

Pollution Incident Response Management Plan

Lennox Head Wastewater Treatment Plant and Reticulation

Environmental Protection Licence # 590

Document Control

Trim Ref 12/52479

Version	Date	Summary of Changes	Author	Checked
1	05/09/2012		A Swan	Garry M
2	08/04/2013	Updated NSW Health contact numbers	T Partridge	
3	22/07/2014	Updated contact details & maps	J Ransom	
4	22/08/2014	Updated NSW Shellfish Richmond River Co-ord #	J Ransom	T Mackney
5	12/05/2015	Updated Contacts	M Tomkins	
6	23/05/2016	Update Contacts and Site Chemical Information	T Lees	T Mackney
7	19/05/2017	Updated Contacts	G Meredith	T Lees
8	26/07/2018	Updated Contacts	G Meredith	T Lees
9	17/07/2019	Updated Contacts	G Meredith	T Lees
10	15/09/2020	Updated Contacts	G Meredith	T Lees
11	25/02/2022	Update Contacts, Containment equipment, pollution monitoring protocol, Testing	J Suttor	T Lees

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1. Introduction

This plan has been developed to document the processes required to prepare for and respond to pollution incidents for the Lennox Head Wastewater Treatment Plant (WWTP) and associated reticulation (EPA Licence No. 590) and ensure that hazards to the environment, human health and safety are reduced, if not 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.

2. Scope

This Pollution Incident Response Management Plan applies to Lennox Head WWTP and Reticulation (EPA Licence No. 573). For site plans, refer to Appendix 2 – Site Plans.

3. Pollution Incident Response Management Plan

The town of Lennox Head is serviced by approximately 130km of sewer mains and 72 pump stations which transfers sewage to the Lennox Head WWTP. Lennox Head WWTP treats approximately 6,000kL of sewage daily in dry weather, potentially reaching 5 times this flow during heavy rain periods. During sewage treatment, chemicals and by-products are produced which, if they are spilt or incorrectly managed, may contaminate the environment or threaten human health. A register of the chemicals is contained in Appendix 3 – Site Chemical Register.

3.1 Potential Incidents

The potential hazards to the environment include:

- Sewage overflow (raw or partially treated) – potentially caused by:
 - Storms (lightning/heavy rainfall/wind) causing power failure or infrastructure damage
 - Reticulation blockages
 - Damage to reticulation (contractors or other damage during excavations etc)
 - Infrastructure failure due to age
 - SCADA/Communications failure
 - Excessive flows
 - Mechanical break down
 - Power outage
 - Treatment plant blockage
- Chemical or Bio-solids spill – potentially caused by:
 - Tank/storage failure
 - Delivery incident
 - Damage to chemical reticulation
 - Vandalism
 - Inappropriate chemical use
 - Bund failure

A detailed assessment of risks is provided Appendix 5 – Risk Assessment and Actions. For detail on actions to reduce risks see Section 3.5 Pre-emptive Measures and Appendix 6 – Action Plans to Minimise Harm.

3.2 Incident Response

This section details the response requirements in the event of an incident.

During working hours the emergency number for Ballina Shire Council is **1300 864 444**

These calls are taken by staff on the Ballina Shire Council Switch.

After working hours the emergency number for Ballina Shire Council is **(02) 6626 6954**

This call is answered by Immediate Reception, who informs appropriate personnel of issues and incidents

Containing, minimising and cleaning up hazardous substances may involve the following processes as required:

- Attempt to stop the flow of the substance at the source.
- Place sand or soil in the shape of a bund around the spill to contain it.
- Place absorbent material (preferably from a spill kit) over the spill to soak up the substance and store in a container.
- In the event of a pump station overflow, upstream flows need to be managed and isolated using SCADA to extend the sewer holding/storage time.
- If a large quantity has been spilt, provide a bund or cut off walls at points along the flow direction to prevent the substance entering stormwater drains or waterways, this may need to be done in several places to store the quantity spilt.
- Remove any excess sewage spills using a pump out or vacuum tanker where practical.
- Remove any solid wastewater material and contaminated soil and dispose of to landfill.
- Public areas contaminated with wastewater (not waterways) may require disinfection (confirm with the Environmental Health Officer).
- Seek advice from senior staff on method of removal that could involve specialist clean up.

Follow-up actions	Responsibility
If directed by the EPA or Environmental Health Officer, investigate and organise sampling of surrounding waterways and/or soils and notify the treatment plant engineer of outcomes.	Treatment Plants and Capital Works Engineer, Project and Operations Engineer, Operations Engineer to engage EHO's to collect samples.
Contaminated land is to be disinfected, ponded sewage pumped out and faecal coliforms are to be monitored until background levels are reached. Council will publish this monitoring data on its website (environment >> published environment monitoring data).	Team Leader Water and Wastewater, Supervisor Water and Wastewater Treatment
Provide the EPA with a written report of the incident within 7 days in accordance with the POEO Act. To likely be drafted by the Engineer that raised the PIRMP.	Treatment Plants and Capital Works Engineer, Project and Operations Engineer, Operations Engineer

Refer to **Appendix 1 – Stakeholder Contact Details** for a comprehensive list of contact details.

3.2.1 Human health or Safety Incident

If there is immediate threat to Human health or Safety, call triple zero “000” (try “112” if call is unsuccessful) and implement the following process:

- 1) Implement the EMERGENCY RESPONSE PROCEDURE
- 2) If required, evacuate the site.

3) Contact Team Leader (Garry Meredith **0428 811 277**) and/or Manager Water and Wastewater (Bridget Walker **0474 009 041**)

1) Report the incident to the Coordinator of Risk Management (Stuart Roach **0408 245 502**)

3.2.2 Pollution incident

During a pollution incident which involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, Ballina Shire Council must verbally notify the following authorities immediately:

- 1) Immediate supervisor
- 2) EPA Environment Line (written report to be provided within 7 days) **131 555**
- 3) NSW Health **1300 066 055**
or AH: **0428 882 805**
- 4) Fire & Rescue NSW **1300 729 579**
- 5) SafeWork NSW **131 050**
- 6) BSC Environmental Health Officer **(02) 6686 1210**
or AH: **(02) 6626 6954**

All communications with emergency response agencies due to incidents that apply to this plan must be made through the **Team Leader Water and Wastewater**.

Ballina Shire Council should also consider contacting the following as soon as practical:

- 1) The staff member's Supervisor, Coordinator and Manager
- 2) Affected neighbours
- 3) NSW Shellfish Program Manager **0407 078 269**
and email food.nswsp@dpi.nsw.gov.au
- 4) NSW Shellfish Richmond River Coordinator **((02) 6686 3394)**
- 5) Oyster Farmers (update annually)

	<u>Name</u>	<u>Location</u>	<u>Home</u>	<u>Mobile</u>	<u>Work</u>
a)	Ray Hunt	North Creek		0414 884 274	
b)	Geoff Lawler	North Creek	(02) 6686 7163		(02) 6686 3394
c)	Ian Cardow	Serpentine		0438 237 359	(02) 6686 3270
6)	Cape Byron Marine Park Authority				(02) 6620 9300
7)	Fisheries				1800 043 536
8)	Life Guards				0432 217 500
9)	Chemical supplier				Refer to the SDS
10)	Aboriginal Land Council				(02) 6686 7055
11)	Police				(02) 6681 8699
12)	Rous Water				(02) 6621 8055 or AH: (02) 6626 6955
13)	Department of Primary Industries (Terry Call)				(02) 6627 0100

3.2.3 Contained Overflows

During a pollution incident in which Council staff respond within sufficient time to fully contain the spill and prevent an incident of actual or potential harm to the health or safety of human beings or to ecosystems, the following notification should be made as soon as practicable (within 24 hours):

- 1) Team Leader Water and Wastewater
- 2) Operations Engineer, Water and Wastewater via email

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

- 1) Stuart Roach (Coordinator of Risk Management) **(02) 6686 1406**

The incident response required depends on the type of incident that has occurred.

3.3 Community notification

Impacts on the community due to sewage distribution and treatment incidents are variable and depend on location, volumes of spills or other factors. Communication methods will be used on a case by case basis and in all situations Ballina Shire Council will attempt to provide early warning to directly affected premises (either upstream or downstream depending on tidal impacts where relevant) by phone call or site visit. Early warning is to include details of what the incident is, how those affected can prepare and respond, and provide important advice such as avoiding contact and use of affected waterways.

Where early warning is not possible Ballina Shire Council will provide notification and communication during and after an incident to advise those affected with information, advice and updates. Notification and communication methods will be determined on a case by case basis and should be made in conjunction with input from Council's Public and Environmental Health and Communication Teams.

- 1) Kerri Watts (Manager Public and Environmental Health) **(02) 6686 1265**
- 2) Caroline Klose (Manager Communications and Customer Service) **(02) 6686 1296**

In the event of a chemical or sewage spill into stormwater or waterway, Ballina Shire Council staff are to go to prominent and/or high use areas of the affected waterway and erect signage. The signs are to warn water users of the contamination and advise them to avoid activities such as swimming, fishing, shell fish collection and boating until contamination has cleared. Additionally, if the event occurred or was occurring during dry weather, Ballina Shire Council staff are to attend popular sites and advise users directly.

Contaminated land is to be disinfected, ponded sewage pumped out and faecal coliforms are to be monitored until background levels are reached. Council will publish this monitoring data on its website (environment >> published environment monitoring data).

