

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

ONGOING INSPECTIONS

The program manager arranges three inspections each year to ensure the services are being provided in accordance with the agreement. Both the Local Aboriginal Land Council and the local government council/local water utility are encouraged to attend these inspections.

ELIGIBLE COMMUNITIES INCLUDED IN THE PROGRAM TO DATE

- Alice Edwards Village • Balranald Reserve • Barwon 4 • Baryulgil Square • Bellbrook • Bellwood • Boona Road
- Bowraville • Box Ridge Reserve • Brewarrina West • Browns Flat • Brungle • Cabarita • Cabbage Tree Island
- Collarenebri Reserve • Coomaditchie • Corindi Beach • Crescent Head • Cummeragunja • Clara Hart • Erambie
- Figtree • Gingie Reserve • Goodooga Reserve • Green Hill • Gulargambone Mission • Gulargambone Top
- Gundurimba Reserve • Gunnedah Hill • Jubullum Village • Karuah • La Perouse • Maclean • Malabugimah • Mallee
- Mehi Crescent • Moonacullah • Muli Muli • Murrin Bridge • Namañira Ave • Namoi Reserve • Nanima Reserve
- Narwon Village • New Burnt Bridge • New Merinee • Orient Point • Peak Hill • Pippi Beach • Purfleet • Quambone
- Stanley Village • Summervale • Three Ways • Toomelah • Walhallow Reserve • Wallaga Lake Koorie Village
- Wamba Wamba • Warrali Mission • Weilmoringle • Willow Bend • Wongala

More communities will be included if they can demonstrate they meet the eligibility criteria.

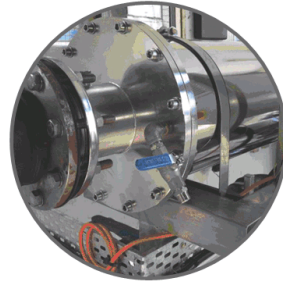
Contact us for more information:
 phone 1800 353 104
 email information@water.nsw.gov.au
www.water.nsw.gov.au



Aboriginal Communities
Water and Sewerage Program



The Aboriginal Communities Water and Sewerage Program is a joint initiative of the NSW Aboriginal Land Council and the NSW Government to address significant disadvantages being experienced by Aboriginal people.



The program was established in 2008 after a review identified that the operation, maintenance and monitoring of water supply and sewerage systems in many discrete Aboriginal communities were inadequate and that this placed the health of residents in these communities at risk.

The program aims to improve the health and wellbeing of Aboriginal people living in discrete Aboriginal communities by improving access to clean drinking water and the safe removal of sewage.

In the past, capital funds for water and sewerage infrastructure have been provided but the ongoing technical and financial maintenance fell to the community itself. Most communities did not have the technical expertise nor the financial capacity to keep these essential services in operation year after year. As a result the infrastructure often became run down prematurely and failed to deliver appropriate standards, triggering another cycle of capital works.

Local government councils/local water utilities provide these services in the wider community on a user charge basis. Through the Aboriginal Communities Water and Sewerage Program, local government councils/local water utilities have been invited to provide a service in the eligible Aboriginal communities to ensure the standard accepted in the wider community is met.

Approximately \$200 million over 25 years is being invested to provide on-going technical and financial support for 61 eligible discrete Aboriginal communities. The responsibility for the operation and maintenance of services in each of these communities will be contracted out to experienced service providers, such as local government councils/local water utilities on a five yearly basis. The NSW Office of Water and NSW Health are also providing extensive support through four-monthly on-site audits and reviews.

The program is managed by the NSW Office of Water.

THE PROGRAM PROVIDES:

Operation and maintenance

Funding for the full routine operation and maintenance servicing of the water supply and sewerage systems in eligible Aboriginal communities.

Backlog maintenance

Funding for repairs or remedial maintenance to existing pipes, pumps, treatment plants and associated facilities to return them to full operational efficiency.

Emergency repairs

Funding for emergency repairs to fix pumps or other equipment or infrastructure if it fails or breaks down.

Regular inspection

Regular inspection to ensure the water supply and sewerage systems are operating correctly.

Regular maintenance

Regular maintenance, cleaning and servicing of the physical infrastructure, mechanical and electrical equipment, and treatment process units.

Regular testing

Regular collection and testing of water samples to verify that the water quality meets the agreed standards.

Management plans

Preparation of management plans to identify any risks to the continued safe operation of the water and sewerage systems and identify what to do if something goes wrong.

Capital works

Limited funding for new capital infrastructure to upgrade systems to meet required standards.

PROGRAM DELIVERY

The NSW Office of Water, as program manager, works closely with the NSW Aboriginal Land Council, the Local Aboriginal Land Councils and the local government council/local water utility to deliver improved water supply and sewerage services to eligible Aboriginal communities.

The following steps are undertaken to ensure all participants are fully informed about the required works and services and their potential responsibilities:

- NSW Office of Water staff visit each eligible Aboriginal community to inspect water supply and sewerage facilities and to discuss what needs to be done.
- The Local Aboriginal Land Council, community members, the local government council/local water utility and other interested stakeholders are invited to have their say and help develop a plan for operations, maintenance and repairs needed at each eligible Aboriginal community.
- Each community visit also involves a site inspection to identify obvious backlog maintenance works required to return the existing infrastructure to its full service capacity.
- Notes of the outcomes of each visit are prepared by the NSW Office of Water and made available to the attendees of the community visit for review and additional comment.
- Once the meeting notes have received the concurrence of the Local Aboriginal Land Council, the local government council/local water utility are invited to prepare a fee proposal to carry out the required operation and maintenance services and any backlog maintenance required.
- Where appropriate, a local government council/local water utility has the opportunity to operate the water supply and sewerage systems in a community on an interim basis so a full condition assessment of the existing infrastructure and identification of the operational needs of the systems can be made before entering into a formal longer term Service Agreement.

ELIGIBILITY

For the community to be eligible for inclusion in the program, it must be a genuine community of houses on a discrete parcel of land, not scattered houses in a mainstream community. Most of these are on Local Aboriginal Land Council land.

The community must be a permanently inhabited residential community, not a holiday centre or commercial centre.

The land must be community-owned and the community must be responsible for the provision of its own water supply and sewerage services.

LONG TERM SERVICE AGREEMENT

Once the works and services needs of an eligible Aboriginal community have been identified, they are incorporated into an agreement between the Local Aboriginal Land Council or body responsible for that community, the local government council/local water utility that will provide the services and the NSW Office of Water. The terms of the agreement are negotiable for up to five years. This time frame demonstrates the long term commitment of the NSW Aboriginal Land Council and the NSW Government.

The local government council/local water utility will undertake the agreed works and services. While on a day to day basis, there is limited opportunity for employment or training in each system's operation. Local government councils/local water utilities are being encouraged to explore opportunities to engage people from the community to undertake some of the works and services.

When it has been established that the system is operating well, the program will re-assess how the costs of using these services will be determined in each of the Aboriginal communities.





**ABORIGINAL COMMUNITIES
WATER AND SEWERAGE
PROGRAM**

Service Agreement

Between

NSW OFFICE OF WATER

And

**JALI LOCAL ABORIGINAL LAND COUNCIL
(FOR CABBAGE TREE ISLAND VILLAGE COMMUNITY)**

And

BALLINA SHIRE COUNCIL

Service Agreement for Aboriginal Communities Water and Sewerage Program
© State of New South Wales through the NSW Office of Water.

February 2013

CONTENTS

DATE OF AGREEMENT.	1
PARTIES.	1
RECITALS.	1
OPERATIVE PROVISIONS.	2
1 Interpretation.	2
1.1 Definitions.	2
1.2 Interpretation.	4
2 Term of the Agreement.	5
3 Provision of Funding.	5
3.1 Payment of Funding.	5
3.2 Conditions of Funding.	5
4 Use of the Funding.	6
4.1 Expenditure of the Funding.	6
4.2 Repayment of the Funding.	6
5 Performance of the Program and the Services.	6
5.1 Role of the LWU.	6
5.2 Role of the LALC.	7
5.3 Role of the NOW.	7
5.4 Protocols.	8
6 Records.	9
7 Inspection.	9
8 Audit.	9
9 Evaluation and Surveys.	10
10 Compliance with the Law.	10
11 Publicity.	10
11.1 Acknowledgment.	10
11.2 Publicity.	10
12 Variation.	11
13 Termination.	11
14 Dispute Resolution.	11
14.1 Method of dispute resolution.	11
14.2 Obligations to continue performance.	12

14.3	No court proceedings.	12
15	Insurance.	12
15.1	Type, level and duration of cover.	12
15.2	Mandatory provisions in insurance policies.	12
15.3	LWU's general insurance obligations.	13
15.4	Failure to provide evidence of insurance.	13
16	Indemnity.	13
17	Notices.	14
17.1	How to give notice.	14
17.2	When a notice is given.	14
17.3	Delivery late in the day.	15
17.4	Change of contact details.	15
18	GST.	15
18.1	Supply is GST exclusive.	15
18.2	What happens if GST is imposed.	15
18.3	LWU must be GST registered.	15
18.4	Consequences of non-registration	15
18.5	Overpayments	16
19	General	16
19.1	Governing law	16
19.2	Non waiver	16
19.3	Entire Agreement	16
19.4	Contents	16
19.5	Relationship	17
19.6	Counterparts	17
19.7	Survival	17
	EXECUTIONS	18
	SCHEDULE 1 AGREEMENT DETAILS	19
	SCHEDULE 2 ROUTINE OPERATION AND MAINTENANCE SERVICES	21
	SCHEDULE 3 BACKLOG MAINTENANCE AND EMERGENCY WORKS SERVICES	25
	SCHEDULE 4 ABORIGINAL COMMUNITIES WATER AND SEWERAGE PROGRAM	28



SERVICE AGREEMENT

THIS AGREEMENT is made on theday of2013

BETWEEN

**NSW OFFICE OF WATER WITHIN NSW DEPARTMENT OF PRIMARY INDUSTRIES, A
DIVISION OF NSW DEPARTMENT OF TRADE AND INVESTMENT, REGIONAL
INFRASTRUCTURE AND SERVICES**
(ABN 47 661 556 763)
of 227 Elizabeth St, Sydney
acting for and on behalf of the Crown in right of the State of New South Wales
("NOW")

AND

JALI LOCAL ABORIGINAL LAND COUNCIL
(insert name of the Local Aboriginal Land Council)
(ABN/CAN/ARBN 73 890 511 469)
(insert ABN/CAN/ARBN number)
of Cabbage Tree Island Village, Cabbage Tree Island Road, via Wardell NSW 2477
(insert address)
("LALC");

AND

BALLINA SHIRE COUNCIL
(ABN/CAN/ARBN 53 929 887 369)
(insert ABN/CAN/ARBN number)
of 40, Cherry St, BALLINA, NSW 2478
(insert address)
("LWU");

RECITALS

- A The New South Wales Government and the New South Wales Aboriginal Land Council have agreed to fund in equal shares an operation and maintenance program to deliver improved water and sewerage services to discrete Aboriginal Communities in New South Wales known as the Aboriginal Communities Water and Sewerage Program.

- B The primary aim of the Program is to raise the level of water supply and sewerage services in the Aboriginal Community to the level expected in the wider community and to support the operation, maintenance and monitoring of these services, having regard to the local circumstances.
- C The Program also aims to provide opportunities, including employment and training opportunities, for local Aboriginal people to be involved in the delivery of the Services.
- D The LWU provides water and sewerage services to communities within its boundaries, where provision of those services is viable and economical.
- E The LALC represents its Aboriginal Community and is the owner and/or manager of the land and improvements therein and thereon.
- F The LWU recognises that Aboriginal people have a right to self determination and quality of life equal to the wider community.
- G The LWU recognises the importance of including Aboriginal people in council social/community planning.
- H The LWU wishes to assist Aboriginal people to obtain appropriate water and sewerage services and to support the operation, maintenance and monitoring of these services through this Agreement.
- I The NSW Office of Water has been appointed Program Manager to manage the Program on behalf of the NSW Government and the NSWALC.
- J The parties agree to participate and cooperate in the Program on the terms and conditions set out in this Agreement.

