

## Pollution Incident Response Management Plan

### Ballina Wastewater Treatment Plant and Reticulation

Environmental Protection Licence # 588

#### Document Control

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1	5/09/12		A Swan	G Meredith
2	8/04/13	Updated NSW Health contact numbers	T Partridge	
3	22/07/14	Updated contact details & maps	J Ransom	M Tomkins
4	22/08/14	Updated NSW Shellfish Richmond River Co-ord #	J Ransom	T Mackney
5	12/5/15	Updated Contacts	M Tomkins	
6	12/05/16	Updated Contacts and Site Chemical Information	T Lees	T Mackney
7	19/05/17	Updated Contacts	G Meredith	T Lees
8	26/07/18	Updated Contacts	G Meredith	T Lees
9	17/07/19	Updated Contacts	G Meredith	T Lees
10	15/09/20	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 Ballina Wastewater Treatment Plant (WWTP) and associated reticulation (EPA Licence No. 588) 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 Ballina WWTP and Reticulation (EPA Licence No. 573). For site plans, refer to Appendix 1 – Site Plans.

## 3. Pollution Incident Response Management Plan

The town of Ballina is serviced by approximately 50km of sewer mains and 22 pump stations which transfers sewage to the Ballina WWTP. Ballina WWTP treats approximately 3,500kL of sewage daily in dry weather, potentially reaching 6 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 2 – 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 in Appendix 4 – Risk Assessment and Actions. For detail on actions to reduce risks see Section 3.5 Pre-emptive Measures and Appendix 5 – 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

### 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**)
- 4) 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 (Local Health District Public Health Unit) **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](mailto: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		<b>0414 884 274</b>	
b)	Geoff Lawler	North Creek	<b>(02) 6686 7163</b>		<b>(02) 6686 3394</b>
c)	Ian Cardow	Serpentine		<b>0438 237 359</b>	<b>(02) 6686 3270</b>

- 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 Water (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 Ballina is approximately 1.5 km away from the Ballina WWTP. The nearest neighbour from the Ballina 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 to Fishery Creek and have the potential to impact oyster leases in North Creek River via the North Creek Canal. Any community members or neighbours affected would then be informed according to 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 Ballina 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 Ballina 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).



### 3.5.3 Pre-emptive documentation

Reticulation blockages, breaks or distribution issues can result in spills if not acted upon. Therefore the following procedures are to be used to address issues before overflows occur:

- Mainline Blockage - WW08
- Waste Water Pump Station Maintenance - WW20
- Repair Rising Main - WW10

### 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 tracked 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
31/05/2019	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
<b>NSW EPA Environment Line</b>		<b>131 555</b>	<a href="mailto:info@environment.nsw.gov.au">info@environment.nsw.gov.au</a> and <a href="mailto:north.coast@epa.nsw.gov.au">north.coast@epa.nsw.gov.au</a>
<b>NSW EPA</b>	Peter Lynch	<b>(02) 6640 2502</b> <b>0438 208 131</b>	<a href="mailto:peter.lynch@epa.nsw.gov.au">peter.lynch@epa.nsw.gov.au</a>
<b>NSW EPA</b>	Janelle Bancroft	<b>(02) 6640 2513</b> <b>0447 139 638</b>	<a href="mailto:janelle.bancroft@epa.nsw.gov.au">janelle.bancroft@epa.nsw.gov.au</a>
<b>NSW Health</b>		<b>1300 066 055</b> <b>0428 882 805</b>	<a href="mailto:NNSWLHD-NCPHU-EnvironmentalHealth@health.nsw.gov.au">NNSWLHD-NCPHU- EnvironmentalHealth@health.nsw.gov.au</a>
<b>NSW Health</b>	Paul Williamson	<b>(02) 6620 7525</b> <b>0414 569 516</b>	<a href="mailto:Paul.Williamson@health.nsw.gov.au">Paul.Williamson@health.nsw.gov.au</a>
<b>SafeWork NSW</b>		<b>131 050</b>	
<b>BSC Environmental Health Officer</b>		<b>(02) 6686 1210</b> <b>(02) 6626 6954</b>	
<b>BSC (Public &amp; Environmental Health, Manager)</b>	Kerri Watts	<b>(02) 6686 1210</b> <b>0414 192 311</b>	<a href="mailto:Kerr.watts@ballina.nsw.gov.au">Kerr.watts@ballina.nsw.gov.au</a>
<b>BSC (Water &amp; Wastewater, Team Leader)</b>	Garry Meredith	<b>1300 864 444</b> <b>0428 811 277</b>	<a href="mailto:garrym@ballina.nsw.gov.au">garrym@ballina.nsw.gov.au</a>
<b>BSC (Water &amp; Wastewater, Operations Engineer)</b>	Gabrielle Denniss	<b>(02) 6686 1294</b> <b>0428 197 329</b>	<a href="mailto:Gabrielle.denniss@ballina.nsw.gov.au">Gabrielle.denniss@ballina.nsw.gov.au</a>
<b>BSC (Water &amp; Wastewater, Manager)</b>	Bridget Walker	<b>(02) 6686 1226</b> <b>0474 009 041</b>	<a href="mailto:bridget.walker@ballina.nsw.gov.au">bridget.walker@ballina.nsw.gov.au</a>
<b>BSC Risk &amp; Human Resources Department</b>		<b>(02) 6686 1202</b> <b>(02) 6686 1430</b>	
<b>BSC (Coordinator, Risk Management)</b>	Stuart Roach	<b>(02) 6686 1406</b> <b>0408 245 502</b>	<a href="mailto:sroach@ballina.nsw.gov.au">sroach@ballina.nsw.gov.au</a>
<b>Fire &amp; Rescue NSW</b>		<b>1300 729 579</b>	
<b>NSW Shellfish Program Manager</b>		<b>(02) 9741 4749</b> <b>0407 078 269</b>	<a href="mailto:nswp@foodauthority.nsw.gov.au">nswp@foodauthority.nsw.gov.au</a>
<b>NSW Shellfish Richmond River Coordinator</b>	Geoff Lawler	<b>(02) 6686 3394</b>	
<b>Oyster Farmer (North Creek)</b>	Ray Hunt	<b>0414 884 274</b>	
<b>Oyster Farmer (North Creek)</b>	Geoff Lawler	<b>(02) 6686 3394</b> <b>(02) 6686 7163</b>	
<b>Oyster Farmer (Serpentine)</b>	Ian Cardow	<b>(02) 6686 3270</b> <b>0438 237 359</b>	
<b>Cape Byron Marine Park Authority</b>		<b>(02) 6620 9300</b>	
<b>Fisheries</b>		<b>1800 043 536</b>	

