

Junee Shire Council
Belmore St (PO Box 93)
Junee, NSW 2663




Pollution Incident Response Management Plan

Junee Wastewater Treatment and Reuse Facility

Environment Protection Licence 752

Revision 1.5

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1 Introduction

This Pollution Incident Response Management Plan (PIRMP) has been developed to document the processes required to prepare for and respond to pollution incidents for the Junee Wastewater Treatment and Reuse Facility (Junee WWTRF) and associated reticulation network as licensed by Environment Protection Licence 752. It is to ensure that hazards to the environment, human health and safety are reduced and, where it is achievable, eliminated.

It has been prepared in accordance with the requirements of the *Protection of the Environment Operations Act 1997* and *Protection of the Environment Operations (General) Regulation 2009*.

1.1 Scope

This PIRMP applies to the Junee Wastewater Treatment and Reuse Facility and the associated reticulation network covered by Environment Protection Licence 752. Refer to Section A3 for site plans.

The town of Junee is serviced by approximately 41km of gravity sewer mains, ranging in size from 150mm ID through to 450mm ID. There are no pumping stations within the public network. The Wastewater Treatment and Reuse Facility is comprised of two treatment processes – Intermittent Decant Extended Aeration and Pasveer channel. The treated effluent is then, depending on the time of year, stored for future municipal irrigation or discharged to the environment.

The Reuse network comprises a storage dam of 140ML capacity and a discharge dam of 10ML capacity. Treated effluent is disinfected through exposure to sodium hypochlorite before being delivered to one of five disposal points, namely Junee Golf Course, Junee High School, Burns Park, Loftus Oval or Laurie Daley Oval.

2 Description and Likelihood of Hazards

Potential hazards to the environment may be present either from overflow and/or by-passes within the network and treatment processes or from the chemicals that are stored and utilised in the treatment of the effluent.

The discharge of raw or partially treated sewage may cause a pollution incident following a number of events including:

- Adverse weather – power disruptions and excessive flows
- Blockages in the reticulation network
- Damage to reticulation assets
- Infrastructure failures
- Mechanical breakdown
- Power outage
- Illegal dumping

Chemicals used in the treatment of wastewater and for disinfection of wastewater products may also result in a pollution incident, caused by:

- Storage failure
- Delivery failure
- Reticulation failure
- Inappropriate or accidental use
- Vandalism

A detailed assessment of hazards and their associated risk rating can be found in A1.2 Table 10.

3 Pre-emptive Measures

Given the nature of the sewerage network, in many instances it is difficult to implement pre-emptive measures against pollution incidents. However, where possible steps have been taken to implement pre-emptive measures, particularly at the WWTRF.

Table 1 outlines hazards and the pre-emptive measures taken to protect against the occurrence of those hazards.

Table 1 Existing Pre-emptive Measures

Asset Category	Hazard	Pre-emptive measure(s)
WWTRF	Chlorine leak from storage area	Bunding of storage area
WWTRF	Chlorine leak from pipework	Bunding of pipework drained to in-ground waste point
WWTRF	Chlorine pump failure	SCADA Monitoring System
WWTRF	Power disruption causes plant failure and by-pass	SCADA Monitoring System

In the process of developing this plan, additional opportunities for implementing pre-emptive measures were identified and these have been detailed in Table 2.

Table 2 Proposed Pre-emptive Measures

Asset Category	Hazard	Pre-emptive Measure	Implementation Date	Responsibility
WWTRF	Discharge of sludge to maturation pond	Monitoring by SCADA System	Jan-16	M. Summerell

4 Incident Response

In the event of an incident occurring, the following procedures, where relevant, are to be followed.

4.1 Pollution Incident

For the purpose of this plan, pollution incidents have been grouped as either sewage overflows and bypasses, or chemical spills.

4.1.1 Sewage Overflows and Bypasses

If there is an immediate threat to human health or safety, call triple zero “000”. “112” may be used if using a mobile telephone.