OPERATIVE PROVISIONS

1. INTERPRETATION

1.1 Definitions

In this Agreement, except where the context otherwise requires:

“Aboriginal Community” means the Aboriginal community or communities specified in Item 3 of Schedule 1;

“Agreed Fee” means the amount payable to the LWU under the Program as set out in Schedule 2 table 2.2 subject to any variations in accordance with this Agreement;

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

“Backlog maintenance and emergency works” means the water and sewerage Services described in Schedule 3;

“Business Day” means the day which is not a Saturday, Sunday or public holiday in Sydney, NSW;

“Commencement Date” means the date specified in Item 2 of Schedule 1;

“Confidential Information” means any information that is by its nature confidential; and

- (a) is designated by a party as confidential; or
- (b) a party knows or ought to know is confidential;

but does not include information which is or becomes public knowledge other than by breach of this Agreement;

“Connection Point” means the point at which a water or sewerage pipe crosses the boundary of a customers yard, or if houses are individually metered, the point that is immediately downstream of the meter, or if the sewerage collection pipeline is within the yard, the point immediately upstream of the discharge fitting;

“Contact Details” and **“Contact Person”** mean s those specified in Schedule 1 or as most recently notified in writing to by the Party to which they relate to the other Parties;

“Funding” means the funding by the NSW Government and NSWALC of this Program for the Services;

“GST Law” means *A New Tax System (Goods & Services Tax) Act 1999*, related legislation and any delegated legislation made pursuant to such legislation;

“Instalment” means an instalment of the Funding;

“Intellectual Property” includes patent, know-how, copyright, design, semi-conductor or circuit layout rights, trade mark, trade, business or company names or other proprietary rights and any rights to registration of such rights, whether created before or after the Commencement Date in Australia or elsewhere;

“LALC land” means:

- (a) land within the boundary of the LALC; and
- (b) land of the Aboriginal community described in Item 3 of Schedule 1; and
- (c) land described in Item 4 of Schedule 1;

“Loss” means any loss including any liability, cost, expense, claim, proceedings, action, demand or damage;

“NSWALC” means the New South Wales Aboriginal Land Council;

“NSW Government” means the New South Wales Government;

“NSW Office of Water” or **“NOW”** means the Minister for and on behalf of the State and the Ministerial Corporation acting through the Department of Trade and Investment, Regional Infrastructure and Services.

Note: NOW is part of the Department of Primary Industries. The Department of Primary Industries is a division of the Department of Trade and Investment, Regional Infrastructure and Services. NOW assists the Minister to administer the *Water Act 1912* and the *Water Management Act 2000* and to exercise Ministerial Corporation functions.

“Party” means a party to this Agreement;

“Payment Date” means each date set out in Schedules 2 and 3;

“Public Statement” means any press release, statement, interview comment or other public communication given through any form of media;

“Program” means the Aboriginal Communities Water and Sewerage Program as described in Schedule 4;

“Routine operation and maintenance” means the Services set out in Table 2.1, and all other Services required to ensure potable water is compliant with the Australian Drinking Water Guidelines and any discharge from either the water supply or sewerage systems is compliant with relevant regulations or licences.

“Services” means the water and sewerage services described in Schedules 2 and 3;

“Term” means the duration of this Agreement as set out in Item 2 of Schedule 1 or until the date on which this Agreement is terminated, whichever occurs first.

1.2 Interpretation

1.2.1 In this Agreement, except where the context otherwise requires:

- (a) a singular word includes the plural, and vice versa;
- (b) a word which suggests one gender includes the other gender;
- (c) if a word is defined, another part of speech or grammatical form in respect of each word, has a corresponding meaning;
- (d) any person or company shall mean and include the legal personal representative, successor in title, and permitted assigns of such person or company as the circumstances may require;
- (e) words and expressions importing natural persons include partnerships, bodies corporate, associations and governmental and local authorities and agents;
- (f) a reference to legislation (including sub-ordinate legislation) is to legislation in force from time to time;

- (g) a party to this Agreement includes a permitted assignee or permitted substitute of that party as agreed between the parties.

1.2.2 Headings are for convenience only and do not affect interpretation.

1.2.3 No rule of construction operates to the detriment of a party only because that party was responsible for the preparation of this Agreement or any part of it.

1.2.4 If a day on or by which a party must do an administrative or routine action under this Agreement is not a Business Day the party must do it on or by the next Business Day.

1.2.5 Monetary references are references to Australian currency.

2. TERM OF THE AGREEMENT

2.1 This Agreement commences on the Commencement Date and continues for the Term.

2.2 The parties acknowledge their mutual intent to renew this Agreement at the end of its Term.

2.3 The parties agree that they will commence negotiations for a renewal of this Agreement in good faith six months before the expiration of the Term.

3. PROVISION OF FUNDING

3.1 Payment of Funding

NOW will pay the Funding in accordance with and subject to the terms of this Agreement to the LWU as follows:

- (a) Upon execution of this Agreement, the LWU shall submit a tax invoice in respect of the Services -
 - (i) for routine operation and maintenance, on a six monthly basis; and
 - (ii) for backlog maintenance and emergency works, upon completion of the work.
- (b) Funding will be made on completion of, and receipt of the LWU's tax invoice for, the works.
- (c) Subject to the availability of funds and the terms of this Agreement, payments will be made generally within 30 days of invoicing.

3.2 Conditions of Funding

3.2.1 Funding instalments for routine operation and maintenance are conditional upon NOW being satisfied that the LWU has undertaken to an acceptable standard the Services required by the previous instalments. Where NOW is not satisfied it may withhold all or any of a later instalment or later instalments.

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

- 3.2.2 Schedule 3 provides an exception to obtaining prior approval if an emergency arises that requires immediate rectification.
- 3.2.3 In all other circumstances, the LWU must obtain NOW's approval of costings for backlog or emergency works before undertaking these works.
- 3.2.4 Where a LWU submits a tax invoice that does not accord with a prior approval, NOW may pay in full satisfaction of that invoice an amount that it considers to be reasonable for the work covered by that invoice.

4. USE OF THE FUNDING

4.1 Expenditure of the Funding

- 4.1.1 The LWU must use the Funding for the purpose of carrying out the Services in accordance with this Agreement.
- 4.1.2 The LWU must not enter into any arrangements or commitments in relation to the Program that are incompatible or inconsistent with the purpose of the Funding.

4.2 Repayment of the Funding

- 4.2.1 The LWU must immediately (or within such time as may be otherwise agreed) repay to NOW any part of a payment for which the Services have not been provided.
- 4.2.2 The LWU must, within 30 days of the expiry or termination of this Agreement, repay to NOW any unexpended payment.

5. PERFORMANCE OF THE PROGRAM AND THE SERVICES

5.1 Role of the LWU

- 5.1.1 The LWU:
 - (a) will liaise regularly with the contact person in the Aboriginal Community as set out in Item 1 Schedule 1;
 - (b) must carry out the Services in accordance with the requirements and milestones set out in Schedules 2 and 3, and the other provisions of this Agreement;
 - (c) must carry out the Services on the land in a culturally appropriate manner in consultation with the Aboriginal Community, including direct and adequate consultation on service delivery with the contact person in the Aboriginal Community as set out in Item 1 Schedule 1;
 - (d) will use its best endeavours to provide training and employment for Aboriginal people from the local Aboriginal Community where possible when providing the Services under this Agreement;
 - (e) will arrange and undertake any works or inspections in accordance with the protocols as set out in clause 5.4.

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

- 5.1.2 If the LWU does not fulfil its obligations under this Agreement NOW may give reasonable directions to the LWU to rectify the matter. No additional payment will be due for any reasonable direction under this sub clause.
- 5.1.3 If emergency or other issues relating to water supply and sewerage services arise NOW will negotiate with the LWU to rectify the matter. If the issue is a health hazard NOW may direct the LWU to rectify the matter. An additional payment will be due for any direction under this sub clause in accordance with Schedule 3.
- 5.1.4 Where a LWU engages a contractor, sub contractor or agent to undertake part or all of the provision of Services under this Agreement the LWU must ensure that the Services are carried out in accordance with the obligations under this Agreement.

5.2 Role of the LALC

- 5.2.1 The parties acknowledge and agree that the LALC remains owner and manager of the land as set out in Item 4 Schedule 1.
- 5.2.2 The parties acknowledge that all water and sewerage infrastructure located thereon within the Aboriginal Community and owned by the LALC will remain in LALC ownership.
- 5.2.3 To enable the LWU and NOW to fulfil their obligations under this Agreement, the LALC agrees to provide or ensure the LWU and NOW have full and reasonable access to LALC land and all water supply and sewerage infrastructure located thereon or serving the Aboriginal Community.
- 5.2.4 If the contact person in the Aboriginal Community considers that Services provided under this Agreement are not considered culturally appropriate as set out in clause 5.1.1 (c) the contact person shall notify and provide details to the NOW contact person as set out in Item 1 Schedule 1.

5.3 Role of the NOW

- 5.3.1 The NOW will:
 - (a) liaise regularly with the contact person in the Aboriginal Community as set out in Item 1 Schedule 1;
 - (b) manage approvals under this Agreement;
 - (c) make grant payments under this Agreement;
 - (d) arrange inspections as set out in clause 7;
 - (e) arrange a meeting of all parties if the contact person in the Aboriginal Community advises that the Services are not being delivered in a culturally appropriate manner as detailed in clause 5.2.4 to resolve the issue and, if necessary, negotiate or make

all reasonable attempts to negotiate a variation to this Agreement in accordance with clause 12;

- (f) will arrange and undertake any works or inspections in accordance with the protocols as set out in clause 5.4.

5.3.2 If urgent action is required to avoid death, injury or Loss or damage, and the LWU does not take the necessary action immediately when NOW requests it, NOW may take the action (without relieving the LWU of its obligations), at the LWU's cost such cost to be a debt due and payable by the LWU to NOW on demand.

5.4 Protocols

5.4.1 To carry out the Services under this Agreement the LWU, NOW and LALC need to establish mutual agreement for access.

5.4.2 The LWU and NOW must arrange access to the land and water supply and sewerage infrastructure located within or serving the Aboriginal Community through the contact person in the Aboriginal Community as set out in Item 1 Schedule 1.

5.4.3 Subject to clause 5.4.4 and 5.4.5 the LWU or NOW will provide the contact person in the LALC with at least 14 days notice in writing of any intention to enter the LALC land and the frequency, approximate duration and regularity of such access and the need for such access.

5.4.4 The LWU or NOW may provide less than 14 days notice to the contact person in the LALC before entering the LALC land if the contact person agrees, or in an emergency.

5.4.5 The contact person in the LALC must authorise access that is reasonable given the need for access. For example:

- (a) an authorisation could permit access:
 - (i) for a single entry;
 - (ii) for multiple entries as specified; or
 - (iii) for all entries necessary to complete a service, or particular project of work or inspection.
- (b) an authorisation under example 5.4.5 (a) (iii) could:
 - (i) dispense with the requirement for further notice until the service or project of work is completed; or
 - (ii) require at least one day's advance notice of any entry.

5.4.6 When representatives from the LWU or NOW enter the LALC land the contact person in the LALC may accompany those representatives at any time but, if requested to do so by either the LWU or NOW, must accompany those representatives.

- 5.4.7 The LWU and NOW will not enter any houses on the LALC land, unless specifically invited by the householder.
- 5.4.8 If the contact person in the LALC is not satisfied with the terms of the proposed access and cannot reach agreement with the LWU about the proposed access, the contact person shall notify and provide details to the NOW contact person as set out in Item 1 Schedule 1 and NOW may make a direction about the access.
- 5.4.9 Subject to clause 5.4.10 where the LWU or NOW require access to individual properties (or yards) the LWU or NOW will not enter individual properties (or yards) except in the presence of the contact person in the LALC and, as far as practicable, the householder will be informed by the contact person for the LALC immediately prior to entry.

6. RECORDS

- 6.1 The LWU must ensure that adequate financial and operational records and registers are kept and maintained to support the tax invoice submitted for carrying out the Services.
- 6.2 The LWU must retain the records referred to in this clause 6 throughout the Term and for seven (7) years after the expiry or termination, of this Agreement.

7. INSPECTION

- 7.1 NOW may visit the LALC land to inspect the water and sewerage infrastructure or observe the carrying out of the Services.
- 7.2 Apart from costs of any inspections dealt with in Schedule 2 each party shall pay their own costs incurred in connection with such inspections.
- 7.3 NOW will provide a written report to the LWU and LALC after each inspection.

8. AUDIT

- 8.1 An Audit of Funding acquitted under the Program may be conducted at any time by NOW or any person authorised by NOW.
- 8.2 The LWU and the LALC must co-operate fully with an Audit, including:
- (a) granting the person conducting the Audit reasonable access to their premises, records and all materials relevant to the Program and the performance of this Agreement;
 - (b) permitting the person conducting the Audit to inspect and make copies of the records and materials relevant to the Program and the performance of this Agreement; and
 - (c) making available on request at no additional cost to the person conducting the Audit reasonable facilities to enable a legible reproduction to be created of the records and materials stored on a medium other than in writing.