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

## Appendix 2 – Site Plans

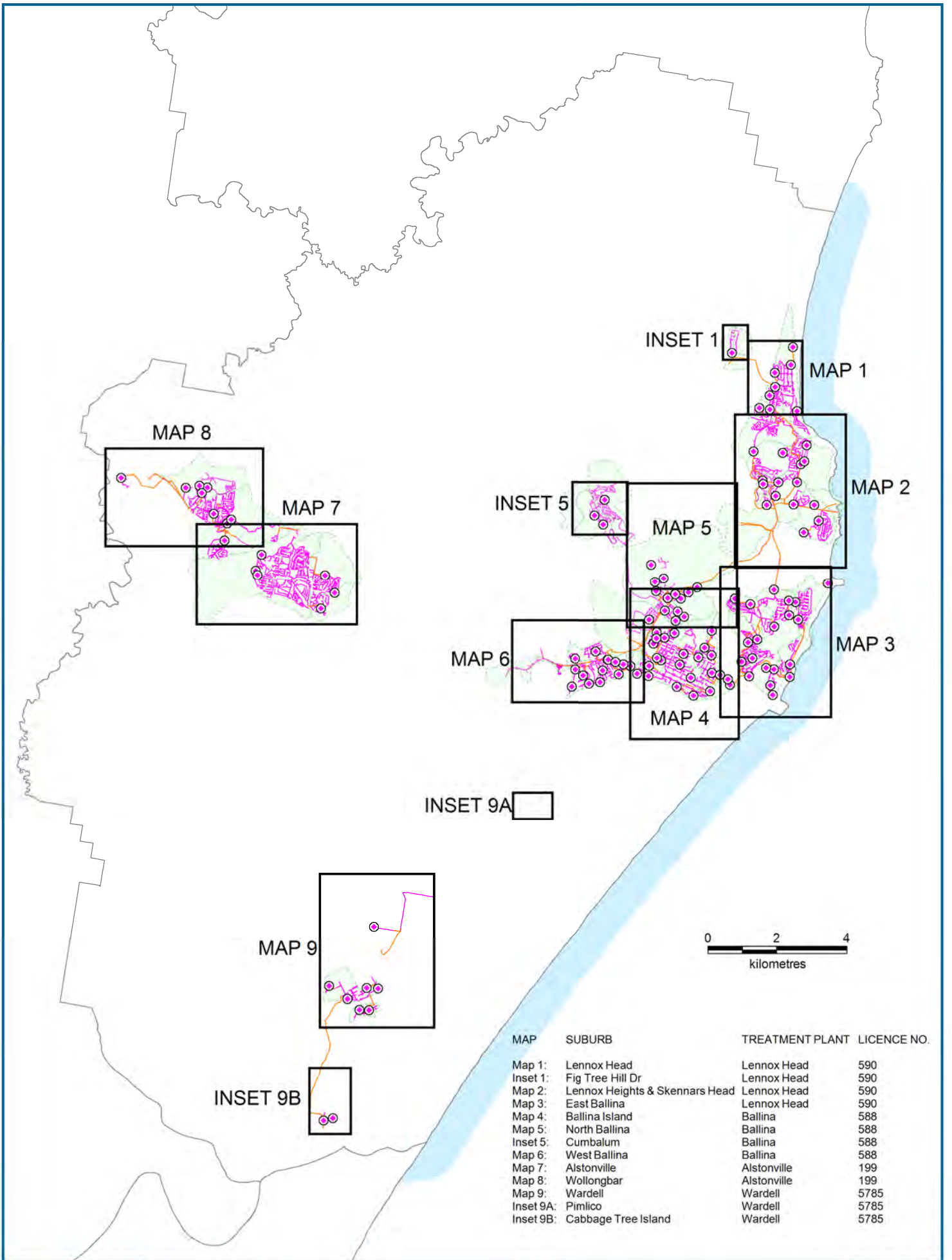
The Site Plans are constructed using the best current available data and are considered uncontrolled when printed. It is expected that reference will be made to the interactive electronic version of the maps through Council GIS systems. All PIRMP diagrams are in one plan set, the full list of plans are 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	590
6 of 9	West Ballina	Lennox Head WWTP	590
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 Index (1-9)**  
**Pollution Incident Response Management Plan**