Regular communication and notification is to be provided until the incident and clean up of impacted site and affected areas has been complete (e.g. faecal coliforms have returned to background levels). Ballina Shire Council is to take signs down and advise the public that regular activities can be resumed by (as required):

- Phone calls
- Media releases (radio/television/newspaper/internet/social media as required)
- Letter drops
- Other methods as the situation requires

3.3.1 Incidents at the Wastewater Treatment Plant

The township of Lennox Head is approximately 1.5 km away from the Lennox Head WWTP. The nearest neighbour from the Lennox Head WWTP is approximately 600 metres away. There is nothing onsite that would create an emergency for any neighbours. Additionally, the inflow into this plant and the available storage means that even at peak wet weather flows the potential of an overflow from this plant is low. However, if an incident did occur it would result in a spill into North Creek and potentially impact oyster leases. Any community members or neighbours affected would be informed in accordance with the processes listed in Section 3.3 Community notification.

3.4 Incident Investigation

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

- Forming the investigation team
- Co-ordinating the investigation

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

3.5 Pre-emptive Measures

3.5.1 Physical and preventative measures

First priority for pre-emptive measures is to eliminate substances that can become potential pollutants. If this is not possible, physical barriers should be installed to prevent pollutants from entering the environment such as bunding and spill drainage containment. At Lennox Head WWTP, all chemical storages are bunded to ensure that if the storage fails the pollutant is contained and treatment process bypasses are installed to prevent partially treated sewage spills due to reticulation issues. Additionally, the reticulation, pump stations, and Lennox Head WWTP have multiple alarm systems to alert operators of conditions that may result in incidents, which include:

- High level alarms
- Communication failure
- Chemical bund alarms
- Motor issue alarm
- No flow/high flow alarms

In the event that these systems fail, Ballina Shire Council has portable bypass pumps and other containment options available.

3.5.2 Preventative monitoring and maintenance

Ballina Shire Council uses monitoring and preventative maintenance to reduce the potential for incidents at both the WWTP and for the reticulation and pump stations. These separated in the following timeframes:

- Daily
- Weekly
- Monthly to Annually
- Longer term (capital works and maintenance programs)
- *Daily:*
 - The WWTP is to be attended daily and the following inspected:
 - Maintenance requirements
 - Chemical quantities
 - Plant performance data
 - House keeping issues that requiring attention

- Vandalism and/or thefts
- Issues with bunds
- Check bund valves are closed
- Alarms workings
- *Weekly:*
For the reticulation and associated pump stations staff are to conduct weekly pump station checks using the ***Weekly Sewage Pump Station Maintenance Form***.
- *Monthly to Annually:*
The following is to be checked monthly for the reticulation and pump stations:
 - Alarm testing – power fail, critical float
 - Rain gauges – Electricians

The following is to be checked or conducted every three months:

- All valve operations - exercising, maintenance
- Inlet Valves - exercising, maintenance
- Isolation Valves - exercising, maintenance
- Spray and exercise locks

The following is to be checked or conducted every six months:

- Backup Batteries
- Fire Extinguishers
- Odour Beds and Sprinkler System - inspection
- Overflow Plugs - inspection
- Remove grit with suck truck - Vacuum Truck
- Stink Pipe - cartridges and whirly bird - inspection
- Sump Pumps - Dry Well PS's
- Vermin/Insect Protection

The following is to be checked or conducted annually:

- Lopping and pruning of trees surrounding PS's
- Painting
- Prune trees around odour beds
- Pump Performance Testing (Citect and Draw-down tests)
- RPZ Testing
- Team Training - New Technologies and Upgrades
- Trade waste system inspections
- CCTV and Jetting for repeat chokes
- Tree removal where there are repeat chokes
- Inspection and mowing of pipeline easements
- Condition assessment of above ground rising mains
- Bund integrity (WWTP)

Other checks include manhole inspection, maintenance, repair and resealing (as required) safety net checks (bi-annually), renewing woodchips and gravel (as required) and inspecting and exercising Overflow Flaps (after heavy rainfall).

3.6 Training & Competency

All staff required to implement this plan and associated documents must have training in its use and be inducted into it. 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 will be re-inducted.

All, desktop exercises, drills and incidents are to be registered into Council's Document Management System (TRIM), and training records will be tasked through TRIM to Council's Risk & Human Resources Department who will record the training into Council's Human Resources Information System (HRIS).

4. Responsibility

The Manager Water, Wastewater and Waste is responsible for the implementation of this Plan.

5. References

- EPA NSW Environmental Guidelines: Preparation of pollution incident response plans
- Local Government Act 1993
- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (General) Regulation 2009
- Protection of the Environment Operations Amendment Act 2011
- Protection of the Environment Operations Amendment Act 2014
- Protection of the Environment Operations Legislation Amendment (Schedule Activities) Regulation 2019
- Environmental Legislation Amendment Act 2022
- Public Health Act 1991
- Water Administration Act 1986

6. Dictionary

Pollution incident: means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise or odour (see the POEO Act 1997).

Harm to the environment: harm to the environment is material if:

- 1) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is **not trivial**, or
- 2) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and

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

7. Testing of the PIRMP

It is a legal requirement to test the plan every 12 months and within one month of any pollution incident. This testing should include simulation of desktop scenarios including practical exercises and incident drills. All contacts including names and numbers are to be reviewed and updated as required. Testing must cover all components of the plan. The PIRMP should be tested and updated within 1 month of a pollution incident. In this case it should be considered whether the information in the PIRMP is accurate and up to date and whether the plan is adequate and effective for managing the response to pollution incident.

Date tested	Participants	Details of test (e.g. nature of the test, involvement of other agencies)	Finding of test (including issues identified)	Next scheduled testing date
31/05/2018	Treatment Operations	Desktop	No issues identified	May 2019
31/05/2019	Treatment Operations	Desktop	No issues identified	May 2020
31/05/2020	Treatment Operations	Desktop	No issues identified	May 2021
31/05/2021	Treatment Operations	Desktop	No issues identified	May 2022

Appendix 1 – Stakeholder Contact Details

Organisation	Contact	Phone	Email
NSW EPA Environment Line		131 555	info@environment.nsw.gov.au and north.coast@epa.nsw.gov.au
NSW EPA	Peter Lynch	(02) 6640 2502 0438 208 131	peter.lynch@epa.nsw.gov.au
NSW EPA	Janelle Bancroft	(02) 6640 2513 0447 139 638	janelle.bancroft@epa.nsw.gov.au
NSW Health		1300 066 055 0428 882 805	NNSWLHD-NCPHU- EnvironmentalHealth@health.nsw.gov.au
NSW Health	Paul Williamson	(02) 6620 7525 0414 569 516	Paul.Williamson@health.nsw.gov.au
SafeWork NSW		131 050	
BSC Environmental Health Officer		(02) 6686 1210 (02) 6626 6954	
BSC (Public & Environmental Health, Manager)	Kerri Watts	(02) 6686 1210 0414 192 311	Kerr.watts@ballina.nsw.gov.au
BSC (Water & Wastewater, Team Leader)	Garry Meredith	1300 864 444 0428 811 277	garrym@ballina.nsw.gov.au
BSC (Water & Wastewater, Operations Engineer)	Gabrielle Denniss	(02) 6686 1294 0428 197 329	Gabrielle.denniss@ballina.nsw.gov.au
BSC (Water & Wastewater, Manager)	Bridget Walker	(02) 6686 1226 0474 009 041	bridget.walker@ballina.nsw.gov.au
BSC Risk & Human Resources Department		(02) 6686 1202 (02) 6686 1430	
BSC (Coordinator, Risk Management)	Stuart Roach	(02) 6686 1406 0408 245 502	sroach@ballina.nsw.gov.au
Fire & Rescue NSW		1300 729 579	
NSW Shellfish Program Manager		(02) 9741 4749 0407 078 269	nswp@foodauthority.nsw.gov.au
NSW Shellfish Richmond River Coordinator	Geoff Lawler	(02) 6686 3394	
Oyster Farmer (North Creek)	Ray Hunt	0414 884 274	
Oyster Farmer (North Creek)	Geoff Lawler	(02) 6686 3394 (02) 6686 7163	
Oyster Farmer (Serpentine)	Ian Cardow	(02) 6686 3270 0438 237 359	
Cape Byron Marine Park Authority		(02) 6620 9300	
Fisheries		1800 043 536	

Life Guards		0432 217 500	
Chemical Suppliers		Refer to SDS (ChemAlert)	
Aboriginal Land Council		(02) 6686 7055	
Police		(02) 6681 8699	
Rous Water		(02) 6621 8055 (02) 6626 6955	
DPI Water	Terry Call	(02) 6627 0100	terry.call@dpi.nsw.gov.au
Tweed Lab	Paul Wright	(07) 5569 3101	paulw@tweed.nsw.gov.au and samplerception@tweed.nsw.gov.au
Pathology North Lismore	Erin Lysaght	(02) 6620 2926	Erin.Lysaght@health.nsw.gov.au
Environmental Analysis Lab, SCU, Lismore	Graeme Lancaster	(02) 6620 3678 0419 984 088	graham.lancaster@scu.edu.au
Australian Laboratory Services (ALS)	Sally Mitchell	(07) 3552 8676	sally.mitchell@alsglobal.com
	Admin	(07) 3243 7222	angel-no-reply@alsglobal.com