- 8.3 NOW must give the LWU and the LALC reasonable notice of its requirements in relation to an Audit.
- 8.4 NOW shall bear the costs of any Audit.
- 8.5 NOW must use its reasonable endeavours to minimise disruption and interference to the LWU's performance of its obligations under this Agreement arising from an Audit.
- 8.6 The LWU and/or LALC must promptly take any reasonable action required by NOW to rectify any error, non-compliance or inaccuracy identified in an Audit in relation to the Program or their performance of this Agreement.

9. EVALUATION AND SURVEYS

- 9.1 Evaluation or surveys may be conducted to monitor the effectiveness of the Program including the expected beneficial outcomes for Aboriginal Communities. The LWU and LALC are required to participate in and contribute to requests for the provision of statistical information for the purpose of evaluation or surveys conducted by NOW or an authorised representative in respect of Program outcomes. No such request will require the breach of any duty of confidentiality owed by the LWU or the LALC.

10. COMPLIANCE WITH THE LAW

- 10.1 The LWU must:

- (a) obtain and hold all rights, licences and consents required to deliver the Services and otherwise fulfil their obligations under the Agreement;
- (b) comply with all applicable standards, laws, regulations and policies in relation to the delivery of the Services; and
- (c) not do anything that would cause NOW or the LALC to breach its obligations under any law.

- 10.2 The LALC and NOW must:

- (a) comply with all applicable standards, laws, regulations and policies in relation to the conduct of the Program; and
- (b) not do anything that would cause the LWU to breach its obligations under any law

11. PUBLICITY

11.1 Acknowledgement

The LWU and LALC must acknowledge the financial support provided from the NSW Government and the NSWALC in all Public Statements about the Program.

11.2 Publicity

The LWU, LALC and NOW may publicise this Agreement and awarding of the Funding or any other aspect of the Program at any time, including:

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

- (a) the LWU's name;
- (b) the LALC's name;
- (c) the Aboriginal Community's name;
- (d) the amount of the Funding; and
- (e) the title and description of the Program and the results of the Program.

12. VARIATION

The parties can only vary this Agreement including without limitation any matter contained in any of the Schedules by written agreement between them.

13. TERMINATION

13.1 Either the LALC, LWU or NOW may immediately terminate this Agreement by written notice (**Terminating Notice**) served on the parties if there is a breach of a provision of this Agreement, and

- (a) the party in breach of the Agreement fails to remedy that breach within the period specified in the Terminating Notice ; or
- (b) the breach is not capable of being remedied.

13.2 NOW may terminate this Agreement by giving the LWU and the LALC six months written notice of termination or payment in lieu of notice or part payment and part notice if funding for the Program ceases to be available from the NSW Government or from NSWALC.

13.3 Where NOW terminates this agreement for convenience the LWU will be paid the Fee for the Services it has completed but will not be entitled to any other payment or costs whatsoever.

14. DISPUTE RESOLUTION

14.1 Method of Dispute Resolution

The parties agree that any dispute arising under this Agreement will be dealt with as follows:

- (a) A party claiming that a dispute has arisen must give written notice of the dispute to the other parties.
- (b) NOW must give written notice of any dispute arising under this Agreement to NSWALC within 14 days of receiving written notice of the dispute under clause 14.1(a) of this Agreement.
- (c) The parties will seek to resolve the dispute, initially through their contact person specified in Schedule 1.
- (d) If the dispute is not resolved within 14 days of notification, any one of the parties may seek to resolve the dispute by escalating the dispute to their relevant senior

managers and if the senior managers are unable to resolve the dispute within a further 14 days, to their respective chief executive officers.

- (e) If the dispute is not resolved within a fourteen (14) day period (or within such further period as the parties agree in writing) then the dispute is to be referred to the Australian Commercial Dispute Centre (ACDC) for mediation.
- (f) The mediation is to be conducted in accordance with the ACDC Mediation Guidelines which set out the procedures to be adopted, the process of selection of the mediator and the costs involved.
- (g) If the dispute is not settled within 28 days (or such other period as agreed to in writing between the parties) after appointment of the mediator, or if no mediator is appointed within 28 days of the referral of the dispute to mediation, the parties may pursue any other procedure available at law for the resolution of the dispute.

14.2 Obligation to continue performance

The parties must continue performing their obligations under this Agreement while the dispute is being resolved, to the extent practicable to do so.

14.3 No Court proceedings

- 14.3.1 A party must attempt to settle any dispute in relation to this Agreement in accordance with this clause 14 (Dispute Resolution) before resorting to court proceedings or other dispute resolution process.
- 14.3.2 Nothing in this clause 14 (Dispute Resolution) will prevent either party from seeking urgent interlocutory relief.

15. INSURANCE

15.1 Warranty of Cover

The LWU warrants that:

- (a) its performance under this Agreement, including performance of the Program and the Services, are covered by the contracts of insurance it has in place, including its insurance for **Public Liability, Professional Indemnity, Workers Compensation** and **all insurances required by law**; and
- (b) each of those contracts of insurance is with a reputable and substantial insurer.

15.2 Additional insurance

- 15.2.1 In addition to the insurances referred to in clause 15.1, the LWU agrees to take out **the insurance specified at Item 5 of Schedule 1** with a reputable and substantial insurer for the duration specified and if no duration is specified for, at a minimum, the Term.
- 15.2.2 Where either party considers that additional insurance may be necessary to cover liabilities that may arise during the performance of the Agreement, NOW and the LWU shall consult about these matters, including, in particular, about the level of premium payable.

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

15.2.3 Where, after consulting with the LWU, NOW reasonably requires the LWU to take out a particular policy of insurance, or to increase the level of cover under an existing policy, the LWU shall do all things necessary to obtain that additional policy, or to take out that additional cover.

15.3 LWU's General Insurance Obligations

The LWU must in relation to the insurances referred to in clauses 15.1 and 15.2:

- (a) take out any of them that it does not already have;
- (b) maintain them for, at a minimum, the Term;
- (c) upon request, provide NOW with satisfactory evidence of their existence and currency;
- (d) not do, permit or omit anything that gives rise to the cancellation, or a material change or reduction, of any of them;

15.4 Failure to provide evidence of insurance

If after being so requested, the LWU fails promptly to provide satisfactory evidence of compliance with this clause 15, then without prejudice to other rights or remedies under the agreement or otherwise at law, NOW may insure and the cost thereof shall be certified by NOW as moneys due and payable from the LWU to NOW.

16. INDEMNITY

16.1 This indemnity is independent of and in addition to any other right, power or remedy of a party under this Agreement or provided by law.

16.2 Each party shall indemnify the other parties including their officers and employees ("those indemnified") against any liability incurred or loss suffered by those indemnified (including reasonable legal costs and expenses) by reason of any unlawful, wrongful, or negligent act or omission of the party when undertaking the provision of this agreement resulting in personal injury to, or the death of, any person, or loss of, or damage to, property.

16.3 The party's liability to those indemnified shall be reduced proportionally to the extent that any unlawful, wrongful or negligent act or omission of those indemnified caused or contributed to the liability or loss.

17. NOTICES

17.1 How to give notice

17.1.1 A notice, consent, approval, or other communication to be given under this Agreement must be in writing and signed by or on behalf of the Party giving it, addressed to the Party to whom it is to be given, and:

- (a) directed to the recipient's address;
- (b) hand delivered or sent by pre-paid post or transmitted by electronic mail or facsimile transmission ('electronically') to that address.; and
- (c) if sent electronically, a copy is also hand delivered or sent by pre-paid post.

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

17.1.2 The address, facsimile number and electronic mail address of a Party is that specified in Schedule 1 or as most recently notified in writing to the Party serving the notice.

17.2 When a notice is given

A notice, consent, approval, or other communication given under this Agreement is treated as having been received:

- (a) if hand delivered, on the day of delivery if a Business Day, otherwise on the next Business Day;
- (b) if sent by pre-paid post within Australia, on the third Business Day after posting; and
- (c) if transmitted electronically, upon actual receipt by the addressee.

17.3 Delivery late in the day

Notwithstanding the provisions of this clause 15 (Notices), if delivery or receipt of a notice, consent, approval, direction or request is on a day which is not a Business Day in the place to which the notice, consent, approval, direction or request is sent or is later than 5pm (local time in that place) it will be deemed to have been duly given or made at 9am (local time in that place) on the next Business Day in that place.

17.4 Change of contact details

A party must advise the other parties within seven (7) days of any changes to the Contact Details set out in Schedule 1.

18. GST

18.1 Supply is GST exclusive

Unless otherwise indicated, all consideration for any supply under this Agreement is exclusive of any GST imposed in relation to the supply.

18.2 What happens if GST is imposed

18.2.1 If:

- (a) despite any other provision of this Agreement, GST is imposed on any supply by the LWU to NOW under this Agreement; and
- (b) NOW is or will be entitled to receive an input tax credit (as defined in the GST Law) in relation to that supply,

18.2.2 NOW will pay to the LWU an additional amount equal to the GST imposed on that supply, at the time and in the manner payment is otherwise payable under this Agreement in relation to that supply subject to receipt of a Tax Invoice.

18.3 LWU must be GST registered

The LWU must be registered under the GST Law at the time of making any supply under this Agreement on which GST is imposed.

18.4 Consequences of non-registration

If the LWU is not registered under the GST Law as required under clause 16.3, the LWU will not be entitled to receive any additional amount as provided under this clause 16 (GST).

18.5 Overpayments

If for any reason NOW pays to the LWU an amount under this clause 16 (GST) which is more than the GST imposed on the supply, the LWU must repay the excess to NOW on demand or NOW may off set the excess against any other amounts due to the LWU.

19. GENERAL

19.1 Governing law

- (a) This Agreement is governed by the law in force in the State of New South Wales.
- (b) Each party submits to the non-exclusive jurisdiction of the courts exercising jurisdiction in the State of New South Wales, and the courts of appeal therefrom.

19.2 Non waiver

No failure or delay by NOW or the LALC in exercising any right power or remedy under this Agreement and no course of dealing or granting by NOW or the LALC to the LWU of any time or other consideration, will operate as a waiver of the breach or a default by the LWU. Any waiver by NOW or the LALC of a breach of this Agreement will not be construed as a waiver of any further breach of the same or any other provision.

19.3 Entire Agreement

19.3.1 This Agreement contains the entire agreement between the parties about its subject matter. Any previous understanding, agreement, representation or warranty relating to that subject matter is replaced by this Agreement and has no further effect.

19.3.2 Any right that a person may have under this Agreement is in addition to, and does not replace or limit, any other right that the person may have.

19.3.3 Any provision of this Agreement which is unenforceable or partly unenforceable is, where possible, to be severed to the extent necessary to make this Agreement enforceable, unless this would materially change the intended effect of this Agreement.

19.3.4 All consents, approvals, waivers and agreements made under or pursuant to this Agreement must be evidenced in writing.

19.3.5 No amendment or variation of this Agreement is valid or binding on a Party unless made in writing and executed by all the Parties.

19.4 Consents

Where this Agreement contemplates that a party may agree or consent to something (however it is described), that party may:

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

- (a) agree or consent, or not agree or consent, in its absolute discretion; and
 - (b) agree or consent subject to conditions,
- unless this Agreement expressly contemplates otherwise.

19.5 Relationship

- 19.5.1 Nothing in this Agreement is intended to create a partnership, joint venture or agency relationship between the parties.
- 19.5.2 The LWU and the LALC shall not hold either of them out to be an employee, partner, agent or representative of NOW.
- 19.5.3 All work performed by the LWU and all contracts made by the LWU to carry out the Services shall be performed and made by the LWU as principal and not as agent for NOW. In all dealings in relation to the Program the LWU shall act solely on the LWU's own account.

19.6 Counterparts

This Agreement may be executed by counterparts by the respective parties, which together will constitute one agreement.

19.7 Survival

- 19.7.1 The operation of clauses 4.2 [Repayment of the Funding], 15 [Insurance] and 16 [Indemnity] shall survive the Term, as shall any other provision which expressly or by implication from its nature is intended to continue beyond the Term.
- 19.7.2 Clauses 5.4 [Protocols], 6 [Records], 7 [Inspection], 8 [Audit], 9 [Evaluation and Surveys] and 11 [Publicity] apply for a period of 7 years beyond the term.

11.6 **Cabbage Tree Island - Water and Wastewater Agreement.DOC**

This Service Agreement is executed as a deed on 20.....