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Printed  
 02/06/2016



**Map 4 of 9**  
**Ballina Island / Ballina WWTP - License No. 588**  
**Pollution Incident Response Management Plan**

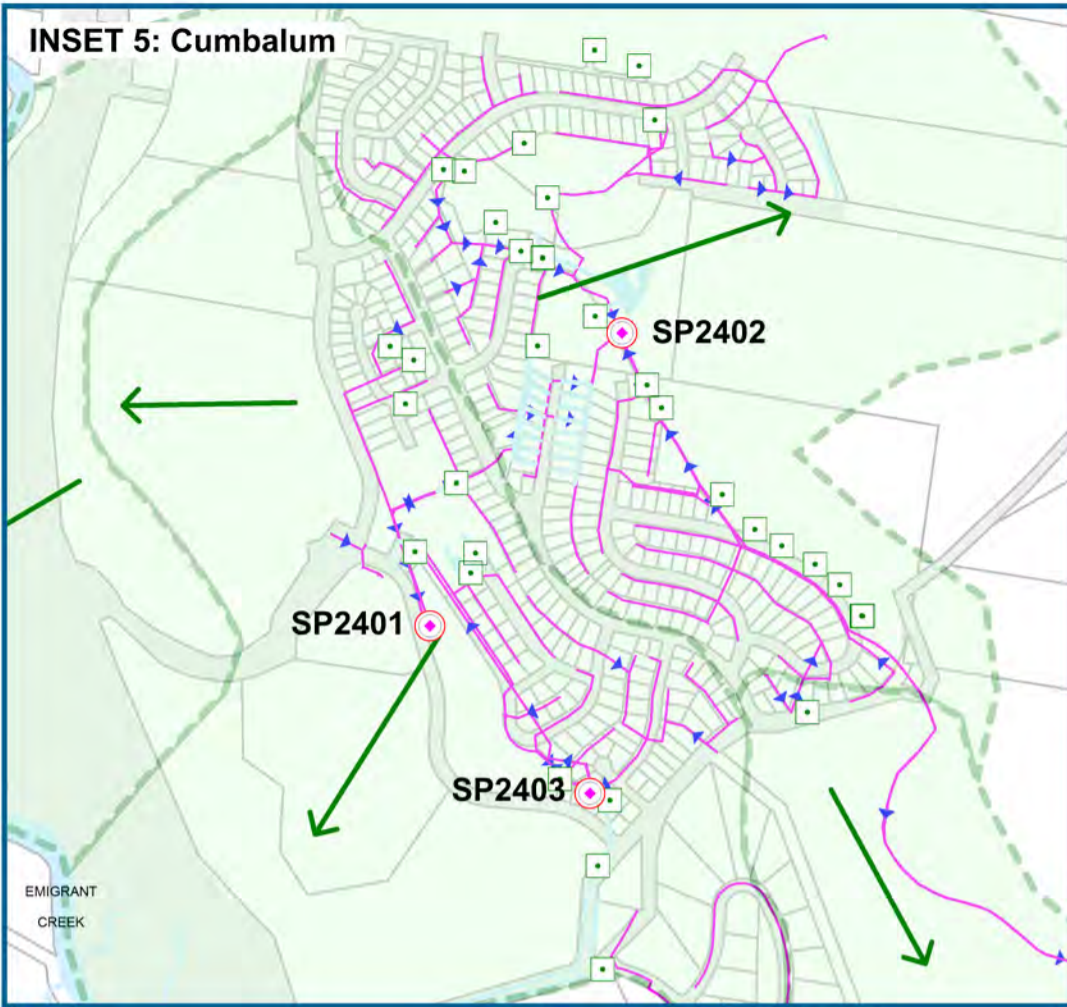
Version: 1  
 Printed: 30/08/2012  
 Drawn By: WP  
 Approved By: AS