Notification of a sewage overflow or bypass may be received from a member of the public or staff may become aware of the incident; the latter is especially the case during a bypass of the WWTRF. During business hours notification from the public may be received by either staff on the Junee Shire Council switch or staff at the WWTRF. If the former is the case, staff on the switch will then notify the WWTRF.

A number of documents outline agreed response times within which crews must respond to notification of incidents.

Junee Shire Council has no procedural documentation for responding to overflows and bypasses. Staff are required to take necessary measures to first contain the spill, then restore the service and then clean up the site.

In the event of an incident that results in actual or potential harm to the health or safety of the community or that threatens potential or material harm to the environment, refer to section 4.2.

Staff are required to record the incident using council’s internal maintenance management system which, in turn automatically populates and sends a *Report to Environment Incident Hotline* form to the Assistant Engineer. This form, a copy of which can be found in Part A serves as the basis for the written report that is forwarded to the Environment Protection Agency (EPA) in the event that the incident is reported.

4.1.2 Chemical Spills

If there is an immediate threat to human health or safety, call triple zero “000”. “112” may be used if using a mobile telephone.

Notification of a chemical spill at the WWTRF is more than likely going to come directly from the staff attending the facility.

Junee Shire Council has no procedural documentation for responding to chemical spills at the WWTRF. Staff are required to act in accordance with any directives that may be found in the relevant material safety data sheet in containing and cleaning up a chemical spill.

In the event of an incident that results in actual or potential harm to the health or safety of the community or that threatens potential or material harm to the environment, refer to section 4.2.

4.2 Contact Details

In the event of an incident that results in actual or potential harm to the health or safety of the community or that threatens potential or material harm to the environment, the Assistant Engineer must be immediately notified, or if unavailable the Director Engineering Services, who shall then notify the relevant agencies. The contact details of the key staff are outlined in Table 3.

Table 3 Internal Contact Details

Position	Name	Contact Phone Number
Director Engineering Services	Heinz Kausche	0400 998 938
Environmental Officer	Mason Schembri	0404 501 074
Senior Operator-in-Charge	Michael Summerell	0427 660 103

The following contact numbers were correct at the time of publication. No warranty is given to their accuracy following publication of this plan.

Table 4 External Agency Contact Details

Agency/Stakeholder	Contact Phone Number
Fire & Rescue NSW	000
Ambulance	000
Environment Protection Agency	131 555
Ministry of Health - Goulburn Public Health Unit	(02) 4824 1840 (02) 6080 8900 (After hours contact)
Work Cover	13 10 50
Junee Wastewater Treatment & Reuse Facility	(02) 6924 1040

If there is an immediate threat to human health or safety, call triple zero “000”. “112” may be used if using a mobile telephone.

5 Community Notification of Incidents

Impacts on the community from an environment incident at either the WWTRF or at a point in the sewerage network will vary greatly and depend on many factors such as topography, duration, location within the network, etc.

For this reason communication methods will vary depending on the circumstances of the environment incident. In all situations, Junee Shire Council will attempt to provide as early a warning to the affected community as is practicable by any means deemed appropriate. Methods of communication may include, but not necessarily be limited to:

- Telephone/SMS
- Door knocks/letter drops
- Media releases
- Social media announcements
- Warning signs

Of the potential environment incidents that may impact on the community, the incidents with the greatest potential to impact on the community are:

- Significant overflow of sewage into the urban stormwater network
- Significant volume of sewage by-passes the WWTRF
- Significant volume of effluent is discharged without disinfection

In the event of a significant overflow of sewage into the urban stormwater drainage network, council staff are to erect prominent signage at Park Dam advising any users of the risk of contamination of that waterway. Testing of that waterway will be undertaken until faecal coliform levels return to baseline conditions at which point the signage will be removed and the community notified by any of the above means.

If a major by-pass occurs at the WWTRF and the raw or partially treated sewage is discharged to the creek, downstream landholders (it should be noted that the land around and downstream of the WWTRF is rural and land use is a combination of cropping and grazing) shall be informed to allow them to isolate stock from any impacted paddocks.

