



YASS WATER TREATMENT PLANT
EPA LICENCE 1805
POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN
(PIRMP)

JULY 2023

YASS VALLEY COUNCIL

yass valley council
the country the people

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Foreword

The Pollution Incident Response Management Plan (PIRMP) for the Yass Water Treatment Plant (WTP) is a document that has been developed to be used by Yass Valley Council in the operation and management of incidents at the Yass WTP. The purpose of the PIRMP is to ensure that, where possible, pollution incidents are avoided, but if they do occur they are managed appropriately to minimise the effects on the environment and to human health.

This PIRMP addresses the requirements under the *Protection of the Environment Legislation Amendment Act* (POELA Act) 2011.

The objectives of the plan are to:

- Communicate in a timely manner and with sufficient detail about a pollution incident to relevant authorities and people outside the facilities who may be affected by the impacts of the pollution incident.
- Minimise and control the risk of any pollution incident occurring at the facilities 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.

This PIRMP is to be continually updated and reviewed by the Engineer Water and Wastewater, Yass Valley Council.

PIRMP was updated on the 24 July 2023.

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1 Introduction

The township of Yass is located 282 km southwest of Sydney on the Hume Highway adjacent to the Yass River. Yass has a population of approximately 7,200 people in 2020. The town of Yass lies within the Yass Valley Local Government Area (LGA). Yass Valley Council owns and operates the water treatment plant (WTP) servicing the town and villages of Binalong and Bowning.

1.1 Water Treatment Plant

The Yass WTP comprises the following components:

- A raw water pumping station
- A Potassium permanganate dosing system
- A liquid alum storage and dosing system
- A polymer batching and dosing system
- A flocculation tank
- A dissolved air floatation system including a compressed air system and recycle pumps
- A soda ash silo and a soda ash dosing system
- A powdered activated carbon dosing system
- A gravity sand filtration system, air blower and associated backwash system
- A clear water tank and two clear water reservoirs
- Service and clear water pumps
- A Fluoride dosing system
- A Chlorination system; and
- Two sludge lagoons.

Raw water to this plant (built in 1990) is drawn from the Yass Dam. WTP is designed for treatment and disinfection for a maximum flow of 165 L/s (13 ML/d). Treated water is then transferred to various reservoirs and distributed to the Yass town and the villages of Binalong and Bowning. Back wash water from the WTP's four filters and the sludge from the dissolved air flotation tank are being discharged into two sludge lagoons and finally flow into Yass River under the Environmental Protection Licence (EPL) No.1805. Location map of Yass WTP is shown in **Figure 1.1** and the WTP process schematic is shown in **Figure 1.2**.

1.2 Scope of the PIRMP

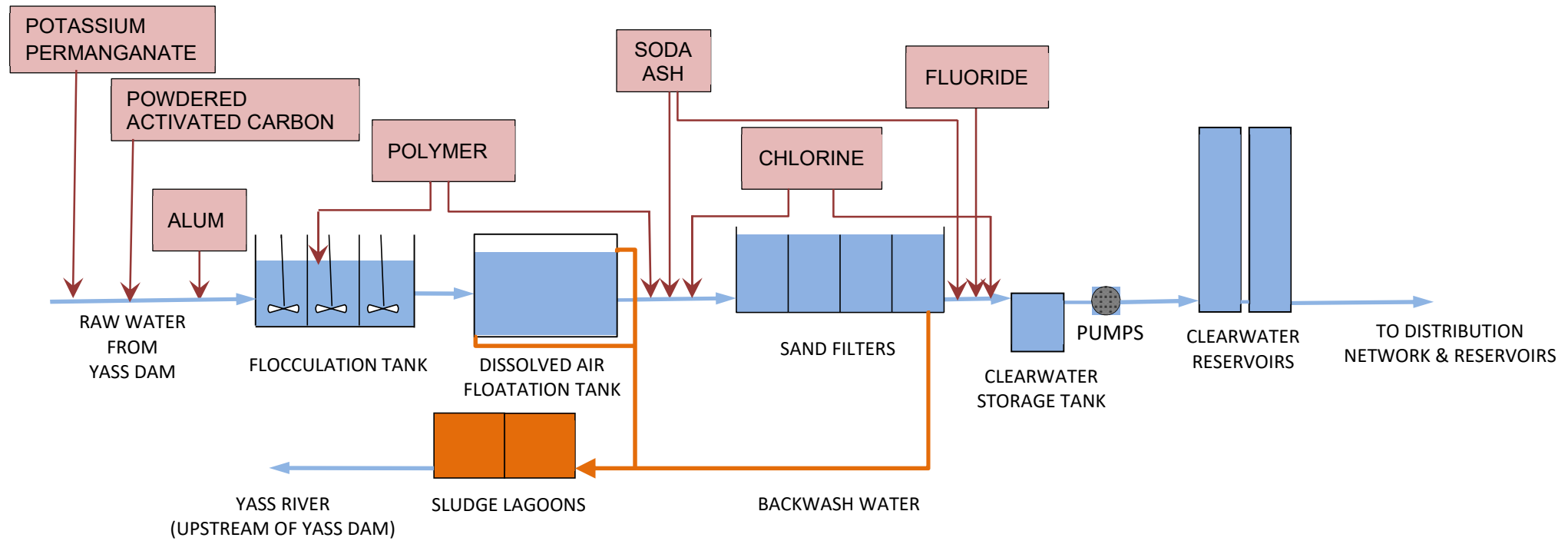
The scope of the plan is as follows:

- Description and likelihood of hazards
- Pre-emptive actions to be taken
- Inventory of pollutants
- Safety equipment
- Contact details
- Incident classification and notification
- Minimising harm to persons on the premises and neighbours
- Maps showing the location of scheme components
- Actions to be taken during or immediately after a pollution incident; and
- Staff training.

Figure 1.1 **Location Map of Yass Water Treatment Plant**



Figure 1.2 Yass Water Treatment Plant Process Schematic



2 Context of the Assessment

2.1 Background

Under the *Protection of the Environment Legislation Amendment Act* (POELA Act) 2011 is the requirement to prepare, keep, test and implement a pollution incident response management plan for each environmental protection licence that Council holds.

The objectives of these plans are to:

- communicate in a timely manner and with sufficient detail about a pollution incident to relevant authorities and people outside the facilities who may be affected by the impacts of the pollution incident;
- minimise and control the risk of any pollution incident occurring at the facilities by requiring identification of risks and the development of planned actions to minimise and manage those risks; and
- 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.

The NSW EPA defines a ‘pollution incident’ as follows:

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

A pollution incident is required to be notified if there is a risk of ‘material harm to the environment’, which is defined in section 147 of the POELA Act 2011 as:

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and

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

Industry is now required to report pollution incidents *immediately* to the NSW EPA, NSW Health, Fire and Rescue NSW, SafeWork NSW and the local council. ‘Immediately’ has its ordinary dictionary meaning of promptly and without delay. These strengthened provisions will ensure that pollution incidents are reported directly to the relevant response agencies so they will have direct access to the information they need to manage and deal with the incident in as fast a time as is practical.

2.2 Council Commitment

Yass Valley Council is committed to protecting the health and safety of the public, the environment and its workers. The Tablelands Regional Community Strategic Plan 2016-2036 (TRCSP) in which Yass Valley Council is a member addresses the long term needs particularly in relation to protecting the natural environment.

Strategic Pillar:

Environment is one of the strategic pillars on which TRCSP is based on and states *“We appreciate our range of rural landscapes and habitats, and acts as custodians of the natural environment for the future generations”*.

NSW Local Government Legislation

The *Local Government Act 1993* contains a Charter for Local Government which describes the approach to supplying services and activities. It charges local government with a number of responsibilities including, but not limited to, the following:

- to provide directly or on behalf of other levels of government, after due consultation, adequate, equitable and appropriate services and facilities for the community and to ensure that those services and facilities are managed efficiently and effectively
- to exercise community leadership
- to properly manage, develop, protect, restore, enhance and conserve the environment of the area for which it is responsible, in a manner that is consistent with and promotes the principles of ecologically sustainable development
- to bear in mind that it is the custodian and trustee of public assets and to effectively account for and manage the assets for which it is responsible
- to engage in long-term strategic planning on behalf of the local community; and
- to keep the local community and the State government (and through it, the wider community) informed about its activities.