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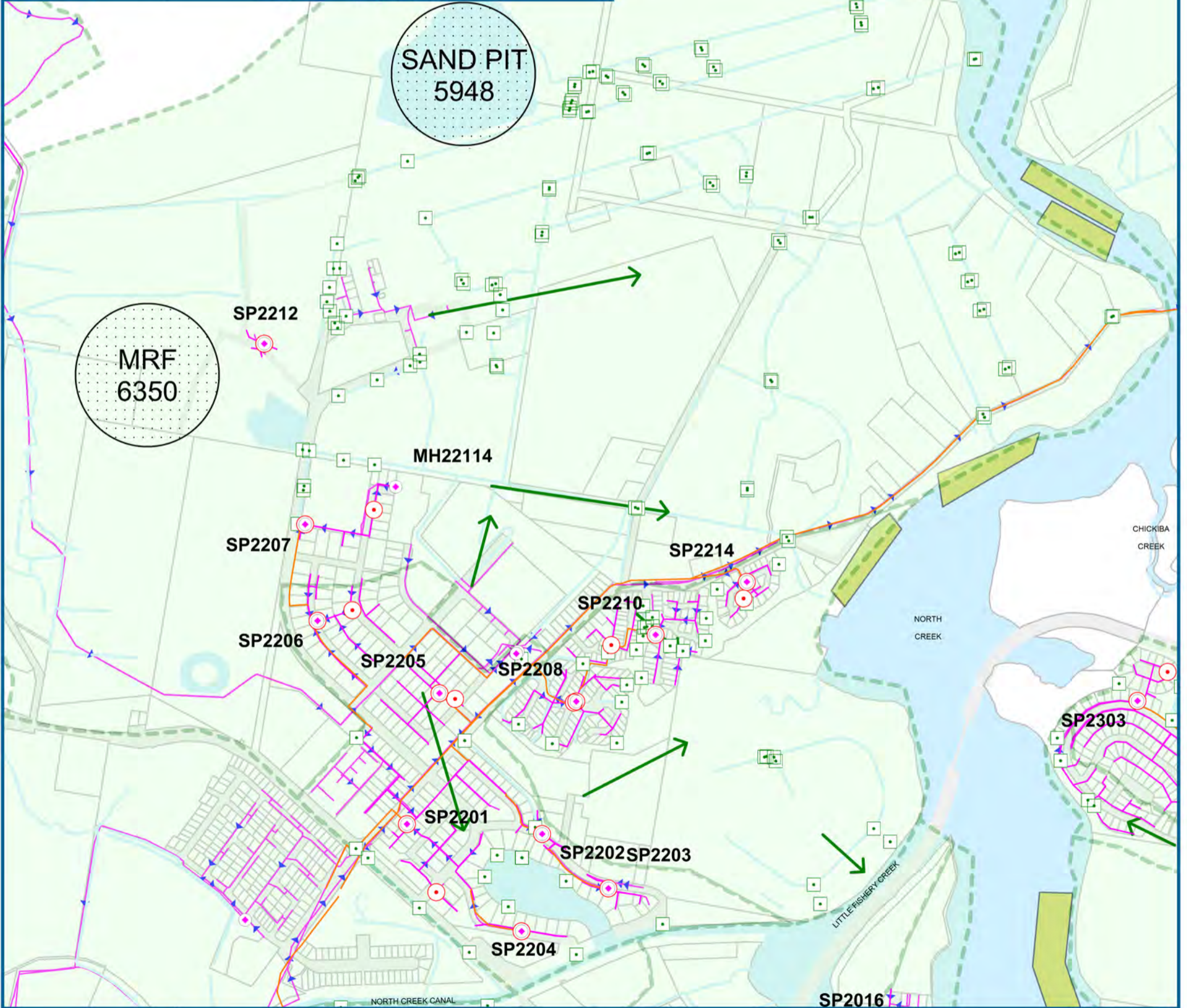
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**INSET 5: Cumbalum**



**Legend**

-  Sewage Pump Station  
e.g. Asset ID = SP3001
-  Sewage Overflow Location
-  Sewer Gravity Reticulation  
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



