Chief Executive in turn.

Actions during or immediately after a pollution incident [98C(1)(l)]

Actions include early warnings and updates, and actions such as deployment of spill containment equipment, shut-off valves, and shutdown of processes or equipment.

After the incident, determine

- How will the clean-up be undertaken?
- What procedures will be followed (such as the engagement of contractors and use of clean-up equipment like waste disposal tankers and waste disposal facilities)?
- The cost of clean-up, and who pays?
- Any repairs required that were not able to be made at the time

See relevant protocol's in below sections.

Notification & Communication Action Plan

The following notification and communication action plan is applicable to a major pollution incident in the Tenterfield Shire.

Table 3 Notification and Communication Action Plan

Nature of Incident	Impact on Community	Notification Requirements	Responsibility	Notification Mechanisms	Key Message
Fire	Local impact, likely to be minor, depending on the severity of the fire	- EPA - Owners/occupiers of neighboring properties (see Appendix B for recipients schedule) - Local community	Manager Water & Waste	1. Phone call to EPA Environment Line- 1800 424 8802 followed by a written report 2. Phone call to owners / occupiers of neighboring properties 3. Media release	1. Date, time and location of incident 2. Response actions taken 3. Type of fire 4. Agency responding
Oil or Fuel Spill	Local impact, likely to be minor	EPA, depending on severity	Manager Water & Waste	1. Phone call to EPA Environment Line 1800 424 8802 followed by a written report	1. Date, time and location of incident 2. Response actions taken 3. Type of oil/fuel 4. Agency responding
Chemical Spill	Local impact, likely to be minor	- EPA, depending on severity - Owners/occupiers of neighboring properties	Manager Water & Waste	1. Phone call to EPA 1800 424 8802 depending on severity followed by a written report 2. Phone call to owners / occupiers of neighboring properties 1. Media release	1. Date, time and location of incident 2. Type and estimated amount / volume / concentration of spill 3. Response actions taken
Sewer Spill	Local impact, likely to be minor	- EPA - Owners/occupiers of impacted properties and downstream properties	Manager Water & Waste	1. Phone call to EPA 1800 424 8802 followed by a written report 2. Phone call to owners / occupiers of impacted and downstream properties	1. Date, time and location of incident 2. Type and estimated amount / volume / concentration of spill 3. Response actions taken

Minimising harm to persons on the premises [clause 98C(1)(j)]

One of the goals of the pollution incidents response management plan is to develop and implement an emergency response protocol. Staff are to maintain the normal risk assessment approach to work health and safety when dealing with any environmental incident covered by this plan.

All site specific hazards are to be identified after notification to authorities and prior to commencing any other activity. The risk posed to staff health and safety for each hazard is to be assessed, and mitigated as appropriate. Particular reference is to be made to the relevant MSDS for any chemical involved.

General Requirements

Most minor pollution incidents will not require the evacuation of all or part of the facility. A major incident may require the facility to be evacuated. Evacuation of Council employees, contractor's staff and facility users in the event of a major incident is of the utmost importance.

To achieve a safe and timely evacuation, it is critical that an early warning of the pollution situation be communicated and action implemented to remove Council employees and/or contractor's staff from the hazard area. The decision to evacuate the building is to be taken by the Manager Water & Waste and supported by facility personnel.

Evacuation Assembly Areas

Given the relatively small size of the sites, low usage and the likelihood of few personnel present at any one time and the limited quantities of potential pollutants retained on the site that would be harmful to human health, the primary objective in the evacuation of the site will be to ensure all contractors, Council staff and others that may be on site vacate the site as directed, the facility entry gates are closed and the contractor/Council staff waits for emergency services to arrive or other actions as directed by the Manager Water & Waste.

On arrival at the designated evacuation assembly point all employees will remain until the Manager Water & Waste has determined the status of all personnel and:

- Accounted for all, or
- Prepared a list of names of missing personnel and the location last seen.

For the purposes of this plan the following evacuation assembly points are applicable:

Primary Assembly Point

The primary assembly point is at the main entry gate to the Facility.

Post Evacuation Assembly Point

Once the facility has been evacuated to the Primary Evacuation Assembly Point and the presence of personnel confirmed, arrangements will be made by the Manager Water & Waste for Council employees and contractor's staff to be transported/moved to the Post Evacuation Assembly Point which, for the town of Tenterfield is the Shire Council Office Building, 247 Rouse Street Tenterfield.

Liston, Legume, Drake, Torrington and Urbenville assembly locations are outside of the respective sites; with direct contact to be made to the Manager Water & Waste confirming location.

Incident debriefing and incident investigation will be undertaken at the Post Evacuation Assembly Point. Further management instructions will also be provided.

Risk Assessment

The sites covered by this plan were assessed by individual risk assessments. The risk rating table is shown below:

Table 4 Risk Rating

RISK RATING					
LIKELIHOOD	CONSEQUENCES				
	Catastrophic	Major	Severe	Minor	Insignificant
Almost Certain	4	4	4	3	3
Likely	4	4	3	3	3
Possible	4	3	3	2	2
Unlikely	3	3	3	2	2
Rare	3	3	2	2	1

The risk rating is used to determine risk treatments. Risk treatments can range from immediate corrective action for 'Very High' risks to manage by routine procedures for 'Low' risks. The table below shows the risk rating and action priorities:

Table 5 Risk Rating and Action Priorities

RISK RATING		ACTION REQUIRED & TIMING
1	Very low risk	No additional control measures necessary. Continue to monitor risk.
2	Low risk	Controls measures must be implemented to reduce risk.
3	Medium risk	Risk unacceptable; do not proceed without control measures, minimum of 'engineering control measures'.
4	High risk	Risk unacceptable; do not proceed without control measures, minimum of 'elimination or substitution control measures'.

Pre-emptive actions to be taken [clause 98C (1) (c)]

Pre-emptive actions can include, but are not limited by;

- Pre-commencement health screening and assistance
- Site inductions
- Regular inspections and recording and close-out of corrective actions
- Regular management meetings
- Hazard and near miss reporting
- Adequate/appropriate staff training
- Environmental and occupational monitoring
- Provision of appropriate equipment (pumps, hoses, generators and PPE)
- Back up/stand-by sewerage pumps
- Vacuum trucks to be sourced locally to remove sewage and sludge
- Public warning signs and emergency tapes to mark the affected area
- Sampling equipment

- Provision and use of spill containment kits,
- Installation and operation of cut-off valves,
- Installation and use of fire-containment water tanks,
- Use of sediment capture devices such as silt traps, floating nets, hay bales, retention basins, bunding etc.

Staff training [clause 98C (1)(m)]

New members of staff at the facility should be inducted. This induction must cover the purpose, requirements and responsibilities detailed in this plan.

All staff must complete Council's General Induction and Site Specific Induction. All staff must maintain competency in relevant licences, policies and procedures. All operators must attain competency in all relevant operations. All staff training programs are to be reviewed/updated annually. Staff competency will be monitored through audits, public complaints and pollution incident reports.

All staff required to implement this plan and associated documents must have training in its use. This is to ensure they are aware of the content, processes and requirements of this plan and can competently implement it if necessary. Additionally, relevant staff will be involved in an annual exercise/drill to test the implementation of the plan. In the event of a significant incident, an investigation and debrief will be conducted, documentation updated (if required) and staff re-inducted.

Regular site briefings and toolbox meetings should be held to draw attention to potential pollution incidents and identify improvements to on-site safety procedures.

The Manager Water & Waste and the Senior Services Operators are responsible for:

1. Familiarising new appointees with the content of this plan during the staff induction process.
2. Ensuring all water, sewer and waste staff are aware of the plan and are competent in following the procedures contained in it by discussing the plan at team meeting level - initially and after each annual review of the plan.
3. After each incident where the plan is invoked a report is to be prepared by the Manager Water & Waste identifying any gaps in implementation or procedure. These are to be communicated to staff during staff meetings.

Testing plans [clauses 98C (1)(n),(o),(p), 98C (2)(f), (g), 98E (1), 98E (2)]

Services Operators will:

1. Initially, conduct a desktop drill, and
2. After each annual review of the plan an exercise/drill to test the implementation of the plan under the immediate supervision of the Manager Water & Waste.

Maps [clause 98C(1)(k)]

Plans must include a detailed map (or set of maps) showing the location of the premises, the surrounding area that is likely to be affected by a pollution incident, the location of potential pollutants on the premises, the location of any stormwater drains on the premises, and the discharge locations of the stormwater drains to the nearest watercourse or water body.

See relevant Parts below.

Part 2 Water

Inventory of pollutants [clause 98C (1)(d) and (e)]

Table 6 Inventory of Pollutants at WTP

Pollutant	Form	Quantity Tenterfield WTP	Quantity Urbenville WTP	Location (see site plan)	Containment
Activated Carbon	Powder	3 tonne		Chemical Storage shed	Confined room with bunded area
Anionic Polymer	Powder	750kg		Chemical Storage shed	Confined room with bunded area
Chlorine	Gas	6 cylinders		Chemical Storage shed	Confined room with bunded area
	Liquid	25L	2,000L		
Fluoride	Powder	1 tonne	40 KG	Chemical Storage shed	Confined room with bunded area
Aluminium Chlorohydrate	Liquid	10,000L	2,000L	Chemical Storage shed	Confined room with bunded area
Caustic Soda	Liquid	10,000L	1,600L	Chemical Storage shed	Confined room with bunded area
Potassium Permanganate	Liquid		1,000L	Chemical Storage shed	Confined room with bunded area

Safety equipment [clause 98C (1)(f)]

The Tenterfield and Urbenville Water Treatment Plants are both fenced to stop intruders and ensure safety. The sites also contain active and passive pollution control/safety devices and equipment that can be used during a pollution incident.

Table 7 Inventory of Safety Equipment at WTP

EQUIPMENT	LOCATION	QUANTITY TENTERFIELD	QUANTITY URBENVILLE	MAINTENANCE REQUIREMENTS/STANDARDS
Flotation Buoys	Near settlement and flocculation tanks	2	2	6-monthly checks
Boat		1	1	
Life jackets	Found in boat	4		Check before each use
Emergency Showers	Throughout plant	2	1	Check frequently
Disposable overalls	Storage shed	100+	100+	Check before wearing while noting stock levels
Dust masks	Storage shed	10+	5+	Check before wearing while noting stock levels
Disposable rubber gloves	Storage shed	400+	100+	Check before wearing while noting stock levels
Disposable ear plugs	Storage shed	100+	100+	Not applicable
Safety harness	Storage shed		1	Quarterly checks

EQUIPMENT	LOCATION	QUANTITY TENTERFIELD	QUANTITY URBENVILLE	MAINTENANCE REQUIREMENTS/STANDARDS
Fire extinguishers	Throughout			Six monthly inspection and tagging
First Aid Kit	Laboratory area	1	1	Annual inspection & restock
	Work Vehicles			Annual inspection & restock

Water Hazards – description, likelihood & mitigation

Table 8 Identified Water Hazards

Pollution Hazard	Risk Factors	Outcome	Environmental Risk	Pre-emptive Actions	Further Risk Reduction Measures	Revised Environmental Risk
Untreated or partially untreated water discharged to reticulation system due to raw water delivery pipe breakage	Untreated water into reticulation system	Untreated water into filtered tank	Low	- Will only find out if water comes up through floor of building - Keep an eye on PH levels - If event occurs, isolate and repair		
Fire / combustion	Fire within the site or its surroundings	- Smoke / fire hazard - Property damage	Unlikely / minor-medium	- Inspection and monitoring of sites and surrounding areas for possible combustible materials - Liaison with the RFS in relation to controlled burn offs in the surrounding areas		
Chemical spill / leak	Fluoride	Possibly entering environment, outside boundaries of confined area	Likely/medium	- Separate room - Vacuum pumped from bags into saturated system in small bunded area		
	Soda Ash	Spill on floor of confined area	Likely/low	- Careful manual handling - New auger system installed		
	Aluminium Chlorohydrate	Contained in bunded area	Likely/Low	- Safe Handling during delivery - Bunded area		
	Powder Activated Carbon	Spill on floor of confined area	Likely/low	- Careful manual handling - New auger system installed		
	Chlorine Gas Leak	Gas escapes into environment	Low/high	- Careful manual handling of gas cylinders - located in separate shed		
Oil / Fuel Spill	Third party / accident i.e. petrol	- Reservoir pollution - Water contamination	Low/medium	- Security compound fencing - prosecution of offenders		
Break in Geobag	Geobag rupture / break	Contamination of soil	Low/medium	Geobag contained within earth bunded area		
Overflow or failure of sludge dam wall	Rupture/ Breakage in Sludge Dam	Contamination of soil and surrounding area	Low/high	- Security compound fencing - Visual check		

Maps [clause 98C(1)(k)]



Figure 1 Tenterfield Water Supply Dam



Figure 2 Tenterfield Water Supply Dam & Water Treatment Plant



Figure 3 Tenterfield Water Treatment Plant



Figure 4 Tenterfield Water Treatment Plant – Location of Chemical Storages



Figure 5 Urbenville Water Treatment Plant

Pollution Incident Response Protocol – Tenterfield Dam

Upon notification of a pollution incident, proceed in the following manner:

1. Note the time that the pollution incident notification was received/identified
2. Proceed to site as a matter of high priority
3. Conduct site specific WHS Risk Assessment
4. Conduct site specific Environmental Risk Assessment/Response by answering the questions in the below flow chart
5. Secure the site from public access until site is cleaned and disinfected
6. Report the nature of the pollutant and any information that may assist in the future prevention of the incident recurring at this site or other location to the Manager Water Sewer & Waste.