2.3 Regulatory and Formal Requirements

The regulatory and formal requirements applicable to the operation of Yass WTP are shown in **Table 2.1**. These legislative, licensing requirements and guidelines are to be met to ensure the protection of public health and environmental health as well as to satisfy Work Health and Safety (WH&S) requirements. This PIRMP addresses how these requirements are to be met.

Table 2.1 Formal and Regulatory Requirements

Parameter	Instrument	Administered by
Overall Scheme Operation	<i>Water Management Act 2000</i>	NSW EPA
	<i>Local Government Act 1993</i>	NSW Office of Water
Public Health	<i>Environment Operations Act 2011</i>	NSW EPA, NSW Health
Environmental Health	<i>Section 55 Protection of the Environment Operations Act 2011 Environment Protection Licence 1805</i>	NSW EPA
Work Health and Safety	<i>Work Health and Safety Act 2011 (WHS Act) and the WHS Regulations 2017</i>	SafeWork NSW
Plumbing	All pipe work is to be installed in accordance with AS/NZS 3500 (Plumbing and Drainage Code: Standards Australia 1996-2003)	Yass Valley Council

The Operations Engineer Water and Wastewater of Yass Valley Council is responsible for the review and evaluation of this PIRMP.

2.4 NSW EPA Licence

The Environment Protection Licence No. 1805 applies to the discharges from the Yass WTP. The licence restricts the effluent discharge from downstream of the sludge lagoon as shown in **Table 2.2**.

Table 2.2 Effluent Quality Licence Requirements

Parameter	Limit (100 percentile limit)
pH	6.5 - 8.5
Suspended Solids, mg/L	50

Effluent from the sludge lagoon is discharged to Yass River/Yass Dam. Discharge volume must not exceed 270 kL/d.

3 Assessment of the Risks

3.1 Risk Methodology

An initial risk assessment was undertaken at the Yass WTP on the 16 October 2014 and reviewed on 28 June 2022. The objectives of this assessment were to:

- a) identify the hazards
- b) identify hazardous events
- c) assess the likelihood of the event and factors that may increase the likelihood
- d) assess the impacts of the hazard; and
- e) assess the overall risk.

The risk assessment is reviewed as part of annual update of the PIRMP and after any activation of PIRMP.

Definition of likelihood, impact and risk criteria used in the assessment are shown in in **Table 3.1**, **Table 3.2** and **Table 3.3**.

Table 3.1 Definitions of Likelihood

Level	Likelihood	Description
A	Almost certain	- The event is expected to occur often (several times per year)
B	Likely	- The event will probably occur often (once every 1-3 years)
C	Possible	- The event might occur at some time (once every 3 to 10 years)
D	Unlikely	- The event could occur at some time (once every 20 years)
E	Rare	- The event may occur only in exceptional circumstances (once every 100 years)

Table 3.2 Definitions of Impact

Level	Classification	Example Definition Human Health	Example Definition Environment
1	Catastrophic	Severe illness or death affecting a large population	Severe permanent environmental impact.
2	Major	Severe illness or death affecting a small population	Severe long term environmental impact.
3	Moderate	Short-term, low-level illness affecting a large population	Localised, medium term environmental impact.
4	Minor	Short-term, low-level illness affecting a small population	Localised, short term environmental impact.
5	Insignificant	No detectable human health illness.	No detectable environmental impact.

Table 3.3 Risk Analysis Criteria

Likelihood	Impacts				
	Catastrophic 1	Major 2	Moderate 3	Minor 4	Insignificant 5
Almost Certain – A	Very High	Very High	High	Moderate	Low
Likely – B	Very High	Very High	High	Moderate	Low
Possible – C	Very High	High	Moderate	Moderate	Low
Unlikely – D	Very High	High	Moderate	Low	Low
Rare – E	High	Moderate	Low	Low	Low

Table 3.4 Risk Register Yass WTP

NO.	CONTAMINANT	HAZARDOUS EVENT	PUBLIC HEALTH RISK	ENVIRONMENTAL RISKS	LIKELIHOOD (Refer note at the end of this table)	EVENTS OR CIRCUMSTANCES THAT INCREASE LIKELIHOOD	IMPACT	ASSESSED RISK	PRE-EMPTIVE ACTIONS (EXISTING CONTROLS)	RESIDUAL RISK
1	Chlorine	Major gas leak e.g. drum, valve or pipe failure	X	X	Unlikely	Wind direction towards nearby houses	Major	HIGH	Valve outlet caps /protection covers, Trained operators in chlorine dosing. Regular maintenance. Chlorine sensor and alarm system, Voice message to Water On-Call Officer, Automatic shutdown of chlorine drums in the event of a leak. Signage, Windsock, SCBA (Self-Contained Breathing Apparatus).	MODERATE
2		Minor gas leak e.g. leaking pipe	X		Unlikely		Moderate	MODERATE		LOW
3		Gas leak due to fire	X	X	Rare		Major	MODERATE		LOW
4	Potassium Permanganate	Minor spill – tank, fitting or pump failure	X	X	Possible		Minor	MODERATE	Good housekeeping. Regular inspection of pipework and fittings	LOW
5	Alum	Major spill due to tank failure		X	Unlikely	Bund not comply with AS 3780 – 2008: The storage and handling of corrosive substances.	Major	HIGH	Latest tank design and installation method. Regular inspection of pipework/tanks. Note: Storage tanks and pipework were replaced in June 2016.	HIGH
6		Minor spill due to pipe failure		X	Possible		Minor	MODERATE		MODERATE
7	Alum	Minor spill during transfer from truck		X	Possible		Minor	MODERATE		MODERATE

Pollution Incident Response Management Plan – Yass WTP

NO.	CONTAMINANT	HAZARDOUS EVENT	PUBLIC HEALTH RISK	ENVIRONMENTAL RISKS	LIKELIHOOD (Refer note at the end of this table)	EVENTS OR CIRCUMSTANCES THAT INCREASE LIKELIHOOD	IMPACT	ASSESSED RISK	PRE-EMPTIVE ACTIONS (EXISTING CONTROLS)	RESIDUAL RISK
8	Polymer	Major spill – tank, fitting or pump failure		X	Unlikely	Access issues due to slippery floor	Moderate	MODERATE	Good housekeeping. Regular inspection of pipework and fittings	LOW
9		Minor spill - pipe or fitting failure		X	Possible		Moderate	MODERATE		LOW
10	Sodium Fluoro-silicate	Minor spill - bag ruptures		X	Possible	Wind direction	Insignificant	LOW	Restricted Entry to dosing room, PPE, Operators trained in Fluoride Dosing.	LOW
11		Sabotage	X	X	Rare		Minor	LOW	Restricted Entry to dosing room (locked), treatment plant fenced.	LOW
12	Powdered Activated Carbon	Minor spill - bag ruptures		X	Possible	Wind direction	Insignificant	LOW	PPE, Operators trained in chemical dosing.	LOW
13	Soda ash	Minor spill – feeder, pipe or pump failure		X	Unlikely	Access issues due to slippery floor	Minor	LOW	PPE, Operators trained in chemical dosing, Good housekeeping, inspection of pipes/fittings, flushing of dosing lines	LOW
14	Sludge lagoons	Discharged quality SS and pH outside of the licence conditions		X	Unlikely	Excessive accumulation of sludge	Minor	LOW	Regular monitoring of the effluent quality Note: Sludge Lagoons No. 1 and 2 were desludged in March 2013 and in February 2016.	LOW

3.2 Major Findings

From the Risk Register outlined in Table 3.4, the followings were identified:

- a) There were no VERY HIGH risks;
- b) HIGH risks included the followings;
 - a. Major chlorine gas leak;
 - b. Major spill of alum due to insufficient bund capacity;
- c) MODERATE risks included the followings;
 - a. Minor chlorine gas leak;
 - b. Minor alum spill (pipe failure or during transfer);
 - c. Potassium Permanganate spill;
 - d. Major or minor Polymer spill; and
- d) All other identified risks were assessed as LOW risks.

