



Narromine Shire Council
Narromine Sewage Treatment Plant Pollution
Incident Response Management Plan

August 2019

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1. Introduction

1.1 Sewage treatment plant

Narromine Shire Council (Council) operates a sewage treatment plant at the property "Redlands", owned by Council. The property fronts the Mitchell Highway along its south western boundary with rural properties surrounding the remainder of the property.

The Redlands Effluent Irrigation Scheme comprises of:

- A multi-pond oxidation pond type treatment plant sized to accommodate Narromine's sewerage treatment requirements to a future projected load of 4,000 equivalent persons
- A 160 ML effluent storage pond to store effluent during periods not suited to irrigation
- An effluent irrigation system consisting of a pump station drawing from the effluent storage pond to supply a 45 ha centre pivot irrigator
- A sewer reticulation network consisting of nine pump stations.

The STP operates under EPL 11715 which is issued under Section 55 of the *Protection of the Environment Operations Act 1997* by the NSW Environment Protection Authority (EPA).

1.2 PIRMP purpose

The EPL contains requirements to report pollution incidents as outlined in Section 6, Reporting conditions:

The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within seven days of the date on which the incident occurred.

The introduction of the *Protection of the Environment Legislation Amendment Act 2011* (POELA Act) in February 2012 required that holders of EPLs prepare, keep, test and implement a Pollution Incident Response Management Plan (PIRMP).

The objectives of the plan are to:

- Ensure comprehensive and timely communication about a pollution incident to all stakeholders
- Minimise and control the risk of a pollution incident at the facility
- Ensure the plan is properly implemented and maintained.

1.3 Scope and limitations

This report: has been prepared by GHD for Narromine Shire Council and may only be used and relied on by Narromine Shire Council for the purpose agreed between GHD and the Narromine Shire Council as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Narromine Shire Council arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD as described throughout this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Narromine Shire Council and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

2. Pollution Incident Response Planning

2.1 Risk assessment

Risk assessments were conducted on site between GHD and site personnel during site visits in August 2012 and revised in February 2019. The main hazards identified through these assessments along with control measures to minimise the occurrence and consequences (people and environment) of the identified risks are outlined in Table 1.

Table 1 Hazards

Location	Hazard	Control Measure/s	Consequence	Likelihood of material harm	Escalating Factors
STP	Insufficient treatment – wet weather overflow	Irrigation of effluent Regular inspection of effluent storage pond Quarterly effluent water quality monitoring On site storage capacity (greater than 160 ML) Residence time in ponds	Pollution of downstream waterbody	Low	Significant rainfall event Flood event Plant malfunction Pivot malfunction
	Electrical breakdown	Equipment allows bypass of SCADA and manual operation Electrician contact details available	Loss of alarms and SCADA systems Power failure to pumps and STP treatment processes	Moderate	Significant storm event Availability of electricians
	Spill of chemicals / fuels / oils	Staff / farm manager training in chemical use	Localised soil contamination Spill to waterway	Low	Inappropriate storage of chemicals / fuels / oils Use of chemicals / fuels / oils by untrained staff
	Electrical fire	Electrics fully enclosed in an electrical switchboard cabinet Isolation procedures Fire alarm	Harm to community and Council personnel	Low	Nil
Sewer reticulation network	Spill of untreated sewage to land – sewer choke	24hr Customer Service Staff on call Maintain equipment for sewage clean up and unblocking sewers SWMS	Localised soil contamination Community contact with untreated sewage	Low	Unauthorised material discharged to sewer network Ageing pipeline network Plant debris (roots) entering pipes
	Spill of untreated sewage – pump station failure	24hr Customer Service Staff on call SWMS	Localised soil contamination Community contact with untreated sewage Pollution of downstream waterbody	Moderate	Unauthorised material discharged to sewer network Failure of SCADA Significant rainfall event

2.2 Potential pollutants and safety equipment

No potential pollutants are stored at Council's SIP or effluent irrigation farm. All fuels, oils and chemicals required for sewer operations are stored at Council's depot in Narromine.