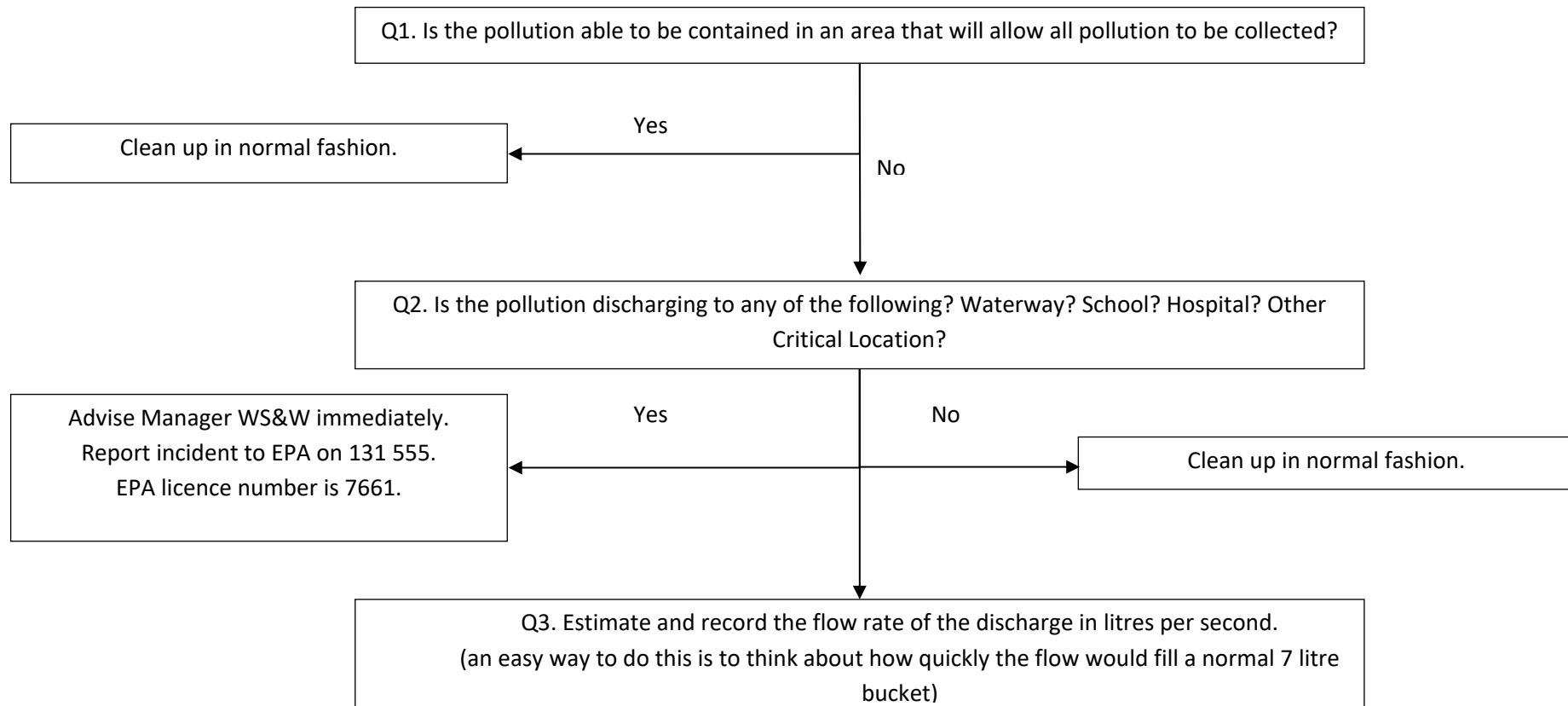


Figure 6 Water Environmental Risk Assessment Flow Chart

Health Incident Response Protocol – Tenterfield and Urbenville Supply

The Health Incident Response Protocol is based on that provided by NSW Health. A summary is provided below. For full details on the protocol, please refer [to Tenterfield Shire Council's Drinking Water Management System](#). Figure 7 shows the procedure to be undertaken for if there is an exceedance in the guideline values for physical or chemical characteristic(s). Figure 8 shows the procedure if there is E. coli and/or coliform bacteria detected in the water and for the procedure if there is a treatment failure and/or poor or rapidly changing source water quality.