If effluent is discharged to any of the disposal points nominated in the Environment Protection Licence without having first been disinfected council staff shall notify the occupiers of that land in the case of the Junee Golf Course and the Junee High School and notify the users of the land in the case of the sporting ovals. It may be necessary to close the ovals and in this case this will be communicated to the various sporting clubs that utilise the ovals by way of a sign that is to be erected at each entrance to the ovals and for prolonged closures letters to those clubs affected.

5.1 Sensitive Development

Sensitive development includes those developments that, by their nature, may be more susceptible to the impacts or effects of a pollution incident. They include institutions such as schools, hospitals, nursing homes, etc., and other industries that may be impacted in such a way that they in turn may experience a pollution incident.

There are no sensitive developments in proximity to the WWTRF that may be impacted by any environment incident.

Within the reticulation network exists sensitive developments, however only a small number of these are sufficiently far down the network that a pollution incident may be of greater concern than any other development. These developments are identified in Table 5 and are shown in Figure 3.

Table 5 Sensitive Developments

Development	Address	Contact	Description of Sensitivity
June Memorial Pre-School	Peel Street	(02) 6924 1726	Stormwater drain adjacent to playground may receive raw sewage from blockage upstream
Loftus Oval	Sunnyside Lane	Signage	Blockages may lead to raw sewage flowing onto playing surface
Park Dam	Park Lane	Signage	Receives 75-80% of urban stormwater and any raw sewage that spills from 80-85% of the network

6 Harm Minimisation to Persons on the Premises

Due to the nature of the dominant pollutant at the WWTRF, namely effluent of varying levels of treatment, there are no harm minimisation arrangements beyond standard operating requirements of appropriate use of personal protection and safety equipment.

6.1 Personal Protection and Safety Equipment

As part of the action toward minimising harm to persons on the premises, the following personal protection and safety equipment is issued or made available:

- Gas monitor
- Life rings
- Rubber gloves
- Safety glasses
- Gumboots
- Safety boots
- Chemical Spill Kit

6.2 Pollutants

Only a small number of pollutants are either kept on the premises or handled at the premises. These pollutants are related to the operation of the WWTRF and include raw, partially treated and treated sewage.

For a full list of pollutants, see section A2.

7 Staff Training

To introduce the Pollution Incident Response Management Plan, an Induction and Training Program has been developed. All staff involved with the operation of the WWTRF will have to complete this training.

The Council will explore the option of having completion of this ITP as a prerequisite for contractors who wish to be included on any pre-qualification list.

A1. Appendix – Risk Assessment

A1.1. Risk Analysis

The following is taken from the *Sewage Infrastructure Risk Management Plan*, 2011:

“Credible risks which have been identified during the risk identification stage were analysed. This process takes into account the ‘likelihood’ and the ‘consequences’ of the event. The objective of the analysis is to separate the minor acceptable risks from the major risks and to provide data to assist in the assessment and management of risks.

The risk analysis process is applied to all credible risks to determine levels of risk. The process acts as a filter by applying a reasoned and consistent process. Minor risks can be eliminated from further consideration and dealt with within standard operating procedures.

The remaining risks will therefore be of such significance as to consider the development of risk treatment options and plans.”

Likelihood is a qualitative description of chance of an event occurring. The process of determining likelihood involves combining information about estimated or calculated probability, history or experience. Where possible it is based on past records, relevant experience, industry practice and experience, published literature or expert judgment. For a list of likelihood categories and their descriptors see Table 6.

Consequences are a qualitative description of the outcome of an event affecting objectives. The process of determining consequences involved combining information about estimated or calculated effects, history and experience. For a list of consequence categories and their descriptors, see Table 7.