A range of safety equipment and alarms are maintained for use during emergencies.

Details of potential pollutants and safety equipment are provided in Table 2. The location of the items listed is shown on the maps in Appendix B.

Table 2 Inventory of pollutants and safety equipment

Location	Potential Pollutant	Maximum Quantity	Safety Equipment & Devices	Storage	Alarms
STP	Sewage	ADWF 1000 kL/day (approx.)	PPE Brooms, shovels and bins – sewer choke response Gas meters Signage pH meter First aid kit	All safety equipment and devices are stored in Council trucks.	SCADA alarms – high level discharge and pump failure.
Sewer reticulation network	Sewage	Site specific	N/A	N/A	SCADA alarms – pump failure.

2.3 Maps

Pollution incident response maps have been prepared to facilitate planning for incident response and provide readily accessible and accurate information to support the assessment of an incident and assist in the implementation of incident response procedures and clean-up.

The following maps are provided in Appendix B:

- Narromine locality map highlighting the area likely to be affected area by overflow of Pump Station No. 1
- Narromine STP components within the town, likely affected areas, sewage pump stations (SPS) and catchment areas, and
- STP features map.

2.4 Notifiable incidents

2.4.1 POEO Act definitions

A pollution incident is defined by the POEO Act as:

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.

Material harm is defined by the POEO Act as:

(1) For the purposes of this Part:

(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.

(2) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

3. Incident response

3.1 Immediate notification incident

3.1.1 Incident response and notification

As per the definition of an immediate notification incident in section 2.4.1 and resulting from the risk assessment in 2.1, Council have identified the following incidents related to their sewer operations that require immediate notification:

- Pump station and SCADA failure resulting in sewer overflow.

Council's procedures for responding to a potential immediate notification incident are outlined in Figure 1.

Contact details for Council personnel and external agencies requiring notification is provided in Table 3 and

Table 4.