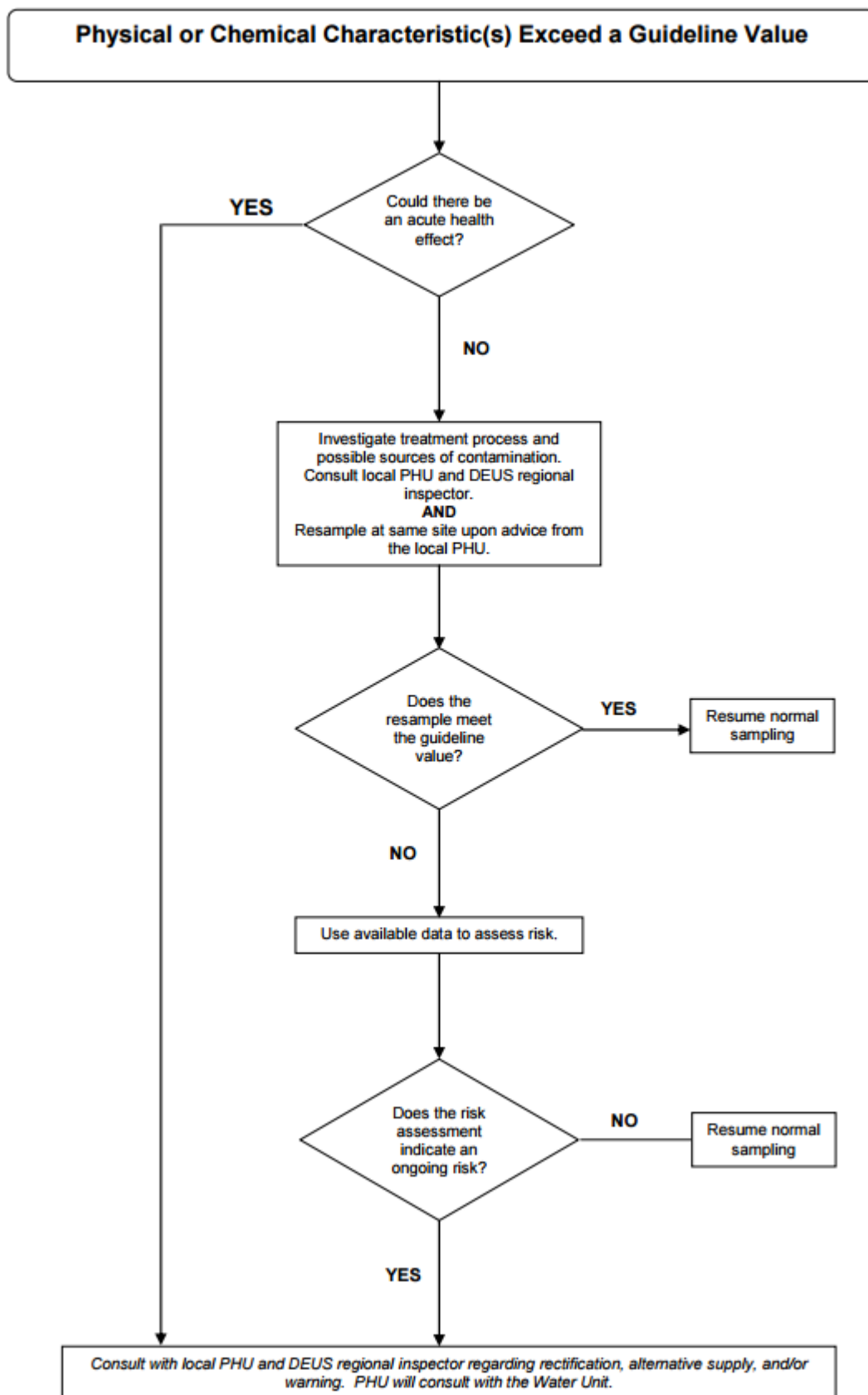


Figure 7 Physical or Chemical Characteristic(s) Exceedance Procedure

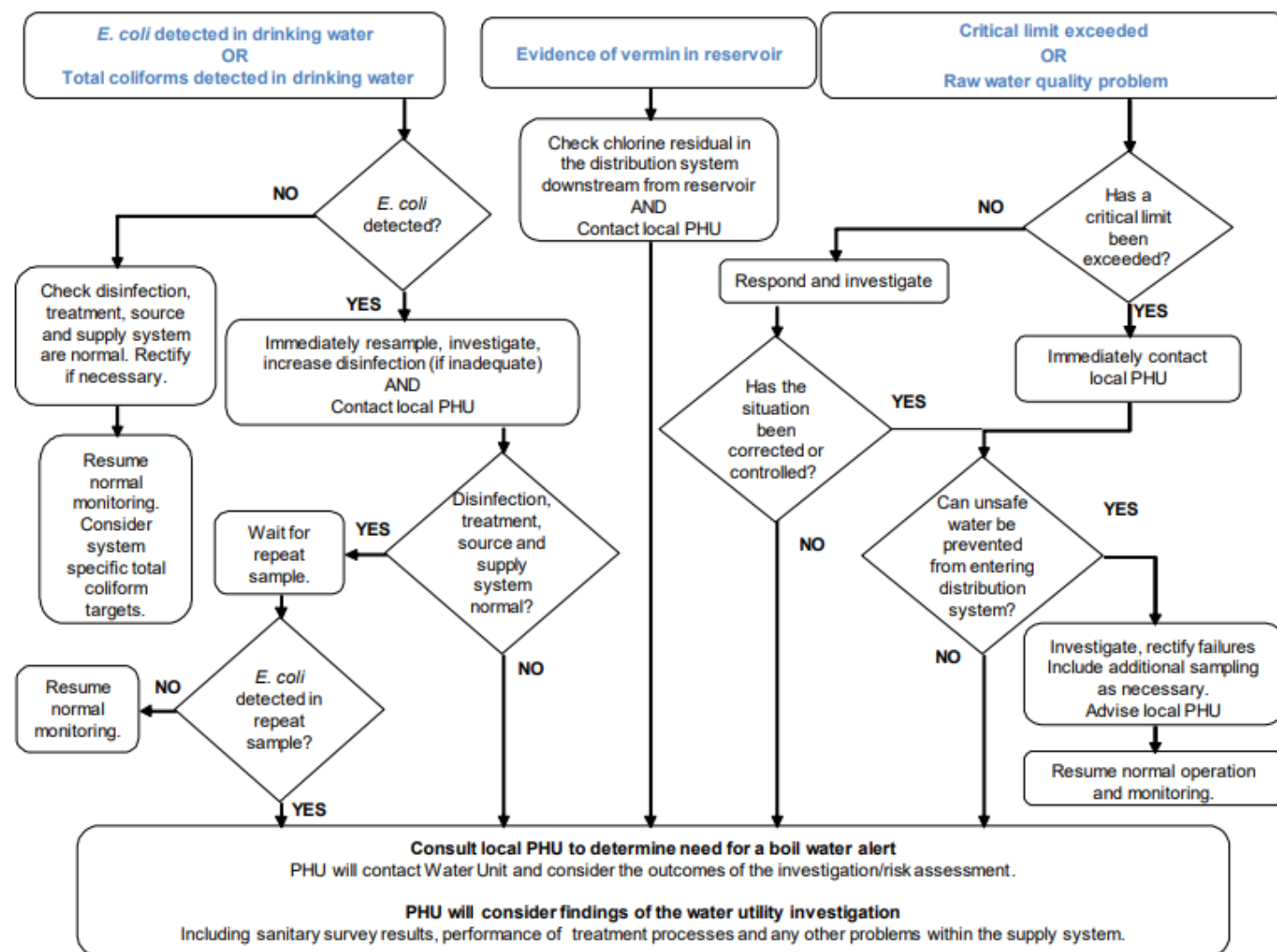


Figure 8 E Coli / Coliform Bacteria Detection or Treatment Failure Procedure

Part 3 Sewer

Inventory of pollutants [clause 98C (1)(d) and (e)]

Table 9 Inventory of Pollutants at STP

Pollutant	Form	Quantity Tenterfield STP	Quantity Urbenville STP	Location (see site plan)	Containment
Alum	Powder	9000 litre tank	2000 litre tank	Chemical Storage shed	Confined room with bunded area
Soda Ash	Powder/ liquid	4000 litres in tank + 2000kg powder		Chemical Storage shed	Confined room with bunded area
Caustic Soda	Powder		1600 kg powder	Chemical Storage shed	Confined room with bunded area
Sodium Hypochlorite	Liquid	5000L in tank	5000L in tank	Chemical Storage shed	Confined room with bunded area
Sewage	Liquid	Average <1ML – up to 7ML per day	Average 250 kL per week	Throughout facility	Barriers

Safety equipment [clause 98C (1)(f)]

Sewage effluent risks exist to both operators and the general public. Operators must adhere to normal hygiene procedures when working at any time in the vicinity of sewage. The public must be excluded from any affected area by high visibility bunding. The area is to be raked clean of debris, and chemically sterilised or covered with topsoil.

Effluent should be contained where possible and transferred to the sewer system

The Tenterfield and Urbenville Sewerage Treatment Plants are both fenced to stop intruders and ensure safety. The sites also contain active and passive pollution control/safety devices and equipment that can be used during a pollution incident.

Table 10 Inventory of Safety Equipment at STP

EQUIPMENT	LOCATION	QUANTITY TENTERFIELD	QUANTITY URBENVILLE	MAINTENANCE REQUIREMENTS/STANDARDS
Emergency Showers	Throughout plant	2	1	Check frequently
Disposable overalls	Storage shed	100+	Box (100+)	Check before wearing while noting stock levels
Dust masks	Storage shed	10+	5+	Check before wearing while noting stock levels
Disposable rubber gloves	Storage shed	400+	100+	Check before wearing while noting stock levels
Disposable ear plugs	Storage shed	100+	100+	Not applicable

EQUIPMENT	LOCATION	QUANTITY TENTERFIELD	QUANTITY URBENVILLE	MAINTENANCE REQUIREMENTS/STANDARDS
Safety harness	Storage shed	3	1	Quarterly checks
Fire extinguishers	Throughout	numerous	numerous	Six monthly inspection and tagging
First Aid Kit	Storage shed and vehicles	numerous	numerous	Annual inspection & restock

Pre-emptive actions to be taken [clause 98C(1)(c)]

Table 11 Sewer Reticulation Risk Assessment and Controls

SEWERAGE RETICULATION SCHEME	
Risk/Hazard	Pre-emptive Controls/Actions
Sewage overflow due to heavy rainfall	▪ Reticulation maintenance and rehabilitation to reduce infiltration ▪ Spare capacity in pump wells, reticulation and manholes ▪ Monitoring and maintenance
Sewage overflow due to power failure	▪ Lightning protection ▪ Surge protection ▪ During emergency, backup generators are available from local suppliers
Sewage overflow due to storm damaging infrastructure	▪ Lightning protection ▪ Surge protection ▪ During emergency, back up portable pumps are readily available
Sewage overflow due to reticulation blockages or damages	▪ Spare capacity in pump wells, reticulation and manholes ▪ Sewer Jetting machine is readily available (high pressure cleaning of mains for sewer chokes) ▪ Monitoring and maintenance
Sewage overflow due to a contractor's excavation hitting the sewers	▪ Provide underground service locations to external persons ▪ Telemetry designed to pick up a change in inflows ▪ Portable pumps are readily available (for clean-up) ▪ Vacuum truck is available to locate underground assets
Sewage overflow due to SCADA/Communications failure	▪ SCADA testing and alarming ▪ Back-up batteries will be activated automatically ▪ SCADA monitoring and maintenance ▪ Raddtel testing and alarming ▪ Raddtel monitoring and maintenance
Sewage overflow due to infrastructure failure (e.g. due to age)	▪ Maintenance and renewal programs ▪ During emergency, back up portable pumps are readily available
Sewage overflow due to mechanical breakdown/ pump failure	▪ Telemetry monitoring ▪ Maintenance program ▪ Spare capacity in pump wells, reticulation and manholes ▪ Activate the stand-by pump ▪ Portable pumps are readily available to bypass site ▪ Backflow prevention ▪ Monitoring and maintenance

SEWERAGE RETICULATION SCHEME	
Risk/Hazard	Pre-emptive Controls/Actions
Sewage overflow from manholes due to blockage/damage/rainfall	▪ Reticulation maintenance and rehabilitation to reduce infiltration ▪ Spare capacity in pump wells, reticulation and manholes ▪ Portable pumps are readily available to bypass site ▪ Monitoring and maintenance
Sewage overflow from pump stations due to blockage/damage/rainfall	▪ Reticulation maintenance and rehabilitation to reduce infiltration ▪ Spare capacity in pump wells, reticulation and manholes ▪ Activate the stand-by pump ▪ Portable pumps are readily available to bypass site ▪ Pump station monitoring and maintenance ▪ Backflow prevention

Table 12 Sewer Reticulation Risk Assessment and Controls

SEWAGE TREATMENT PLANT	
Risk/Hazard	Pre-emptive Controls/Actions
Sewage overflow (raw) due to heavy rainfall	▪ Maintenance / rehabilitation to reduce infiltration ▪ Spare capacity in pump wells, reticulation and manholes ▪ Overflow storage at the STP (ponds) ▪ Stormwater bypass system which allows excess flow to be diverted into containment/evaporation ponds ▪ Monitoring and maintenance
Sewage overflow (raw) due to storm (lightning/wind) causing power failure	▪ Lightning protection ▪ Surge protection ▪ Back-up generators
Sewage overflow (raw) due to storm (lightning/wind) causing infrastructure damage	▪ Lightning protection ▪ Surge protection ▪ Overflow bypass at the STP
Sewage overflow (raw) due to reticulation blockages	▪ Reticulation maintenance ▪ Spare capacity in pump wells, reticulation and manholes ▪ Overflow storage at the STP (containment/evaporation ponds) ▪ Bypass systems to overflow containment/evaporation ponds ▪ Monitoring and maintenance
Sewage overflow (raw) due to damage to onsite reticulation (e.g. during excavations, etc)	▪ Locate services prior excavations ▪ Appropriate supervision of contractors ▪ Bypass systems to overflow containment/evaporation ponds
Sewage overflow (raw) due to SCADA/Communications (Radtel) failure	▪ SCADA / Radtel testing and alarming ▪ SCADA / Radtel monitoring and maintenance ▪ Manually operate the Sewerage Treatment Plant
Sewage overflow (raw) due to infrastructure failure (e.g. age)	▪ Maintenance and renewal programs

SEWAGE TREATMENT PLANT	
Risk/Hazard	Pre-emptive Controls/Actions
Sewage overflow (raw) due to excessive flows	▪ Reticulation maintenance to reduce infiltration ▪ Spare capacity in pump wells, reticulation and manholes ▪ Overflow storage at the STP (containment/evaporation ponds) ▪ Stormwater bypass system which allows excess flow to be diverted into containment/evaporation ponds ▪ Monitoring and maintenance
Sewage overflow (raw) due to mechanical break down	▪ Maintenance and inspection programs ▪ Spare capacity in pump wells, reticulation and manholes ▪ Overflow storage at the STP (containment/evaporation ponds) ▪ Stormwater bypass system which allows excess flow to be diverted into containment/evaporation ponds ▪ Monitoring and maintenance
Sewage overflow (raw) due to Treatment Plant blockage	▪ Bypass systems from the inlet works to containment / evaporation ponds ▪ Spare capacity in pump wells, reticulation and manholes ▪ Monitoring and maintenance ▪ Manually operate the Sewerage Treatment Plant
Chemical spill due to tank/storage failure	▪ Bunding ▪ Alarms ▪ Inspection and maintenance of tanks
Chemical spill during delivery	▪ Appropriate Safe Work Method Statement (SWMS) ▪ Appropriate PPE
Chemical spill due to damage to chemical reticulation	▪ Locate services prior to excavations ▪ Appropriate supervision of contractors ▪ Shut off valves for chemical dosing plant
Chemical spill due to vandalism	▪ Site security fences
Chemical spill due to bund failure	▪ Bund inspections ▪ Maintenance and renewal
Chemical truck incident outside of bunded area	▪ Operator onsite during deliveries

Sewer Hazards – description, likelihood & mitigation [clause 98C (1)(a) and (b)]

Table 13 Identified Sewer Hazards

Pollution Hazard	Risk Factors	Outcome	Environmental Risk	Pre-emptive Actions	Further Risk Reduction Measures	Revised Environmental Risk
Sewage Overflow (raw or partially treated) to waterway	Overflow into reticulation system	Contamination of waterway	Low/high	• Monitor levels daily • Maintain / test pump stations regularly • Backup power supply • Turn on pump stations if event occurs	• Sewer relining • Improve monitoring by • Install SCADA system • Use SmartCover on individual manholes	Low/medium
	Overflow into creek	Contamination of creek and surrounds	Low/high	• Monitor levels daily • Maintain / test pump stations regularly • Backup power supply • turn on pump stations if event occurs	• Sewer relining • Improve monitoring by • Install SCADA system • Use SmartCover on individual manholes	Low/medium
Chemical spill / leak	Alum spill	Spill on floor of confined area	Low	• Provide bunded area to contain spill • Operator training – SWMS-SOP (Safe Work Method Statements-Safe Operating Practice) & RA (Risk Assessment) • Regular Site audits		
	Soda Ash spill	Spill on floor of confined area	Low	• Provide bunded area to contain spill • Operator training - SWMS & RA • Regular Site audits		

Pollution Hazard	Risk Factors	Outcome	Environmental Risk	Pre-emptive Actions	Further Risk Reduction Measures	Revised Environmental Risk
	Sodium Hypochlorite spill	Spill on floor of confined area	Low	• Provide bunded area to contain spill • Operator training – SWMS & RA • Regular Site audits		
Oil/Fuel Spill	Pollution of sewer system by third party	Spill into sewer system	Low/medium	• Monitor readings • Visually check site daily • Existing Liquid Trade Waste Policy		