Appendix 2 – Site Plans

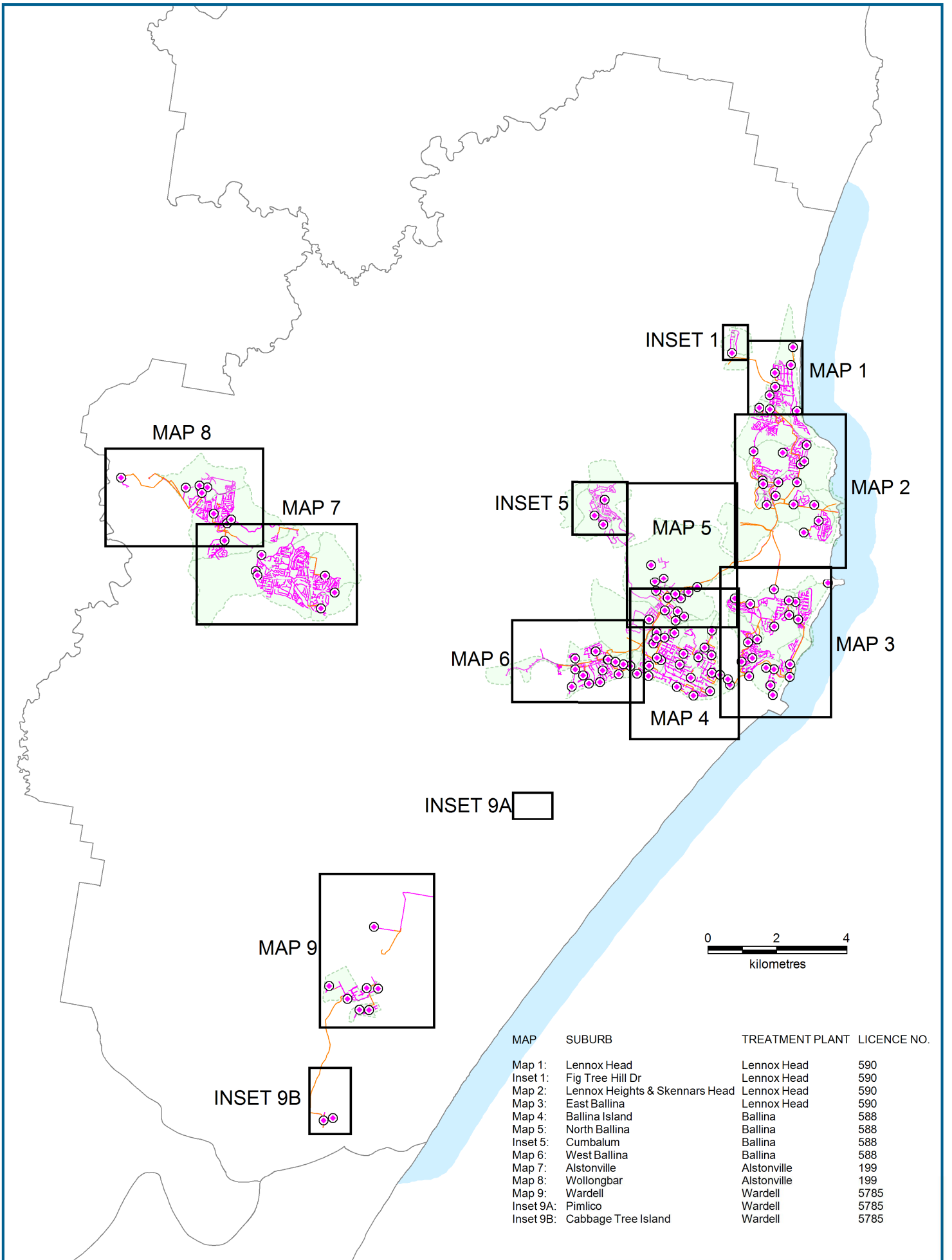
The Site Plans are constructed using the best current available data and are considered uncontrolled when printed. It is expected that reference will be made to the interactive electronic version of the maps through Council GIS systems. All PIRMP diagrams are in one plan set, the full list of plans are listed below:

Sewerage Reticulation maps

Map Number	Title	Treatment Plant	Licence No.
na	Map Index (Maps 1-9)	All	All
1 of 9	Lennox Head & Fig Tree Hill Dr	Lennox Head WWTP	590
2 of 9	Lennox Heights & Skennars head	Lennox Head WWTP	590
3 of 9	East Ballina	Lennox Head WWTP	590
4 of 9	Ballina Island	Ballina WWTP	588
5 of 9	Cumbalum & North Ballina	Ballina WWTP	588
6 of 9	West Ballina	Ballina WWTP	588
7 of 9	Alstonville	Alstonville WWTP	199
8 of 9	Wollongbar	Alstonville WWTP	199
9 of 9	Wardell, Pimlico & Cabbage Tree Island	Wardell WWTP	5785

Licensed Facility Maps

Map Number	Title	Treatment Plant	Licence No.
na	Lennox Head WWTP		590
na	Ballina WWTP		588
na	Alstonville WWTP		199
na	Wardell WWTP		5785
na	BSC Airport Sandpit		5948
na	Ballina Waste Management Centre		6350



MAP	SUBURB	TREATMENT PLANT	LICENCE NO.
Map 1:	Lennox Head	Lennox Head	590
Inset 1:	Fig Tree Hill Dr	Lennox Head	590
Map 2:	Lennox Heights & Skennars Head	Lennox Head	590
Map 3:	East Ballina	Lennox Head	590
Map 4:	Ballina Island	Ballina	588
Map 5:	North Ballina	Ballina	588
Inset 5:	Cumalun	Ballina	588
Map 6:	West Ballina	Ballina	588
Map 7:	Alstonville	Alstonville	199
Map 8:	Wollongbar	Alstonville	199
Map 9:	Wardell	Wardell	5785
Inset 9A:	Pimlico	Wardell	5785
Inset 9B:	Cabbage Tree Island	Wardell	5785



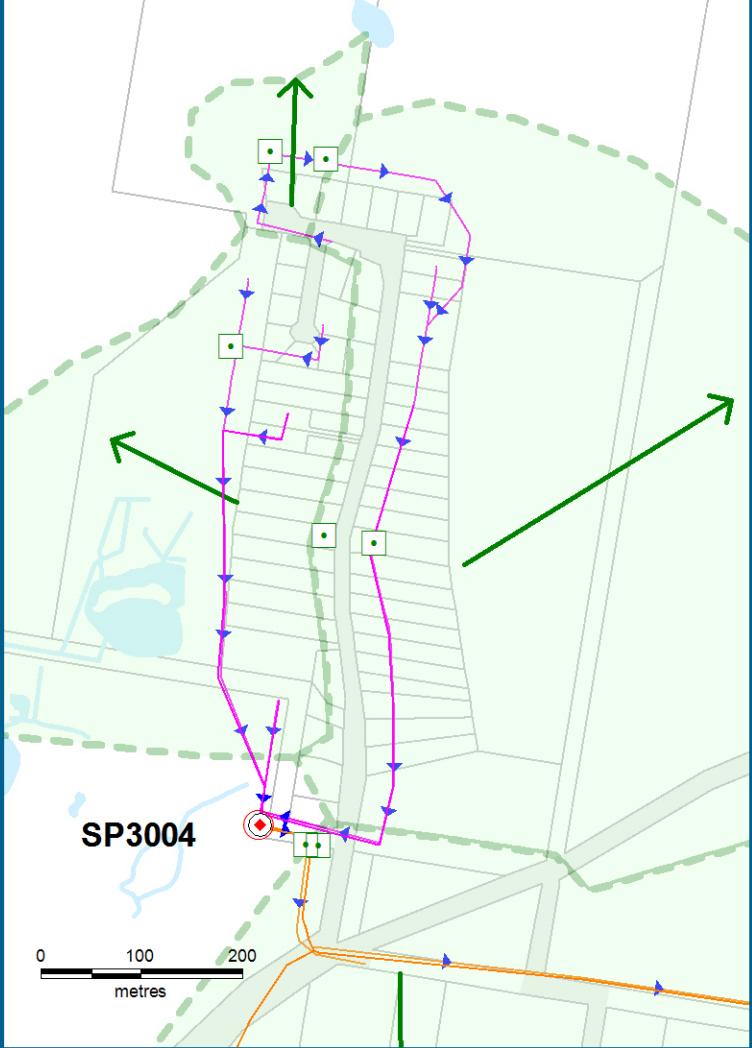
Map Index (1-9)
Pollution Incident Response Management Plan





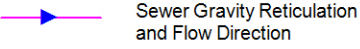
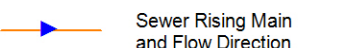