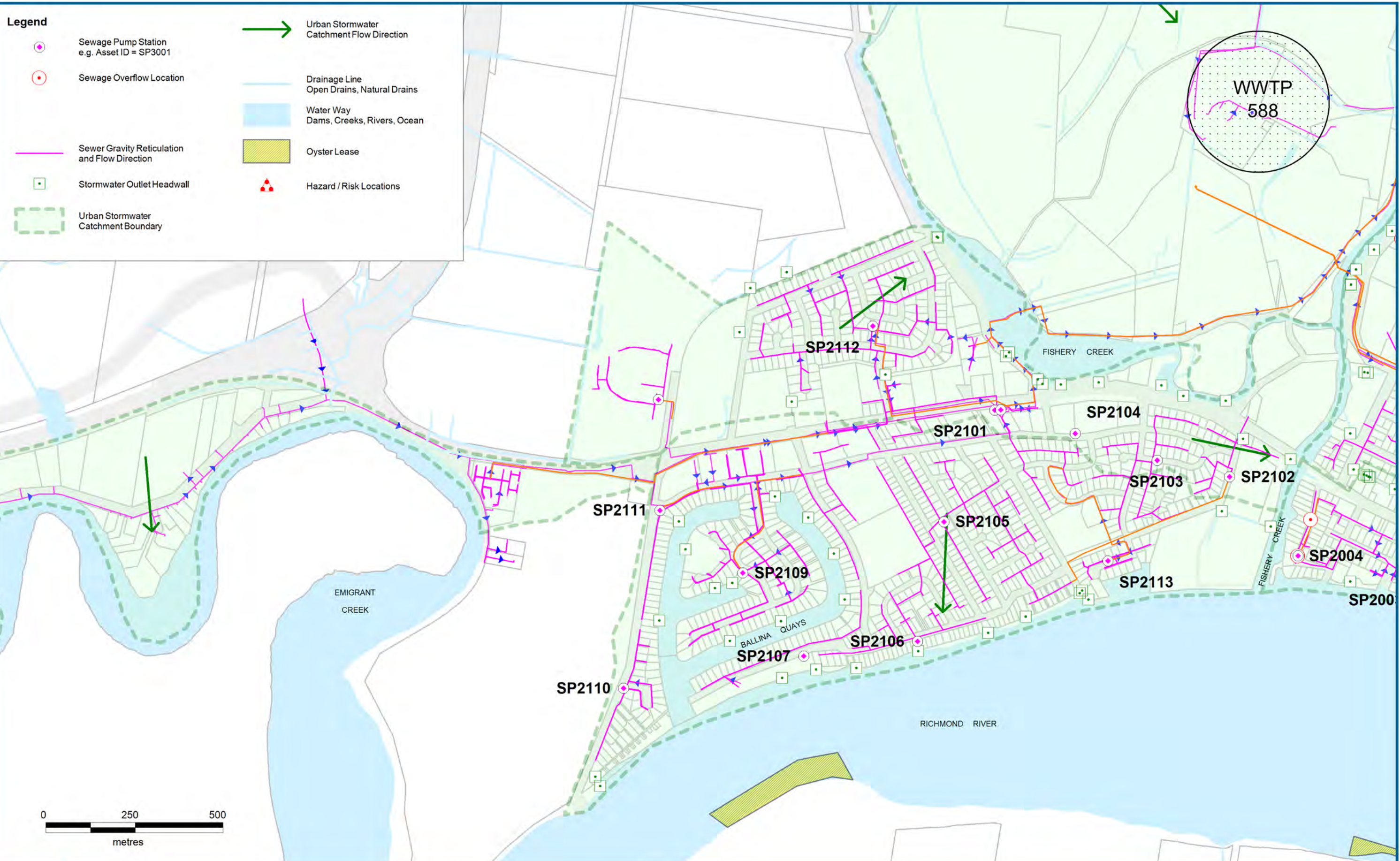
**Map 5 of 9**  
**Cumbalum & North Ballina /Ballina WWTP - License No. 588**  
**Pollution Incident Response Management Plan**



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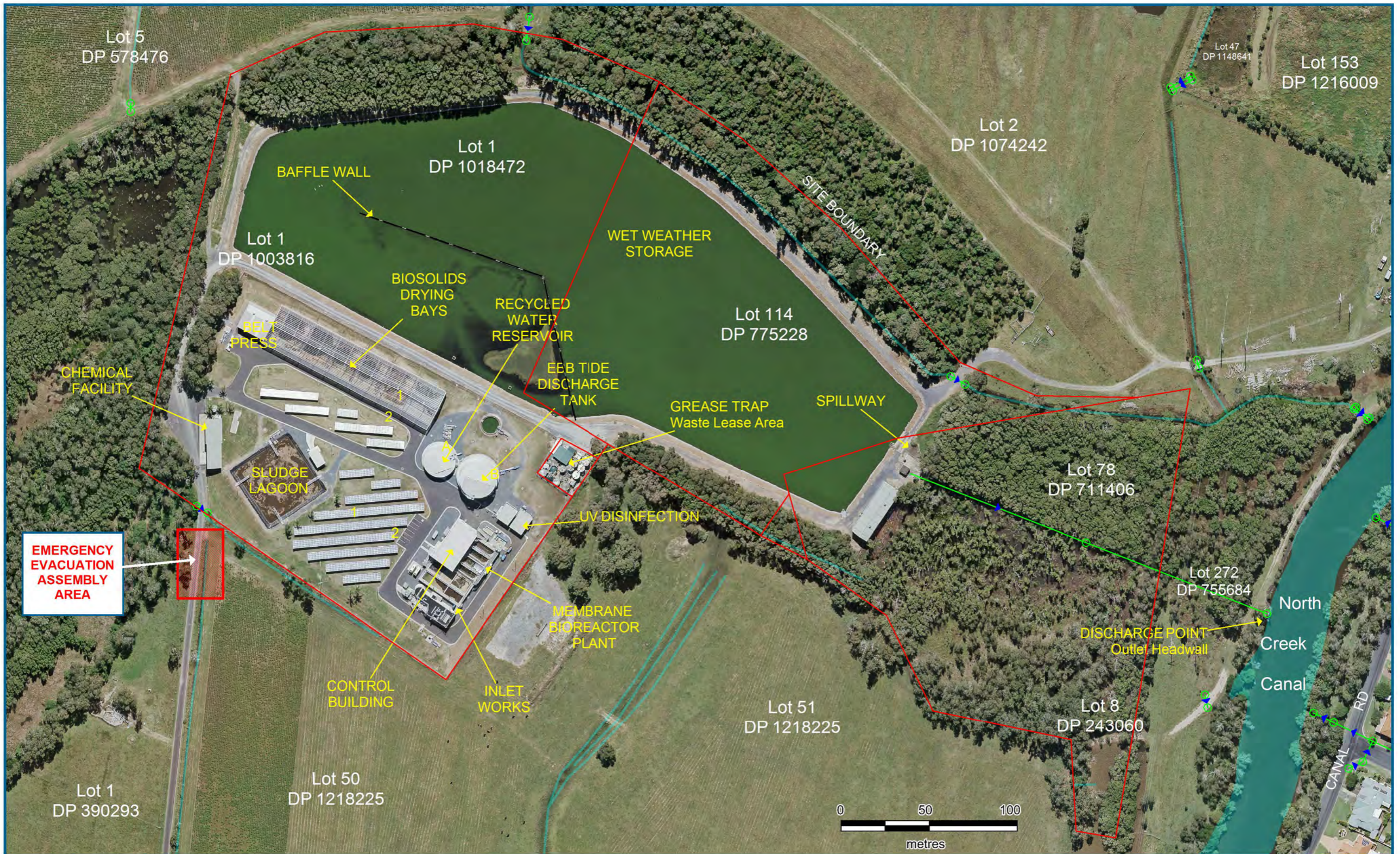