Maps [clause 98C (1)(k)]

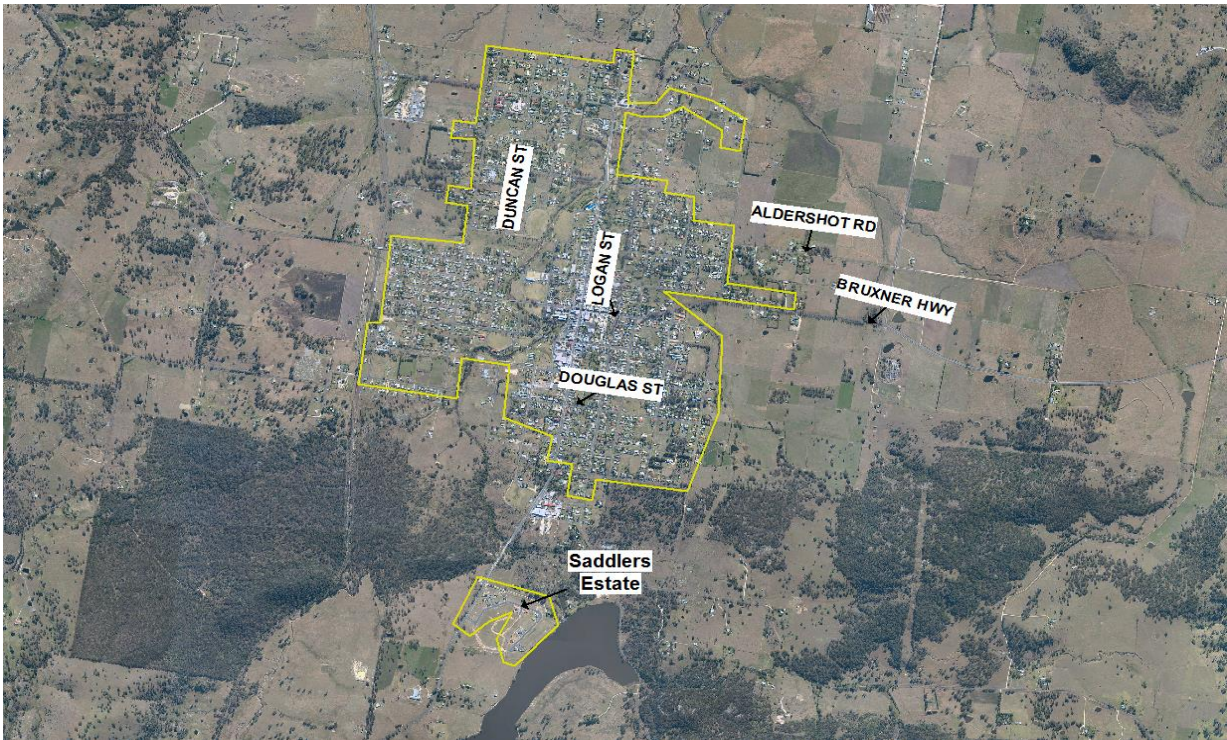


Figure 9 Aerial view of Tenterfield showing area with Sewer Availability

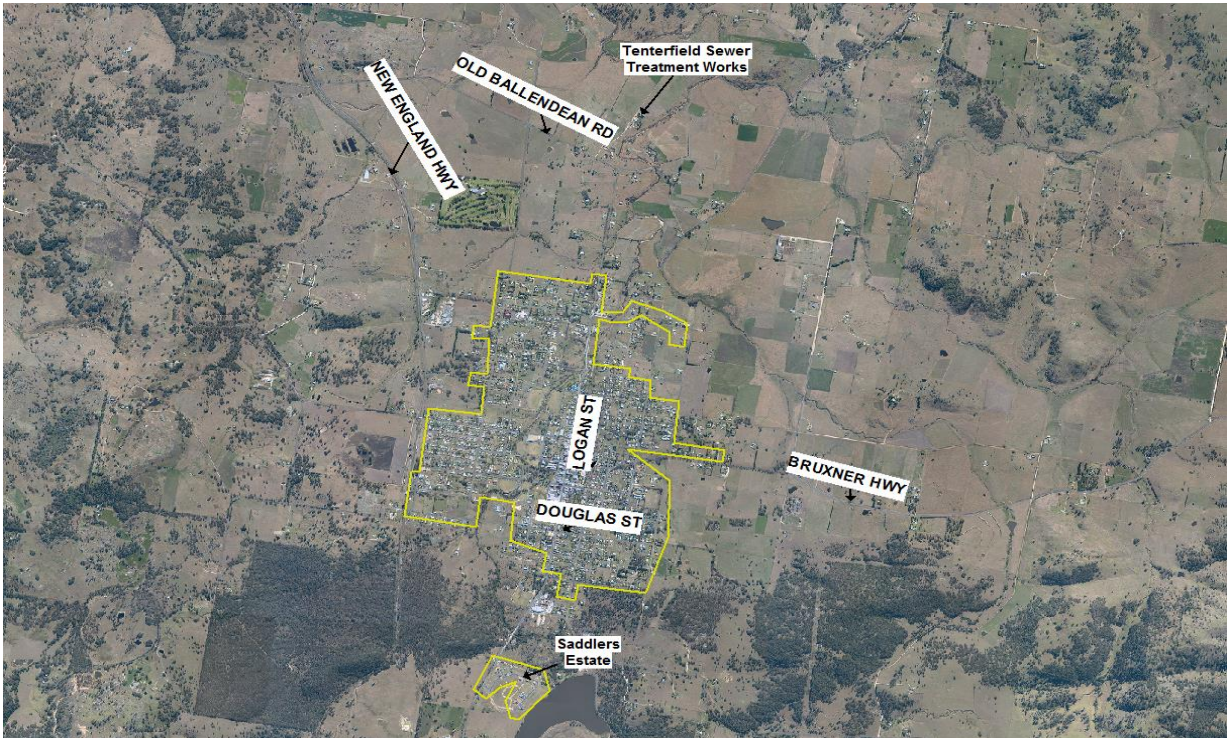


Figure 10 Location of Tenterfield STP in relation to Tenterfield Township



Figure 11 Tenterfield Sewerage Treatment Plant

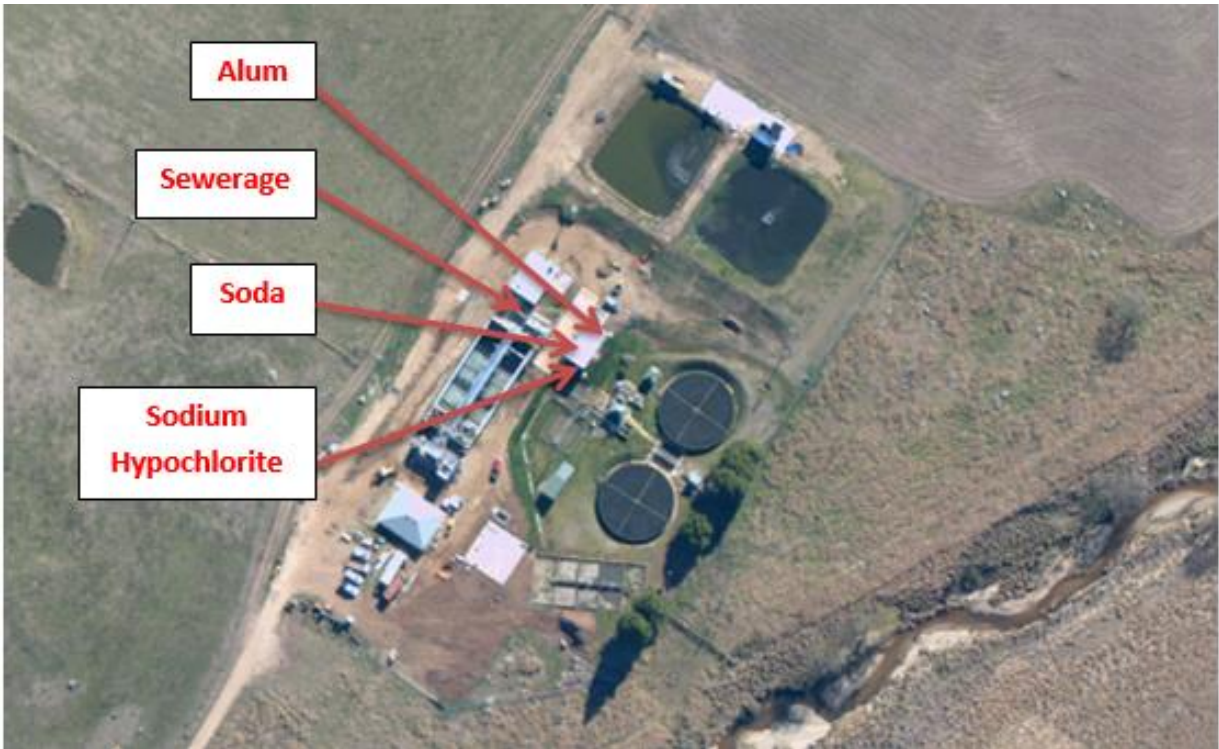


Figure 12 Tenterfield STP - Location of potential pollutants



Figure 13 Urbenville & Sewerage Treatment Plant



Figure 14 Urbenville STP (500 Pasveer)

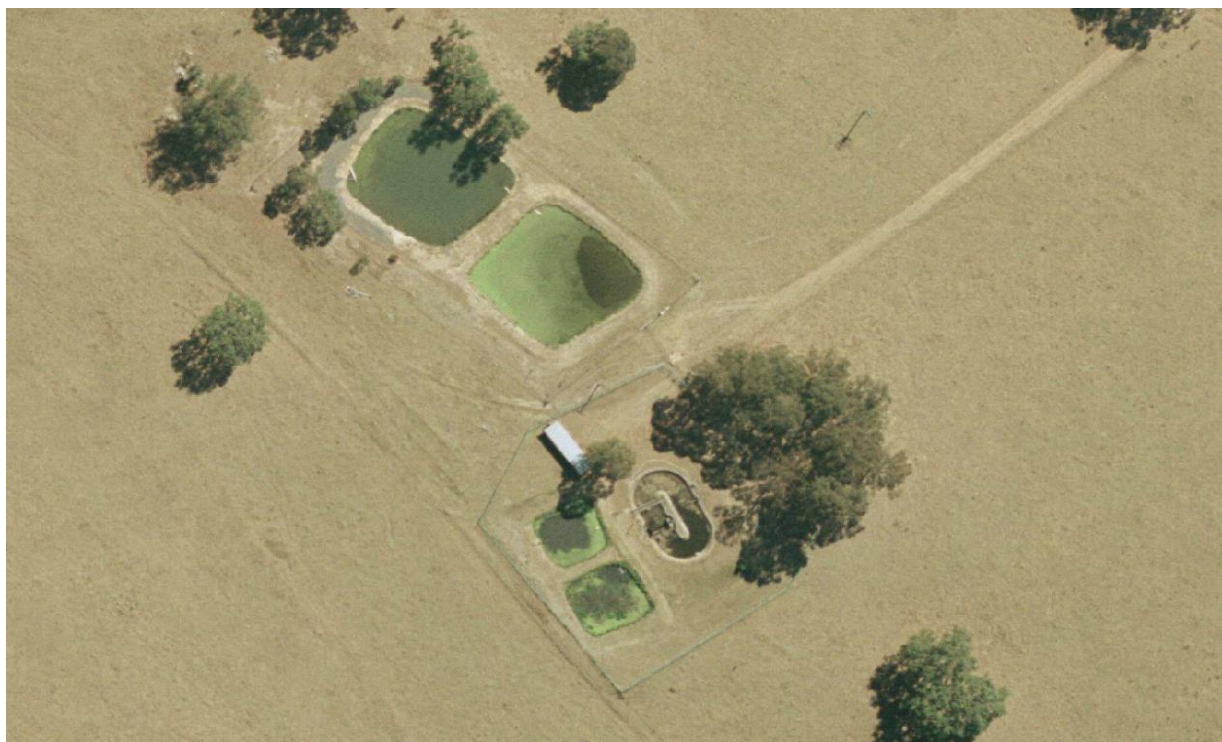


Figure 15 Urbenville Sewerage Treatment Plant

Mandatory Protocols

The attached protocols have been prepared to direct staff when managing pollution incidents. Following of these protocols is MANDATORY.