4 Preventative Actions to be Undertaken

4.1 General

The preventative actions or measures to manage and minimise the risk to human health, the environment and property involve a multiple barrier approach. The controls considered and used in order of preference, are as follows:

- Elimination
- Substitution
- Isolation
- Engineering
- Administrative; and
- Personal Protection Equipment.

A combination of these are used and can be:

- Appropriate design of the facilities
- Appropriate operation and monitoring; and
- Appropriate education and training.

4.2 Preventative Action

Current preventative actions and the additional preventative actions that have been identified are listed in **Table 4.1**. Photos of the existing measures are shown in **Photos 4.1 – 4.5**.

Polymer dosing system - currently has access issues. These access issues will need to be rectified to ease operation and maintenance of the controls on the polymer system.

Alum dosing system – the existing bund and compound does not comply with the current standards with respect to inadequate emergency storage capacity. A new bund area is required, that complies with AS 3780 Storage and handling of corrosive substances.

Table 4.1 Preventative Measures

Site	Potential Hazards	Existing 'Preventative' Actions	Proposed New Measures
Chlorination System	Release of gas - Major	Valve outlet caps, Valve protection covers, SCBA, PPE Mechanical ventilation Operator training Signage, SDS Staff check/inspect daily Annual maintenance/servicing of dosing lines/equipment Gas detectors, one in the room and one in the vent are connected to alarm and to the telemetry PIRMP	1. Fire alarm system for the chlorination room 2. Automatic weighing scales (Note: manual scale is available)
	Release of gas – Minor	Pressure relief valves, SCBA, PPE Operator training Backup personnel SDS Staff check / inspect daily Annual maintenance/servicing of dosing lines/equipment Gas detectors, one in the room and one in the vent are connected to alarm and to the telemetry PIRMP	1. Fire alarm system for the chlorination room

Site	Potential Hazards	Existing 'Preventative' Actions	Proposed New Measures
Soda ash	Major leaks	Bulky bin Staff check /inspect daily	No additional measures required as this was assessed as LOW risk.
	Minor Leaks – Transfer between tanker and storage	Staff check / inspect during loading	
Potassium Permanganate	Minor spills	Staff check / inspect daily	No additional measures required as this was assessed as LOW risk.
Polymer	Major or minor Spills	Staff check / inspect daily Drains to settlement lagoon	Provision of adequate access to the tanks and controls
Alum	Major or minor spill or leak	Staff check / inspect daily	Provide adequate bund capacity to AS 3780. Installation of Safety shower and eyewash
Sodium Silico Fluoride	Major or minor spills	SCBA Signage Staff check / inspect daily	Upgrade fluoride dosing system to avoid manual loading of fluoride nags.

Photo 4.1 Alum Storage Tanks



Photo 4.2 Polymer Dosing Area



Photo 4.3 Soda Ash Storage and Dosing Area



Photo 4.4 Chlorine Gas Storage and Dosing Area



Photo 4.5 Emergency Breathing Apparatus



5 Inventory of Pollutants and MDS

5.1 Inventory and Usage of Chemicals

The following chemicals are used in the water treatment process at the Yass WTP:

- Potassium permanganate to oxidise soluble manganese in raw water
- Alum for coagulation at the mixing tanks
- Soda ash to adjust the pH of DAF effluent and the filtered water
- Polymer as coagulant aid at the flocculator and at the DAF effluent channel
- Chlorine as the disinfectant and oxidizing agent. The levels of free chlorine in the water are continuously monitored to ensure that sufficient chlorine is available for disinfection and to prevent any recontamination in the distribution.
- Sodium Silico Fluoride for dental protection.

The list of chemicals stored onsite are listed in **Table 5.1** (next page)

List of SDS are included in **Appendix A** and copies are also kept in the Laboratory.

5.2 Sludge Lagoons

Other pollutants stored at Sludge Lagoons are as follows:

- Effluent - The waste from the DAF tanks and from backwashing of the filters is stored in two sludge lagoons. Supernatant from these lagoons is discharged to the Yass River.
- Sludge – sludge is stored in the sludge lagoons.

Effluent sampling results from June 2022 to May 2023 are summarised in **Table 5.2** below

Table 5.1 Effluent Quality

Date Sampled	pH (6.5 – 8.5)	Suspended Solids (mg/L) (Max. 50 mg/L)
15 Jun 22	7.55	19
06 Jul 22	7.83	20
11 Aug 22	7.65	73*
14 Sep 22	8.18	12
05 Oct 22	7.77	112*
03 Nov 22	6.95	18
05 Dec 22	7.73	13
12 Jan 23	8.13	7
03 Feb 23	8.18	7
09 Mar 23	8.36	6
04 Apr 23	8.28	4

Note: * Prevailing Wet weather events caused exceedances of SS on 11 Aug 2022 and 5 Oct 2022.

Table 5.2 Potential Pollutant List

<i>Potential Pollutant</i>	<i>Location</i>	<i>Chemical Name and Formula</i>	<i>Use</i>	<i>Maximum Amount of Storage</i>	<i>Manufacturer / Supplier</i>
Soda Ash	Dosing room	Sodium Carbonate (Na ₂ CO ₃)	For pH adjustment	15 tonnes	REDOX
Alum	Storage Tank Adjacent to Main Building of WTP	Aluminium Sulphate (Al ₂ (SO ₄) ₃ .14H ₂ O)	Coagulant	30 kL	NOWCHEM
Polymer	Chemical Dosing Room	MAGNAFLOC LT22	Coagulant aid	3 x 25 kg bags	D-BASF
Liquefied Chlorine Gas	Chlorine Room & Shed	Cl ₂	Disinfectant	3 x 920 kg drums	IXOM
Liquefied Chlorine Gas	Shed	Cl ₂	Disinfectant	1 x 70 kg cylinder	IXOM
Slow-Release Tablets	Shed	Calcium Hypochlorite	Disinfectant	24 x 20 kg buckets	LONZA
Sodium fluoride	Fluoride Dosing Room	Sodium fluorosilicate (NaSiF ₂)	For dental protection	48 x 22.68 kg bags	Consolidated Chemicals
Potassium Permanganate	New Dosing Shed	Potassium Permanganate (KMnO ₄)	To oxidise dissolved manganese	12x25 kg buckets	Consolidated Chemicals
Powdered Activated Carbon	PAC Plant Building	Powdered Activated Carbon	For algae / odour control	48 x 20 kg bags	Activated Carbon Technologies
Supernatant from the sludge lagoons	Sludge lagoons	Suspended solids and pH	By-product of water treatment process	Approx. 2 x 3.8 ML ponds	YVC

6 Safety Equipment

Safety equipment, other devices and information that are onsite will minimise the risks to human health or the environment or property and contain or control a pollution incident. These will include any PPE, SDS, monitoring devices and spill containment facilities and equipment.

6.1 List of PPE Equipment

The following PPE safety equipment is available to operators:

Table 6.1 List of PPE Equipment Available

Personal Protective Equipment	Location
High Visibility Vest	Personal
Protective gloves	Chemical dosing room
Dust mask	Chemical dosing room
Safety goggles	Chemical dosing room
Safety glasses	Chemical dosing room
Safety apron	Chemical dosing room
Gumboots	Personal
SCBA	Wall Cabinet on the Clear Water Reservoir

6.2 List of Monitoring Devices

The following monitoring devices are available on-site:

Table 6.2 List of Monitoring Devices

System	Monitoring Devices	Comments
Chlorination system	Chlorine gas leak detector	Continuous monitoring connected to alarm at WTP and to telemetry
Supernatant from Sludge Lagoons	pH and Turbidity meters	Laboratory analysis

7 Roles, Responsibilities and Contact Details

7.1 Stakeholder Responsibilities and Engagement

Yass Valley Council has committed to operating its WTP in a responsible manner. Effective stakeholder engagement is necessary to fulfil this commitment. **Table 7.1** presents the stakeholders involved in the operation of the WTP, sets out their roles, the communication expected to occur to achieve safe operation of the plant. Further information on the communication protocols are addressed in Section 7.3, and in Chapter 8.