Map 6 of 9  
 West Ballina / Ballina WWTP - License 588  
 Pollution Incident Response Management Plan



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**Ballina WWTP - License No. 588  
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/ BALLINA 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
1379	ATLAS COPCO ROTO INJECT FLUID ULTRA 68				VIVA ENERGY AUSTRALIA LTD (1800 651 818/ 13 11 26)				
	No	No	-	-	-	None	Yes	-	26-Apr-2021
22166	BUFFER PH 4.01RED				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	No	No	-	-	-	None	Yes	-	23-Jun-2020
1372	ECCON1413BT, 1413µS/CM CONDUCTIVITY CALIBRATION SOLUTION				THERMO FISHER SCIENTIFIC, INC (+1 703-741-5970 (International))				
	No	No	-	-	-	Approved - No Restrictions	Yes	-	12-May-2018
432	HAMILTON ACTIVE FAMILY SPF 50+ LOTION				KEY PHARMACEUTICALS PTY LIMITED (+61 (02) 8113 6200)				
	No	No	-	-	-	None	Yes	-	26-Sep-2018
22199	HAND & BODYWASH PINK				BUNZL AUSTRALASIA LIMITED (13 11 26 (Poisons Information Centre)/ 0800 764 766)				
	No	No	-	-	-	Approved - No Restrictions	Yes	-	PRODUCT OBSOLETE
22252	MOBILUX EP 0				AMPOL AUSTRALIA PETROLEUM PTY LTD (FORMERLY CALTEX AUSTRALIA) (1800 033 111)				
	No	No	-	-	-	Approved - No Restrictions	Yes	-	06-Oct-2021
1369	ORP SOLUTION QUINHYDRONE ~86MV - 263MV				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	No	No	-	-	-	None	Yes	-	04-Jul-2020
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
1367	SHELL GADUS S2 V100 2				VIVA ENERGY AUSTRALIA LTD (1800 651 818/ 13 11 26)				
	No	No	-	-	-	None	Yes	-	31-Oct-2019
1368	SHELL OMALA S2 G 220				VIVA ENERGY AUSTRALIA LTD (1800 651 818/ 13 11 26)				
	No	No	-	-	-	None	Yes	-	10-Jun-2020
750	VALVOLINE VALPLEX EP GREASE				VALVOLINE (AUSTRALIA) PTY LTD (1800 804 658, New Zealand (02) 8603 2300)				
	No	No	-	-	-	None	Yes	-	09-Aug-2017
1105	"EXTRA SHINE" TYRE DRESSING				GLEAM-IT PRODUCTS PTY LTD (13 11 26)				
	Yes	DG 3	UN 1993	PG II	●3YE	None	Yes	-	28-Feb-2021
865	2 STROKE ENGINE OIL				VALVOLINE (AUSTRALIA) PTY LTD (1800 804 658, New Zealand (02) 8603 2300)				
	Yes	No	-	-	-	None	Yes	-	10-Mar-2020