Execution by NOW:

Signed by)
)
)
 (insert name of the NOW signatory)) (signature of NOW authorised officer)
 for and on behalf of the Crown in right of the State of NSW through the NSW)
 Office of Water within NSW Department of Primary Industries, a division of)
 NSW Department of Trade and Investment, Regional Infrastructure and)
 Services, but not so as to incur any personal liability)
)
) (signature of witness)
 in the presence of.....)
 (insert name of NOW witness))

Execution by LWU:

Signed by)
)
 (insert name of the LWU signatory))
 for and on behalf of)
) (signature of LWU authorised officer)
)
 BALLINA SHIRE COUNCIL)
 (insert name of the Funding LWU as per the Agreement Details))
 ABN: 53 929 887 369)
)
)
 in the presence of.....)
) (signature of witness)
 (insert name of LWU witness)

Execution by LALC:

Signed by)
 (insert name of the LALC signatory))
 for and on behalf of)
)
 JALI LALC)
 (insert full name of the LALC as per the Agreement Details)) (signature of LALC authorised officer)
 pursuant to s.245 of the *Aboriginal Land Rights Act*)
 1983)
)
)
 in the presence of.....)
 (insert name of LALC witness)) (signature of witness)

SCHEDULE 1 - AGREEMENT DETAILS

This Schedule forms part of the Agreement between NOW, LALC and the LWU.

Item 1 Contact Details

NOW: contact person: Thangamany Balaraju
contact address: 227 Elizabeth St, Sydney
contact telephone: 8281 7332/ 0428201446
contact facsimile: 8281 7353
contact email: thangamany.balaraju@water.nsw.gov.au

The LWU: contact person: [Andrew Swan](#)~~Red Dawson~~
contact address: PO Box 450, BALLINA NSW 2478
contact telephone: 02 6686 4444
contact facsimile: 02 6686 7035
contact email: [aswanredneyd@ballina.nsw.gov.au](#)

The LALC: contact person: Veronica Williams
contact address: 129 Tamar St, PO Box 1677, BALLINA NSW 2478
contact telephone: 02 6686 7055
contact facsimile: 02 6686 8255
contact email: reception@jalilalc.com.au

Item 2 Term

Commencement Date: The date upon which the parties sign this Agreement.

Duration: Five years from the Commencement Date

Item 3 The Aboriginal Community

Cabbage Tree Island Village

Item 4 LALC land

[Property Description] Lot 258, 260, 261//DP 755691

Item 5 Insurance

Quantum of Public Liability Insurance

\$5 million in respect of each and every occurrence and unlimited in aggregate

Quantum of Professional Indemnity Insurance

During each annual period of insurance, \$1 million for any one occurrence and in aggregate and unlimited as to the number of occurrences

Workers Compensation Insurance

In accordance with statutory requirements

Other Insurance

NIL

SCHEDULE 2 – ROUTINE OPERATION AND MAINTENANCE SERVICES

Schedule 2 deals with planned actions that will be required on a regular basis for the duration of the Term.

The LWU shall be responsible for routine operation, maintenance and monitoring of the water infrastructure upstream of the Connection Point and sewerage infrastructure downstream of the Connection Point, and as detailed in Table 2.1.

Routine operation and maintenance functions shall be performed to ensure:

- potable water is compliant with the Australian Drinking Water Guidelines;
- any discharge from either the water supply or sewerage systems is compliant with relevant regulations or licences.

Routine operation and maintenance functions shall include:

- supply of chemicals, power supply, local and remote control monitoring;
- coordination of the collection and testing of samples to ensure appropriate quality control and reporting;
- routine inspection and regular maintenance of water distribution or sewage collection systems, pump stations and pumping equipment, reservoirs and tanks, chlorination or quality control equipment, treatment plants and waste disposal facilities, vegetation management and any other function necessary to achieve the stated levels of service;
- audit of septic tanks at appropriate frequency and periodic desludging of septic tanks (generally at 3-5 year intervals; and
- any other function necessary to achieve the stated level of service.

Except where this Agreement expressly provides to the contrary the standard of service for these functions shall be as normally provided to the wider community in similar circumstances and having similar infrastructure. The LWU will negotiate with the LALC to provide opportunities for ongoing training, support and pay for Aboriginal Community members, or the LALC, involved in operation of water and sewerage. The LWU will be reimbursed from the Program for such activities.

The Agreed Fee for this service is detailed in Table 2.2.

The Agreed Fee shall, in each subsequent year of the Term, be adjusted for inflation in accordance with an index determined by New South Wales Treasury. NOW will advise the LWU of the value of the adjustment annually and will amend Table 2.2 to reflect this adjustment.

If NOW, the LALC or the LWU considers that any item of routine operation and maintenance works set out in the table below is inappropriate or inadequate, given the reasonable needs of the Aboriginal Community and overall standards relevant to the Local Government area proximate to the LALC land, that party can serve written notice on NOW proposing an amendment. If NOW fails to agree to the proposed amendment, the parties must use their best endeavours in good faith to resolve the matter through the dispute resolution process set out in clause 14 of this Agreement.

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Table 2.1 Services to be provided by the LWU

Water Supply System	Activity	Action	Frequency
Distribution System	Walk for leaks, sign posts, lift lids.	Repair as necessary.	12 monthly
	Review data logger readings.	Find for reason for increase.	Weekly
	1-2 am leak test with & without connections open.	Find and repair leaks.	312 monthly
	Certified Check of certified backflow devices.	Repair or replace.	12 monthly
	Disinfect/ flush after repairs.	See Council Procedure.	Repairs
	Test hydrant flow & pressure.	Repair, or replace, <u>clean or mark hydrants as appropriate</u>	12 monthly
Consumers	Read meters & send LALC usage.	Repair/replace <u>broken meters</u> immediately.	3 monthly
Water tests	Reticulation	Refer to CCP-1	Fortnightly
	Radiological - 5 yearly for surface water.	Contact NSW Health	5 yearly
	Microbiological	Contact NSW Health	1 monthly
	Chemical mthly for 12, then 6 mthly	Contact NSW Health	1 monthly
	Pesticides mthly for 12, then tba.	Contact NSW Health	1 monthly
	Disinfection by-products, mthly for 12mths then tba.	Contact NSW Health	1 monthly
Management	Attend 4-mthly meetings.	Advise early if unavailable.	4 monthly
Sewerage System	Activity	Action	Frequency
Households	Check Boundary Shafts & ORG.	Advise LALC to get repaired.	12 monthly
Collection Mains	Internally inspect all man holes.	Repair as required.	12 monthly
	Roundup & whipper snip manholes	Repair	Fortnightly
Pump Stations	Plastic sheet & sand bag manholes, ORG and laundry floor wastes. Plug	See CCP-1	Floods

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

	laundry sinks and fill with water.		
	Hose down pump well	Drain pump well & clean.	Weekly
	Check security, pits, probes, pumps & pipes.	Repair.	Weekly
	Review pump hrs, amps & starts.	Check and repair.	Daily
	Monitor high level alarm.	See CCP-2. Pump out truck or generator. Clean up spill.	Continuously
	Drop test & record pump rate.	Repair or upgrade.	12 monthly

The Agreed Fee to be paid to the LWU is detailed at Table 2.2.

Table 2.2 Agreed Fee to be paid by NOW to LWU for Services detailed in Table 2.1

Date approved	Amount	Description
31/7/2012	\$12,000/5 years	Water Supply Operation and Maintenance
31/7/2012	\$119,243/5 years	Sewerage Operation and Maintenance
Total	\$131,243/5 years	Water and Sewerage Maintenance

SCHEDULE 3 – BACKLOG MAINTENANCE AND EMERGENCY WORKS SERVICES

Schedule 3 deals with actions that are required once only. This will include known backlog works at the time of preparing the Agreement, backlog works that become known after asset investigation or a period of operation and emergency works that will arise from time to time.

Backlog maintenance is the provision of services required to restore existing water infrastructure upstream of the Connection Point and sewerage infrastructure downstream of the Connection Point to ensure they operate efficiently and deliver the outcomes intended when the infrastructure was constructed. This will not include new capital works. Backlog maintenance will include the provision of individual water meters, fire hydrants and scour valves where required. It will also include new telemetry equipment that is required by a local water utility to permit remote monitoring and hence reduce the cost of operations and maintenance. This will also include works such as:

- repairs identified at first inspection;
- investigations to ascertain asset conditions at commencement;
- scouring pipelines;
- testing fire hydrants;
- adjustments to operating procedures to improve security;
- improvements to operation health and safety;
- improved security around facilities; and
- desludging reservoirs and flushing pipelines (if required).

All parties acknowledge that emergency issues will arise from time to time. Repairing, or otherwise addressing, the emergency issues is within the realm of this Agreement.

Emergency works are those necessary in the water infrastructure upstream of the Connection Point and sewerage infrastructure downstream of the Connection Point to restore service after a system failure and the pre-emptive actions prior to actual failure if identified by NOW, LWU or LALC to ensure they operate efficiently and deliver the outcomes intended when the infrastructure was constructed. This would include:

- repairs after a fire;
- repairs to broken mains;
- repair/replacement of failed pumps or telemetry or meters or electrical switchboards;
- replacement of assets prior to failure if recommended by the NOW inspector and funds are available;

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

- repairs to septic tanks if required following an audit; and
- (if funding permits) repair/replacement of civil assets such as pipelines if required for robust and reliable operation.

Backlog maintenance works known at the time of execution of this Agreement will be included in Table 3.1.

If further backlog maintenance is required the LWU must provide to NOW a proposal setting out the need for the works, the scope of the works and the quoted or estimated price. NOW may in its absolute discretion approve the undertaking of part or all of such works and the amount of Funding it will provide towards the cost of such works, having regard to available funds and priority across all communities. The LWU must obtain written approval from NOW prior to commencing the backlog works. If approved NOW will vary Table 3.1 to reflect the approved variation.

If an emergency arises the LALC must notify the LWU who must notify NOW to advise the scope of the emergency and make arrangements for repairs. The LWU must provide a detailed proposal and estimate and obtain written NOW approval. NOW will discuss emergency works with the LALC but, due to emergency nature of the works, may not be able to obtain LALC concurrence prior to approving the works. Approved emergency works will be funded through variation to this Agreement. If approved NOW will vary Table 3.2 to reflect the approved variation.

If an emergency arises that requires immediate rectification to protect public health, safety or the environment, and the LWU is unable to obtain NOW approval in a timely manner it should proceed to rectify the emergency and discuss the matter with NOW as soon as practical. The LWU must obtain NOW approval to the funding before raising a tax invoice.

Where agreement is not able to be reached between the LWU and NOW on an emergency that is creating a health hazard to Aboriginal Community members, NOW may make reasonable directions to the LWU to undertake the work in accordance with clause 5.1.3.

Approvals may be on the basis of quotes obtained, or on the basis of reasonable estimate, depending on circumstances.

The LWU must carry out funded backlog or emergency works to water and sewerage infrastructure within the Aboriginal Community as and when required and to a standard commensurate with the standard of works provided to other water and sewerage customers of the local Council or other relevant local water and sewerage utility outside the Aboriginal Community.

NOW will pay the LWU's reasonable demonstrated costs of providing the backlog maintenance or emergency works, including supplier costs, LWU labour, transport, equipment, etc. Labour shall be priced at annual salary plus 40 per cent loading for direct on-costs. Supplier or contractor costs shall be supported by copies of the supplier or contractor tax invoices. Tax invoices should be issued on completion.

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

If NOW and the LWU cannot agree on the need for or cost of any proposed emergency or additional works, they must use their best endeavours in good faith to resolve the dispute in accordance with clause 14 of this Agreement.

The Agreed Fee to be paid to the LWU for backlog is detailed at Table 3.1.

Table 3.1 Agreed Fee to be paid by NOW to LWU for backlog maintenance

Date approved	Amount	Description
	Actual Cost + GST	

The Agreed Fee to be paid to the LWU for emergency is detailed at Table 3.2.

Table 3.2 Agreed Fee to be paid by NOW to LWU for emergency repairs

Date approved	Amount	Description
	Actual Cost + GST	Repairs to broken water mains and valves
	Actual Cost + GST	Repairs to damaged water meters
	Actual Cost + GST	Repairs to sewer junctions
	Actual Cost + GST	Repairs to broken sewer mains, manholes and IO's

SCHEDULE 4 – ABORIGINAL COMMUNITIES WATER AND SEWERAGE PROGRAM

The Aboriginal Communities Water and Sewerage Program (the Program) is a program that commenced on 1 July 2008 to improve the water supply and sewerage services in selected Aboriginal Communities in NSW.