Table 7.1 Stakeholder Responsibilities and Engagement

Stakeholder	Responsibility	Communicates with	Reason
Director Infrastructure and Assets	Overall scheme responsibility	Manager Water and Wastewater	Management of operations staff
		NSW Health	Health advice, reporting incidents
		NSW EPA	Reporting on Licence compliance, reporting incidents
		Community of Yass	Advice where required during incidents
		StateCover &/or Safework NSW	Reporting of injuries, accidents and incidents, as required
Manager Water and Wastewater	Management of scheme operation and maintenance, emergency response	Coordinator Water and Wastewater, Council operators, Engineer Water and Wastewater and Director Infrastructure and Assets	Management of operations staff, reporting issues regarding operation, maintenance and compliance to Council, resolving site issues,
	Works at WTP and works near water pipelines	Construction companies	Council approval needed for work at WTP and any excavation in road reserves to minimise risks to pipelines.
Operations Engineer Water and Wastewater	Operation and maintenance, emergency response	Manager Water and Wastewater, Water & Wastewater Coordinator and Director of Infrastructure and Assets	Technical support to operations staff, reporting issues regarding operation, maintenance and compliance to Council
Coordinator, Water and Wastewater	Operation and maintenance and emergency response	Council operators, Manager Water and Wastewater and Director of Infrastructure and Assets	Communicates issues regarding operation, maintenance and compliance
	Maintenance or Construction works at WTP	Contractors	To ensure safe work methods are followed
Council WTP operators	Day to day operation of WTP and response to incidents or emergencies	Coordinator Water and Wastewater and Engineer Water and Wastewater	Communicates issues regarding operation, maintenance and compliance
Police /Fire brigade/HAZMAT/ Ambulance/ SES	Response to emergencies	Director Infrastructure and Assets	Response to spills, injuries, accidents

7.2 List of Contact Details

The contact details of the stakeholders are listed below in **Table 7.2**. Contact information can be used in notifying the relevant authority in the event of a pollution incident.

Table 7.2 Stakeholder Contact Details

Organisation	Position and Contacts	Phone	Email
Yass Valley Council	After hours contact number (Duty Officer)	0408 625 694	council@yass.nsw.gov.au
	Business hours contact number	02 6226 1477 1300 553 652	council@yass.nsw.gov.au
	Director Infrastructure and Assets Nathan Cooke	02 6226 1477	ncooke@yass.nsw.gov.au
	Manager Water and Wastewater Kuga Kugaprasatham	02 6226 1477	kkugprastham@yass.nsw.gov.au
	Engineer Water and Wastewater	02 6226 1477	Position Vacant
	Operations Engineer Water and Wastewater Sai Parameswaran	02 6226 1477	sparameswaran@yass.nsw.gov.au
	Coordinator Water and Wastewater Aaron Shepherd	02 6226 1477	ashepherd@yass.nsw.gov.au
	Water-on-Call	0428 636 566	
NSW EPA	Pollution Line	13 15 55	
Ministry of Health	Public Health Unit Goulburn	1300 066 055	
NSW Office of Water	Water and Sewerage Inspector Chris Carlon	0419 624 576 02 4275 9318	chris.carlon@dpie.nsw.gov.au
Fire and Rescue NSW		1300 729 579	
HAZMAT		000	
Poisons Information Line		13 11 26	
State Emergency Service (SES)	Police, Fire Brigade, Ambulance, HAZMAT	000	
SafeWork NSW		13 10 50	

7.3 Council's Procedures for Contacting Staff to Respond to a Possible Incident

WTP Operator (Water-on-Call)

All WTP telemetry alarms are transmitted by text message to the WATER On-Call (Duty Operator).

The Operator will attend to an alarm immediately and report to the Coordinator Water and Wastewater.

Yass Residents

The following procedure is followed when an incident is noticed by a resident.

During normal office hours – 8.30am to 4.30pm Monday to Friday

Residents contact the Yass Valley Council Office on 02 6226 1477 (or 1300 553 652). The Customer Service Officers collect the details of the incident (including contact details of the person making the report) and immediately notify the relevant officers on their mobile telephone. For Yass WTP the following hierarchy is used for notification.

Customer Service Officer → Water On-Call → Coordinator Water and Wastewater → Operations Engineer Water and Wastewater → Manager Water and Wastewater → Director Infrastructure & Assets

The Customer Service Officers call those on the list until an officer answers and takes the incident details. The Officer then responds immediately to the incident.

After hours – 4.30pm to 8.30am weekdays and all-day Saturday and Sunday

Residents contact the Yass Valley Council Office on 02 6226 1477 (or 1300 553 652). The Duty Officer collects the details of the incident (including contact details of the person making the report) and immediately notifies the relevant officers on their mobile telephone. For Yass WTP, the following hierarchy is used for notification.

Duty Officer → Water On-Call → Coordinator Water and Wastewater → Operations Engineer Water and Wastewater → Manager Water and Wastewater → Director Infrastructure & Assets

Duty Officer calls those on the list until an officer answers and takes the incident details. The Officer then responds immediately to the incident.

8 Incident Classification and Notification

To determine the appropriate communication strategy for an incident the incident needs to be categorised. Once categorised the agreed communication strategy can then be deployed.

8.1 Incident Classification

- **Minor Risk Incident:** managed by routine procedures/work practices.
 - Incident affects small area only AND
 - Incident is easy to clean up without additional assistance AND
 - There is no risk of material harm to humans or the environment or property

- **Moderate Risk Incident:** further investigation may be required and assessment of management options; in the short term, operations and maintenance adjusted to reduce the consequences, likelihood and exposure.
 - Incident affects more than one property OR
 - There is a risk of pollution or material harm to the environment BUT
 - Clean up can be completed without assistance AND
 - There is no danger to humans or property

- **Major Risk Incident:** further detailed investigation and assessment of management options is required; immediate review and adjust operations and maintenance to reduce the consequences, likelihood and exposure; clean-up and notification procedures become high priority.
 - Potential or actual harm to humans, the environment and property AND/OR
 - Assistance is required with clean-up from other agencies

The following examples are shown;

- Minor Incident – an incident with a low risk to health and the environment such as;
 - Minor spills of soda ash or sodium fluoride
 - Power failure WTP
 - Overflow from the filters

- Moderate Incident - an incident with a medium risk to health and the environment such as;
 - Major spill of alum
 - Minor chlorine gas leaks

- Major Incident - an incident with a high risk to health and the environment such as;
 - Chlorine gas drum leak
 - Chlorine gas system leak
 - Earthquake or structural collapse causing significant damage

8.2 Notification process

The following incident notification process will be undertaken for the identified incident levels;

- **Minor Risk Incident**

- The water operator will report MINOR incidents to the Coordinator Water and Wastewater ASAP
- The Coordinator Water and Wastewater to report to the Manager Water and Wastewater Monthly.
- The Manager Water and Wastewater will report MINOR incidents to the Director Infrastructure and Assets Quarterly
- The Operations Engineer Water and Wastewater will record MINOR incidents in the PIRMP.

- **Moderate Risk Incident – Notifiable**

- The water operator will report MODERATE incidents to the Coordinator Water and Wastewater- **IMMEDIATELY**
- The Coordinator Water and Wastewater will report MODERATE incidents to Manager Water and Wastewater - **IMMEDIATELY**
- The Manager Water and Wastewater will report MODERATE incidents to Director Infrastructure and Assets - **IMMEDIATELY**
- The Manager Water and Wastewater will notify MODERATE incidents to the Environmental Health Officer, Water and Wastewater Engineer, and Director Infrastructure and Assets - **IMMEDIATELY**
- The Manager Water and Wastewater will report MODERATE incidents to the NSW EPA, NSW Health and SafeWork NSW (if required) - **IMMEDIATELY**
 - If overflows occur - The Director Infrastructure and Assets will report SIGNIFICANT OR HIGH RISK incidences **IMMEDIATELY** to NSW EPA
 - If public affected call 000 emergency services and NSW Health
- The Operations Water and Wastewater Engineer will record MODERATE incidents in the PIRMP.