## Stock Register

(Location Name: BALLINA SHIRE COUNCIL/ WATER &amp; WASTEWATER STP'S/ BALLINA 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
925	AJAX SPRAY N WIPE CLEANER SPRAY TRIPLE ACTION GLASS				COLGATE-PALMOLIVE PTY LTD ((02) 9037 2994)				
	Yes	No	-	-	-	None	Yes	-	21-Apr-2022
217	ALUMINIUM SULPHATE				OMEGA CHEMICALS (1300 131 001)				
	Yes	No	-	-	-	Approved - with Restrictions	Yes	-	04-May-2021
22160	ANTIBAC.GIENE				HYGIENE AUSTRALIA PTY LTD (1800 616 930)				
	Yes	No	-	-	-	None	Yes	-	09-Feb-2021
984	CRC 5073 HOT SHOT (AEROSOL)				CRC INDUSTRIES (AUST) PTY LIMITED (13 11 26 (PIC))				
	Yes	DG 2.1	UN 1950	-	2YE	None	Yes	-	30-Jul-2020
1570	DPD FREE CHLORINE REAGENT (1407099)				HACH PACIFIC (13 11 26)				
	Yes	No	-	-	-	None	Yes	-	26-Jan-2022
1564	DPD FREE CHLORINE REAGENT (2105569)				HACH PACIFIC (13 11 26)				
	Yes	No	-	-	-	None	Yes	-	04-Jun-2020
984	DY-MARK HEAVY DUTY DEGREASER 400G				DY-MARK AUSTRALIA ((07) 3327 3099)				
	Yes	DG 2.1	UN 1950	-	2YE	None	Yes	-	01-Nov-2019
22227	GLITZ SPRAY ON WIPE OFF				PASCOE'S PTY LTD (NSW) ((08) 9353 3900; 1800 065 326/ 13 11 26)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	31-Mar-2018
1018	GRAZON EXTRA HERBICIDE				CORTEVA AGRISCIENCE AUSTRALIA LTD (FORMERLY DOW AGROSCIENCES) (+61 2 9474 7350)				
	Yes	DG 9	UN 3082	PG III	•3Z	None	Yes	-	06-Jan-2021
616	INOX MX5 PLUS AEROSOL				CANDAN INDUSTRIES PTY LTD ((07) 5574 8205)				
	Yes	DG 2.1	UN 1950	-	2YE	None	Yes	-	31-Oct-2021
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
901	LOW ODOUR KEROSENE				RECOCHEM INC ((07) 3308 5200; 1300 131 001 (After hours)/ 0800 764 766)				
	Yes	DG 3	UN 1993	PG III	•3Y	None	Yes	-	03-Mar-2020
149	METHYLATED SPIRITS				RECOCHEM INC ((07) 3308 5200; 1300 131 001 (After hours)/ 0800 764 766)				
	Yes	DG 3	UN 1170	PG II	•2YE	Approved - with Restrictions	Yes	-	31-Jan-2022
22198	MOLYTEC SPRAYSAFE SILICONE				MOLYTEC AUSTRALIA P/L ((07) 3245 2355)				
	Yes	DG 2.1	UN 1950	-	2YE	None	Yes	-	31-Jan-2021

## Stock Register

(Location Name: BALLINA SHIRE COUNCIL/ WATER &amp; WASTEWATER STP'S/ BALLINA 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
653	NIFTI ALL PURPOSE CLEANER SPRAY REGULAR				COLGATE-PALMOLIVE PTY LTD ((02) 9037 2994)				
	Yes	No	-	-	-	None	Yes	-	01-Sep-2021
22184	OOMPH TOILET CLEANER				PASCOE'S PTY LTD (NSW) ((08) 9353 3900; 1800 065 326/ 13 11 26)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	07-Jul-2020
5110	OXALIC ACID, DIHYDRATE				REDOX PTY LTD (1800 251 525/ 13 11 26/ 1800 127 406)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	17-Jun-2018
22185	PALMOLIVE ULTRA DISHWASHING LIQUID ORIGINAL				COLGATE-PALMOLIVE PTY LTD ((02) 9037 2994)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	20-Mar-2018
349	PEA BEU RAPID KILL INSECT KILLER AEROSOL				RB (HYGIENE HOME) AUSTRALIA PTY LTD (13 11 26 (PIC))				
	Yes	DG 2.1	UN 1950	-	2YE	Approved - No Restrictions	Yes	-	PRODUCT OBSOLETE
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
240	ROUNDUP HERBICIDE				SINOCHEM INTERNATIONAL AUSTRALIA PTY LTD (1800 033 111; (03) 9663 2130)				
	Yes	DG 9	UN 3082	PG III	•3Z	Approved - with Restrictions	Yes	-	PRODUCT OBSOLETE
1378	SHELL GADUS S3 V220C 2				VIVA ENERGY AUSTRALIA LTD (1800 651 818/ 13 11 26)				
	Yes	No	-	-	-	None	Yes	-	24-Sep-2021
1366	SHELL ONDINA OIL 15				VIVA ENERGY AUSTRALIA LTD (1800 651 818/ 13 11 26)				
	Yes	No	-	-	-	None	Yes	-	26-Oct-2018
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
22304	SODIUM SULFITE				HACH PACIFIC (13 11 26)				
	Yes	No	-	-	-	None	Yes	-	17-Aug-2018
1395	STABLCAL STANDARD, 800 NTU (2660542)				HACH COMPANY (USA) (+1 303 623 5716)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	10-Aug-2021

## Stock Register

(Location Name: BALLINA SHIRE COUNCIL/ WATER &amp; WASTEWATER STP'S/ BALLINA 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
979	TANGIT ALL PRESSURE				HENKEL AUSTRALIA PTY LTD (1800 032 379)				
	Yes	DG 3	UN 1133	PG II	•3YE	None	Yes	-	28-Oct-2021
980	TANGIT CLEANER H				HENKEL AUSTRALIA PTY LTD (1800 032 379)				
	Yes	DG 3	UN 1224	PG II	•3YE	None	Yes	-	13-Aug-2019
22197	ULTRALOC 3565 HIGH PRESSURE PIPE SEALANT				MOLYTEC AUSTRALIA P/L ((07) 3245 2355)				
	Yes	No	-	-	-	None	Yes	-	31-Jul-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
22169	VARIO PHOSPHATE RGT				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 6.1 / 8	UN 3290	PG II	2X	None	Yes	-	04-Jul-2020
22273	VARIO PHOSPHATE RGT				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 6.1 / 8	UN 3290	PG II	2X	Approved - No Restrictions	Yes	-	04-Jul-2020
22281	VARIO PHOSPHATE RGT				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 6.1 / 8	UN 3290	PG II	2X	Approved - No Restrictions	Yes	-	04-Jul-2020
22280	VARIO POTASSIUM PERSULFATE F 10				THERMO FISHER SCIENTIFIC AUSTRALIA PTY LTD ((03) 9757 4559/ (02) 8014 4558)				
	Yes	DG 5.1	UN 3215	PG III	1Z	None	Yes	-	04-Jul-2020
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
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