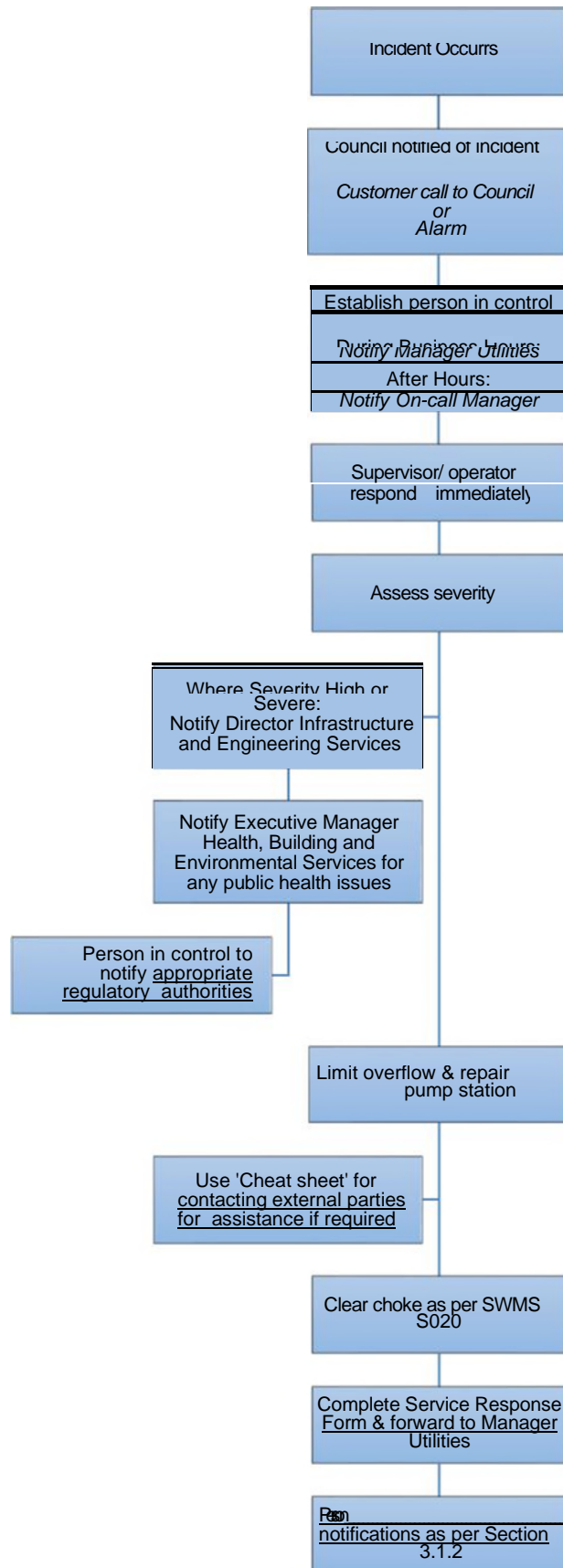


Figure 1 Incident response flowchart

Table 3 Incident contact details – Council

Name	Role	Contact Number
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
Council Emergency Contact Number Business and after hours		02 6889 9999

Table 4 Incident contact details – external authorities

Organisation	Contact Number
Emergency Services	000
EPA	131 555
Dubbo Regional Office	02 6883 5330
NSW Ministry of Health	
On Call Public Health Officer	0418 866 397
Dubbo Regional Office	02 6841 5569
WorkCover	131 050
Fire & Rescue NSW	
Narromine Rural Fire Service	02 6889 4222
ARTC	02 4902 9410

3.1.2 Responsibilities

In the event of an immediate notification incident, responsibilities for incident management are as outlined in Table 5.

Table 5 Incident Management Roles and Responsibilities

Role	Responsibility
On Call Manager	Actioning response to the incident Contacting the On Call Operator to assess the incident Notifying the Manager Utilities Notifying the Director Infrastructure and Engineering Services in a severe incident
General Manager	Liaising with the media.
Manager Utilities	Notifying external authorities and potentially affected community Ensuring adequate resources are available for incident response Providing a written incident report to NSW EPA within seven days of the PIRMP activation

Role	Responsibility
	<p>Determine the most appropriate means of contacting potentially affected community including:</p> <ul style="list-style-type: none"> • Door knocking • Letterbox drops • Phone • Local media • Signage.
On Call Operator	<p>Respond to the incident as per the On- Call Manager's direction Assess severity of the pollution incident and inform person in control Actioning the mitigation and correction of the incident</p>
Executive Manager Health, Building and Environmental Services	<p>Notifying public health external authorities in the event health issues are apparent</p>

Information provided to the community would depend on the incident but could include:

- Description of the incident
- Status of incident
- Response actions
- Actions to minimise harm
- Likely duration.

As per the EPL, the licensee must provide written details of the notification to the EPA within seven days of the date on which the incident occurred.

3.2 General incident

3.2.1 Sewer operations

Council maintain incident response procedures for other potential incidents throughout the sewer network including:

- Sewer choke.

The EPL requires details of the incidents be recorded as per the Environmental Incident Report Form (Appendix A) and maintained by Council.

Where sewage or partially treated sewage is discharged from the premises as a result of a bypass of the sewage treatment plant, or an observed or reported overflow has occurred from the reticulation system, and overflow or a bypass may pose a risk to public health, the licensee is to promptly give appropriate notification to any parties that are likely to be affected, including:

- the potentially affected community
- the Department of Health
- other parties as identified in, and in accordance with, the OEMP dated April 2017.

In the event of a pollution incident, Council will respond to the incident as per the actions in Section 3 and Figure 2.