- **Major Risk Incident - Notifiable**

- The water operator will report MAJOR incidents to the Coordinator Water and Wastewater- **IMMEDIATELY**
- The Coordinator Water and Wastewater will report MODERATE incidents to Manager Water and Wastewater - **IMMEDIATELY**
- The Coordinator Water and Wastewater will inform MAJOR incidents to the neighbours – **IMMEDIATELY**
- The Manager Water and Wastewater will report MAJOR incidents to Director Infrastructure and Assets- **IMMEDIATELY**
- The Manager Water and Wastewater will notify MAJOR incidents to the Environmental Health Officer, Water and Wastewater Engineer, Media and Communications Officer, Director Infrastructure and Assets and General Manager - **IMMEDIATELY**
- The Manager Water and Wastewater will report MAJOR incidents to Emergency Services. The EPA, NSW Health and Safework NSW (if required) - **IMMEDIATELY**
 - If leakages occur - The Director Infrastructure and Assets will report SIGNIFICANT OR HIGH RISK incidences **IMMEDIATELY** to EPA, NSW Health and SafeWork NSW
 - If public affected call 000 Emergency Services

- The Operations Water and Wastewater Engineer Water and Wastewater will record MAJOR incidents in the PIRMP.

This is shown schematically in **Figure 8.1**.

This procedure will form part of the operator, contractor and user training and awareness.

Incident reporting includes communicating the incident and documenting the incident.

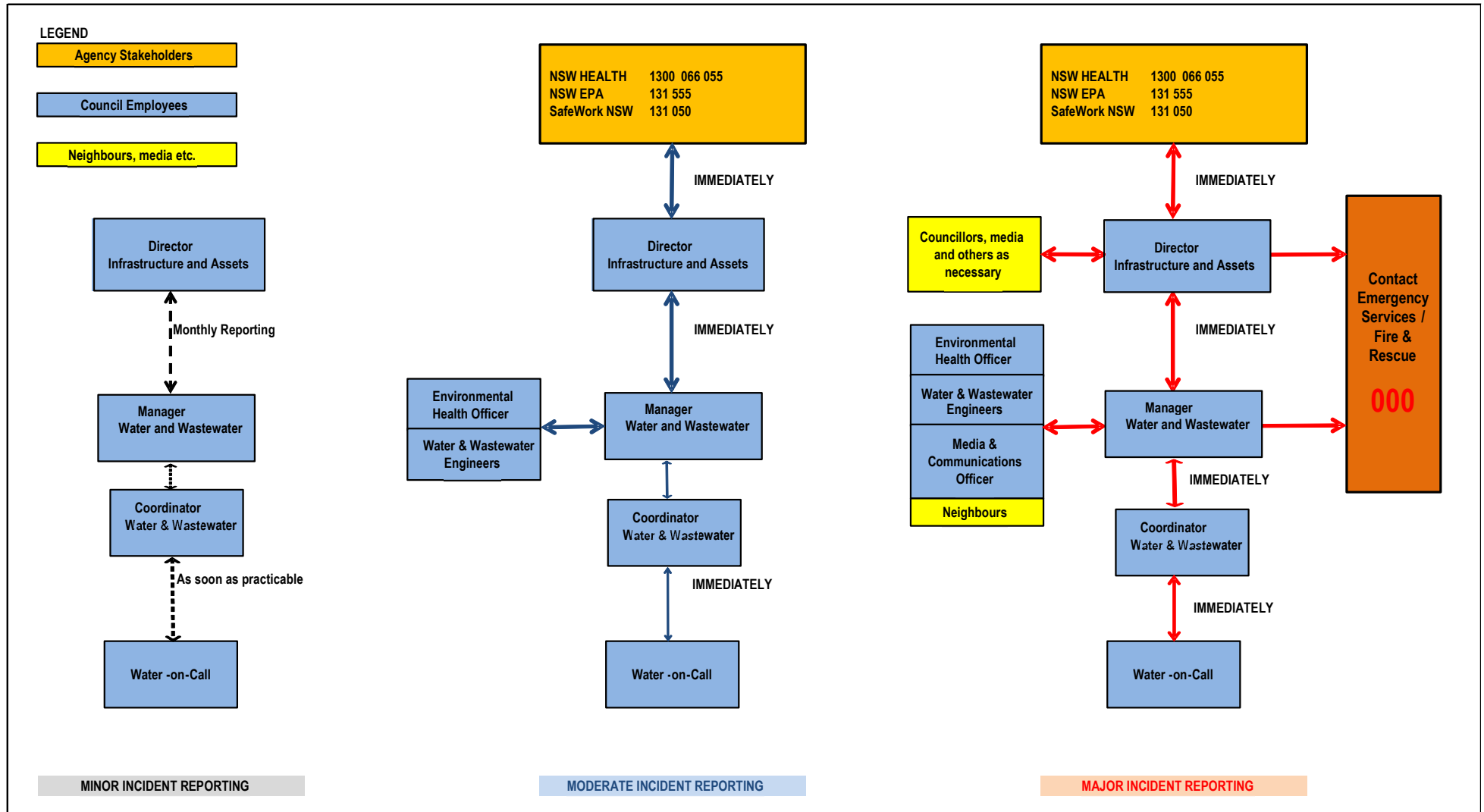
8.3 Workplace Incidents

The following incidents and injuries must be reported to Safework NSW:

- incidents involving a fatality or a serious injury or illness
- incidents involving a fatality or serious injury or illness to other people at your workplace
- incidents that present a serious risk to health and safety at your workplace (dangerous incidents)

Incidents involving an injury or illness of workers needed to be reported to the worker compensation insurer (StateCover) within 48 hours. This should be done via standard accident/incident/near miss reporting arrangements.

Figure 8.1 Incident Communication Protocols - Yass WTP



8.4 Investigation of incidents and emergencies

Following any incident or emergency situation, an investigation will be undertaken and all involved staff should be debriefed, to discuss performance and address any issues or concerns.

The investigation will consider factors such as:

- What was the initiating cause of the problem?
- How was the problem first identified or recognised?
- What were the most critical actions required?
- What communication problems arose and how were they addressed?
- What were the immediate and longer term consequences?
- How well did the PIRMP communication protocol functioned?

8.5 Notification to Neighbours

Irrespective of whether or not NSW EPA directs Council to notify neighbours and depending on the circumstances of the particular pollution incident, Council may at their own discretion voluntarily choose to notify neighbours.

A list of Neighbours to be notified by door knock in an incident is provided in **Table 8.1** below.

Table 8.1 List of Neighbours

Location	Contact Name	Property Address	Contact No.	Comments (Lot No.)
WTP	Mr. Ron Butt WTP Operator (Water-on-Call)	24 Cooks Hill Rd	0429 707 481 0428 636 566	LOT 1, DP 180130
Nearby property				
Nearby property				
Nearby property				
Nearby property				

9 Minimising Harm to Persons on the Premises

9.1 Attendance Register

An attendance register is in place at the WTP. All visitors are signed in and out of the site.

9.2 Site Induction

Visitors and contractors are inducted to the site by the WTP Operator on duty.

9.3 Staff Training

All staff should receive sufficient/appropriate training to enable them to undertake assigned duties in competent and safe manner. A register of staff training can be found in **Appendix C** and must be kept on site and updated regularly

All contractors working on site will be required to have all necessary licenses and/or training required to undertake the activities they have been engaged to complete.

9.4 Evacuation Procedure

Evacuation procedure is detailed in Council document - Yass Valley Council, Council Procedures Emergency Evacuation – Water Treatment Plant (RM-OP-16). The objective of this procedure is to ensure that Council staff and members of the public are evacuated safely from the WTP in the case of an emergency.

9.5 Emergency Evacuation

The emergency assembly point is the driveway adjacent to the front gate on Cooks Hill Road as shown in **Figure 9.1**.