## Stock Register

(Location Name: BALLINA SHIRE COUNCIL/ WATER &amp; WASTEWATER STP'S/ BALLINA 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
22196	WHITE KNIGHT SQUIRTS MAGENTA AEROSOL				PPG ARCHITECTURAL COATINGS (1800 883 254/ 0800 000 096)				
	Yes	DG 2.1	UN 1950	-	2YE	Approved - No Restrictions	Yes	-	25-Aug-2020
22402	ZETAG 9146FS				BASF AUSTRALIA LIMITED (1800 803 440 (24h)/ (03) 8855 6666)				
	Yes	No	-	-	-	Approved - No Restrictions	Yes	-	22-Apr-2017
1233	CAUSTIC SODA LIQUID				REDOX PTY LTD (1800 251 525/ 13 11 26/ 1800 127 406)				
	Yes	DG 8	UN 1824	PG II	2R	Approved - No 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
1361	HYDROCHLORIC ACID				BONDALL PTY LTD (1800 638 556)				
	Yes	DG 8	UN 1789	PG II	2R	Approved - with Restrictions	Yes	-	08-Feb-2019
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
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 Ballina 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
<b>Raw Wastewater</b>				
Pathogens (virus' / bacteria / etc)	Sewage, Trade Waste	High	<b>Death</b>	<b>High</b>
Nutrients (N, P)	Sewage, Trade Waste	High	Low	Medium
H2S	Sewage, Trade Waste	Potentially High	<b>Death</b>	Low
Radioactive substances	Trade Waste	Low	<b>Death</b>	Medium
Acid	Trade Waste	Low	<b>Serious Injury</b>	Medium
Metals	Trade Waste	Low	Low	Low
Oil & Grease	Trade Waste	Medium	Low	Medium
<b>Chemicals</b>				
Calcium Nitrate	Odour Control Dosing Unit	Low	Minor Injury	?
Refer to MSDS for Complete List	Chemical storage	Medium	<b>Injury / Illness</b>	?

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:

- Augmentation of Sewerage Assets to Increase Capacity (PRP100 Rectification Works)
- Continuous Improvement of Sewerage System Operations
  - Current project to improve Council's ability to respond and report on water quality exceedances with a Water Quality Database.
- Chemical Spill Response Procedure
- Finalise Bio-solids Removal Procedure



## Appendix 7 – Action Plans to Minimise Harm

# 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	
<b>ON-CALL OPERATOR</b>	<b>TEAM LEADER - (G.Meredith 0415 788 494)</b>	<b>Compulsory Contact List</b>	<b>Relevant Contact List</b>
<b>Attend Incident</b>	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
<b>Initial Investigation</b> - Cause - Extent (visually & using PIRMP maps) - Effect (to Humans and Ecosystem)	<b>Notify WHS Officer (P.Brunt 0400 906 862)</b>	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
<b>Is there immediate risk to Human health &amp; safety?</b> - If 'yes', Notify Emergency Services (000) & implement Emergency Response Procedure	<b>Notify Manager of Water, Wastewater &amp; Waste (T.Mackney 0408 563 584)</b>	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
<b>Actual / Potential risk to Humans or Ecosystem health &amp; safety?</b> Yes / Non-Trivial <input type="checkbox"/> No / Trivial <input type="checkbox"/>	<b>Notify Team Leader</b> - 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
<b>Notify Compulsory Authorities (see Compulsory Contact List)</b>	<b>Notify Only Relevant Authorities</b>	Fire & Rescue Notify & advise not to attend 1300 729 579	Fisheries 1800 043 536
<b>Notify Operational Engineer Gabrielle Denniss 0428 197 329</b>	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
<b>Issue Community Notification</b> - Determine if necessary based on incident - Determine appropriate method based on incident - Provide regular notification until rectified	<b>Complete Pollution Incident Reporting Sheet</b> - Complete Part A of Sheet - Return to Team Leader	NSW Shellfish Program Manager 9741 4749 / (AH) 0407 078 269 nswsp@foodauthority.nsw.gov.au	Aboriginal Land Council 6686 7055
<b>Complete the EPA Pollution Incident Report</b> - 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	<b>Complete Pollution Incident Reporting Sheet</b> - Complete Part B of Sheet - Save in TRIM under container 545	Police 6681 8699	Rous Water 6621 8055 / (AH) 6626 6955
<b>Did Damage occur to private property?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<b>Notify BSC Risk &amp; HR Department</b> - Report to HR (6686 1202) (H.Joblin 0429 294 124) - Report to Risk & HR (6686 1430)	Office of Water 6627 0100	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><b>Legend:</b></p> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #f08080; margin-right: 5px;"></span> Immediately</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #c0c0ff; margin-right: 5px;"></span> As soon as practical</li> </ul>
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