The Program is a joint initiative of the NSW Aboriginal Land Council and the NSW Government. Together they will invest around \$200 million over the next 25 years on maintenance, operation, repairs and monitoring in approximately 60 Aboriginal Communities across NSW.

The Program is being oversighted by a Steering Committee that:

- provides strategic direction to the Program;
- decides which Aboriginal Communities are eligible;
- establishes key performance indicators; and
- identifies and resolves issues that arise in the implementation of the Program.

NOW has been appointed as program manager to implement the Program. NOW works closely with the NSW Aboriginal Land Council, LALCs and LWUs to deliver improved water supply and sewerage services to eligible Aboriginal Communities.



Cabbage Tree Island Water & Sewerage

Management Plan

Contents

Glossary.....	6
Summary	7
Table 1: Contacts.....	7
Table 2: Roles & Responsibilities	7
Schematic: Drinking Water Scheme	8
Table 3: Water Supply – Routine Operation, Maintenance & Monitoring.....	9
Table 4: Water Supply – Action Sheet.....	10
Schematic: Sewerage Scheme.....	12
Table 5: Sewerage – Routine Operation Maintenance & Monitoring	13
Table 6: Sewerage – Action Sheet.....	14
1 Water Supply.....	16
1.1 Water Demand	16
Table 7: Indicative Demand Calculation (including future growth).....	16
Table 8: Past Usage	16
Table 9: Capacity Checks.....	16
Conclusion	17
1.2 Water Quality	17
Water Quality	17
Conclusion	17
1.3 Risk Assessment.....	18
Table 10: Water Supply – Hazardous Events & Controls.....	18
1.4 Critical Control Points (CCPs).....	23
Table 11: Summary of CCPs.....	23
Table 12: Details of CCPs	23
1.5 Operational Procedures	23
1.6 Equipment Capability & Maintenance.....	23
Table 13: Water Supply Asset Management Table.....	23
1.7 Chemicals and Materials.....	24
1.8 Verification Monitoring	24
2 Sewerage	25
2.1 System Checks	25
Table 14: Indicative NSW Sewage Design Loadings.....	25
Table 15: Indicative Design Checks (Sewerage)	25

Conclusion	25
2.2 Risk Assessment.....	26
Table 16: Sewerage – Hazardous Events & Controls	26
2.3 Critical Control Points	32
Table 17: Summary of CCPs	32
Table 18: Details of CCPs	32
2.4 Operational Procedures	33
2.5 Equipment Capability & Maintenance	33
Table 19: Equipment Capability & Maintenance Schedule	33
Table 20: Sewerage Asset Management Table	33
3 General.....	34
3.1 Customer Satisfaction	34
3.2 Short-term Evaluation of Results	34
3.3 Management of Incidents.....	34
Background	34
Incident & Emergency Response.....	35
3.4 Employee awareness and training.....	35
3.5 Community Consultation & Communication	35
3.6 Medium & long-term evaluation	35
Appendix A – Community Issues Register (example).....	36
Appendix B – Agenda/Minute for 4-monthly meetings	37
Appendix C - Risk Matrix.....	38
Appendix C - Risk Matrix.....	38
Appendix D – Monthly Record Sheet	39

Purpose of Management Plan

The purpose of this Management Plan is to bring together information, in order to help achieve optimal performance and provide water and sewerage to the local community at an equivalent standard to the wider community.

This will be achieved by:

- Considering the needs of consumers, regulators and employees;
- Documenting local policies and procedures not covered by the general Service Agreement;
- Documenting activities, so their effectiveness can be monitored and reviewed by the Local Water Utility, Local Aboriginal Land Council, NOW's Water & Sewerage Inspector and NSW Health;
- Using a risk-based approach to manage quality at all points from water source to consumer to wastewater removal to release back to the environment;
- Assigning roles and responsibilities for on-going operation, maintenance, management and incident response.

The Management Plan is not a contractual document, though sections may be copied into the Service Agreement.

Acknowledgements

This document has drawn on the Community Water Planner by the National Health and Medical Research Council, 8th December 2005 and Riverina Water's Water Quality Management System – HACCP Manual, 20 November 2008.

Document Updates

Document	Update	Responsible
Water & Sewerage Management Plan	<u>Important changes</u> : Anytime.	LWU (in agreement with LALC & NOW)
	<u>Periodic Reviews</u> : After 1 st year, then every 2 years.	NOW

Document Control

Date	Version	Actions	Issued To
5 Nov 10	V1 (draft)	Issued for comments after workshop 2/3 Nov 2010.	LALC, LWU, Health, NOW, AA & NSW ALC
24 Nov 10	V2 (final)	Issued after comments on the draft.	
21 Dec 11	V3 (1 st Yr)	Issued after 1 st Year Review 16 Dec 11	

Glossary

ADWF: Average Dry Weather Flow

ADWG: *Australian Drinking Water Guidelines* 2004 published by National Health and Medical Research Council and Natural Resource Management Ministerial Council.

Critical Control Point: a point, step or procedure at which control can be applied and which is essential to prevent or eliminate a hazard or reduce it to an acceptable level. A critical control point requires:

- an operational parameter that can be measured and for which critical limits can be set to define the operational effectiveness of the activity;
- an operational parameter that can be monitored frequently enough to reveal any failures in a timely manner (online and continuous monitoring is preferable); and
- procedures for corrective action that can be implemented in response to deviation from critical limits.

Critical Limits: the acceptable range (or prescribed tolerance) that must be met to ensure that a critical control point effectively controls a potential health hazard.

Hazard: biological, chemical, physical or radiological agent that has potential to cause harm.

Hazardous event: is an incident or situation that can lead to the presence of a hazard.

LALC: Local Aboriginal Land Council

LALC - CEO: Local Aboriginal Land Council – Chief Executive Officer

LWU: Local Water Utility (often the local shire council).

NOW: NSW Office of Water

Operational Monitoring (OM): regular observations and tests to confirm that individual barriers and preventive strategies for controlling hazards are functioning effectively.

Operational Procedure (OP): tasks essential to ensure the provision of consistently good quality drinking water or effluent. It provides detailed procedures required for the operation of all processes and activities (both ongoing and periodic), including preventive measures, operational monitoring and verification procedures, and maintenance requirements.

Preventive Measure (PM): any planned action, activity or process used to prevent hazards occurring or reduce them to acceptable levels.

PWWF: Peak Wet Weather Flow

Risk: the likelihood of a hazard to cause harm and the severity of the consequences.

Target criteria: performance goals for each preventive measure. These criteria can be quantitative (numerical) or qualitative (descriptive).

Verification Monitoring (VM): monitoring used to assess the overall performance of the system (including quality of drinking water or effluent, and monitoring of consumer satisfaction).

Summary

Table 1: Contacts

Contact	Person	Phone
Emergency	000	000
Ambulance	000	000
Police	Ballina	T: (02) 6681 8699
Fire	Meerschaum Vale	T: (02) 6683 4419
Hospital	Ballina District Hospital	T: (02) 6686 2111
Local Aboriginal Land Council	Veronica Williams (CEO)	T: 02 6686 7055
Ballina Shire Council (BSC)	Call Centre (Work Hours)	T: 02 6686 4444
	North Coast Monitoring Service (A.H.)	T: 02 6626 6954
	Andrew Swan	T: 02 6686 4444
NSW Office of Water	Terry Call – Regional Inspector	T: 02 6627 0110 M: 0412 283 768
	Warwick Brown - Management Plans	T: 02 6024 8833 M: 0419 296 675
	Bala - Policy & Approvals	T: 02 8281 7332 M: 0428 201 446
NSW Health	Geoff Sullivan	T: 02 6620 7525 M: 0414 569 516
Aboriginal Affairs NSW	Gary Oliver	T: 02 6648 5805
NSW Aboriginal Land Council	Tina Williams	M: 0400 563 015

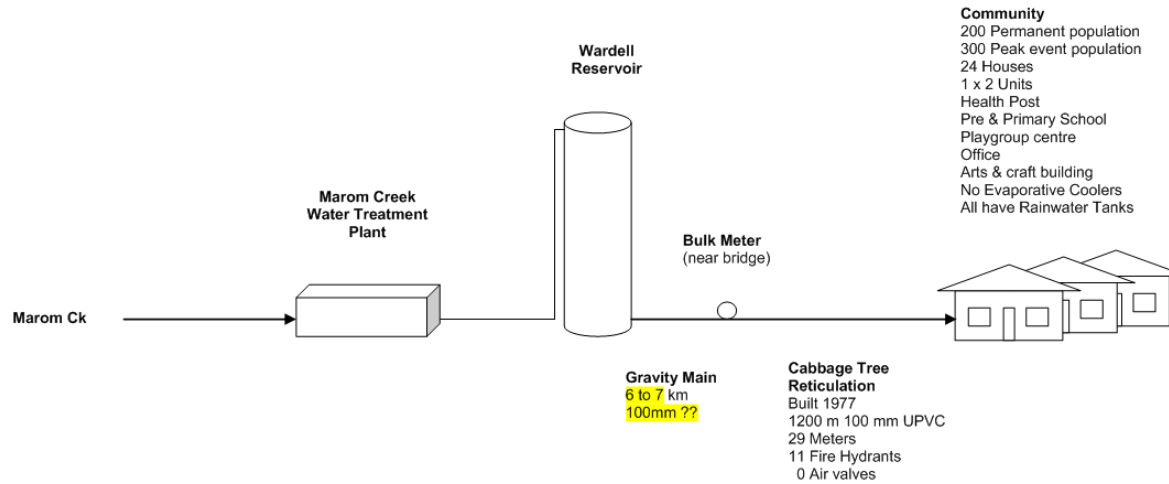
Table 2: Roles & Responsibilities

Stakeholder	Roles & Responsibilities
Aboriginal Community	Report issues asap to Ballina Shire Council – Call Centre or North Coast Monitoring Service. Assist the Shire Council, if the option arises.
Local Aboriginal Land Council – CEO (LALC – CEO)	Be the 1 st point of contact for all other community issues. Participate in 4-monthly review meetings.
Ballina Shire Council (BSC) / Local Water Utility (LWU)	Provide water and sewerage services to the same extent as Wardell, except as specifically varied. Maintain a Community Issues Register. Maintain regular communication and consultation with the community (via LALC - CEO), LALC, NOW and NSW Health. Participate in 4-monthly review meetings. Recommend updates for this Management Plan. Obtain financial approvals from NOW (Bala) before proceeding.
NSW Office of Water (NOW)	Provide Program Management and Financial approvals. Provide technical support on investigation, design, construction, operation, maintenance and management. Conduct and minute 4-monthly meetings (see Appendix B).
NSW Health	Provide technical support on health issues. Participate in 4-monthly meeting by attending or email 1 week prior.