Sewer Overflow Protocol

Upon notification of a sewerage overflow, proceed in the following manner:

1. Note the time that the sewer overflow information was received /identified;
2. Proceed to site as a matter of high priority;
3. Conduct site-specific WHS Risk Assessment;
4. Conduct site-specific Environmental Risk Assessment/Response by answering the questions in the flow chart below;
5. Secure the site from public and livestock access until the site is cleaned and disinfected; Once blockage is cleared note time and report to the Manager Water & Waste;
6. Using the Overflow Water Sampling Kit (located in the STP office). The sampling should occur REGARDLESS of if it is thought that the discharge reached the creek.
 - a. Collect 2 sets of water samples, one from immediately downstream from the point of overflow and one from immediately upstream from the point of overflow (allow no contamination from overflow).
 - b. Each point requires a 1000mL glass sample jar and a 1000mL plastic sample bottle.
 - c. The plastic sample bottle must be filled completely (to exclude air) and stored in a cool dark environment (esky with ice bricks or fridge)
 - d. The samples should be sent to a NATA accredited laboratory within 24hrs of collection
 - e. The following should be tested for (in conjunction with licence condition M2.2):

i. Ammonia	vi. Oil and Grease
ii. BOD	vii. pH
iii. Electrical Conductivity	viii. Phosphorus (total)
iv. Faecal Coliforms	ix. Total Suspended Solids
v. Nitrogen (total)	
7. Cleaning and disinfection:
 - a. Flush/dilute down the spill area where it is possible to capture that liquid and solids to direct back to the reticulation system. Use hydrated lime as disinfectant.
 - b. If flushing/diluting has the tendency to further spread the spill, rake and pickup solids with a shovel and apply hydrated lime as disinfectant.

Note: Disinfection should be limited to localised areas. Care should be taken so that disinfection should not have a significant impact on the environment. Disinfection may be inappropriate in public areas such as parks and riparian zones (river banks) for environmental reasons.

8. If it has impacted on a property and the owner is not present, notify the owner. If the property is used for grazing, advise that livestock must be excluded for a minimum of 30 days after contamination;
9. Report the nature of the blockage and any information that may assist in the future prevention of the incident recurring at this site or other location to the Manager Water & Waste.

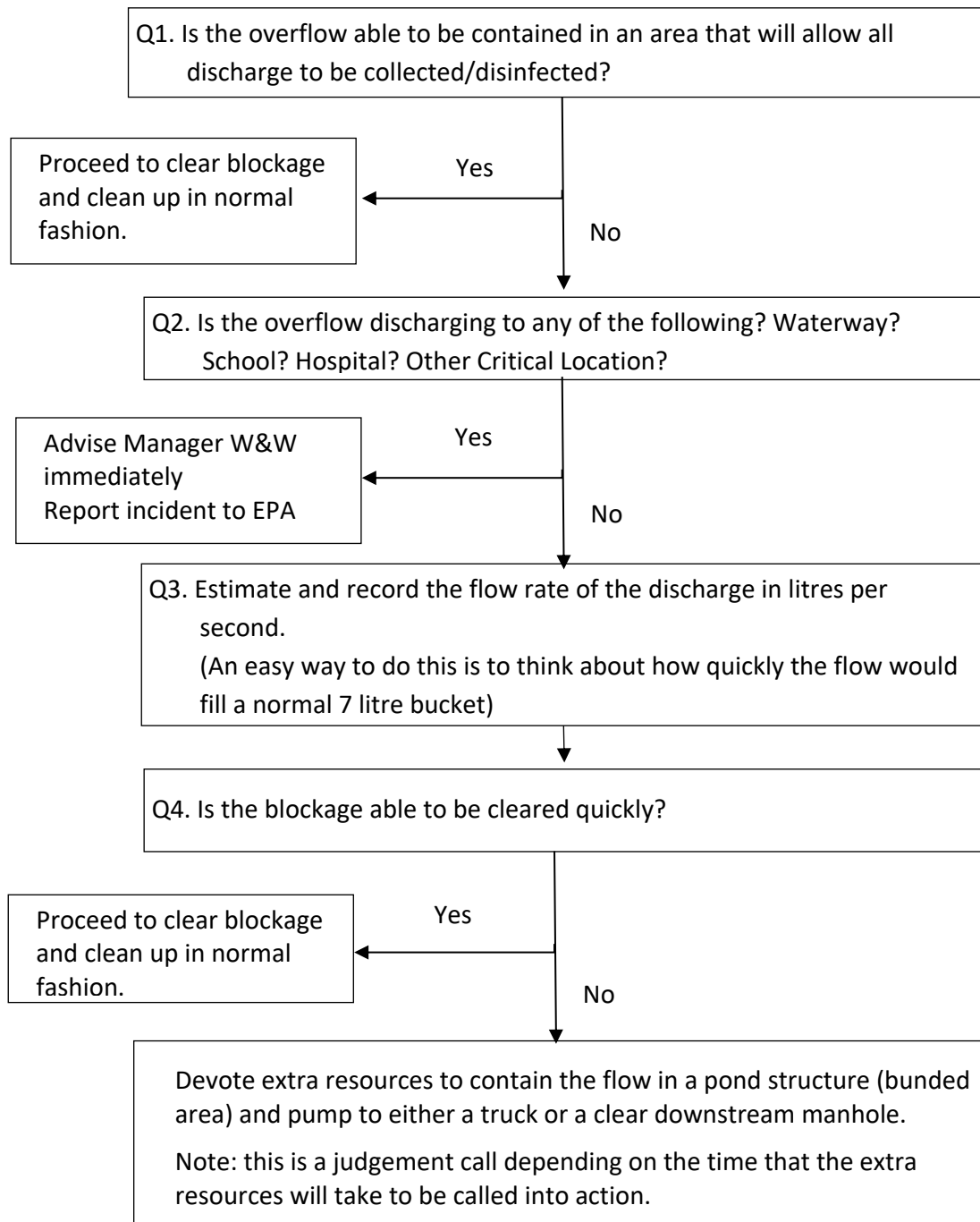


Figure 16 Sewer Environmental Risk Assessment Flow Chart

Table 14 Sewer Overflow Form for Operators

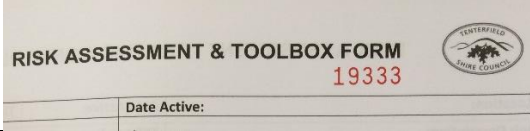
Time that sewer overflow information was received / identified	
Who identified the overflow?	
Arrival time at site (take photos)	
Risk Assessment & Toolbox form reference number (shown in red in picture)	
	
Time blockage cleared (take photos)	
Estimate of overflow volume (l/s)	
Description of identified cause of overflow	
Actions taken to secure site from public and livestock	
Description of site clean up (take photos)	
Description of upstream sample location (take photos)	
Description of downstream sample location (take photos)	
Details of people notified, including time of notification (e.g. property owner)	

Table 15 Sewer Overflow Form for Office Staff

Time that incident was reported by Operators	
Time incident was reported to authorities, including which authorities were contacted and the report reference numbers	
Investigations undertaken	
Description of any directions given to Operators	
Details of any other persons notified, including time of notification	
If a written report is required – report reference	

Refer also to below investigation plan.



INVESTIGATION PLAN

Incident Date / Time

Investigation Date / Time

Notifiable Incident

Yes No

EPA Notified	YES	NO	N/A	Reference #
Health Department Notified	YES	NO	N/A	Reference #
Safe Work NSW Notified	YES	NO	N/A	Reference #
StateCover Mutual Notified	YES	NO	N/A	Reference #
StateWide Mutual Notified	YES	NO	N/A	Reference #

Incident Address

Incident Details

Responsibilities

Was the hazard eliminated or controlled immediately

YES NO Details

--

Investigation Team Required YES NO

Site Visit Required

YES NO

Who needs to be interviewed?

Photographs Required

YES NO

Site/Incident sketch, drawing, map required

YES NO

Supporting Documentation, Data or Information Required

Outcomes

Formal Report Required

YES NO

Distribution list for report

Sewer Bypass Protocol

1. Upon observation of a discharge to Tenterfield Creek, notification to authorities must occur immediately;
2. Contact EPA on 131555, then contact Public Health Unit on 02 6764 8000 with the following information:
 - a. State that the incident refers to EPA Licence Number _____, and the address of the premises is _____;
 - b. Describe the location and nature of the incident. Answer any questions posed by the relevant authority.
3. Once notification is complete take any action necessary to minimize the risk to the environment. Advise relevant council personnel and update the Manager Water & Waste as a priority;
4. Using the Overflow Water Sampling Kit (located in the STP office) collect 2 sets of water samples, one from the discharge at the point of overflow and one upstream (ensure no contamination from overflow).
 - a. Each point requires a 1000mL glass sample jar and a 1000mL plastic sample bottle.
 - b. The plastic sample bottle must be completely filled (to exclude air) and stored in a cool dark environment (esky with ice bricks or fridge);
 - c. The samples should be sent to a NATA accredited laboratory within 24hrs of collection.
5. Record the following information, in line with licence condition M8:
 - a. The EPA point identification number through which the bypass was discharged;
 - b. The date, estimated start time and estimated duration of the bypass;
 - c. The estimated volume of the bypass;
 - d. The level of treatment of the sewage at the STP prior to discharge;
 - e. Probable cause of the bypass;
 - f. Any actions to stop the bypass happening;
 - g. Any actions to prevent the bypass happening again;
 - h. Whether the bypass was a wet or dry bypass (dry weather bypass occurs when the flow rate of sewage at the inflow does not exceed 70L/s. Wet weather occurs when this flow is equalled or exceeded at any time during the bypass event).

In the event of a treatment plant bypass, the bypass dam should be pumped back through the works as soon as possible to prevent recurrence if further wet weather follows.

Molesworth St Sewer Bridge Failure

1. Upon notification that there is a failure at the Molesworth Street Bridge Sewer Structure contact the Manager Water & Waste and the Senior Operator
2. Assess the situation and undertake a risk assessment. If the sewer is discharging into the creek, undertake the below actions.
3. Manager to call the EPA on 131555, then contact Public Health Unit on 02 6764 8000 with the following information:
 - a. State that the incident refers to EPA Licence Number _____, and the address of the premises is _____;
 - b. Describe the location and nature of the incident. Answer any questions posed by the relevant authority.
4. Close the bridge
5. Obtain Molesworth St Spill kit and take to site (refer to Molesworth Spill Kit Checklist)
6. Setup generator and pump next to upstream manhole and lay hose across the road and attach to pump (if road is accessible, float across creek if not). Have hose to go into the upstream manhole ready to go next to the manhole.
7. Block the upstream manhole with the 375mm bung. Insert the bung on the downstream channel. The manhole will be used to pump from.
8. Block the downstream manhole with the 375mm bung.
9. Inflate the bungs to correct pressure (refer to Safety Instructions for the 375mm Bungs)
10. Finish setting up pump (fasten hoses and attachments) and make operational. While the pump is running, a member of Council will have to remain with the pump and generator to ensure that they are operational and coping with the volumes.
11. Lay a silt boom across the creek downstream of the manhole, containing the spill within the creek.
12. Follow the Sewer overflow protocol for clean-up and reporting.
13. Erect fence around open manhole, pump and generator.