Figure 9.1 Yass Emergency Assembly Point

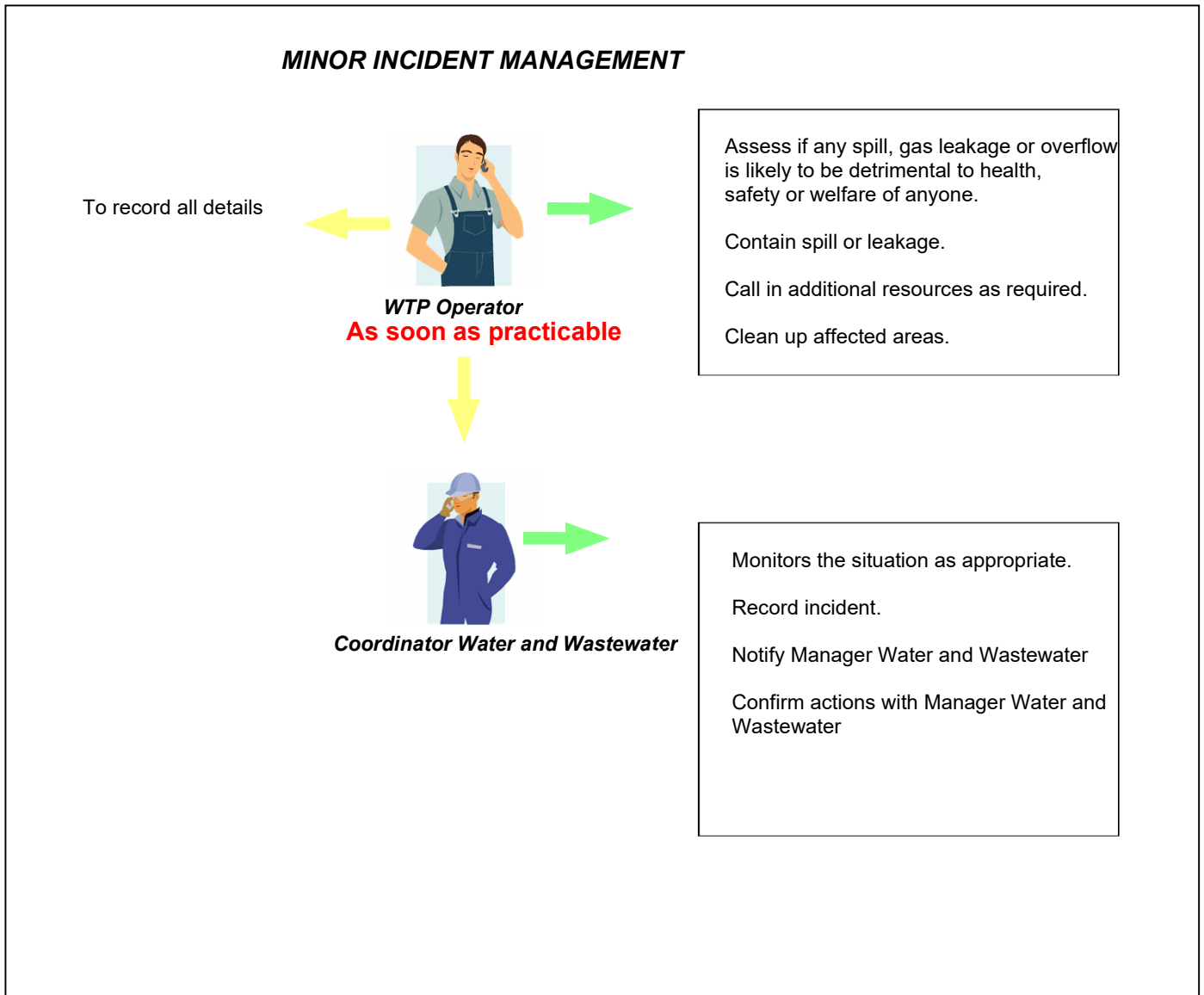


10 Actions to be Undertaken During or Immediately After a Pollution Incident

10.1 Minor Incident Action Plan

The action plan for the following minor incidents is shown in **Figure 10.1**.

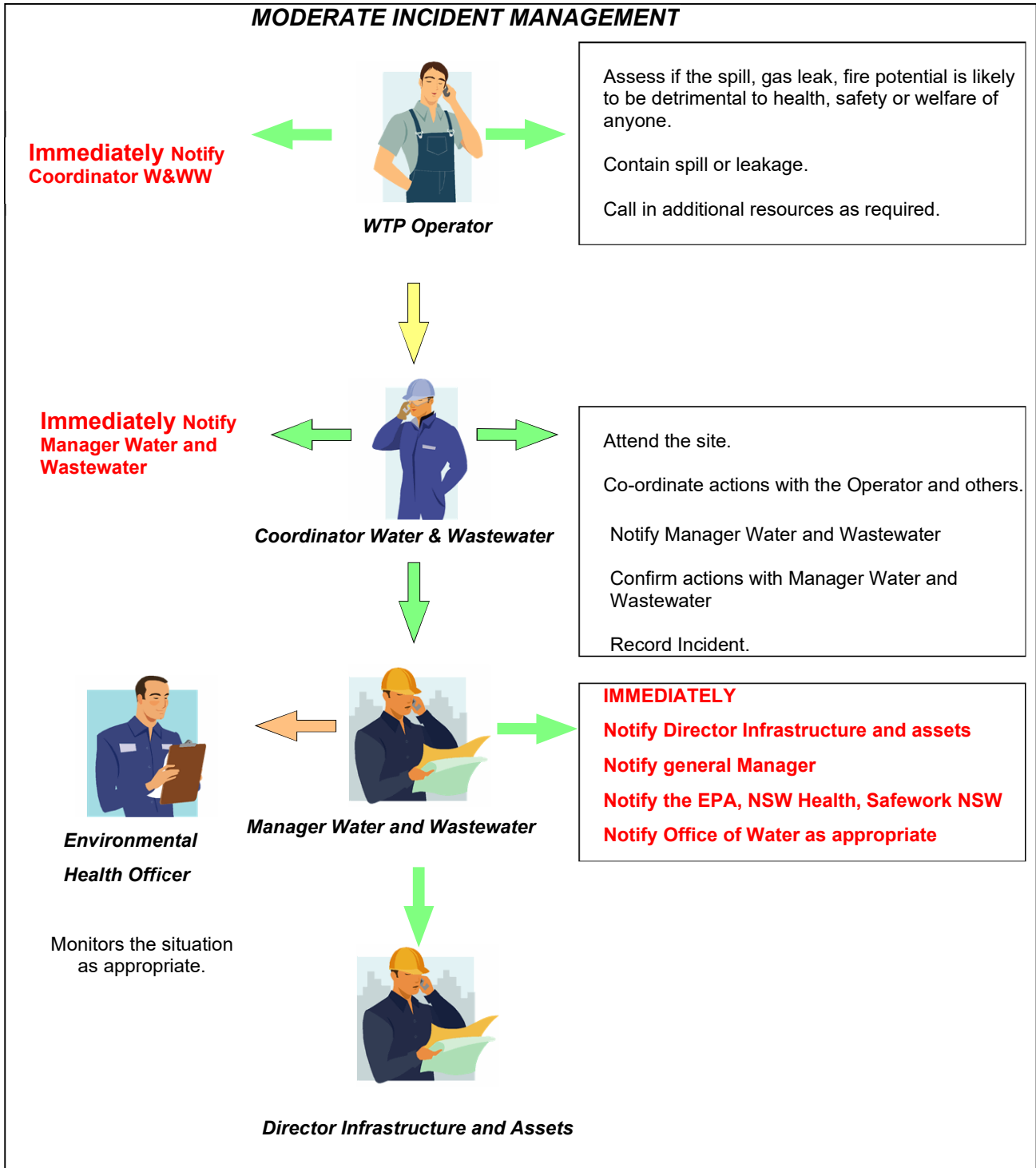
Figure 11.1 Minor Incident Action Plan



10.2 Moderate Incident Action Plan

The action plan for the following incidents is shown in Figure 10.2.