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Schematic: Drinking Water Scheme

Delivery Train – Bulk supply → Marron Creek WTP → Reservoir → Bulk meter → Reticulation → Community



11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Cabbage Tree Island Water & Sewerage

Table 3: Water Supply – Routine Operation, Maintenance & Monitoring

Table No.	Ref. No	Location	Activity No.	Activity	Target or Critical Limit	Corrective Action	Who	Continuously	Daily	Weekly	Fortnightly	1-monthly	3-monthly	4-Monthly	12-Monthly
10	2	Distribution System		Walk for leaks, sign posts, lift lids.	Everything in good condition.	Repair as necessary.	LWU Op								√
10	3			Review data logger readings.	No unexpected increases in usage.	Find for reason for increase.	LWU Op			√					
10	4			1-2 am leak test with & without connections open.	Total Leaks < 170L or 10% avg.	Find and repair leaks.	LWU Op						√		
10	8		BL	Certified check of backflow devices.	All backflow devices good.	Repair or replace.	LWU Op								√
10	10		BM	Disinfect/ flush after repairs.	Contaminants don't enter supply.	See Council Procedure.	LWU Op	Repairs							
10	20		BO	Test hydrant flow & pressure.	Flow > 10 L/s @ 150 kpa.	Repair or replace.	LWU Op								√
10	26	Consumers		Read meters & send LALC usage.	Meters good & LALC knows usage.	Repair/replace immediately.	LWU Op						√		
10	34	Water Tests	BT	Water quality in Reticulation	Chlorine 0.2-2.0, pH 6.5-8.5, <1 NTU	Refer to CCP-1 for details.	EHO			√					
10	35		BV	Radiological - 5 yearly	See Sect 1.3.4 of Drinking Water Monitoring Booklet	Contact NSW Health	EHO								5
10	36		BW	Microbiological	Routine schedule.	Contact NSW Health	EHO					√			
10	37		BY	Chemical mthly for 12, then 6 mthly	Routine schedule.	Contact NSW Health	EHO					√			
10	38		BZ	Pesticides mthly for 12, then tba.	Routine schedule.	Contact NSW Health	EHO					√			
10	39		CA	Disinfection by-products, mthly for 12mths then tba.	Routine schedule.	Contact NSW Health	EHO					√			
10	40	Management		Attend 4-mthly meetings.	See App B for Agenda	Advise early if unavailable.	All								√

Table 4: Water Supply – Action Sheet

Action No.	Table No.	Ref.	Actions	Who	When	Progress
1	-	-	Page 8. Complete Water Supply Schematic	BSC		Done.
2	-	-	Page 15. LALC send Council sample of brown cold water.	LALC	16 Apr 12	Continuing.
3	-	-	Page 15. LALC send Council sample of white residue from hot water.	LALC	16 Apr 12	Continuing.
4	-	-	Page 15. Council test level of dissolved gases (especially CO ₂ & D.O.) to explain the fine bubbles in hot water.	BSC		Delete. Suspect its DO and no health issues.
5	-	-	Page 15. Track origin of slightly high pH, e.g. WTP or Retic.	BSC		Done. Suspect its cement lined pipes in Council mains.
6	-	-	Page 15. Test for Alkalinity at WTP and at Cabbage Tree Is.	BSC	16 Apr 12	Continuing.
7	-	-	Page 15. Test for Copper in houses at Wardell.	BSC	16 Apr 12	Continuing.
8	10	1	Fit data logger to bulk meter and set to take hourly readings for leak detection, otherwise set for daily readings.	BSC		Done. No leaks suspected or found. Report sent to Bala.
9	10	6	Check all meters have dual checks.	BSC		Done. All have dual checks.
10	10	7	Install backflow prevention devices at Sewage Pump Stations.	BSC		Done.
11	10	9	LALC provide a map of asbestos for protection of workers engaged on water & sewerage.	LALC	16 Apr 12	Continuing.
12	10	11	Obtain plans from LALC or produce plans of water supply.	BSC	16 Apr 12	Still to get copies off LALC.
13	10	12	Advise Council staff to flush based on water tests rather than time intervals.	BSC		Done.
14	10	17	Check hydrant coverage so that max. of 59 m from hydrant to house door.	BSC	16 Apr 12	Continuing.
15	10	18	Install hydrant road markers & paint hydrant surrounds.	BSC	16 Apr 12	Continuing.
16	10	19	Do initial flow test on all hydrants at 0, 50, 100 & 150 kpa, then static pressure.	BSC	16 Apr 12	Will do when BSC gets a Hydrant tester. Pressure reduction is being considered for Wardell which may affect pressure at Cabbage Tree.
17	10	21	Community education program by Health will include contacting Council first about all water & sewerage issues.	Health	16 Apr 12	Continuing. Tried on a number of occasions but failed to find convenient time.
18	10	22	LALC will also advise residents to contact Ballina SC about all Water & Sewerage issues.	LALC		Done. Good results – BSC now gets plenty of calls.
19	10	23	Check residents at are not charged more than in town.	BSC		Delete. Not a program issue.
20	10	24	If possible base water charges on 26 dwellings rather than one connection, though only one bill will go to LALC.	BSC		Delete. Not a program issue.
21	10	25	Local labour paint house numbers on gutters. Council supply paint and stencils.	LALC	16 Apr 12	Continuing.
22	10	27	Send information sheet to help residents read water meters to detect leaks inside their houses.	LALC	16 Apr 12	Continuing. Info Sheet done by BSC. LALC to check and distribute.
23	10	28	LALC do regular meter checks to detect leaks in houses.	LALC		Delete. Not required.
24	10	29	Council advise LALC on flow restriction policy for people who don't pay water bills.	BSC		Delete. Not required.
25	10	30	LALC decide if to adopt Council's flow restriction policy.	LALC		Delete. Not required.
26	10	40	Set 1 st 4-Monthly meeting date	BSC		Done.

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

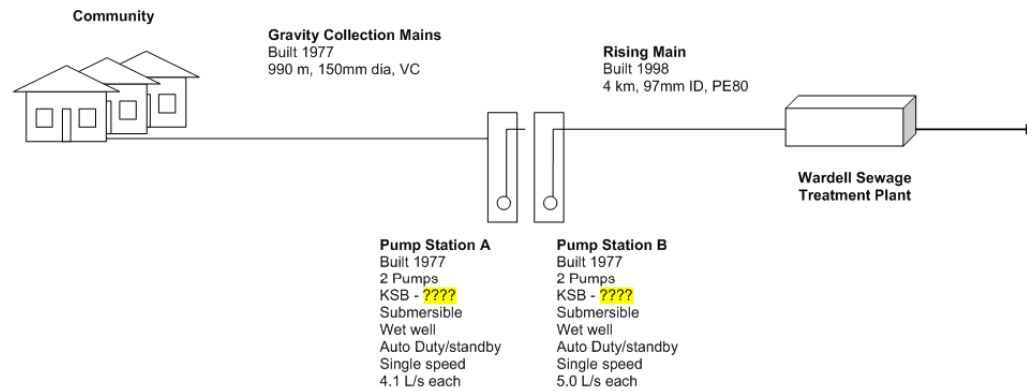
Cabbage Tree Island Water & Sewerage

27	12	-	Advise the equipment used for weekly water tests.	BSC	16 Apr 12	Continuing.
28	13	-	Complete Table 13 - Water Supply Asset Management	BSC	16 Apr 12	Continuing.
29	-	-	Page 35. Ask LALC for a local person to induct Council staff.	BSC		Done. Marcus Ferguson inducted BSC Staff.
30			Complete details on Schematic for Gravity Main.	BSC	16 Apr 12	
31			Keep LALC & NOW up-to-date on pressure reduction at Wardell which may affect pressure at Cabbage Tee.	BSC	16 Apr 12	
32			Council obtain an Interim Agreement from NOW	BSC	16 Apr 12	
33			Review Pesticide Test frequency.	Health	16 Apr 12	

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Schematic: Sewerage Scheme

Train - Community → Gravity Collection Mains → 2 Pump Stations → Rising Main → Wardell Sewage Treatment Plant



11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Table 5: Sewerage – Routine Operation Maintenance & Monitoring

Table No.	Ref. No	Location	Activity No.	Activity	Target or Critical Limit	Corrective Action	Who	Continuously	Daily	Weekly	Fortnightly	1-monthly	4-monthly	6-Monthly	12-Monthly	
16	3	Households	SA	Check Boundary Shafts & ORG.	As per Plumbing Code.	Advise LALC to get repaired.	LWU Op.									√
16	12	Collection Mains	SI	Internally inspect all man holes.	No roots or damage. Sealed against inflow & infiltration.	Repair as required.	LWU Op.									√
	20			Roundup & whipper snip manholes	Manhole easily avoided by slasher	Repair.	LWU Op.				√					
16	19	Pump Stations		Plastic sheet & sand bag manholes, ORG and laundry floor wastes. Plug laundry sinks and fill with water.	Sewer mains are sealed as much as possible against floods.	See CCP-1	LWU Op.	Floods								
16	24			Hose down pump well	No fats or sediments.	Drain pump well & clean.				√						
16	25		SK	Check security, pits, probes, pumps & pipes.	Look & sound okay. No leaks.	Repair.				√						
16	26		SL	Review pump hrs, amps & starts.	Hrs < 5 /day, amps < 5, starts < 6	Check and repair.			√							
16	38		SN	Monitor high level alarm.	No sewage overflows.	See CCP-2. Pump out truck or generator. Clean up spill.		√								
16	39		SO	Drop test & record pump rate.	Pump rate stays > Design PWWF.	Repair or upgrade.										√

Table 6: Sewerage – Action Sheet

Action No.	Table No.	Ref.	Actions	Who	When	Progress
1	-	-	Page 11. Complete details in Sewerage Schematic	BSC		Done.
2	5	26	Insert details in Hrs < 5 /day, amps < 5, starts < 6	BSC		Done.
3	15	-	Insert actual ADWF pump run time.	BSC		Done. Run time falling as the RM is gradually cleared.
4	16	1	Smoke test or pour water down roof downpipes and watch for flow in boundary shafts.	BSC		Done. Report sent to Bala.
5	16	2	Determine where house stormwater should be directed after it is disconnected from the sewer.	BSC		Delete. CCTV found no illegal connections. Report with Bala.
6	16	9	Clean & CCTV gravity mains & pipes to houses.	BSC		Done. Report with Bala.
7	16	10	If CCTV shows the sewers are as poor as expected, provide cost estimates for lining versus new pipes.	BSC		Delete. Pipes are in good condition. Only need repairs.
8	16	11	Inspect inside all manholes for structural integrity & water tightness, then provide cost proposal for repairs/upgrade.	BSC		Done. See Action below for cost.
9	16	13, 18	Investigate the most practical option to protect overflow relief gullies from ingress of water during floods (taking into account floor wastes and sinks in laundries at ground level will be affected). Options: 1. fit flap inside overflow relief gullies to stop flood water 2. raise overflow relief gullies as high as possible; 3. create enough warning to plastic sheet & sand bag just prior to floods.	BSC		Done. Found a Floodproof Yard Gully, which may be a solution. But, laundry floor wastes needs are at the same level, so they need a solution.
10	16	14	Although outside the Water & Sewerage Program, a Flood & Stormwater Management Plan should be considered to avoid erosion of creek banks from uncontrolled run-off and unnatural flooding of the Island from the Creek backing up stormwater pipes and channels. Include in the Plan: <ul style="list-style-type: none">o A review of stormwater infrastructure to control stormwater from houses, roads and general run-offo on-going maintenance to keep stormwater pipes and drains clear of debris and safe for children,o Actions needed just prior to floods to avoid unnatural flooding from the Creek backing up stormwater pipes before overland flooding would natural occur.	BSC		Done. Found an existing Flood Mgt Plan for Cabbage Tree Is.
11	16	15	Take levels of all manholes, overflow relief gullies and stormwater pipes to help decide on the best approach to protect the sewers from maximum flood levels.	BSC		Delete. The entire Village goes under about 1m or so of water.
12	16	16	Investigate the most practical option to protect man holes from ingress of water during floods. Options: 1. flood-proofing man holes; 2. raising man holes to maximum probable flood level; 3. create enough warning to plastic sheet & sand bag just prior to floods.	BSC	16 Mar 12	Continuing. May be in the Flood Mgt Plan.
13	16	17	Investigate and if feasible, disconnect laundry floor wastes from the sewer.	BSC		Delete. See Action 32. Outside this program.
14	16	21	Explain to slasher drivers dangers to children and spread of sewage/disease during floods if man holes are damaged.	LALC	16 Mar 12	Continuing.
15	16	23	Check there is sufficient response time between the high level alarm being tripped and sewage beginning to overflow from lowest point in system.	BSC	16 Mar 12	Continuing. May be in the Flood Mgt Plan.

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Cabbage Tree Island Water & Sewerage

16	16	27	Remove ladders or install covers over ladders at PS.	BSC	16 Mar 12	Continuing.
17	16	28	Pay locals to give PS a new coat of paint.	BSC		Done.
18	16	29	Lay power supply underground at both Pump Stations.	BSC	16 Mar 12	Continuing.
19	16	30	Erect pool fences or heavy fly mesh around tops of PS's.	BSC	16 Mar 12	Continuing.
20	16	31	Relocate brackets around vent pipes to remove foot holds.	BSC	16 Mar 12	Continuing.
21	16	32	Backfill holes under the concrete slabs with sand.	BSC		Done.
22	16	33	Seal holes in walls of pump stations.	BSC		Done.
23	16	34	Mark Pump Stations with A & B.	BSC	16 Mar 12	Continuing.
24	16	36	If feasible, increase pump capacity by either: 1. automatically running both main pumps together, or 2. installing VSD pumps with higher flow rates.	BSC		Delete. Pumps are worn but the correct size. The problem is blockages in the rising main.
25	16	37	If larger pumps and reduction of Inflow & Infiltration are insufficient to increase the warning time from 40 minutes to a manageable time, e.g. 4 to 6 hrs, then increase the storage capacity of the main pump station to give the desired warning time.	BSC	16 Mar 12	Continuing. Possibly in the Flood Mgt Plan already.
26	18	-	Complete CCP -1	BSC		Done.
27	18	-	Complete CCP-2	BSC		Done
28	19	-	Complete Table 19	BSC		Done.
29	20	-	Complete Table 20 – Sewerage Asset Management	BSC		Done.
30	20	-	Provide cost proposal if Pump Stations need refurbishment as suggested in Table 20 - Asset Management	BSC	16 Mar 12	Continuing. Will consider after the rising main is working okay and the pumps are replaced.
31			Provide details of existing pumps.	BSC	16 Mar 12	
32			Provide a cost proposal for all repair work outside the house yards, including: <ul style="list-style-type: none"> • cleaning mains of fat and debris. • repair mains and manholes; and • above Actions. 	BSC	16 Mar 12	
33			Council's Health & Regulatory Services provide a report to LALC and NSW ALC on the work required inside the house yards. Include in the report: <ul style="list-style-type: none"> • repairs found during CCTV & Smoke tests, • repairs needed on boundary shafts, • replacement of overflow relief gullies with flood-proof yard gullies, • floor wastes and anything within 1 metre of ground level that will take in flood waters, • Interview the resident who had sewage under the house during past floods. 	BSC	16 Mar 12	
34			Council discuss LALC of Flood Mgt Plan with LALC.	BSC	16 Mar 12	Out side this program.