Table 6 Likelihood Qualitative Descriptors

Likelihood	Descriptor	Probability of occurrence
Rare	May occur only in exceptional circumstances	More than 20 years
Unlikely	Could occur at some time	Within 10-20 years
Possible	Might occur at some time	Within 3-5 years
Likely	Will probably occur in most circumstances	Within 2 years
Almost certain	Expected to occur in most circumstances	Within 1 year

Table 7 Consequence Qualitative Descriptors

Consequence	Injury	Service Interruption	Environment	Finance	Reputation
Insignificant	Nil	< 4 hrs	Nil	< \$20k	Nil
Minor	First Aid	Up to 1 day	Minor short term	\$20k - \$100k	Minor media
Moderate	Medical treatment	1 day – 1 week	Wide short term	\$100k - \$500k	Moderate media
Major	Disability	1 week – 1 month	Wide long term	\$500k - \$1M	High media
Catastrophic	Fatality	More than 1 month	Irreversible long term	> \$1M	Censure/Inquiry

The risk assessment process compares the likelihood of a risk event occurring against the consequence of the event occurring. In the risk rating table, see Table 8, a risk event with a likelihood of 'Possible' and a consequence of 'Major' has a risk rating of 'High'.

The risk rating, see

Table 9, is used to determine risk treatments. Risk treatments can range from immediate corrective actions for 'Very High' risks to manage by routine procedures for 'Low' risks.

Table 8 Risk Assessment Matrix

Risk Rating					
Likelihood	Consequences				
	Insignificant	Minor	Moderate	Major	Catastrophic
Rare	L	L	M	M	H
Unlikely	L	L	M	M	H
Possible	L	M	H	H	H
Likely	M	M	H	H	VH
Almost Certain	M	H	H	VH	VH

Table 9 Risk Rating

Risk Rating		Action Required and Timing
VH	Very High Risk	Immediate corrective action
H	High Risk	Prioritised action required
M	Medium Risk	Planned action required
L	Low Risk	Manage by routine procedures

A1.2. Risk Assessment

Table 10 Risk Assessment

Hazard	Service or Asset at Risk	Impact on Service or Asset	Likelihood	Consequence	Risk Rating
Adverse weather	WWTRF	Power disruption leads to operating faults, by-pass of plant or discharge of partially treated effluent	Possible	Minor	Medium
Blockages	Sewage Reticulation	High intensity rainfall leads to surcharge of network	Likely	Moderate	High
	Sewage Reticulation	Foreign material, roots or poor quality mains cause blockage and surcharge of raw sewage to environment	Likely	Minor	Medium
Damage by others	WWTRF	Unauthorised access by others may disrupt plant operations and lead to by-pass and/or discharge of partially treated effluent	Unlikely	Minor	Low
	Sewage Reticulation	Damage to network from excavation or other works leads to release of raw sewage to environment	Possible	Minor	Medium
Infrastructure failure	WWTRF	Ageing infrastructure results in failures and by-pass or discharge of partially treated effluent	Unlikely	Moderate	Medium
	Sewage Reticulation	Ageing infrastructure results in failures or blockages and discharge of raw sewage to environment	Possible	Minor	Medium
Mechanical breakdown	WWTRF	Results in by-pass or discharge of partially treated effluent	Unlikely	Moderate	Medium
Power outage	WWTRF	Power demand from WWTRF surpasses capacity of transformer and limits or eliminates some processes	Unlikely	Major	Medium
Illegal dumping	WWTRF	High strength sewage disrupts biological processes and results in substandard treatment	Possible	Moderate	High
	Sewage Reticulation	High flows surcharge low capacity mains	Unlikely	Minor	Low
Reticulation failure	Effluent Reticulation	Failure of effluent reticulation infrastructure leads to discharge of treated effluent to environment	Possible	Minor	Medium
Chemical storage failure	WWTRF	Chlorine storage failure results in release of chlorine to environment	Rare	Moderate	Medium
Chlorine delivery failure	WWTRF	Spill occurs during delivery of chlorine i.e. failure occurs outside bund	Rare	Moderate	Medium

Hazard	Service or Asset at Risk	Impact on Service or Asset	Likelihood	Consequence	Risk Rating
Chemical reticulation failure	WWTRF	Chlorine reticulation infrastructure fails resulting in release of chlorine to environment	Rare	Minor	Low
Inappropriate or improper use	WWTRF	Inappropriate or improper use of chlorine results in discharge of pollutant to environment	Unlikely	Moderate	Moderate
Vandalism	WWTRF	Vandalism of chlorine storage, bund or reticulation infrastructure results in discharge of pollutant to environment	Rare	Moderate	Moderate