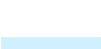


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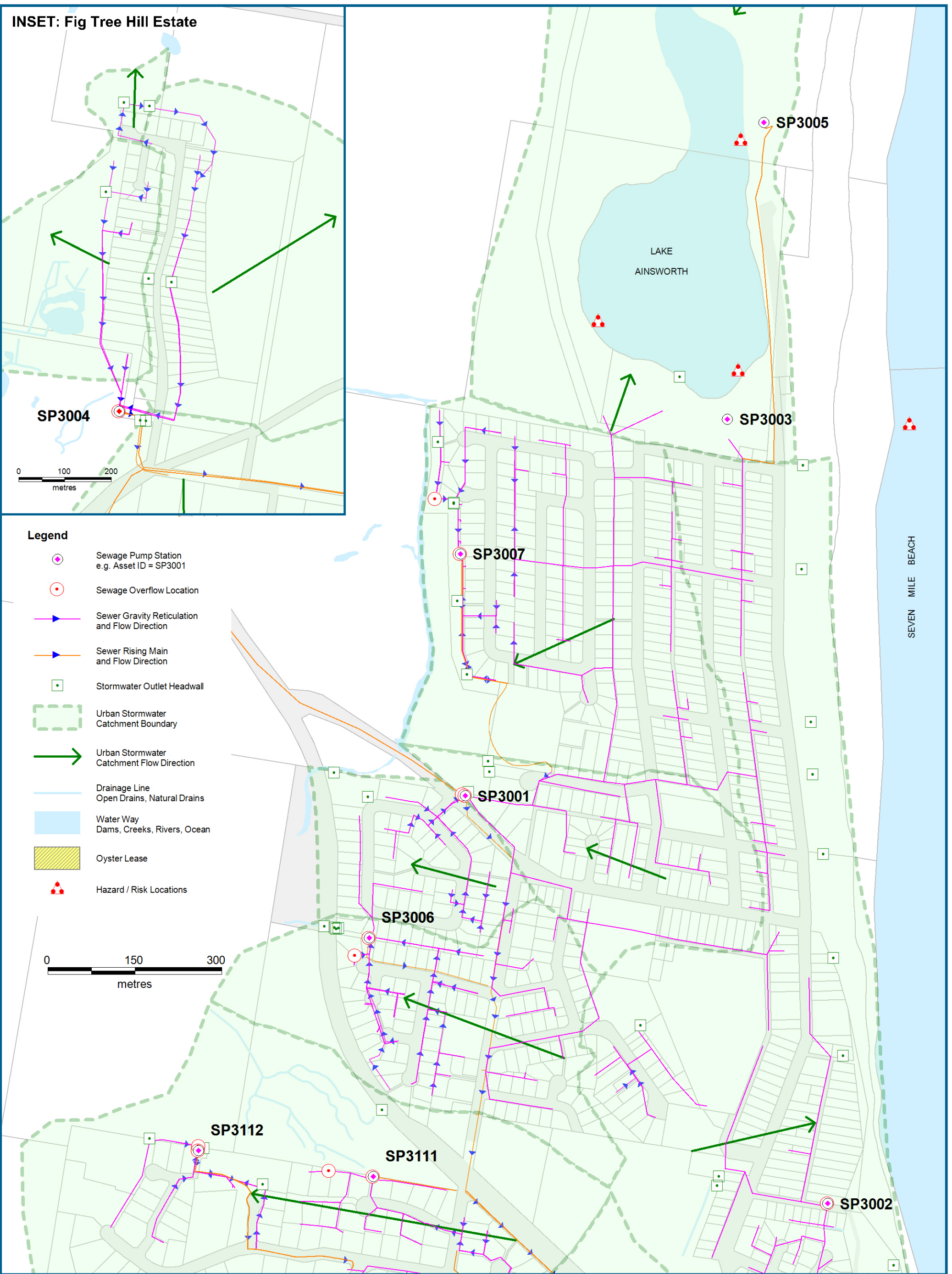
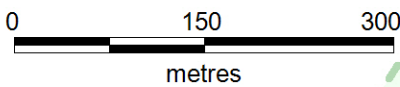
Printed
02/06/2016

INSET: Fig Tree Hill Estate



Legend

-  Sewage Pump Station
e.g. Asset ID = SP3001
-  Sewage Overflow Location
-  Sewer Gravity Reticulation
and Flow Direction
-  Sewer Rising Main
and Flow Direction
-  Stormwater Outlet Headwall
-  Urban Stormwater
Catchment Boundary
-  Urban Stormwater
Catchment Flow Direction
-  Drainage Line
Open Drains, Natural Drains
-  Water Way
Dams, Creeks, Rivers, Ocean
-  Oyster Lease
-  Hazard / Risk Locations



Map 1 of 9

**Lennox Head / Lennox Head WWTP - License No. 590
Pollution Incident Response Management Plan**

Version: 1
Printed: 30/08/2012

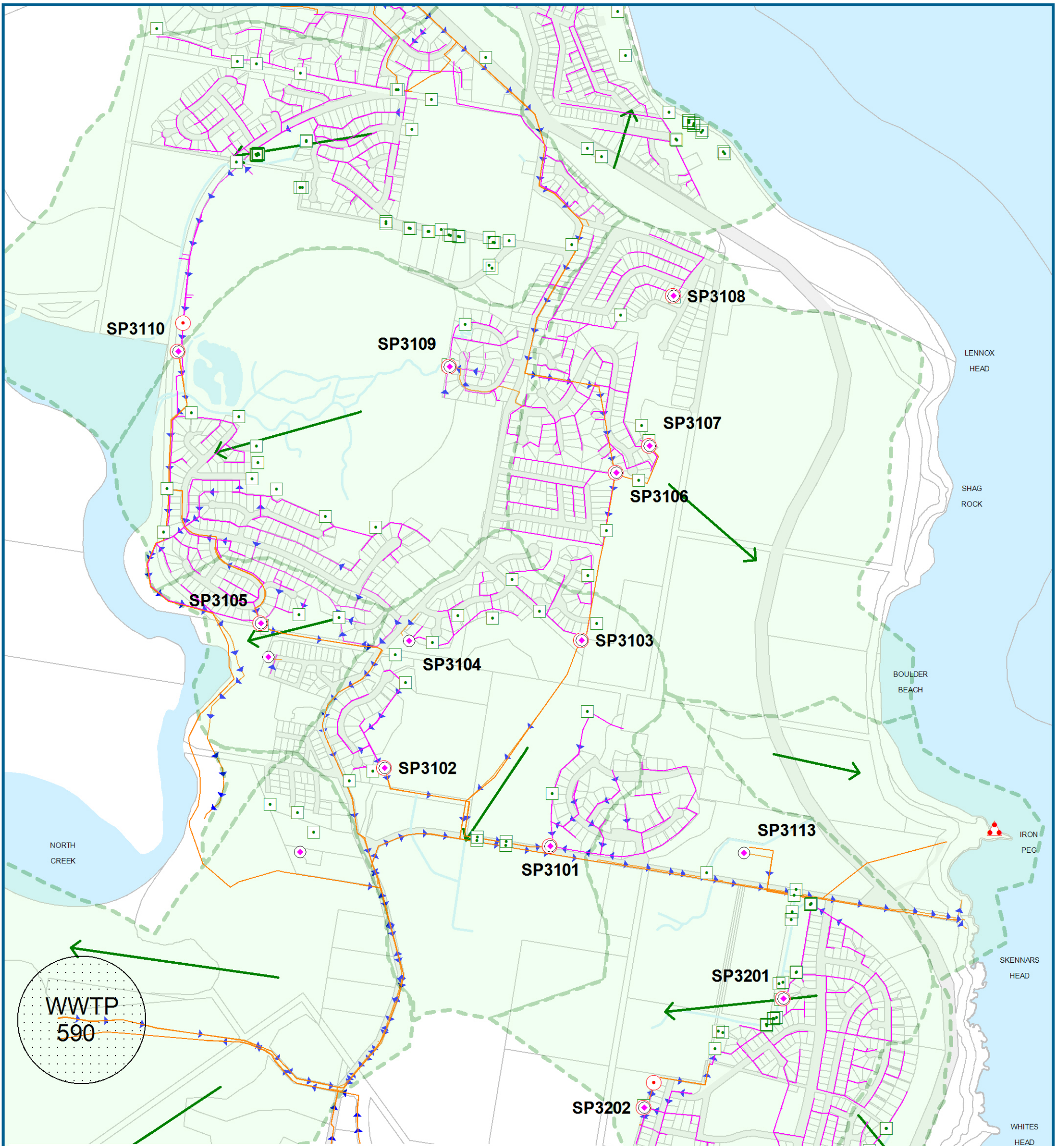
Drawn By: WP

Approved By: AS

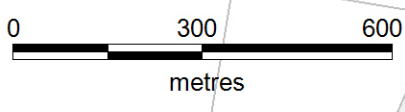


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- Legend**
- Sewage Pump Station
e.g. Asset ID = SP3001
 - Sewage Overflow Location
 - Sewer Gravity Reticulation
and Flow Direction
 - Sewer Rising Main
and Flow Direction
 - Stormwater Outlet Headwall
 - Urban Stormwater
Catchment Boundary
 - Urban Stormwater
Catchment Flow Direction
 - Drainage Line
Open Drains, Natural Drains
 - Water Way
Dams, Creeks, Rivers, Ocean
 - Oyster Lease
 - Hazard / Risk Locations