1 Water Supply

1.1 Water Demand

Table 7: Indicative Demand Calculation (including future growth)

Consumer Type	Qty	Unit	Peak Day		Annual	
			Rate*	Total	Rate*	Total
Indoor Use						
Permanent population	200	persons	300 L/pers.	60 kL	72 kL/pers.	14.4 ML
Peak overnight visitors (assuming 2 days p.a.)	100	persons	100 L/pers.	10 kL	0.1 kL/pers.	0.01 ML
Playgroup Centre	10	Non-locals	50 L/pers.	0.5 kL	4.5 kL/pers.	0.05 ML
Pre-School	20	Non-locals	50 L/pers.	1.0 kL	4.5 kL/pers.	0.09 ML
Primary School	20	Non-locals	50 L/pers.	1.0 kL	4.5 kL/pers.	0.09 ML
Health Post	5	Non-locals	50 L/pers.	0.3 kL	4.5 kL/pers.	0.03 ML
LALC Office	2	Non-locals	50 L/pers.	0.1 kL	4.5 kL/pers.	0.01 ML
Arts & Crafts Building	10	Non-locals	50 L/pers.	0.5 kL	4.5 kL/pers.	0.05 ML
<i>Sub-total</i>				73.4 kL		14.7 ML
Outdoor Use						
House gardens	-	house	3.5 kL/h	kL	200 kL/h	ML
Units gardens	-	unit	1.5 kL/u	kL	50 kL/u	ML
School Grounds	-	Ha	250 kL/Ha	kL	10 ML/Ha	ML
Sports Grounds	-	Ha	250 kL/Ha	kL	10 ML/Ha	ML
<i>Sub-total</i>				-		-
Total				73.4 kL/day		14.7 ML/yr
Peak Instantaneous	30	Tenements	0.15 L/s/T	4.5 L/s		

* Insert typical Shire rates if available.

Table 8: Past Usage

	2005	2006	2007	2008	2009
Annual Scheme Use (ML p.a.)	14.5	14.1	14.5	11.1	11.1
Peak Day Scheme Use (ML / day)**	Not Available				

** Install a data-logger on the Bulk Water to verify the indicative Peak Day Demand is representative.

Table 9: Capacity Checks

Scheme Element	Actual	Desirable Capacity Guide*	Comments
Water Restrictions	-	5:10:20 rule	Same as shire wide
Delivery Main max flow rate	9.1 to 9.4 L/s	10 L/s for Fire Fighting	Test hydrant flow rates
Minimum water pressure	Fine.	12 m head	

* For more information, refer to Water Supply Investigation Manual, NSW Public Works, 1990.

Conclusion

The average Australian home uses 260 litres/day/person with 160 litres used inside the home. The World Health Organization estimates 100 litres is required per day per person for personal hygiene, washing, cooking & drinking.

Over the past 5 years, drinking water usage has varied from 198 to 152 litres/day/person inside the home. This is within the expected range. No restrictions applied except shire wide restrictions.

Outdoor watering is not required because local rainfall is adequate to sustain gardens and lawns.

1.2 Water Quality

Water Quality

Comments
Indicator bacteria (<i>E. coli</i> , total coliforms) – nil failures of <i>E. coli</i> .
algae, cyanobacteria and toxins (for surface water) – n/a
physical characteristics – discoloured water (brown coloured cold water. Milky coloured water from hot water tap, leaving floating white substance). People okay to drink from tap. Slightly high pH – 7 samples with min 8.9 & max 9.2.
inorganic chemical characteristics (including chlorine) – no issues
pesticides
disinfection by-products (for chlorinated supply)
radioactivity

Conclusion

Drinking water is supplied fully treated from Wardell Water Treatment Plant. Regular tests show the water is consistently high quality. It is preferred for drinking.

All houses have rainwater tanks with pressure pumps only for outdoor use.

A cold water tap at the workshop produced brown coloured water. The tap hadn't been used for about 2 weeks. The brown colour is suspected to come from galvanised iron pipes within the property. LALC will send a sample to Council for testing.

Hot water from the tap often produces milky coloured water and leaves a white substance floating in cups. LALC will provide a sample of the white substance to Council for testing. Council will test levels of dissolved gases to explain the white bubbles.

Although there is no health concern, the water quality may cause long term damage to infrastructure. Council should therefore track where the slightly high pH originates, e.g. exiting the water treatment plant or in the reticulation. Council should also test for Alkalinity at WTP & Cabbage Tree Island, and test for Copper inside houses at Wardell.

1.3 Risk Assessment

The table below and the Risk Matrix in Appendix C are used to evaluate the risk for Hazardous Events with the Existing Controls. If Additional Controls are needed, they are noted and recurring actions are further detailed in the Operation, Maintenance & Monitoring Schedule.

Table 10: Water Supply – Hazardous Events & Controls

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls & Comments	Consequence	Likelihood	Risk Score	Additional Controls (if existing controls are insufficient)	Operation, Maintenance & Monitoring			Who	When	
							Activity	Target or Critical Limit (Bold indicates a CCP)	Corrective Action			
Distribution System												
1	Leaky pipes and fittings can allow contaminants to backflow into the mains, if there is a system failure. Mains near sewers, septic tanks and stormwater are especially vulnerable to high levels of contamination.	Generally, water & sewer mains are separated either by opposite sides of road or opposite side of property. (Need to confirm all cases) Flat ground so less of a suction issue. High water table and often inundated but wet spots do come to surface.	2	D	L	Fit data logger to bulk meter and set for hourly readings for leak detection, otherwise set for daily readings.						
2						Conduct a program of leak detection and preventive maintenance to reduce leaky pipes and fittings, especially in high risk areas. (See BJ & BK)	B J	Walk for leaks, sign posts, lift lids.	Everything in good condition.	Repair as necessary.		Annual
3							Download data logger & review readings.		No unexpected increases in usage.	Find for reason for increase.		Weekly
4							1-2 am leak test with & without connections open.		Total Leaks < 170L or 10% avg.	Find and repair leaks.		3-mthly
5	Failure of booster pumps or power supply can lead to loss of pressure and potential for contaminated backflow, plus cause critical disruptions to consumers and industry.	N/A										
6	Cross-connections and lack of backflow prevention can allow contaminants to enter mains, especially from industries and houses with rainwater tanks, swimming pools, garden ponds, irrigation systems and pumps.	All houses have rainwater tanks with pressure pumps but don't go inside houses. Water meters have dual check. No swimming pools and pressure systems.	1	D	L	Check all meters have dual check.						
7						Install backflow prevention devices at Sewage Pump Stations.						
8						Maintain backflow prevention devices at sewage pump stations.	B L	Certified backflow device check.	All backflow devices good.	Repair or replace.		Annually

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Cabbage Tree Island Water & Sewerage

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls & Comments	Consequence	Likelihood	Risk Score	Additional Controls (if existing controls are insufficient)	Operation, Maintenance & Monitoring			Who	When
							Activity	Target or Critical Limit (Bold indicates a CCP)	Corrective Action		
9	Repairs, maintenance and new mains can introduce soil, construction debris, micro-organisms and chemicals to contaminate the water supply.	Map asbestos for Council workers. Council has a documented procedure for mains breaks.	2	C	M	LALC provide a map of asbestos for protection of workers engaged on water & sewerage.					
10						Disinfect and flush after repairs or new work. (See BM)	B M	Disinfect/ flush after repairs.	Contaminants don't enter supply.	See Council Procedure.	
11	Low flows and dead-end mains can lead to stagnant water, deposits of sediment, and loss of Chlorine – causing tastes & odours, dirty slugs of water to consumers and constrictions reduce supply capacity.	4 dead ends with flushing valves at each end. Council flushes every 1 to 2 months. Water is clear from the start of flushing.	1	D	L	Obtain plans from LALC or produce plans of water supply features.					
12						Advise Council staff to flush based on water tests rather than time intervals.					
13	Floods may introduce contaminants, particularly through air valves and hydrants.	Water supply regularly goes under in king tides and floods. No issues.	1	B	L	No action.					
14	High temperatures (> 25 C) in above ground pipes can grow Legionella, Nagleria & mycobacteria – causing serious illness through inhalation or contact.	N/A.									
15	Cement pipes can leach, especially during low flows, causing high pH to irritate eyes and skin; and damage house plumbing.	N/A. No cement lined pipes in community.									
16	Unauthorised access can damage infrastructure & contaminate water mains.	N/A. Nothing accessible and no history of issues.									

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Cabbage Tree Island Water & Sewerage

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls & Comments	Consequence	Likelihood	Risk Score	Additional Controls (if existing controls are insufficient)	Operation, Maintenance & Monitoring			Who	When					
							Activity	Target or Critical Limit (Bold indicates a CCP)	Corrective Action							
17	Poorly designed and maintained fire fighting systems can damage mains and fail in fire fighting situations.	Hydrants installed but not sure if sufficient. Rural Fire service at Wardell attends fires.	2	C	M	Check hydrant coverage so that max. of 60m from hydrant to 1m inside house.										
18																
19																
20											Regularly test hydrants. (See BO)	B O	Test hydrant flow & pressure.	Flow > 10 L/s @ 150 kpa.	Repair or replace.	
Consumers																
21	Individuals not aware how to register their concerns.	Community will now be asked to contact Council in the first instance instead of housing provider.	2	C	M	Community education program by Health will include contacting Council first about all water & sewerage issues.										
22																
23	Community concerned about water rates being higher in village than in town and/or separate property bills are not available to residents.	Some concern, though usage seems about right. Data logger will help identify problems earlier	1	B	L	Council check residents at are not charged more those in town.										
24																
25											Local labour to paint house numbers on gutters. Council supply paint and stencils.					
26											Read meters at each property and send the collective bill to LALC with details of each property.		Read all meters. Copy to LALC.	Meters good & LALC knows usage.	Repair/replace immediately.	LWU Op

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Cabbage Tree Island Water & Sewerage

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls & Comments	Consequence	Likelihood	Risk Score	Additional Controls (if existing controls are insufficient)	Operation, Maintenance & Monitoring			Who	When
							Activity	Target or Critical Limit (Bold indicates a CCP)	Corrective Action		
27	Community not comfortable with some aspects of water services, so they don't get the full benefit from the service.	Generally okay with Council's services.				Council will send an information sheet to help residents read water meters to detect leaks inside their properties.					
28						LALC consider doing regular meter checks to detect leaks inside houses.					
29						Council advise LALC on flow restriction policy for people who don't pay water bills.					
30						LALC decide if they will adopt Council's flow restriction policy.					
31	Large consumers threaten to exceed the scheme's capacity to supply water at critical times.	N/A									
Visitor season & events											
32	Insufficient water to meet increased demands – leading to poor hygiene and dehydration.	N/A.									
33	Increased usage may dislodge biofilm and re-suspend sediments – leading to taste, odours and discoloured water.	N/A									

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Cabbage Tree Island Water & Sewerage

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls & Comments	Consequence Likelihood Risk Score	Additional Controls (if existing controls are insufficient)	Operation, Maintenance & Monitoring			Who	When	
					Activity	Target or Critical Limit (Bold indicates a CCP)	Corrective Action			
Water Tests										
34	Operational tests.			Operational tests. (See BT).	B T	Water quality in Reticulation	Chlorine 0.2-2.0, pH 6.5-8.5, <1 NTU	Refer to CCP-1 for details.	EHO	Weekly
35	Verification tests			Verification tests under the NSW Health Drinking Water Monitoring Program. (See BV, BW, BY, BZ & CA)	BV	Radiological - 2 yearly for groundwater or 5 yearly for surface water.	See Sect 1.3.4 of Drinking Water Monitoring Booklet	Contact NSW Health	EHO	5 Yearly
36					BW	Microbiological	Routine schedule.	Contact NSW Health	EHO	Monthly
37					BY	Chemical mthly for 12, then 6 mthly	Routine schedule.	Contact NSW Health	EHO	Monthly
38					BZ	Pesticides mthly for 12, then tba.	Routine schedule.	Contact NSW Health	EHO	Monthly
39					CA	Disinfection by-products, mthly for 12mths then tba.	Routine schedule.	Contact NSW Health	EHO	Monthly
40	Management			Set 1 st meeting date		Attend 4-mthly meetings.	See App B for Agenda	Advise early if unavailable.	All	4-mthly

1.4 Critical Control Points (CCPs)

See **Glossary** for definition of CCP.