A2. Inventory of Pollutants

The following pollutants may be found on the premises:

MSDS	Chemical Name	Manufacturer	MSDS Expiry Date	Maximum Volume Stored	Location of Chemical
N/A	Sewage	N/A	N/A	1ML	Within Treatment Plant
	Sodium Hypochlorite			1000L	Adjacent to Effluent Pump Shed

A3. Maps

The following maps are provided to give the reader context to this plan and an understanding of the network.

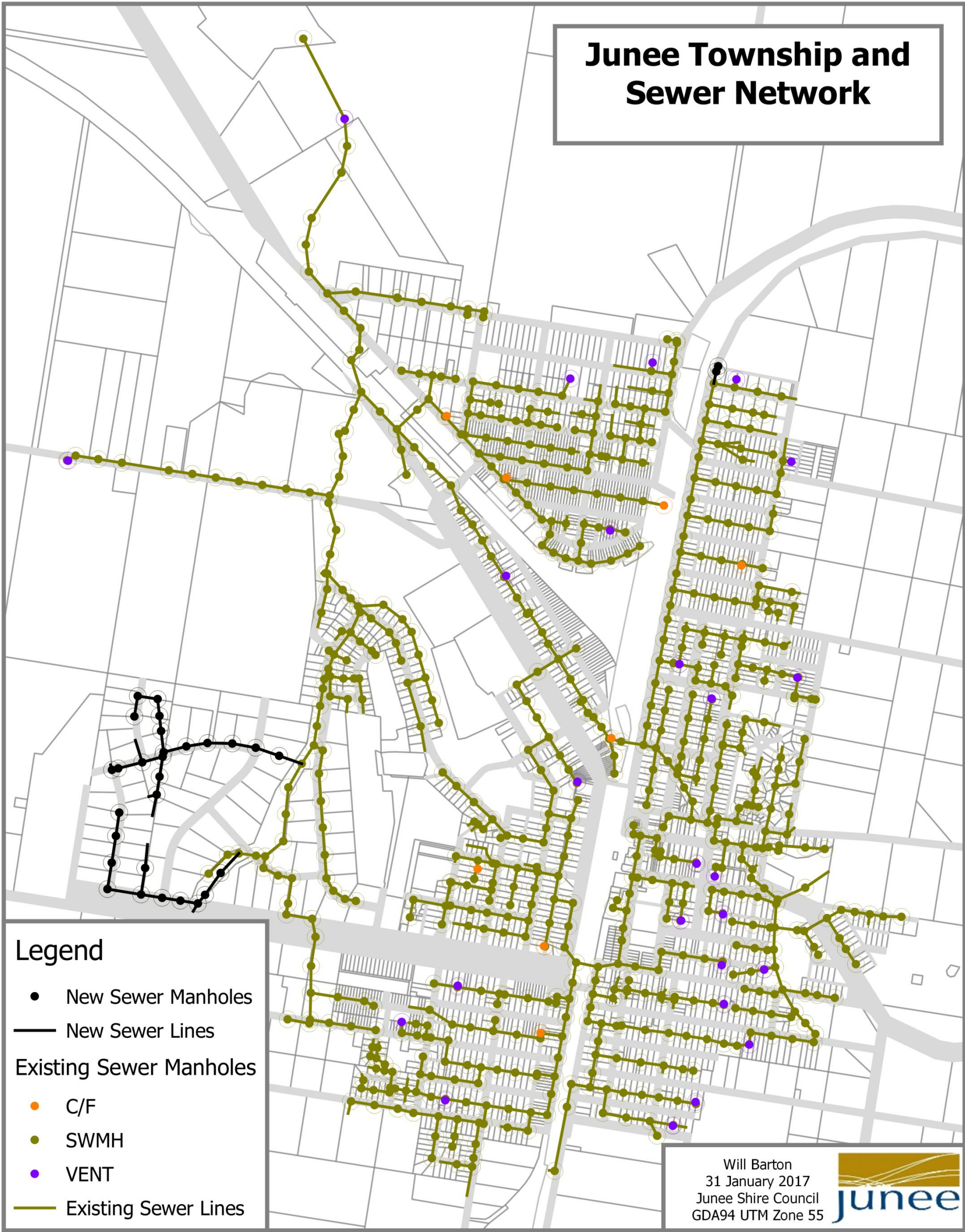


Figure 1 Junee Sewer Network



Figure 2 Effluent Reuse Disposal Points

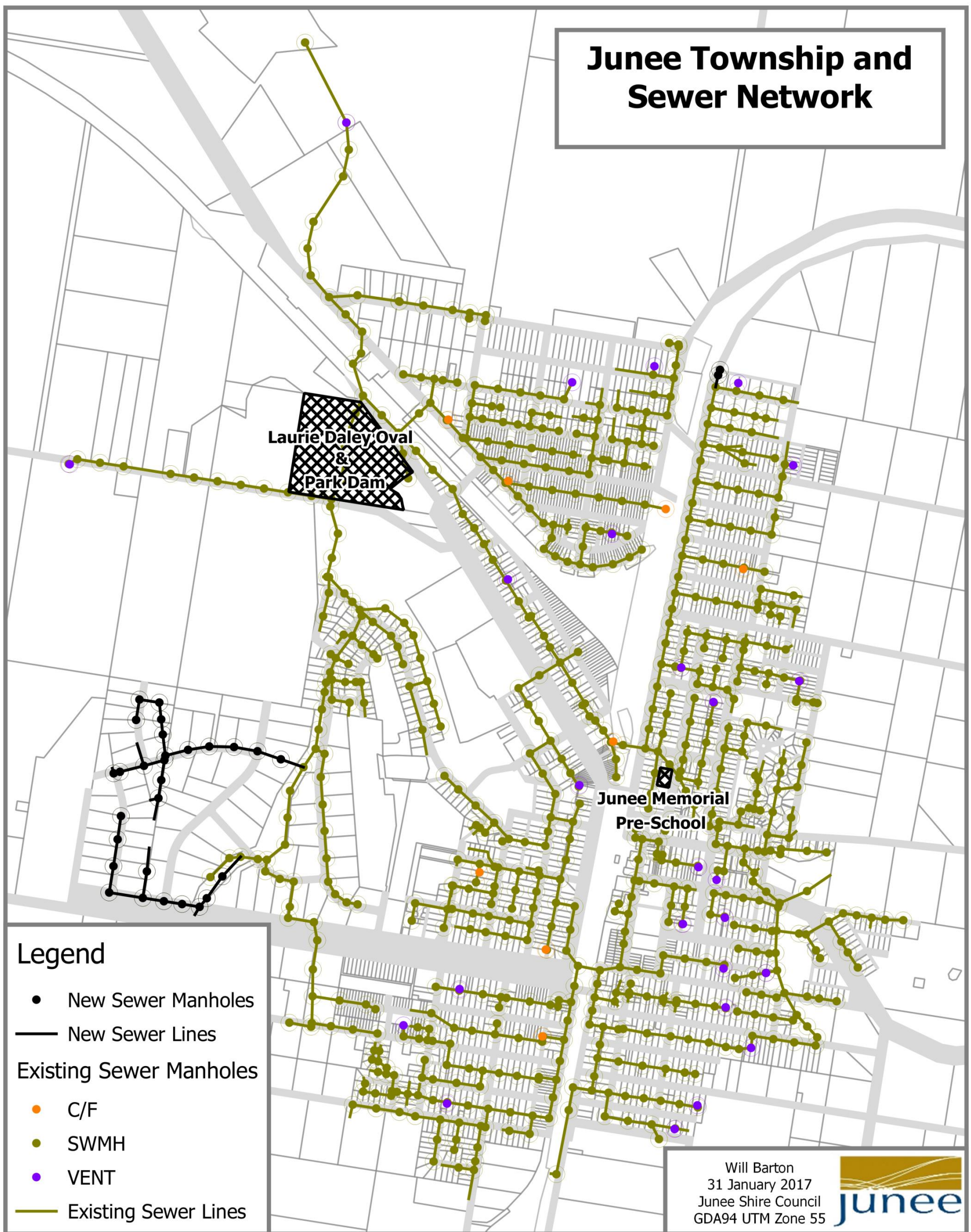


Figure 3 Sensitive Developments

A4. Supplementary

A4.1. Report to Environment Incident Hotline

Part A of the form is automatically populated from information entered into Reflect by the attending staff member. Based on this information, the Assistant Engineer or Director Engineering Services then makes the decision whether or not the incident warrants reporting to the Environment Incident Hotline. If it does, the remainder of the form is completed and serves as the foundation for the written report that must be forwarded to the EPA within seven days of the incident.

PART A – SEWER OVERFLOW OR BYPASS



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

Street Address	Suburb
«Incident_Location»	Junee
Primary Location	Location
«Primary_Location»	«Location»
Where did the incident occur?	
Receiving environment	
«Receiving_Environment»	

<MAP>

Incident Type	Map	Probable Cause
«Incident_Type»		«Probable_Cause»