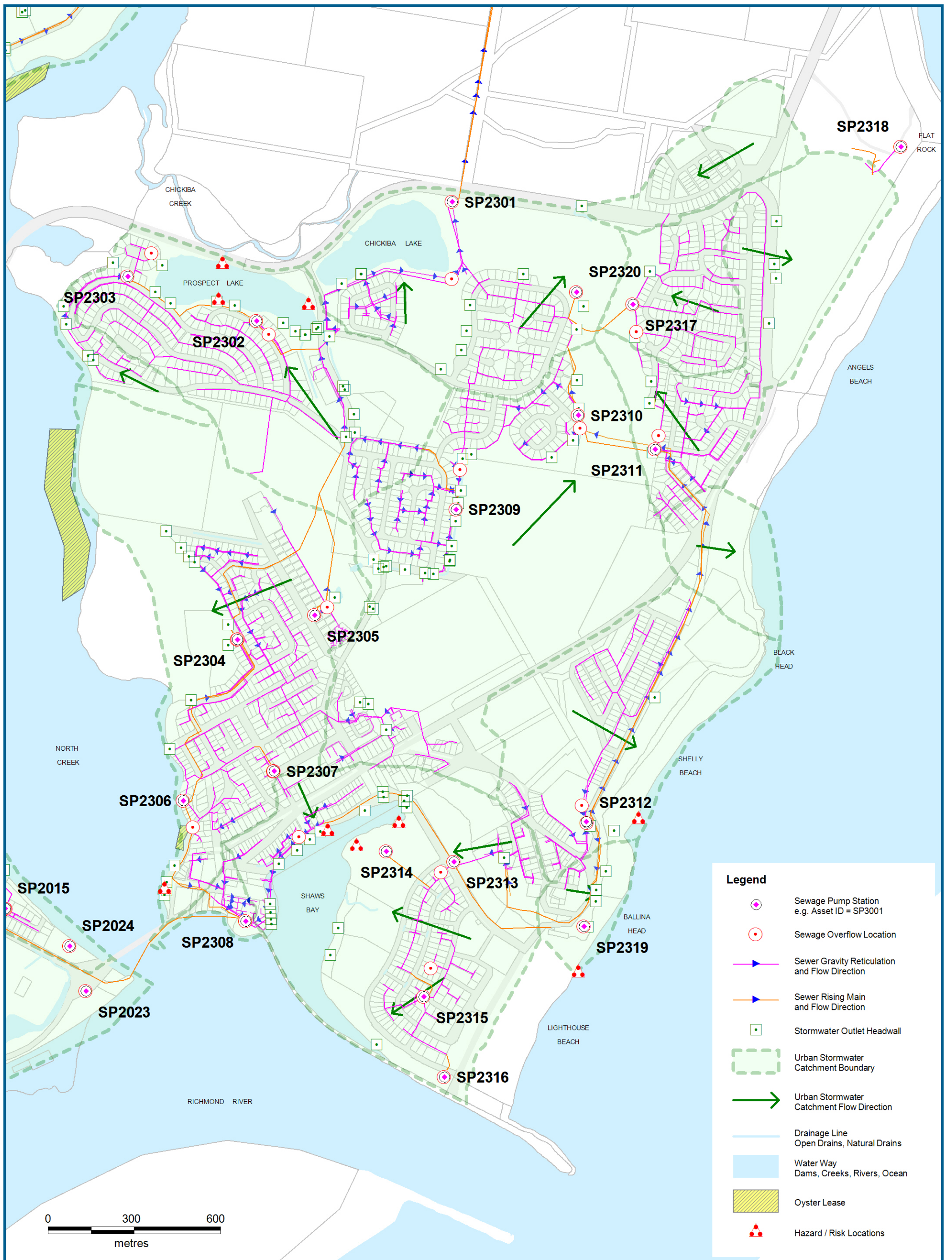
Map 2 of 9
Lennox Heights & Skennars Head / Lennox Head WWTP - License No. 590
Pollution Incident Response Management Plan

Version: 1
 Printed: 30/08/2012
 Drawn By: WP
 Approved By: AS



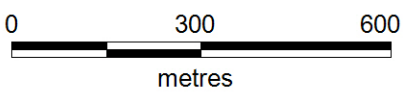
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I:\MAP_DATA\PROJECTS\UTILITY\SEWER\PIR\Map\VERSION_12_LennoxHeights_SkennarsHead.vor



Legend

- Sewerage Pump Station
e.g. Asset ID = SP3001
- Sewerage Overflow Location
- Sewer Gravity Reticulation
and Flow Direction
- Sewer Rising Main
and Flow Direction
- Stormwater Outlet Headwall
- Urban Stormwater
Catchment Boundary
- Urban Stormwater
Catchment Flow Direction
- Drainage Line
Open Drains, Natural Drains
- Water Way
Dams, Creeks, Rivers, Ocean
- Oyster Lease
- Hazard / Risk Locations



Map 3 of 9
East Ballina / Lennox Head WWTW - License No. 590
Pollution Incident Response Management Plan

Version: 1
 Printed: 30/08/2012
 Drawn By: WP
 Approved By: AS

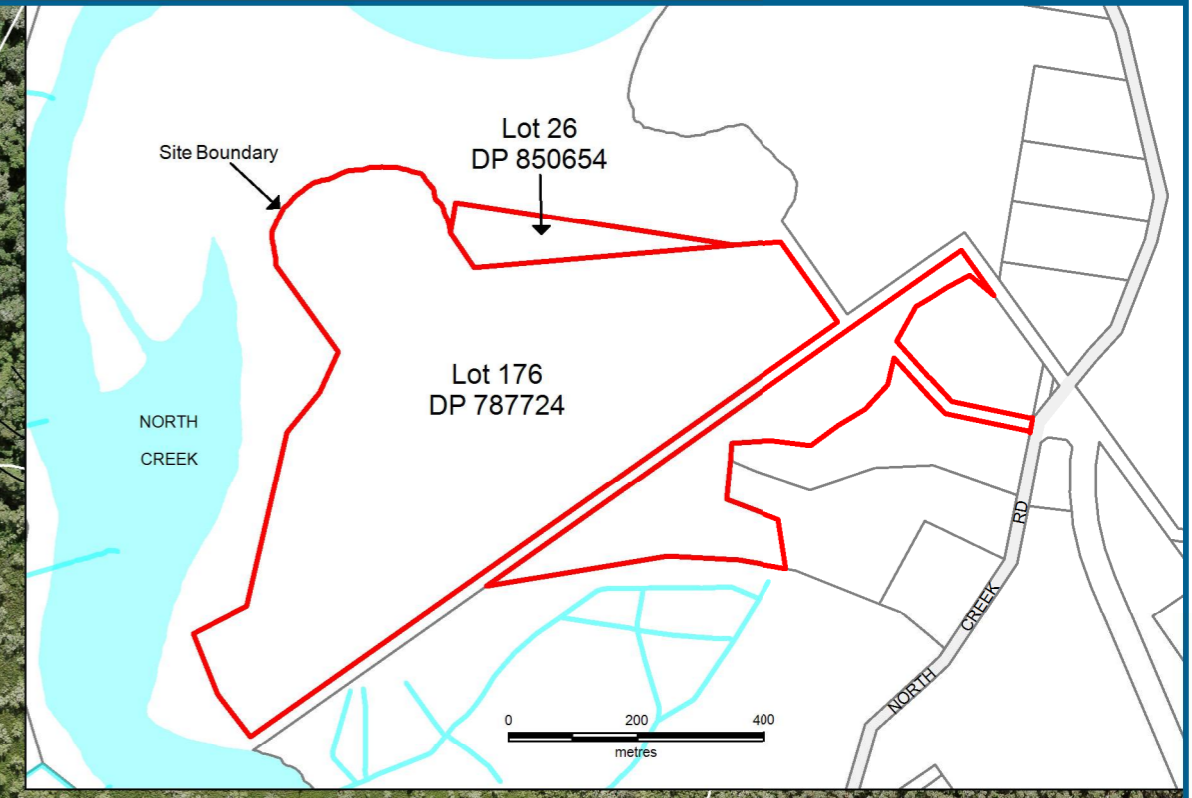


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 The information contained within this plan is for pictorial representation only. Do not scale. Accurate measurements should be undertaken by survey.

2015 Aerial Photography

North Creek



Lot 26 DP 850654

Lot 176 DP 787724



Lennox Head WWTP - License No. 590 Pollution Incident Response Management Plan



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Printed
02/06/2016

Appendix 3 – Site Chemical Register

Council maintains its chemical register using the ChemAlert system. Copies are considered uncontrolled when printed.