Molesworth Spill Kit Checklist

- ☐ 6" pump
- ☐ 2 x 375mm Bungs
- ☐ Air compressor
- ☐ Barrier (?)
- ☐ Ropes
- ☐ Extendable bars to insert bungs
- ☐ Lights (if works at night or likely to go into the night)
- ☐ Generator
- ☐ Extension cord
- ☐ Silt boom for creek
- ☐ Required PPE
- ☐ Confined space equipment
- ☐ Barrier fences

NOTICE: To Contractors, Employers, End Users

Anyone involved with the handling of, or installation of pipe plugs must be instructed in the proper use of Lansas® pneumatic pipe plugs. Proper compliance with all safety rules regarding use are your responsibility. All foreseeable dangers through abuse, misuse, or improper blocking or restraint must be brought to the notice of all end users.

Proper use and care are the total responsibility of the purchaser and user. This sheet may be photocopied for distribution to your employees or anyone else that uses pipe plugs or needs information regarding the safe use of pipe plugs.

Any questions may be directed to Lansas® Corporate Office at: 1.800.452.4902 or 209.334.4115. You may also contact our Eastern Regional Sales Manager in Georgia at: 770.509.9309 or you may contact our Western Regional Sales Manager at: 832.831.4458.

WORLD CLASS SERVICE



WITH A HOME TOWN FEEL

HEAD IN FEET REDUCED TO POUNDS PER SQUARE INCH

Converting Head Feet of Water to
Pounds Per Square Inch (PSI)

HEAD FEET	PSI	HEAD FEET	PSI
1	0.43	11	4.73
2	0.87	12	5.20
3	1.30	13	5.63
4	1.73	14	6.05
5	2.16	15	6.49
6	2.60	16	6.93
7	3.03	17	7.36
8	3.46	18	7.79
9	3.90	19	8.23
10	4.33	20	8.66

How much force are you working with? How to calculate the force on a pipe plug:

1. Determine the inside diameter of the pipeline in inches
2. Determine the maximum back or test pressure that will be applied to the pipe plug
3. Calculate the pipe area in square inches:
 πr^2 = pipe area in square inches, where r = radius (half the pipe diameter), $\pi = 3.142$
4. Calculate the force the plug must withstand
Example: 36" inside diameter pipe:
 $18" \times 18" \times 3.142 \times 5\text{psi} = 5,090$ pounds of force.

Calculating the pounds of force the plug will face illustrates the tremendous forces that can be generated by an air test or any back pressure on a pipe plug. Being aware of this force will aid in the building of a containment system and bracing/blocking devices when pipe plugs are used.

Please remember that pressure is pressure regardless of source and that pounds per square inch in all liquid mediums such as air or water create the same forces on the surface of a plug or testing device.

Lansas® PRODUCTS

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Lansas® PRODUCTS

⚠ WARNING
MUST READ THESE SAFETY
INSTRUCTIONS BEFORE
USING LANSAS®
PNEUMATIC PIPE PLUGS

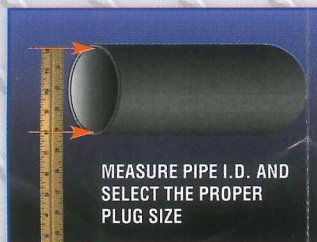
SAFETY INSTRUCTIONS FOR THE PROPER USE OF PNEUMATIC PIPE PLUGS

"SAFETY FIRST"

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1. Determine the type, size, and pressure requirements of the plug you will need to perform your job. Each pipe opening must be measured to accurately determine its size. Also, check the access to the line and confirm that the plug you are considering will fit.

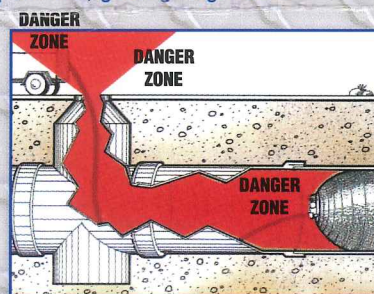


2. Use pneumatic plugs only in pipe sizes for which they were designed. Lansas® Products manufactures both single and multi-size pipe plugs. These plugs are made to fit a pipe I.D. of $\frac{1}{4}$ " (.25 inches) over its nominal size... Example: An 8" pipe plug will have a maximum usage range of $8\frac{1}{4}$ " (8.25 inches). A 6"-10" multi-size plug will have a maximum usage range of $10\frac{1}{4}$ " (10.25 inches). Never exceed these limits. If you are not sure what size pipe your plug will fit, do not use it and consult a supervisor or dealer. Petroleum and some chemical products can cause plugs to rupture. If the contents in the pipeline are in question, please consult your supervisor, dealer, or the factory. Lansas® manufactures plugs designed specifically for chemical applications. Always wear protective equipment such as, but not limited to, hard hat, safety glasses, gloves, ear plugs, etc., when working with pneumatic plugs.
3. Inflating plugs to the required pressure is critical to preventing dislodging (due to under-inflation) or plug rupture (due to over-inflation). Never use a pneumatic plug without knowing the proper inflation pressure and back-test pressure. Never inflate plugs outside of a pipe. Never inflate plugs over a lateral or other openings in the pipe wall. Always insert the plug completely into the pipe plus the equivalent of one pipe diameter. Never inflate plugs over sharp objects – clean the pipe prior to installing the plug.
4. Back or test pressures higher than the maximum rating for the plug may cause the plug to become dislodged. Never use a pneumatic plug without knowing the proper inflation pressure and back-test pressure.
5. Blocking/bracing must be used to prevent the movement or complete dislodging of pipe plugs. This blocking or bracing should be designed to contain a dislodged plug and all materials behind the plug

should the plug fail. Use a certified engineer for the design, construction and maintenance of a containment system. Rubber eyelets, steel rings or metal eyes are not to be used in restraining pipe plugs. These eyelets, rings and metal eyes are designed only for lifting and lowering of the plug.

Note: Our pneumatic plugs are rated for use in a clean, dry pipe. Foreign materials such as algae, mold, sand, oil, grease, etc., may significantly reduce the ability of a plug to hold back the maximum back/test pressure for which the plug is rated. Consult your supervisor when these conditions exist – **ALWAYS** block the plug to prevent dislodging.

6. Always stay out of the "DANGER ZONE." The "DANGER ZONE" is the area within or around a pipe or manhole where a plug is installed. The "DANGER ZONE" is a cone shaped area, getting larger as it extends away from a pipe or manhole. If there is a plug or system failure of any kind, anyone in the "DANGER ZONE" could suffer serious bodily injury or death! Surrounding obstacles may affect the "DANGER ZONE" by ricocheting accidentally discharged materials.



7. Use of a properly calibrated gauge is required for the continuous monitoring of inflation pressures and back/test pressure.
8. Never deflate a pneumatic plug until all remaining back/test pressure has been relieved.
9. Always use an inflation hose or poly-lift rope/inflation lines to inflate and deflate pipe plugs. Be sure you are using a length that allows you to stay clear of the



"DANGER ZONE" while pneumatic plugs are in use. Check all fittings and connections of the plug extension hose, hand pump, compressor, valves, etc., for conditions that may cause the leakage of air.

Due to the high quality of the materials we use and the patented designs we work with, our pipe plugs can be repaired.

However, they can only be safely repaired by Lansas.® Never attempt to repair it yourself and never take it to anyone else to have it done. Never attempt to modify Lansas® plugs in any way other than modifications approved by Lansas.®

An inherent danger exists with all inflatable products. If any conditions with this equipment exist that may jeopardize the safety of yourself, your co-workers or others, do not use it. When questions arise, contact your supervisor or safety director for instruction. Failure to comply with these safety instructions, or those of O.S.H.A., the Federal, State and local governments, may result in property damage, serious bodily injury or death.

10. Clean (using water and a mild detergent) and inspect pneumatic plugs before and after each use. Dry thoroughly before using or storing. Check plugs for damaged rubber, i.e., cracks, tears, cuts, punctures, abrasions, etc., loose or damaged fittings, cracks in castings and excessive wear. If questionable conditions exist, do not use the plug and consult a supervisor.

Lansas® has safety videos in English and Spanish. These videos are available free of charge. A copy of these safety instructions is also available in Spanish.

⚠ WARNING
DEATH, BODILY INJURY OR
PROPERTY DAMAGE MAY RESULT
IF A PLUG WERE TO FAIL FOR
ANY REASON.



Part 4 – Waste

Inventory of pollutants [clause 98C (1)(d) and (e)]

Table 16 Inventory of Pollutants at Waste Facilities

Pollutant Type/Substance	Form	Quantity	Location (see site plan)	Type of containment
Leachate	Liquid	1 ML	Leachate Dam	Earth formed
Leachate	Liquid	Varies	Active tipping area	Lined cell
Leachate	Liquid	Varies	Previous filling areas	Intermediate cover
Diesel	Liquid	Up to 500L	Adjacent to site shed	Elevated fuel storage tank
Household Chemicals	Liquid	Varies	Tenterfield WTS	Covered tank
Asbestos	Solid	Varies	Landfill pit	Daily cover
Litter	Solid	Varies	At active tipping area	Daily cover
Decomposing animals	Solid	Varies	Landfill animal burial trenches	Earth cover

Pollution Hazards – description, likelihood & mitigation

Table 17 Pollution Hazards at Waste Facilities

Pollution Hazard	Risk Factors	Outcome	Likelihood / Consequence	Pre-emptive Actions
Leachate Discharge Off Site	Leachate dam overflow	Leachate contamination of adjacent land and/or waterways	Possible/major	• Routine inspection • Surface water monitoring of down gradient points
	Leachate pump breakdown or pipeline failure	Leachate contamination of adjacent land and/or waterways	Possible/major	• Routine inspection • Scheduled maintenance of pump and pump connections • Standby pump and service parts available • Surface water monitoring
	Leachate contamination of the surface water management system	Leachate contamination of adjacent land and/or waterways	Possible/major	• Routine inspection • Bund separation at active tipping area

Pollution Hazard	Risk Factors	Outcome	Likelihood / Consequence	Pre-emptive Actions
	Leachate dam rupture	Leachate contamination of adjacent land and/or waterways	Possible/major	• Routine inspection
	Leachate seepage from landfill operations into water table	• Leachate migration • Possible contamination of water table	Possible/major	• Quarterly monitoring of ground bores
	Uncontrolled or undetected leachate springs	Leachate contamination of • surface water • adjacent land • waterways	Possible/major	• Routine inspection
Combustion	Fire at landfill active tipping area	• Smoke and fire hazard. • Deep seated fire difficult to extinguish.	Possible / moderate	• Inspection of all incoming loads • Site secured at all times • No unaccompanied public access
	Fire in vehicle loads of incoming wastes	• Smoke and fire hazard • Property damage.	Possible / moderate	Inspection of all incoming loads
Oil / Fuel Spillage	Rupture of fuel containers or storage tanks	• Soil contamination • Creation of volatile fumes • Explosion/fire	Possible / major	• Retain minimum quantities on site • Creation of bunded storage areas
Dust	Dust migrating off site	Complaints to EPA	Possible / moderate	• Wet down unsealed trafficable areas • Use shredded green waste on exposed areas of cover material
Odour	Offensive odour	Complaints to EPA	Possible / moderate	Daily cover to active tipping area
Litter	Litter migrating off site	Complaints to EPA	Possible / moderate	• Daily or intermediate cover to waste • Litter fences • Litter collection activities

Safety Equipment [clause 98C (1) (f)]**Table 18 Inventory of Safety Equipment at Waste Facilities**

EQUIPMENT	LOCATION	QUANTITY	MAINTAINANCE REQUIREMENTS
Fire extinguisher	All Site Sheds	6	Six monthly inspection and tagging
First Aid Kits	All Site Sheds	6	Annual servicing
Safety Shower	Tenterfield WTS	1	Monthly testing
Sandbags	Landfill Site Shed	50	Three monthly inspection and replenishment
Mobile water pump	Landfill Site Shed	1	Routine servicing
Water reservoir for fire fighting	Landfill - On site	1	Routine environmental inspections

Pollution Incident Response Protocol Boonoo Boonoo

Upon notification of a pollution incident, proceed in the following manner:

1. Note the time that the pollution incident notification was received/identified
2. Proceed to site as a matter of high priority
3. Conduct site specific WHS Risk Assessment
4. Conduct site specific Environmental Risk Assessment/Response by answering the questions in the below flow chart
5. Secure the site from public access until site is cleaned and disinfected
6. Report the nature of the pollutant and any information that may assist in the future prevention of the incident recurring at this site or other location to the Manager Water & Waste.