Description Incident		
«Incident_Description»		
Damage to Property	«Damage_To_Property»	Estimated Overflow
		«Estimated_Volume» KL
Work carried out to stop overflow		
«Work_Done_Onsite»		
Work carried out to clean up		
«Cleanup_Details»		
Follow up work required?	«Follow_Up_Work_Required»	

Incident No.	«Incident_Number»	Employee	«Employee»
Time Call Received	«Time_Call_Received»	Date Call Received	«Date_Call_Received»
Arrival Time	«Time_Arrival_At_Site»	Date of Arrival	«Date_Arrival_At_Site»
Conforms With Response Time?			
«Conforms_With_Response_Time»			
Advice Received From			
«Advice_Received_From»			

PART B – SEWER OVERFLOW OR BYPASS



Report to Environmental Incident Hotline INVESTIGATION

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

Immediate Action by Manager

Will the incident:

1. Require assistance from other agencies to contain, isolate or clean-up? If "Yes" call 000 immediately	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Sure <input type="checkbox"/>
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 <input type="checkbox"/>	No <input type="checkbox"/>	Not Sure <input type="checkbox"/>
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 <input type="checkbox"/>	No <input type="checkbox"/>	Not Sure <input type="checkbox"/>
4. Result in actual or potential loss or property damage of an amount over \$10,000	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Sure <input type="checkbox"/>