Stock Register

(Location Name: BALLINA SHIRE COUNCIL/ WATER & WASTEWATER STP'S/ LENNOX HEAD STP, Child Locations Included)

(Sort By: Colour Rating, Filter By: None)

Stock Number	Product Name				Supplier (Emergency Contact)				
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	In Stock Inventory	Risk Assessment	SDS Date
725	AC MILITIA 600 WG HERBICIDE				AXICHEM PTY LTD (1800 039 008)				
	No	DG 9	UN 3077	PG III	2Z	None	Yes	-	13-Mar-2019
967	ALPHA SP 320 (SA)				BP SOUTHERN AFRICA (PTY) LTD (+27 (0) 860 222 166)				
	No	No	-	-	-	None	Yes	-	02-Oct-2019
22166	BUFFER PH 4.01RED				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	No	No	-	-	-	None	Yes	-	23-Jun-2020
9	CASTROL GARDEN 2T				CASTROL AUSTRALIA PTY LTD ((02) 8014 4558; 1800 141 474)				
	Yes	No	-	-	-	Approved - with Restrictions	Yes	-	20-Oct-2020
788	CHAIN AND CUTTER BAR LUBE				VALVOLINE (AUSTRALIA) PTY LTD (1800 804 658, New Zealand (02) 8603 2300)				
	No	No	-	-	-	None	Yes	-	28-Feb-2018
1169	GREENLUBE EP-0				GROENEVELD AUSTRALIA PTY. LTD. ((03) 8329 4333)				
	No	No	-	-	-	None	Yes	-	13-Nov-2017
22165	PH 10.01 BUFFER BLUE				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	No	No	-	-	-	None	Yes	-	03-Jun-2018
22167	PH 7 BUFFER YELLOW				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	No	No	-	-	-	None	Yes	-	08-Oct-2017
937	QUICKBAYT SPRAY FLY BAIT				BAYER CROPSCIENCE PTY LTD (1800 033 111 (IXOM Operations))				
	No	DG 9	UN 3077	PG III	2Z	None	Yes	-	18-Jun-2020
22221	RENOLIN PG 220				FUCHS LUBRICANTS (AUSTRALASIA) PTY LTD (1800 638 556 (24hr); (03) 9300 6400)				
	No	No	-	-	-	None	Yes	-	03-Dec-2018
555	SEPTONE PROTECTA GRIT				ITW AAMTECH AUSTRALIA (1800 039 008)				
	No	No	-	-	-	None	Yes	-	01-Nov-2019
969	SPILL SHARK WATER ADVANCED				NCH AUSTRALIA PTY LTD (FORMERLY CHEMSEARCH) (0401 718 972/ (02) 9669 0237)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	31-Dec-2016
387	TWO STROKE LAWN MOWER OIL				AMPOL AUSTRALIA PETROLEUM PTY LTD (FORMERLY CALTEX AUSTRALIA) (1800 033 111)				
	No	No	-	-	-	None	Yes	-	28-Jun-2018
750	VALVOLINE VALPLEX EP GREASE				VALVOLINE (AUSTRALIA) PTY LTD (1800 804 658, New Zealand (02) 8603 2300)				
	No	No	-	-	-	None	Yes	-	09-Aug-2017

Stock Register

(Location Name: BALLINA SHIRE COUNCIL/ WATER & WASTEWATER STP'S/ LENNOX HEAD STP, Child Locations Included)

(Sort By: Colour Rating, Filter By: None)

Stock Number	Product Name				Supplier (Emergency Contact)				
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	In Stock Inventory	Risk Assessment	SDS Date
22142	VARIO AM DILUENT REAGENT LR				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	No	No	-	-	-	Approved - No Restrictions	Yes	-	PRODUCT OBSOLETE
217	ALUMINIUM SULPHATE				OMEGA CHEMICALS (1300 131 001)				
	Yes	No	-	-	-	Approved - with Restrictions	Yes	-	04-May-2021
22374	ALUMINIUM SULPHATE				OMEGA CHEMICALS (1300 131 001)				
	Yes	No	-	-	-	None	Yes	-	04-May-2021
22160	ANTIBAC.GIENE				HYGIENE AUSTRALIA PTY LTD (1800 616 930)				
	Yes	No	-	-	-	None	Yes	-	09-Feb-2021
269	AQIUM GEL ETHANOL 70% W/W (AUST R 179333)				EGO PHARMACEUTICALS PTY LTD ((03) 9586 8800; 1800 033 706/ 13 11 26)				
	Yes	DG 3	UN 1170	PG II	●2YE	None	Yes	-	08-Apr-2020
22378	BUSHMAN REPELLENT PLUS PERSONAL INSECT REPELLENT PUMP SPRAY				JUNO LIMITED ((03) 9587 8514)				
	Yes	DG 3	UN 1993	PG II	●3YE	None	Yes	-	05-Oct-2021
737	BUSHMAN REPELLENT PLUS WATER RESISTANT INSECT REPELLENT				JUNO LIMITED ((03) 9587 8514)				
	Yes	No	-	-	-	None	Yes	-	23-Sep-2021
22285	CHARCOAL ACTIVATED POWDER				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 4.2	UN 1362	PG III	1Z	Approved - No Restrictions	Yes	-	04-Jul-2020
1302	CITRIC ACID SOLUTION				REDOX PTY LTD (1800 251 525/ 13 11 26/ 1800 127 406)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	20-Feb-2018
22284	COOGEE CHEMICALS SODIUM HYPOCHLORITE				COOGEE CHEMICALS PTY LTD (1800 800 655)				
	Yes	DG 8	UN 1791	PG III	2X	None	Yes	-	26-Jun-2018
826	GENERAL PURPOSE (GP) LIQUID LANOLIN AEROSOL				LANOTEC AUSTRALIA PTY LTD (0417 638 004)				
	Yes	DG 2.1	UN 1950	-	2YE	None	Yes	-	01-Feb-2019
797	GENERAL PURPOSE CEMENT				BORAL AUSTRALIA (13 11 26 (Poisons Information Centre))				
	Yes	No	-	-	-	None	Yes	-	31-Mar-2021
102	INOX-MX3 AEROSOL				CANDAN INDUSTRIES PTY LTD ((07) 5574 8205)				
	Yes	DG 2.1	UN 1950	-	2YE	Approved - with Restrictions	Yes	-	28-Feb-2022

Stock Register

(Location Name: BALLINA SHIRE COUNCIL/ WATER & WASTEWATER STP'S/ LENNOX HEAD STP, Child Locations Included)

(Sort By: Colour Rating, Filter By: None)

Stock Number	Product Name				Supplier (Emergency Contact)				
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	In Stock Inventory	Risk Assessment	SDS Date
885	LAUNDRY POWDER				BUNZL AUSTRALASIA LIMITED (13 11 26 (Poisons Information Centre)/ 0800 764 766)				
	Yes	No	-	-	-	None	Yes	-	01-Oct-2016
1058	LIME-A-WAY				ECOLAB PTY LTD (1800 205 506, +64 7 958 2372)				
	Yes	DG 8	UN 1805	PG III	2X	None	Yes	-	20-Nov-2020
192	MINERAL TURPENTINE				RECOCHEM INC ((07) 3308 5200; 1300 131 001 (After hours)/ 0800 764 766)				
	Yes	DG 3	UN 1300	PG III	3Y	Approved - with Restrictions	Yes	-	05-May-2022
1322	MORTEIN INSECT SEEKER FLY & MOSQUITO KILLER AEROSOL				RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))				
	Yes	DG 2.1	UN 1950	-	2YE	None	Yes	-	PRODUCT OBSOLETE
1186	MORTEIN KILL & PROTECT SURFACE SPRAY CRAWLING INSECT KILLER				RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))				
	Yes	DG 2.1	UN 1950	-	2YE	None	Yes	-	17-May-2021
22137	POTASSIUM PERSULPHATE				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 5.1	UN 1492	PG III	1Z	Approved - No Restrictions	Yes	-	06-Jul-2020
1303	SODIUM BISULPHATE				REDOX PTY LTD (1800 251 525/ 13 11 26/ 1800 127 406)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	16-Sep-2019
22382	SODIUM HYPOCHLORITE (GREATER THAN 10% W/W)				OMEGA CHEMICALS (1300 131 001)				
	Yes	DG 8	UN 1791	PG III	2X	Approved - No Restrictions	Yes	-	27-Apr-2021
1231	SODIUM HYPOCHLORITE SOLUTION 10-30%				REDOX PTY LTD (1800 251 525/ 13 11 26/ 1800 127 406)				
	Yes	DG 8	UN 1791	PG III	2X	None	Yes	-	18-Sep-2019
1305	SODIUM METABISULPHITE				REDOX PTY LTD (1800 251 525/ 13 11 26/ 1800 127 406)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	04-Dec-2019
22179	SODIUM SULPHITE ANHYDROUS				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	04-Jul-2020
1396	STABLCAL FORMAZIN STANDARD, 20 NTU (2660101)				HACH COMPANY (USA) (+1 303 623 5716)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	10-Aug-2021

Stock Register

(Location Name: BALLINA SHIRE COUNCIL/ WATER & WASTEWATER STP'S/ LENNOX HEAD STP, Child Locations Included)

(Sort By: Colour Rating, Filter By: None)

Stock Number	Product Name				Supplier (Emergency Contact)				
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	In Stock Inventory	Risk Assessment	SDS Date
1395	STABLCAL STANDARD, 800 NTU (2660542)				HACH COMPANY (USA) (+1 303 623 5716)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	10-Aug-2021
1374	TN (TOTAL NITROGEN) HYDROXIDE REAGENT				HACH PACIFIC (13 11 26)				
	Yes	DG 8	UN 1760	PG II	2X	Approved - No Restrictions	Yes	-	13-Aug-2019
252	UNLEADED PETROL				AMPOL AUSTRALIA PETROLEUM PTY LTD (FORMERLY CALTEX AUSTRALIA) (1800 033 111)				
	Yes	DG 3	UN 1203	PG II	3YE	Approved - with Restrictions	Yes	-	26-Mar-2019
22140	VARIO AMMONIA CYANURATE				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 8	UN 2680	PG II	2X	Approved - No Restrictions	Yes	-	SDS DISCONTINUED
22143	VARIO AMMONIA SALICYLATE F5 ML				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	PRODUCT OBSOLETE
22138	VARIO TOTAL N PERSULFATE RGT				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 5.1	UN 3215	PG III	1Z	Approved - No Restrictions	Yes	-	04-Jul-2020
22145	VARIO TOTAL NITROGEN HYDROXIDE LR VIAL				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 8	UN 1824	PG III	2R	Approved - No Restrictions	Yes	-	04-Jul-2020
22139	VARIO TOTAL NITROGEN REAGENT A				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	PRODUCT OBSOLETE
22270	VARIO TOTAL NITROGEN REAGENT B				TINTOMETER GMBH (+49 30 30686 790; +44 1235 239670)				
	Yes	No	-	-	-	None	Yes	-	17-Jul-2018
431	WEEDMASTER DUO DUAL SALT TECHNOLOGY HERBICIDE				NUFARM AUSTRALIA LIMITED (1800 033 498)				
	No	No	-	-	-	None	Yes	-	31-May-2019
5115	ZETAG 9018				BASF AUSTRALIA LIMITED (1800 803 440 (24h)/ (03) 8855 6666)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	16-Oct-2017