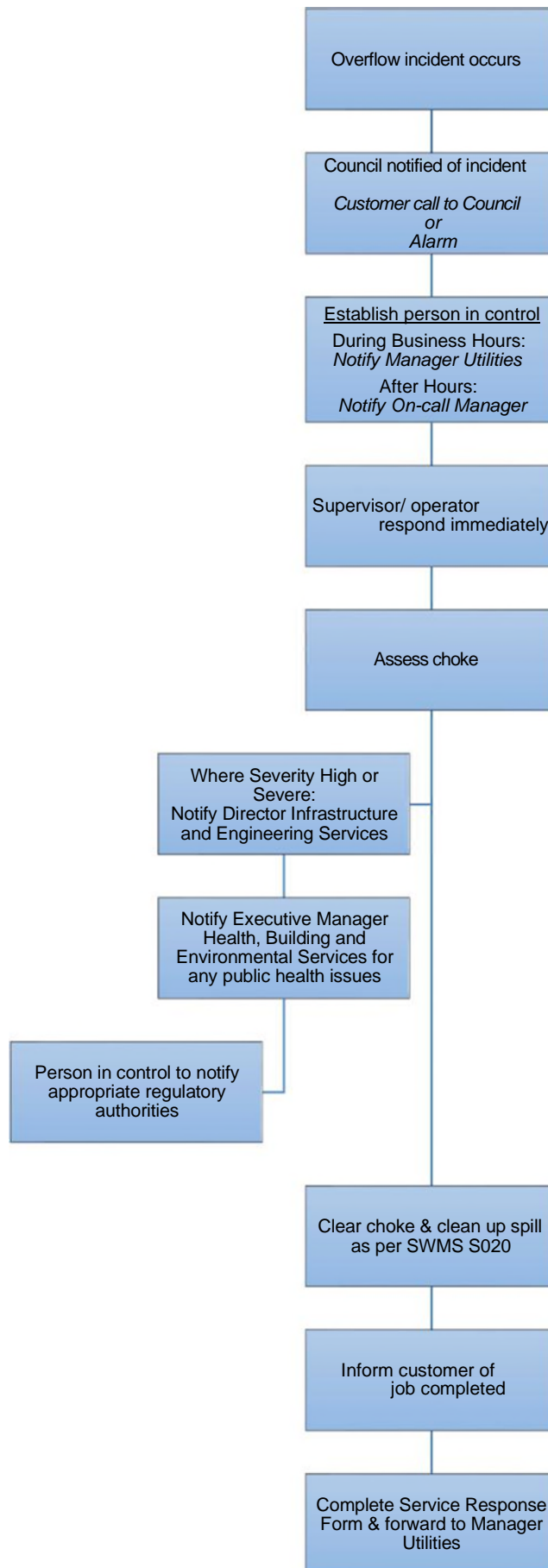


Figure 2 Incident response flowchart – sewer choke

4. Training and review

4.1 Training

Personnel involved in water and sewerage operations undertake a range of training to assist in the response to potential incidents and to test the adequacy of incident response procedures and plans. Details of the training and testing of the PIRMP is provided in Table 6.

Table 6 Incident response training

Type of Training	Personnel Involved	Frequency	Records
NSW Officer of Water Part 1 – Wastewater Treatment Operations	STP Operators	Once	Human Resources
NSW Officer of Water Part 2 – Advanced Treatment	STP Operators	Once	Human Resources
Induction	New staff	Once	Human Resources
Overflow clean up	New Sewer staff	On-the-job	Nil
Confined space	Sewer staff	As required by training provider	Human Resources
Toolbox meetings	All water and sewer staff	As required (approximately 3 times per week)	Nil
Emergency simulation	All water and sewer staff	Annual	Minutes
Incident debrief	Personnel involved in incident Independent chair	Within seven days of an incident	Minutes

4.2 PIRMP review

The PIRMP will be reviewed on an annual basis or when there is a material change to operations including but not limited to:

- Modification of EPL 11715
- Changes in standard operating procedures referred to in this PIRMP
- Change in legislative requirements
- Recommendations arising from an incident debrief, emergency drill or emergency simulation exercise.

The responsibility for reviewing the PIRMP is the Manager Utilities. An update of the PIRMP would trigger all staff to undergo refresher training as part of team toolbox meetings as per Table 6.