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 and/or 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 combat agency, or once the 000 call has been made, notify the relevant authorities in the following order.

NSW EPA (EPA Environmental Line: 131 555)

Contacted ☐ Yes ☐ No ☐ Reason not contacted:

Name of EPA Representative	Time and Date	EPA Reference No.
<input type="text"/>	<input type="text"/>	<input type="text"/>

Actions Required by EPA

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

Contacted ☐ Yes ☐ No ☐ Reason not contacted:

Name of PHU Representative	Time and Date	PHU Reference No.
<input type="text"/>	<input type="text"/>	<input type="text"/>

Actions Required by PHU

WorkCover Authority (WorkCover: 13 10 50)

Contacted ☐ Yes ☐ No ☐ Reason not contacted:

Name of WorkCover Representative	Time and Date	EPA Reference No.
<input type="text"/>	<input type="text"/>	<input type="text"/>

Actions Required by WorkCover

Fire & Rescue NSW (Emergency Hotline: 000)

Contacted ☐ Yes ☐ No ☐ Reason not contacted:

Name of Fire & Rescue Representative	Time and Date	Fire & Rescue Reference No.
<input type="text"/>	<input type="text"/>	<input type="text"/>

Actions Required by Fire & Rescue

PART B – SEWER OVERFLOW OR BYPASS

Report to Environmental Incident Hotline



Other Notifications to Consider

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Internal eg Health Department

Media

NSW Food Authority

Waterway users

Education centres

Other