Stock Register

(Location Name: BALLINA SHIRE COUNCIL/ WATER & WASTEWATER STP'S/ LENNOX HEAD STP, Child Locations Included)

(Sort By: Colour Rating, Filter By: None)

Stock Number	Product Name				Supplier (Emergency Contact)				
	Hazardous	Dangerous Good	UN number	Packing Group	Hazchem Code	Status	In Stock Inventory	Risk Assessment	SDS Date
22286	ZETAG 9148FS				BASF AUSTRALIA LIMITED (1800 803 440 (24h)/ (03) 8855 6666)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	15-Nov-2017
1304	CAUSTIC SODA LIQUID				REDOX PTY LTD (1800 251 525/ 13 11 26/ 1800 127 406)				
	Yes	DG 8	UN 1824	PG II	2R	Approved - with Restrictions	Yes	-	31-Jul-2020
1376	DIGESTION SOLUTION FOR COD 0-1500 PPM RANGE				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 8	UN 1830	PG II	2P	None	Yes	-	04-Jul-2020
22253	HYDROCHLORIC ACID 33%				OMEGA CHEMICALS (1300 131 001)				
	Yes	DG 8	UN 1789	PG II	2R	None	Yes	-	22-Apr-2021
1175	LIQUID CAUSTIC SODA 25 - 50%				OMEGA CHEMICALS (1300 131 001)				
	Yes	DG 8	UN 1824	PG II	2R	None	Yes	-	14-May-2021
1373	SODIUM HYDROXIDE SOLUTION, 1.54N				HACH PACIFIC (13 11 26)				
	Yes	DG 8	UN 1824	PG II	2R	Approved - with Restrictions	Yes	-	29-Jul-2019
22144	VARIO NITRAX REAGENT TUBE A/ NITRATE REAGENT B VARIO NITRATE CHROMOTROPIC				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 8	UN 1830	PG II	2P	Approved - No Restrictions	Yes	-	SDS DISCONTINUED
22146	VARIO TOTAL NITROGEN ACID LR/HR VIAL				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 8	UN 1830	PG II	2P	Approved - No Restrictions	Yes	-	04-Jul-2020

Appendix 4 – Personal Protective Equipment

This section list the standard PPE items required.

7.1.1 Wastewater Treatment Plant

The following items are to be kept at the Lennox Head WWTP:

- Ear/hearing protection
- Gas monitor
- Gas calibration equipment
- Life rings (around the treatment system)
- Sun screen
- Apron/disposal overalls
- Rubber Gloves
- Goggles
- Gumboots
- Steel capped Boots

7.1.2 Sewerage reticulation response truck

The following items are to be kept on the sewerage reticulation response truck:

- Asbestos kit
- Goggles/eye protection
- Hearing protection
- Apron/disposable overalls
- Rubber gloves
- Gumboots

Appendix 5 – Risk Assessment and Actions

Methodology

1. Determine Consequence and Likelihood Definitions
2. Determine Risk Definitions
3. Determine Inherent Risk. Inherent risk is based on the hazardous containments that may be present
4. Devise Hazardous Events.
5. For each hazardous event, determine possible causes, raw risk characteristics, existing control measures, residual risk characteristics and any further improvements required.

Items 3 to 5 are in the attached spreadsheet.

Consequence and Likelihood Definitions

Likelihood	Rare	Only ever occurs under exceptional circumstances	
	Unlikely	Conceivable but not likely to occur under normal operations; no evidence of previous incidents	
	Possible	Not generally expected to occur but may under specific circumstances	
	Likely	Will probably occur at some stage based on evidence of previous incidents	
	Almost Certain	Event expected to occur most times during normal operations	
Hazard Type		Health & Safety	Environmental
Consequence	Insignificant	First aid only required	Minor impact to environmental amenity < \$1,000 to rehabilitate
	Minor	Minor medical treatment with or without potential for lost time	Damage to environmental amenity \$1,000 - \$10,000 to rehabilitate
	Moderate	Significant injury involving medical treatment or hospitalisation and lost time	Short term impact to ecosystem function Damage to environmental amenity \$10,000 - \$50,000 to rehabilitate
	Major	Individual fatality or serious long term injury	Long term impact to ecosystem function Damage to environmental amenity \$50,000 - \$100,000 to rehabilitate
	Catastrophic	Multiple fatalities or extensive long term injury	Damage to unique habitat or threatened species irreparable impact to ecosystem function wide spread damage to environmental amenity >\$100,000 to rehabilitate

Risk Definitions

	CONSEQUENCE				
LIKELIHOOD	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	High	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Medium	Medium	High

The risk assessment is generic for all sites, reference to site plans should be made to see where risks apply.

Hazard	Source	Quantity	Health Impact with Acute Exposure	Environmental Impact with acute exposure
Raw Wastewater				
Pathogens (virus' / bacteria / etc)	Sewage, Trade Waste	High	Death	High
Nutrients (N, P)	Sewage, Trade Waste	High	Low	Medium
H2S	Sewage, Trade Waste	Potentially High	Death	Low
Radioactive substances	Trade Waste	Low	Death	Medium
Acid	Trade Waste	Low	Serious Injury	Medium
Metals	Trade Waste	Low	Low	Low
Oil & Grease	Trade Waste	Medium	Low	Medium
Chemicals				
Calcium Nitrate	Odour Control Dosing Unit	Low	Minor Injury	?
Refer to MSDS for Complete List	Chemical storage	Medium	Injury / Illness	?

No	Hazardous Event	Limiting Hazard	Weather	Cause	Raw Consequence	Raw Likelihood	Raw Risk	Control Measures	Residual Consequence	Residual Likelihood	Residual Risk	Improvements Required?	Comment
1	Sewage Spill onto land	Pathogens (virus' / bacteria / etc)	Dry	Damage, blockage, pump failure, rising main break, pump truck spill, power failure	Moderate	Likely	High	Reticulation Maintenance, lightning protection, standby generators, telemetry monitoring and alarms, duty-standby pump arrangement, signage, communications, Spill Procedures	Moderate	Rare	Medium	Pump Improvement (PRP100)	
			Rain	Damage, blockage, pump failure, rising main break, pump truck spill, power failure, excessive inflow and infiltration, inadequate pump capacity	Moderate	Likely	High	as above, inflow and infiltration investigate and reticification works	Moderate	Rare	Medium	Pump Improvement (PRP100)	
			Flood	Inundation	Minor	Likely	Medium	switchboards constructed above flood levels, communications	Minor	Rare	Low		
2	Sewage Spill into environmental waterway	Pathogens (virus' / bacteria / etc)	Dry	Damage, blockage, pump failure, rising main break, pump truck spill, power failure	Moderate	Likely	High	Reticulation Maintenance, lightning protection, standby generators, telemetry monitoring and alarms, duty-standby pump arrangement, signage, communications, Spill Procedures	Moderate	Rare	Medium	Pump Improvement (PRP100)	
			Rain	Damage, blockage, pump failure, rising main break, pump truck spill, power failure, excessive inflow and infiltration, inadequate pump capacity	Moderate	Likely	High	as above, inflow and infiltration investigate and reticification works	Moderate	Rare	Medium	Pump Improvement (PRP100)	
			Flood	Inundation	Minor	Likely	Medium	switchboards constructed above flood levels, communications	Minor	Rare	Low		
3	Sewage Spill into recreational water	Pathogens (virus' / bacteria / etc)	Dry	Damage, blockage, pump failure, rising main break, pump truck spill, power failure	Catastrophic	Likely	Extreme	Reticulation Maintenance, lightning protection, standby generators, telemetry monitoring and alarms, duty-standby pump arrangement, signage, communications, Spill Procedures	Catastrophic	Rare	High	Pump Improvement (PRP100)	
			Rain	Damage, blockage, pump failure, rising main break, pump truck spill, power failure, excessive inflow and infiltration, inadequate pump capacity	Major	Likely	High	as above, inflow and infiltration investigate and reticification works	Major	Rare	Medium	Pump Improvement (PRP100)	
			Flood	Inundation	Moderate	Likely	High	switchboards constructed above flood levels, communications	Moderate	Rare	Medium		
4	Sewage Spill into oyster lease area	Pathogens (virus' / bacteria / etc)	Dry	Damage, blockage, pump failure, rising main break, pump truck spill, power failure	Catastrophic	Likely	Extreme	Reticulation Maintenance, lightning protection, standby generators, telemetry monitoring and alarms, duty-standby pump arrangement, signage, communications, Spill Procedures	Catastrophic	Rare	High	Pump Improvement (PRP100)	
			Rain	Damage, blockage, pump failure, rising main break, pump truck spill, power failure, excessive inflow and infiltration, inadequate pump capacity	Catastrophic	Likely	Extreme	as above, inflow and infiltration investigate and reticification works	Catastrophic	Rare	High	Pump Improvement (PRP100)	
			Flood	Inundation	Major	Likely	High	switchboards constructed above flood levels, communications	Major	Rare	Medium		
			Dry	Damage, blockage, pump failure, rising main break, pump truck spill, power failure	Major	Likely	High	Reticulation Maintenance, lightning protection, standby generators, telemetry monitoring and alarms, duty-standby pump arrangement, signage, communications, Spill Procedures	Major	Rare	Medium	Pump Improvement (PRP100)	