Appendices

Appendix A – Incident Reporting Forms

Environmental Incident Report Form

This form is to be completed by staff attending incidents

Incident details

Date:

Time:

Description

Provide a brief factual description of what happened during the incident, include relevant details such as:

- the estimated distance to nearest waterway (include stormwater drains and dry watercourses)
- the estimated distance to the nearest sensitive receiver
- the activity being undertaken when the incident occurred

Sketch of the incident

Exact location of the incident

Include chainage, landmarks, features, nearest cross street, etc.

Who identified the incident?

LI Contractor

LI Council

LI Community

LI EPA officer

LI EPA complaints line

LI Other (Specify) _____

Name:

Company:

Phone:

Level of incident (tick most appropriate)

Level	Example	Action
<input type="checkbox"/> Minor	E.g. No material has escaped site or caused material harm to the environment –easy to clean up without additional assistance	Control incident with available resources
<input type="checkbox"/> Major	E.g. Material has escaped site causing pollution of downhill/downstream areas requiring clean up involving other agencies and/or additional resources not available to local site management. Damage has occurred or is likely to occur to the environment	Notify Director Infrastructure and Engineering services

Contact details of those who attended incident

Name of attendee	Position	Signature	Date

What is the pollutant? (Composition, Quantity, Source, Visual)

Who has been notified? (Council, Emergency Response, EPA)

What safety issues are arising from the pollution event? (HAZMAT, Fire, Access)

Is external assistance required to control the incident?

Discharge Water Quality Data (if relevant)

pH:		DO:	
EC:		Redox:	
Temp:		(Other)	:

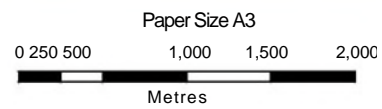
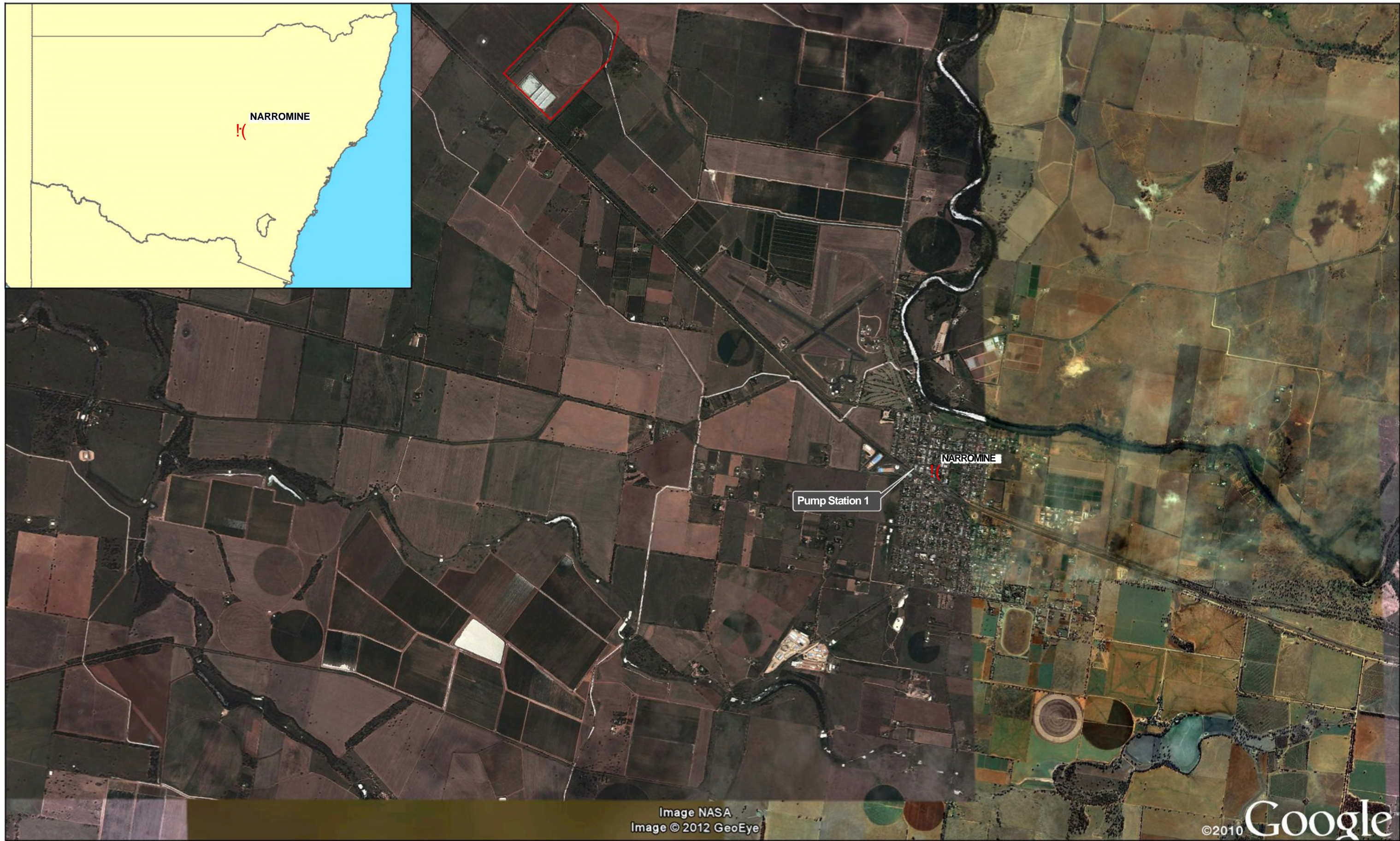
What immediate action was taken to rectify/contain the incident?