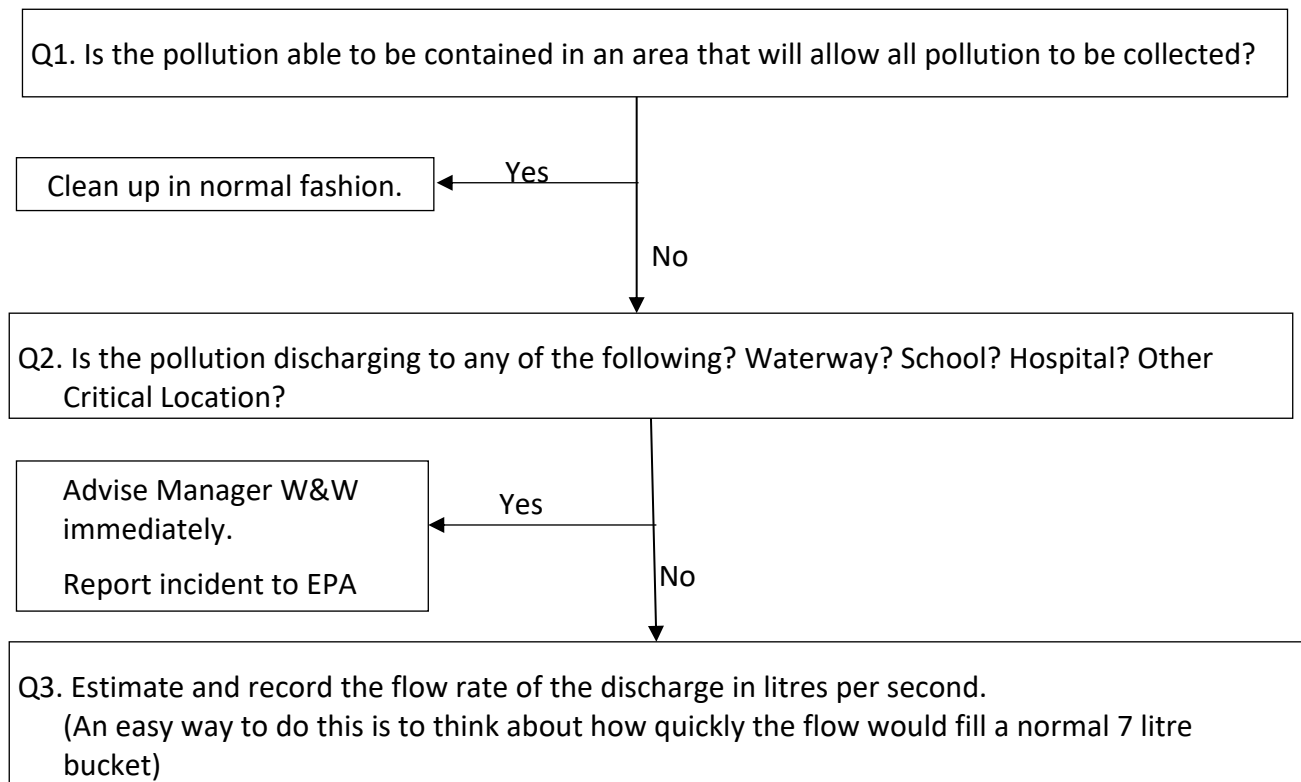


Figure 17 Waste Environmental Risk Assessment Flow Chart

Maps [clause 98C (1) (k)]

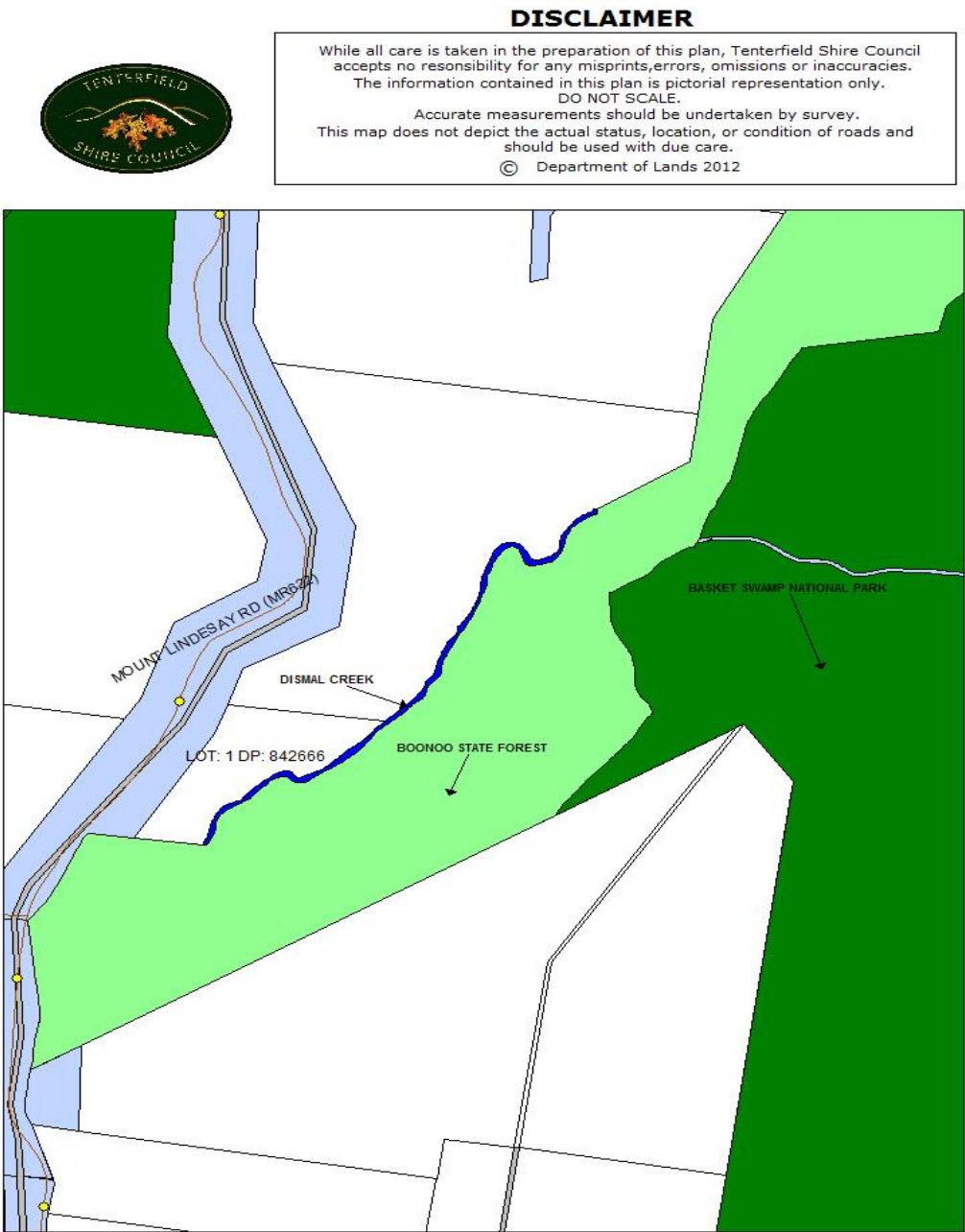


Figure 4-18 Locality Plan – Boonoo Boonoo Landfill

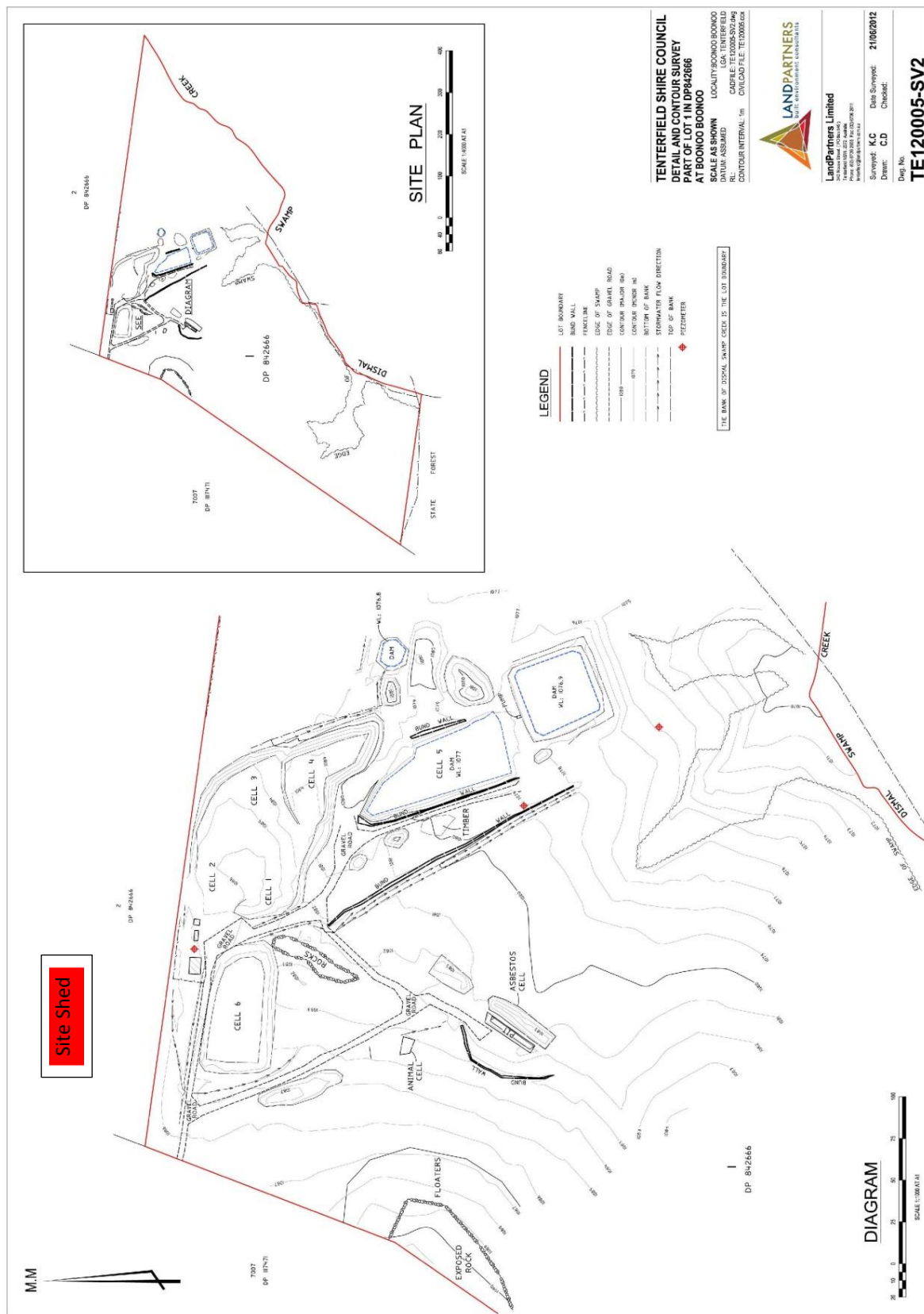






Figure 4-3 Tenterfield Waste Transfer Station



Figure 4-4 Liston Waste Transfer Station



Figure 4-4 Urbenville Waste Transfer Station

Part 5 Forms

Form 1 PIRMP – Amendment Form

POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN TESTING & AMENDMENT NOTIFICATION FORM			
Following a review of the Pollution Incident Response Management Plan that was conducted on (date to be added), the following amendments to the plan have been made. Accordingly these changes are to be incorporated into the Pollution Incident Response Management Plan document which is kept by you.			
DISTRIBUTION • Master copy • Site copy • Principal Contractor			TEST DATE
			TEST CONDUCTED BY
DATE	PAGE	PLAN SECTION	DESCRIPTION OF CHANGE
MANAGEMENT AUTHORIZATION..... DATED.....			
I acknowledge receipt of the amendments to this PLAN and have incorporated into the document for which I am responsible.			
Signed..... Dated.....			