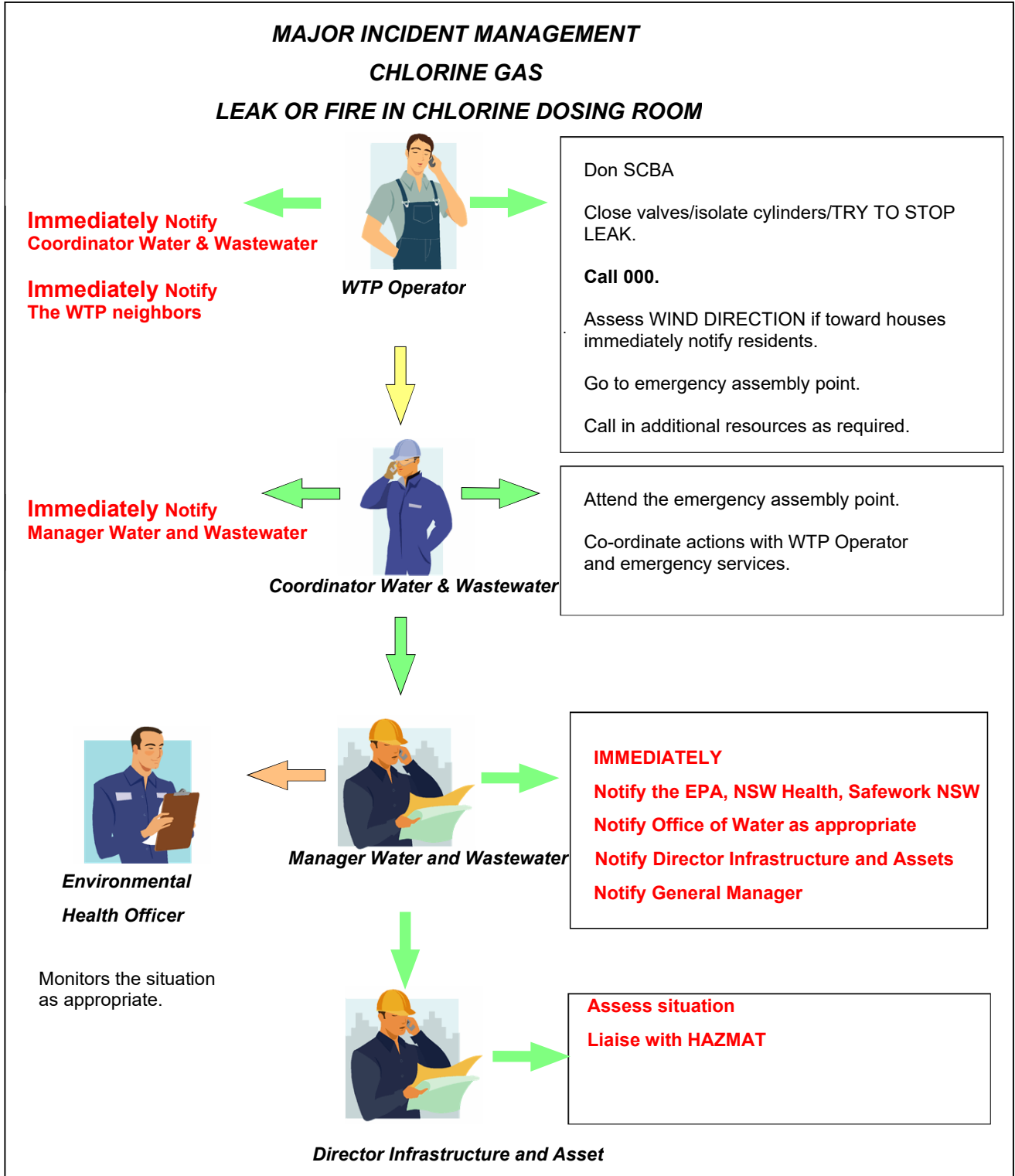
Figure 11.2 Moderate Incident Action Plan



10.3 Major Incident Action Plan

The action plan for the following significant incidents is shown in **Figure 11.3**

Figure 11.3 Major Incident Action Plan



11 Evaluation, Audit and Review for Continuous Development

11.1 Evaluation and Review

A systematic review of the plan will be undertaken by the Engineer Water and Wastewater annually or within one month of an incident occurring at the plant. The evaluation will:

- Assess the relevance of the risk assessment against the current state of the plant;
- Identify any emerging problems and trends;
- Assess the communication between Council, Council operational staff and regulators;
- Assist in determining priorities for improving procedures;
- Assess incidents and responses determined; and
- Determine when and what is to be audited in the next six months including any results from the investigation after a pollution incident.

Evaluation of results described above will be documented and the plan updated.

Evaluation will be reported to the Council stakeholders.

11.2 Auditing

Auditing of the pollutant inventory is to be done annually.

An audit may also be triggered by a significant incident or if the process chemical is changed.

12 References

1. Yass Valley Council, Yass valley Local Emergency Management Plan 2016
2. Yass Valley Council, Council Procedures Emergency Evacuation – Water Treatment Plant, RM-OP-19, 22 July 2016.
3. NSW Environment Protection Authority, Environment Pollution Licence No.1805, October 2015.
4. Goulburn Mulwaree Council, Upper Lachlan Council and Yass Valley Council, Tablelands Regional Community Strategic Plan 2016-2036, 2016
5. NSW Environment Protection Authority (EPA), Section 55 Protection of the Environment Operations Act 1997, April 2011,

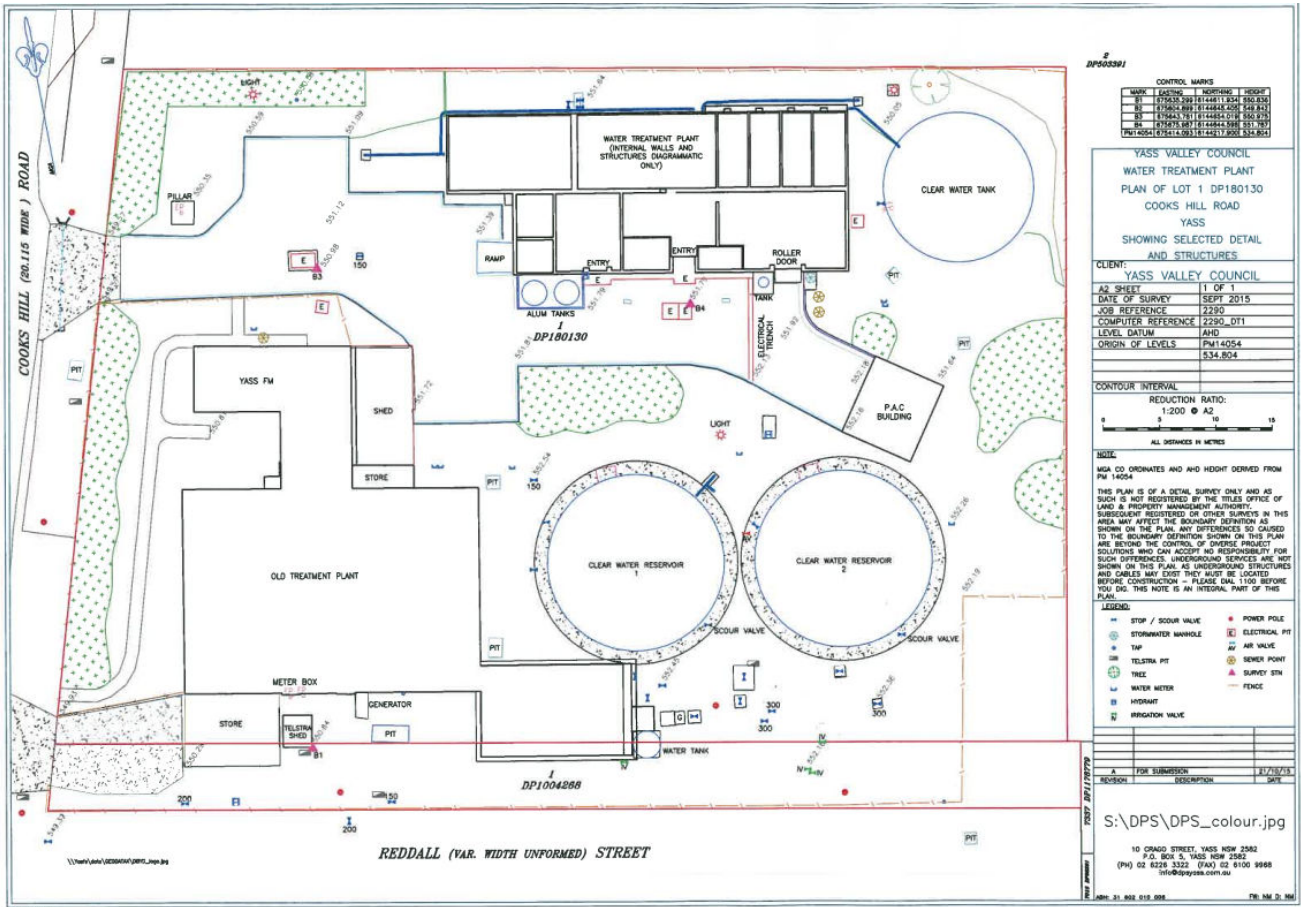
13 Appendices

Appendix A – List of SDS

Stored in separate folder in the Laboratory Room of Yass Water Treatment Plant for the following chemicals.