Any actions to prevent the incident occurring again?

Sign off

Name:	Signature:	Date:
Position:	Signature:	Date:
Name:		
Position: <i>Manager Utilities, NSC</i>		

Appendix B – Maps



Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55



LEGEND

STP and Redlands Effluent Irrigation Farm



Narromine Shire Council
Pollution Incident Response
Management Plan

Job Number	22-19747
Revision	0
Date	19 Feb 2019

Narromine Locality and Sites **Figure 1**

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Data source: Reserves, Built-up Area, Towns, Railways, Watercourses, Waterbodies - ©Commonwealth of Australia (Geoscience Australia) 250K Topo Data/2007; DME - Mining Leases/2010; DMR- State Controlled Roads/2010; ABS - Local Government/2009. Base map: Google Earth Professional - Accessed 13/09/2012 Created by:apmiller

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Paper Size A3
 0 50 100 200 300
 Metres

Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 55



LEGEND

- Effluent Sampling Point
- STP and Redlands Effluent Irrigation Farm Site Features



M Muster Point

R

Runoff Collection



Emergency Discharge Point

Stormwater Bund

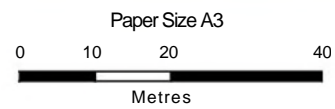


Narromine Shire Council
 Pollution Incident Response
 Management Plan

Job Number 22-19747
 Revision 1
 Date 19 Feb 2019

Narromine STP and Effluent
 Irrigation Area - Site Features

Figure 2



Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 55



LEGEND

- P Irrigation Pump Station
- Affected area



Narromine Shire Council
 Pollution Incident Response
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 Revision 1
 Date 19 Feb 2019

Pump Station Overflow
 Pollution Incident

Figure 3

Appendix C – Risk Minimising Procedures

Risk Minimising Procedures

Council maintain the following procedures for minimising the risk of harm to persons and the environment of operational activities throughout the sewer network:

- OFSWMS S020 – Clear choke in sewer mains and services
- OFSWMS S170 – Narromine treatment works

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		Name	Signature	Name	Signature	Date
0	D. Scott	G. Metcalfe	<i>G. Metcalfe</i>	G. Metcalfe	<i>G. Metcalfe</i>	13/09/2012
1	P. McDougall	D. Scott	<i>D. Scott</i>	G. Metcalfe	<i>G. Metcalfe</i>	18/04/2017
2	B. Foster	D. Scott	<i>D. Scott</i>	D. Mees	<i>D. Mees</i>	13/08/2019

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