Form 2 PIRMP – Communications Recipients Schedule

Affected Property	Name of Contact	Contact Details	Notes

Form 2 PIRMP - Training

Pollution Incident Response Management Plan Training/Competency Summary			
Operational staff	Training/Competency Program		
	Program A – Site Environmental Induction	Program B – Fire Fighting	Program C – Hazardous Substance & Dangerous Good Management
Name & Position	Date of Training Completion		

Form 4 PIRMP - SOP Training

Training Standard Operating Procedure
Purpose and Scope To ensure the safe and effective management at Tenterfield Shire Council, it is essential that all relevant staff receive training appropriate to their position, duties and level of responsibility. The purpose of this procedure is to outline the minimum training requirements which are applicable to staff involved in the operations of the waste management facility and in the provision of waste management services. Primary Environmental Goal – Adequate staffing and training. Benchmark Technique 39.
Procedure/Standard Staffing and training requirements shall be adequate to enable proper management and service delivery Staff will undergo a variety of training to ensure an adequate level of skill and education is possessed to enable all tasks and activities to be carried out successfully. Training will be conducted in house, on the job or by external providers. The guidance for specific training programs that are integral to the operation of Council's facilities is described below.
Program A – Site Environment Induction Key points to be covered in this program may include: • environmental impacts of the landfill • pollution incident response • waste identification and rejection procedures • hours of operation and traffic management • environmental mitigation measures and controls • record keeping and reporting • waste placement, compaction and covering This training would be in-house and would be provided by the Council's waste officers, the site contractor or his representative or by consultants. Training would be provided when new staff commence at the site. Ongoing "on the job" training will also be necessary.
Program B – Fire Fighting Key points to be covered in this program may include: • Types of fires (eg oil, electrical) • Determining responsibilities in the event of a fire (staff/fire brigade) • Procedures for extinguishing fires • Types/location and maintenance of firefighting equipment • Prevention of fires

- Procedures for communication in the event of fire

This training would be undertaken at the site in the form of a toolbox talk and may include practical demonstrations. The training would be prepared and delivered by suitably qualified personnel, with input may also be provided by officers of the local NSW Fire and Rescue.

Program C – Hazardous Substance and Dangerous Goods Management

Key points to be covered in this program may include:

- Use and interpretation of material safety data sheets
- Identification of hazardous materials
- Handling of hazardous materials
- Labelling of containers
- Storage and transport of hazardous substances and dangerous goods
- Spill management and basic first aid procedures
- Compatibility of materials.

This training would be provided by a suitable service provider. Where required, additional input may be required from external Workcover Accredited WHS Consultants.

Training Records

A record of all training undertaken will be maintained at Council's Offices and will be made available for inspection by authorised personnel.

Benefit of Compliance to Procedure:

- Impacts on the natural environment are minimised
- Operational issues identified
- Demonstrated operational competency
- Employees safety protected
- Health and safety of public/facility user protected
- Meeting environmental goal

Consequence of Non-Compliance to Instruction:

- Violations and/or fines from Regulatory Agencies
- Pollution of the environment
- Unresolved operational issues
- Injury/Death to employee
- Injury/Death to public/facility users
- Violations and/or fines from Regulatory Agencies

Reviewed by:

Date:

Approved by:

Date

Form 5 PIRMP – Exercise Evaluation Form

POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN EXERCISE EVALUATION FORM		
Facility:		
Date: ____/____/20____	Time Began:	Time completed:
EMERGENCY SEQUENCE:		
<u>Were the below tasks undertaken?</u>		
☐ Incident uncovered	☐ Evacuation completed (if necessary)	
☐ Assessment of significance	☐ Pollution contained	
☐ Initiation of incident response/notification of incident	☐ Clean up commenced	
☐ Evacuation alarm sounded (if necessary)	☐ Clean up completed	
☐ Incident control/remediation action commenced	☐ All clear given	
☐ Evacuation commenced (if necessary)	☐ Pollution Incident Report Form completed	
☐ Warden checks for personnel present (if necessary)	☐ Exercise terminated	
COMMENTS		
1. Compliance with Standard Operating Procedures (SOP's)		
2. Competency of Employees assessment		
3. Time frames for response		
4. What went well		
5. What didn't work well		
6. General Comments/Recommendations for action		
OBSERVER		
SIGNED		Date ____/____/20____

Form 6 PIRMP - Pollution Incident Report Form (A)

POLLUTION INCIDENT REPORT FORM (A)			
Date of Incident:	___/___/20__	Time of Incident:	_____am/pm
Nature of incident Eg: Leachate discharge, Fire, Chemical spill.			
Location of incident Where did it occur?			
Type and quantity of material involved			
Outline action initiated in response to incident			
Was it necessary to initiate the major incident notification protocol?			
Was the Community Notification and Communications Plan activated?			
Was action in accordance with SOP? If not - why?			
Is there a need to review SOP in response?			
Date and time of details provided to the Manager Water & Waste			
Name of Reporting Person			
Management Authorization..... Dated...../...../20.....			

Form 7 PIRMP - Pollution Incident Report Form (B)

POLLUTION INCIDENT REPORT FORM (B)			
DISCHARGE/OVERFLOW			
Date of Incident:	___/___/20__	Time of Incident:	_____am/pm
Nature of incident Eg: leachate dam overflow, leachate spring eruption.			
Details of person reporting or witnessing the leachate discharge or overflow			
Location of incident Where did it occur?			
Date and time of commencement of the discharge			
Assessed volume of discharge or overflow			
Period of time the discharge or overflow occurred			
Weather conditions at the time of the discharge or overflow.			
Daily rainfall in mm on the day of the discharge. Rainfall for the week prior to the discharge			
Most recent monitoring results of the chemical composition of the leachate.		Attach analytical results	
Explanation as to why and how the discharge occurred			
Plan of Action to prevent a similar discharge			
Name of Reporting Person			
Management Authorization..... Dated.....			

Environmental Monitoring Plan (EMP)

Overview - Boonoo Boonoo Landfill

The following procedures define the protocol for undertaking site inspection and audits at the Boonoo Boonoo Closed Landfill with the aim of:

- identifying non-conformance with Environmental legislation and to implement corrective actions where necessary
- ensuring delivery of the requirements of the Environmental Protection Licence (EPL) and meeting the objectives of the LEMP

Auditing and Inspection Program – Overview		
Type of Audit	Frequency	Responsibility
Site Inspection	Daily, weekly, monthly, quarterly and after a rainfall event that causes significant run-off (>25mm event)	Site operator and verified by TSC Manager Water & Waste
Site Audit	Quarterly, six monthly	TSC Manager Water & Waste
EMP Audit	Annual	TSC Director of Environmental Services

The inspection and auditing functions are to be undertaken in accordance with the following requirements:

Site Inspection Checklist

Landfill								
Boonoo Boonoo Landfill Site Inspection Checklist								
Date:						Inspected by:		
Issue	Inspection Frequency and Acknowledgement					Satisfactory Y/N	Action Taken	Comments
Perimeter fence secure and intact. Gates shut and secured.	Monthly	Week 1	Week 2	Week 3	Week 4			
Stormwater detention basin – empty and de-silted	Monthly/ After rain							
Site re-vegetation condition areas are in good condition – no exposed faces/waste, erosion	Monthly							
Site vegetation control –slashing completed, evidence of weed infestation	Monthly							
Leachate pumps operational	Daily	Week 1	Week 2	Week 3	Week 4			
Leachate dam/well sound – no erosion, slips, evidence of overflow	Quarterly							
Leachate drainage lines and discharge lines in place, intact and secure	Monthly							
Final capping applied to finished landform design.	Quarterly							
No evidence of erosion of the capping	Monthly/ After rain							
No evidence of leachate eruption through the capped zone/landfill toe/batters	Monthly/ After rain							
No evidence of litter eruption through the capped zone	Monthly							
Landfill								

Boonoo Boonoo Landfill Site Inspection Checklist

Date:						Inspected by:		
Issue	Inspection Frequency and Acknowledgement					Satisfactory Y/N	Action Taken	Comments
Condition and functionality of stormwater infrastructure. Sound.	Monthly/ After rain							
No evidence of sedimentation downstream of stormwater basin	Monthly/ After rain							
No evidence of soil tracking onto road surfaces	Weekly/ After rain	Week	Week 2	Week 3	Week 4			
No signs of dust generation around perimeter of site	Weekly	Week	Week 2	Week 3	Week 4			
Surface of hardstand areas intact/repairs or rectification required	Monthly							
No evidence of feral animal activity	Quarterly							
Record of Incidents up to date	Daily	Week 1	Week 2	Week 3	Week 4			
No evidence of fly infestations at stockpile areas	Weekly	Week 1	Week 2	Week 3	Week 4			

Confirmed by site officer Satisfactory ☐ Unsatisfactory ☐ _____

Verified by the Manager Water & Waste Satisfactory ☐ Unsatisfactory ☐ _____

Date _____

Feral Animal Inspection & Acknowledgement

Feral Animal Inspection and Acknowledgement							
Animal	January	April	July	October	Presence Y/N	Action Taken	Comments
Feral Cats							
Rats/mice							
Dogs							
Foxes							

Confirmed by site officer

Satisfactory

☐

Unsatisfactory

☐

Verified by the Manager Water & Waste

Satisfactory

☐

Unsatisfactory

☐

Date

Six-Monthly checklist

Six Monthly Site Audit					
Boonoo Boonoo Landfill Six Monthly Audit Checklist					
Date:				Conducted by:	
Issue	Activity Frequency and Acknowledgement		Satisfactory Y/N	Action Taken	Comments
Water quality monitoring undertaken(surface water, ground water and leachate)	Quarterly				
Leachate management system intact and operational	Quarterly				
Intermediate cover applied to filled areas	Quarterly				
Final capping applied to final landform.	Quarterly				
Surveys undertaken to confirm final landform design is being achieved	Six Monthly				
Vermin – inspection undertaken	Quarterly				
Fire Safety Certificate inspection undertaken for all essential fire safety equipment onsite. Fire breaks being maintained.	Annually				
Activities confined to appropriate areas	Quarterly				
Conditions of EPA licence for facility being met	Quarterly				
Incident reporting –entries correct and complete	Six Monthly				
Register of weekly site inspections –complete	Six Monthly				
Review of on-site procedures against EMP undertaken	Six Monthly				
SOPs provided by site management contractor and understood by staff. Training up to date.	Six Monthly				
Annual inspection of stormwater infrastructure undertaken (corrective action if required)	Annually				
Review of incident reports and corrective actions	Six Monthly				
Review of dust and sediment control requirements	Quarterly				

Verified by the Manager Water & Waste Satisfactory ☐ Unsatisfactory ☐ _____

Date _____

EMP Audit

Annual Environmental Management Plan Audit					
Boonoo Boonoo Landfill: Annual audit of EMP					
Date:				Conducted by:	
Issue	Activity Frequency and Acknowledgement		Satisfactory Y/N	Action Taken	Comments
Review of environmental monitoring records.	Annual				
Review of environmental management documentation including EMP, PIRMP, SOPs, registers and reporting	Annual				
Interview with staff site personnel, and relevant contractors to ensure an understanding of the EMP requirements are satisfactory	Annual				
Review of non-conformance reports, weekly inspection checklist, six monthly audit.	Annual				
Identification and implementation of any improvements to the operation of the facility	Annual				
Annual water quality (surface water, ground water and leachate) reports prepared. Trend information used in review of EMP	Annual				
Annual Return submitted to EPA in accordance with EPL requirements					

Verified by the Manager Water & Waste Satisfactory ☐ Unsatisfactory ☐ _____

Date _____