No	Hazardous Event	Limiting Hazard	Weather	Cause	Raw Consequence	Raw Likelihood	Raw Risk	Control Measures	Residual Consequence	Residual Likelihood	Residual Risk	Improvements Required?	Comment
5	Sewage Spill into drinking / stock water catchment (private or public)	Pathogens (virus' / bacteria / etc)	Rain	Damage, blockage, pump failure, rising main break, pump truck spill, power failure, excessive inflow and infiltration, inadequate pump capacity	Major	Likely	High	as above, inflow and infiltration investigate and reticification works	Major	Rare	Medium	Pump Improvement (PRP100)	
			Flood	Inundation	Moderate	Likely	High	switchboards constructed above flood levels, communications	Moderate	Rare	Medium		
6	Sewage Spill into private property / blow back into toilets etc	Pathogens (virus' / bacteria / etc)	Dry	Damage, blockage, pump failure, rising main break, jetting, power failure	Major	Likely	High	Reticulation Maintenance, lightning protection, standby generators, telemetry monitoring and alarms, duty-standby pump arrangement, signage, communications, Spill Procedures	Major	Rare	Medium	Pump Improvement (PRP100)	
			Rain	Damage, blockage, pump failure, rising main break, jetting, power failure, excessive inflow and infiltration, inadequate pump capacity	Major	Likely	High	as above, inflow and infiltration investigate and reticification works	Major	Rare	Medium	Pump Improvement (PRP100)	
			Flood	Inundation	Major	Likely	High	switchboards constructed above flood levels, communications	Major	Rare	Medium		
7	Calcium Nitrate Spill onto Land	Calcium Nitrate	Any	rupture in tank, failure in valves, PLC etc	Minor	Likely	Medium	Maintenance, telemetry alarms	Minor	Rare	Low	Chemical Spill response procedure	

No	Hazardous Event	Limiting Hazard	Weather	Cause	Raw Consequence	Raw Likelihood	Raw Risk	Control Measures	Residual Consequence	Residual Likelihood	Residual Risk	Improvements Required?	Comment
1	Overflow of Raw Sewage at Inlet	Pathogens (virus' / bacteria / etc)	Dry	Blockage, mechanical, electrical & control failure	Moderate	Likely	High	Maintenance, lightning protection, SCADA / telemetry monitoring and alarms, limiting inflow pump capacities	Moderate	Rare	Medium		
			Rain	Blockage, mechanical, electrical & control failure, excessive inflow	Moderate	Likely	High	as above, inflow and infiltration investigate and reticification works	Moderate	Rare	Medium		
			Flood	Inundation	Minor	Likely	Medium	as above, turn pumps off	Minor	Rare	Low		
2	Discharge of Partially Treated Sewage	Pathogens (virus' / bacteria / etc)	Dry	mechanical, electrical & control failure	Moderate	Likely	High	Maintenance, plant inspections, SCADA / telemetry monitoring and alarms, routine testing	Moderate	Rare	Medium	Water Quality Database that processes laboratory data and notifies response officers	
			Rain	Blockage, mechanical, electrical & control failure, excessive inflow	Minor	Likely	Medium	storm detention, wet weather bypass	Minor	Rare	Low	Water Quality Database that processes laboratory data and notifies response officers	
			Flood	Inundation	Minor	Likely	Medium	as above	Minor	Rare	Low		
3	Chemical Spill on Site	Chemicals (acid, alkaline)	Any	Blockage, mechanical, electrical & control failure, incorrect hookup up to truck	Minor	Likely	Medium	Maintenance, lightning protection, SCADA / telemetry monitoring and alarms, bunding	Minor	Rare	Low	Chemical Spill response procedure	
4	Chemical Spill during delivery / transport	Chemicals (acid, alkaline)	Any	accident, mechanical failure	Minor	Likely	Medium	bunding, supervision, induction, procedures, competent delivery drivers, road rules	Minor	Rare	Low	Chemical Spill response procedure	

Appendix 6 – Action Plans to Minimise Harm

To address the risk of sewer overflows, Ballina Shire Council has a number of management actions comprising of one or more of the following:

- Continuous Improvement of Sewerage System Operations
 - Dedicated Reticulation Operations Engineer
 - Pump Replacement Program
 - Improved Programmed Maintenance System
 - Improved staff training matrix and resourcing

- Chemical Spill Response Procedure

Appendix 7 – Pollution Incident Notification and Investigation Flow Chart

Pollution Incident Notification and Investigation Flow Chart

Updated 6 December 2021

This notification and investigation flow chart has been prepared from Ballina Shire Councils Pollution Incident Response Management Plan (PIRMP). Reporting of spill incidents shall be done in accordance with this approved management plan.

ROLE & RESPONSIBILITIES		CONTACT NUMBERS	
ON-CALL OPERATOR	TEAM LEADER - (G.Meredith 0415 788 494)	Compulsary Contact List	Relevant Contact List
Attend Incident	Immediate risk to Human health & safety? Yes <input type="checkbox"/> No <input type="checkbox"/>	EPA Environment Line Notify & record incident number 131 555	Affected Neighbours
Initial Investigation - Cause - Extent (visually & using PIRMP maps) - Effect (to Humans and Ecosystem)	Notify WHS Officer (P.Brunt 0400 906 862)	NSW Health Notify 1300 066 055 / (AH) 0428 882 805	NSW Shellfish Richmond River Coordinator Ian Cardow 0438 237 359 - until 30.08.2014 Geoff lawler 02 6686 3394 - after 01.09.2014
Is there immediate risk to Human health & safety? - If 'yes', Notify Emergency Services (000) & implement Emergency Response Procedure	Notify Manager of Water, Wastewater & Waste (T.Mackney 0408 563 584)	Safe Work Notify 131 050	Oyster Farmers Ray Hunt - North Creek - 0414 884 274 Geoff Lawler - North Creek - 6686 7163/6686 3394 Ian Cardow - Serpentine - 0438 237 359/6686 3270
Actual / Potential risk to Humans or Ecosystem health & safety? Yes / Non-Trivial <input type="checkbox"/> No / Trivial <input type="checkbox"/>	Notify Team Leader - Initial Investigation - Risk to Humans / Ecosystem Health & Safety	BSC Environmental Health Officer Notify 6686 4444 / (AH) 6626 6954 (K. Watts 0414 192 311)	Cape Byron Marine Park Authority 6620 9300
Notify Compulsary Authorities (see Compulsary Contact List)	Notify Operational Engineer Gabrielle Denniss 0428 197 329	Fire & Rescue Notify & advise not to attend 1300 729 579	Fisheries 1800 043 536
Notify Only Relevant Authorities	Determine relevance based off incident & PIRMP maps (see Relevant Contact List)	BSC Operations Engineer Notify Gabrielle Deniss 0428 197 329	Life Guards 0432 217 500
Organise testing of Affected Area - Contact Sampling officer (R.Jenner 0416 209 738) - Ensure background levels reached	Issue Community Notification - Determine if necessary based on incident - Determine appropriate method based on incident - Provide regular notification until rectified	NSW Shellfish Program Manager 9741 4749 / (AH) 0407 078 269 nswsp@foodauthority.nsw.gov.au	Aboriginal Land Council 6686 7055
Complete Pollution Incident Reporting Sheet - Complete Part A of Sheet - Return to Team Leader	Complete Pollution Incident Reporting Sheet - Complete Part B of Sheet - Save in TRIM under container 545		Police 6681 8699
	Complete the EPA Pollution Incident Report - Follow Pollution Incident Report Template - Provide to EPA within 7 days of incident (ian.greenbank@environment.nsw.gov.au) - Save in TRIM under container 545		Rous Water 6621 8055 / (AH) 6626 6955
	Did Damage occur to private property? Yes <input type="checkbox"/> No <input type="checkbox"/>		Office of Water 6627 0100
	Notify BSC Risk & HR Department - Report to HR (6686 1202) (H.Joblin 0429 294 124) - Report to Risk & HR (6686 1430)		Licensed Water Extractors (see PIRMP map for location & numbers)

<p>Roles: If the Team Leader (G Meredith 0428 811 277) is unable to be contacted, reporting should be done to the Operations Engineer (G Denniss 0428 197 329) or the Manager of Water and Wastewater (B Walker 0474 009 041).</p>	<p>Legend:</p> <ul style="list-style-type: none"> Immediately As soon as practical
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