1. Alum - Aluminium Sulphate ($\text{Al}_2(\text{SO}_4)_3 \cdot 14\text{H}_2\text{O}$)
2. Soda Ash - Sodium Carbonate (Na_2CO_3)
3. Polymer - MAGNAFLOC LT22
4. Liquefied Chlorine Gas - Cl_2
5. Slow-Release Chlorine Tablets - Calcium Hypochlorite
6. Fluoride - Sodium fluorosilicate (NaSiF_2)
7. Powdered Activated Carbon
8. Potassium permanganate

Appendix B – WTP Plans



Appendix C - Training/ Education Register

Training	Person(s) responsible	Personnel	Signature	Date
Refresher PIRMP July 2023	Kuga Kugaprasatham	Aaron Sheppard		
	Kuga Kugaprasatham	Bradley Pointon		
	Kuga Kugaprasatham	Sai Parameswaran		
	Aaron Shepherd	Ronald Butt		
	Aaron Shepherd	Alex Scorgie		
	Aaron Shepherd	Logan Hardy		

Appendix D – Water Directorate’s Incident Reporting Form

PARTA
Report to Environmental Incident Hotline
LOCATION OF INCIDENT



Recent changes to Part 5.7 of the Protection of the Environment Operations Act 1997 (POEO Act) specify new requirements relating to the notification of pollution incidents. For more information see www.environment.nsw.gov.au/pollution/notificationprotocol.htm

Project
 Facility
 Activity
 Location/Name:

STREET NUMBER:
 STREET NAME:

SUBURB:
 NEAREST CROSS STREET:

WHERE DID THE INCIDENT OCCUR:

SECTION/UNIT RESPONSIBLE FOR THE SITE:

Sewage
 break in mains
 pumping station (sewage or chemical)
 sewage treatment plant
 other (ponds etc)

Waste
 waste from Council project/facility/activity
 dumped waste
 asbestos only

General
 spill/overflow (chemical, fuel, substance etc)
 - additional detail required below
 vegetation - disturbance/ damage
 general - (heritage, water, wildlife etc)
 other

Cause
 blockage
 mechanical failure
 electrical failure or power outage
 rainfall inundation
 trade waste incident
 break in main
 other

DESCRIPTION OF INCIDENT:

ACTION TAKEN TO CONTAIN / MANAGE THE INCIDENT:

Were photos taken: YES NO
 Were samples taken: YES NO

DETAILS OF PERSON REPORTING THE INCIDENT

NAME:
 DATE:

PHONE:

MOBILE:

DEPARTMENT SECTION:

PART B
Report to Environmental Incident Hotline
INVESTIGATION



The appropriate Section Supervisor/Manager is responsible for completion of Part B of the incident report.

IMMEDIATE ACTION BY SUPERVISOR/MANAGER

Will the incident: YES NO NOT SURE

1. Require assistance from other agencies to contain, isolate or cleanup?
 If "Yes" call DDD immediately. YES NO NOT SURE

2. Pose any actual or potential harm to human health that is not trivial?
 • Is it located within 100m of a school, childcare centre, aged care home?
 • Could it impact on users of public areas such as ovals, reserves, waterways?
 • Could the impact spread and potentially harm occupants of nearby properties? YES NO NOT SURE

3. Pose any actual or potential harm to ecosystems that is not trivial?
 • Could the incident flow/ impact on a water body or drainage system?
 • Could the incident flow/ impact on environmentally sensitive land? YES NO NOT SURE

4. Result in actual or potential loss or property damage of an amount over \$10,000? YES NO NOT SURE

If you answered "YES" to any of the above then the incident should be considered as a notifiable "pollution event". There is a **duty to notify** the EPA, Ministry of Health, WorkCover and Fire and Rescue NSW immediately after becoming aware of a pollution incident where material harm is caused or threatened. Failure to do so is an offence (Protection of the Environment Operations Act 1997)

AGENCY NOTIFICATIONS

If the incident does not require an initial contact agency, or once the DDD call has been made, notify the relevant authorities in the following order:

NSW EPA (EPA Environment Line: 131 555)

Contacted: YES NO Reason not contacted:

NAME OF EPA REPRESENTATIVE	TIME AND DATE	EPA REFERENCE NUMBER
<input type="text"/>	<input type="text"/>	<input type="text"/>

ACTIONS REQUIRED BY EPA:

NSW Health – Local Public Health Unit (See www.health.nsw.gov.au/publichealth/infectious/phuic.asp)

Contacted: YES NO Reason not contacted:

NAME OF PHU REPRESENTATIVE	TIME AND DATE	PHU REFERENCE NUMBER
<input type="text"/>	<input type="text"/>	<input type="text"/>

ACTIONS REQUIRED BY LOCAL PHU:

WorkCover Authority (WorkCover: 13 10 50)

Contacted: YES NO Reason not contacted:

NAME OF WORKCOVER REPRESENTATIVE	TIME AND DATE	WORKCOVER REFERENCE NUMBER
<input type="text"/>	<input type="text"/>	<input type="text"/>

ACTIONS REQUIRED BY WORKCOVER:

Fire & Rescue NSW (Emergency Hotline: DDD)

Contacted: YES NO Reason not contacted:

NAME OF FIRE & RESCUE REPRESENTATIVE	TIME AND DATE	FIRE & RESCUE REFERENCE NUMBER
<input type="text"/>	<input type="text"/>	<input type="text"/>

ACTIONS REQUIRED BY FIRE & RESCUE:

CONTINUES ON REVERSE



OTHER NOTIFICATIONS TO CONSIDER INCLUDE:

- Internal contacts eg Environmental Health Officer
- Media
- NSW Food Authority
- Shellfish programs
- River users eg boat hiring companies
- Marine education centres
- Other

PRELIMINARY INVESTIGATION

Notes from discussions with relevant operational staff

Any further observations or comments by Supervisor / Manager

CATEGORISATION BY AUTHORISED OFFICER

- Minor**
No notification required
 - Incident affects small area only (eg single property) AND
 - Incident is easy to clean up without additional assistance, AND
 - There is no risk of material harm to humans or the environment.

- Moderate**
Notify EFR and Local RVD only
 - Incident affects more than one property OR
 - There is a risk of pollution or material harm to the environment BUT
 - Cleanup can be completed without assistance AND
 - There is no danger to humans.

- Major**
Notification required - Notify EFR, Local RVD, Workcover and Fire & Rescue
 - Potential or actual harm to humans and the environment AND/OR
 - Assistance is required with cleanup from other agencies.

- Council Responsible**
Incident occurred as a direct result of Council activity or function.

- Response by Council**
Incident occurred on Council land, or land under Council care and control BUT Council did not cause the incident.

- Technical Licence Breach**
Relating to technical compliance such as exceedance of permissible discharge volume or environmental monitoring limits.

DETAILS OF APPROPRIATE SECTION SUPERVISOR/MANAGER REPORTING THE INCIDENT

NAME: DATE:

PHONE:

MOBILE:

DEPARTMENT SECTION:

Appendix E – Audit Log Form

Auditor/ reviewer comment (System deficiency and non-compliances)	Scheme response	Corrective actions to prevent reoccurrence	Timetable for corrective/preventive action	Person(s) responsible	Completion Date

There were no pollution incidents for the period of July 2022– June 2023.