No requirements were identified as specific to this scheme.

Table 11: Summary of CCPs

LOCATION	CCP NUMBER	CCP & CONTROL MEASURE (Examples)
Treatment	CCP-1	Disinfection: to control free chlorine levels to limit growth of microbiological contaminants to safe levels.

Note: Some of the above CCP's were developed from Riverina Water's Water Quality Safety Plan.

Table 12: Details of CCPs

No	CCP	Monitoring	Critical Limits	Corrective Action
1	<p><u>Location:</u> Treatment</p> <p><u>CCP:</u> Control of Chlorine dosing. Too low may result in contamination. Too high may result in taste and discomfort for consumers.</p>	<p><u>What:</u> Chlorine residual, ph & turbidity ,temp, dissolved oxygen, conductivity, microbiological – total coliforms, e-coli, total plate count.</p> <p><u>Who:</u> LWU Health</p> <p><u>Where:</u> Bridge & School.</p> <p><u>When:</u> Weekly</p> <p><u>Records:</u> Log sheets Lab analysis results</p> <p><u>How:</u> Pallin test photometer Lovibond photometer Horiba u-10 water quality checker Ballina Council's Environmental Health Officers</p>	<p>Free Chlorine residual. <u>Limits:</u> 0.2 – 2.0 mg/l <u>Target:</u> 0.4 mg/l</p> <p>pH <u>Limits:</u> 6.5 to 8.5</p> <p>Turbidity <u>Limit:</u> < 5 NTU <u>Target:</u> <1 NTU</p>	<p><u>When:</u> As soon as limits are breached.</p> <p><u>What:</u></p> <ol style="list-style-type: none"> 1. Retest. 2. Test reservoir. 3. If Reservoir test fails, add Hypo to reservoir and test at treatment plant. 4. Flush all 4 dead ends to bring correct Chlorine, & water quality into the mains. <p><u>Who:</u> LWU Operator.</p> <p><u>Records:</u> Log sheet and non-conformance report.</p>

1.5 Operational Procedures

No requirements were identified as specific to this scheme.

1.6 Equipment Capability & Maintenance

No requirements were identified as specific to this scheme.

Table 13: Water Supply Asset Management Table

Component	Amount	Date Built	Design Life	Estimated Renewal Date	Estimated Renewal Cost	Comments
Reticulation Pipes	1200m	1977	80 yrs	2047	\$10,000	Today's cost
Fire Hydrants	11	1977	40yrs	2017	\$3025	This costs includes a new hydrant lid
Meter Assemblies	29	2005	10-12 yrs	2015	\$2000	

1.7 Chemicals and Materials

No requirements were identified as specific to this scheme.

1.8 Verification Monitoring

Verification monitoring is used to assess the overall performance of the system and, ultimately, the quality of the drinking water being supplied to consumers.

Verification provides confidence for consumers about the quality of the water and it is a useful indication of problems within the water supply system that may need correction or an incident/emergency response.

The monitoring program should be developed in consultation with the local Public Health Unit. Refer to Table 3 for the general requirements.

The person responsible for sampling is nominated in Table 3. The person must be trained how to take the samples, package them and send them to the laboratory in a timely manner.

The service provider/water utility must ensure that the laboratory will notify the local Public Health Unit immediately of any monitoring result that exceeds a health guideline value.

2 Sewerage

2.1 System Checks

Table 14: Indicative NSW Sewage Design Loadings

Characteristic	Value	Unit		Value	Unit
Population			Loading Rates per EP		
Current Permanent Population	200	EP	Average Dry Weather Flow (ADWF)	240	L/EP/d
Future Permanent Population	200	EP	Peak Wet Weather Flow (PWWF)		
Peak population (e.g. events)	300	EP	- VC & RC pipe schemes	2,100	L/EP/d
Schools, Office, etc	40	EP	Biological Loading Rate (BOD5)	70	g/EP/d
Adopted Design Population	240	EP	Suspended Solids Rate (SS)	60	g/EP/d
Tenements			Total Nitrogen Rate (TN)	13	g/EP/d
Adopted Design Tenements	25	ET	Total Phosphorous Rate	2.8	g/EP/d

Table 15: Indicative Design Checks (Sewerage)

Scheme Element	Actual	Indicative Guide*	Comments
Main Pump Station			
Minimum PWWF flow allowance	Far exceeding pump capacity of 5.1 L/s	6.4 L/s (each pump) for 9 x ADWF for VC Pipes	Pump out truck appears to provide sufficient additional capacity to meet PWWF.
ADWF pump run time	P/S 1 - 0.9 hrs P/S 2 - 6.0 hrs	3 - 5 hrs/day (typically)	(AWDF / pump flow rate)
Duty/Standby	yes	Yes, automatic alternating.	
Rising Main (PS to STP)			
Cleaning velocity	5.1 L/s or 0.53 m/s	0.9 m/s desirable for short distances – N/A. 0.6 m/s min. (5.7 L/s - single pump flush 2.8 L/s - dual pump flush.)	Assumed 110 mm ID

* For more detailed information, refer to Manual of Practice – Sewer Design, Public Works 1987 and Manual of Practice – Pump Station Design, 1986. Also, refer to Appendix H for Sewage Flow Monitoring Records.

Conclusion

The sewerage system has been CCTV'ed and smoke tested and found to be good condition. There are however numerous entry points for minor floods and king tides to overload the pumps and cause sewage spills. (Refer to Section 2.2 of the Risk Assessment.)

It may take considerable time to repair all the flood entry points. In the meantime, some simple options may be found in the existing Flood Management Plan, such as covering manholes and overflow relief gullies with plastic sheets and sandbags.

2.2 Risk Assessment

The table below and the Risk Matrix in Appendix C are used to evaluate the risk for Hazardous Events with Existing Controls. If Additional Controls are considered necessary, they are noted and recurring actions are detailed in the Operation, Maintenance & Monitoring Schedule.

Table 16: Sewerage – Hazardous Events & Controls

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls	Consequence	Likelihood	Risk Score	Additional Controls (If existing controls are insufficient)	Operation, Maintenance & Monitoring Schedule			Who	When
							No.	Activity	Target or Critical Limit (Bold indicates CCP)		
Households											
1	Roof stormwater is incorrectly plumbed to the sewer leading to overflows of sewage in homes and public areas.	Stormwater appears to be incorrectly plumbed to sewer on all houses, resulting in overflows inside houses.	4	C	V H	Smoke test or pour water down roof downpipes and watch for flow in boundary shafts.					
2						Determine where house stormwater should be directed after it is disconnected from the sewer.					
3	Disposal of inappropriate items in toilets, sinks & shafts - leading to blocked pipes, damaged pumps and overflows of raw sewage in homes and public areas.	Blockages do occur, especially where there are children.	4	C	V H	Check Boundary Shafts & overflow relief gullies are properly installed & secure. (See SA)	SA	Check Boundary Shafts & ORG.	As per Plumbing Code.	Repair.	LWU Op. Annually
Visitor Events & Transient Populations											
6	Insufficient hydraulic or treatment capacity to meet increased demands - leading to sewer overflows and/or discharge of poorly treated effluent to the environment.	N/A									

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Cabbage Tree Island Water & Sewerage

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls	Consequence	Likelihood	Risk Score	Additional Controls (If existing controls are insufficient)	Operation, Maintenance & Monitoring Schedule			Who	When
							No.	Activity	Target or Critical Limit (Bold indicates CCP)		
Business & Industry											
7	Disposal of inappropriate wastes to sewer, causing: Health and safety risks; Infrastructure damage; Loss of treatment; Environmental harm.	N/A									
8	Chemical spills into sewers, especially from mining and industries – like wool scouring, tanneries and, automotive industries that store or transport chemicals nearby. The spills may lead to health & safety risks to BSC Staff and the Public, plus damage the sewerage system & kill essential bacteria at STP.	N/A									
Collection Mains											
9	Mains become blocked from ingress of roots, or obstruction or pipe collapse, especially after rain, causing overflow of access holes into public areas. Tree roots are expected to be in many sections of sewer. Sewage backs up into houses quite often, irrespective of weather.	VC pipes are old and expected to be in poor condition.	4	CVH	Clean & CCTV gravity mains & pipes to houses.						
10					If CCTV shows the sewers are as poor as expected, provide cost estimates of lining versus new pipes, including pipes up to the houses.						
11					Inspect inside all manholes for structural integrity & water tightness, then provide cost proposal for repairs/upgrade.						
12					Regularly inspect inside manholes for structural integrity & water tightness.	SI	Internally inspect all manholes.	No roots or damage. Sealed against inflow & infiltration.	Repair as required.	LWU Op.	Annually

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Cabbage Tree Island Water & Sewerage

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls	Consequence	Likelihood	Risk Score	Additional Controls (If existing controls are insufficient)	Operation, Maintenance & Monitoring Schedule			Who	When	
							No.	Activity	Target or Critical Limit (Bold indicates CCP)			Corrective Action
13	Floods or rising rivers overload system, causing overflows of untreated sewage.	<p>Twice a year there are king tides which flood low lying areas.</p> <p>Almost yearly, floods inundate large areas of house yards.</p> <p>Most floods appear to come up the drainage pipes. Only larger flood come over land.</p> <p>House built up off the ground for flood protections.</p>	4	C	V	Investigate raising overflow relief gullies as high as possible or installing non-return flaps, taking into account floor wastes and sinks in ground level laundries.						
14							Although outside the Water & Sewerage Program a Flood & Stormwater Management Plan should be considered to avoid erosion of creek banks from uncontrolled run-off and unnatural flooding of Island from the Creek backing up stormwater pipes.					
15							<p>Include in the Plan:</p> <ul style="list-style-type: none"> o A review of stormwater infrastructure to control stormwater from houses, roads and general run-off o on-going maintenance to keep stormwater pipes and drains clear of debris and safe for children, o Actions prior to flood to avoid unnatural flooding from the Creek backing up stormwater pipes before natural overland flooding. 					
						Take levels of all manholes, overflow relief gullies and stormwater pipes to help decide on the best approach to protect the sewers from ingress of maximum flood levels.						

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Cabbage Tree Island Water & Sewerage

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls	Consequence	Likelihood	Risk Score	Additional Controls (If existing controls are insufficient)	Operation, Maintenance & Monitoring Schedule			Who	When
							No.	Activity	Target or Critical Limit (Bold indicates CCP)		
16						Investigate the most practical option between: 1.flood-proofing man holes; 2.raising man holes to maximum probable flood level. 3.having enough warning to plastic sheet & sand bag manholes.					
17						Investigate & if feasible, disconnect laundry floor wastes from the sewer.					
18						Investigate & if feasible, fit a flap inside overflow relief gullies to stop flood water					
19						Seal manholes and overflow relief gullies with plastic sheets & sand bags. Plug laundry sinks and fill with water.		Plastic sheet & sand bag manholes, ORG and laundry floor wastes. Plug laundry sinks and fill with water.	Sewer mains are completely sealed against floods.	See CCP-1	
20	Poor security of access points, especially at secluded locations, potentially leading to inappropriate disposal of wastes, vandalism or sabotage.	Man hole lids not tampered with, except by grass slasher.	4	C	V H	Roundup & whipper snip around manholes to reduce slasher damage.					
21		Not much that can be damaged.				Explain to slasher drivers dangers to children and spread of sewage in floods.					
22	Deterioration of sewers leading to rising ground water, ground collapses, damage to roads & buildings, excessive wear on pumps from grit, hydraulic overload of STP from excessive infiltration.	Mains believed to be in a poor state. See above. Not aware of collapsed mains. Ground water is naturally high, so leaky sewers won't add to groundwater.	1	D	L	No Action.					

11.6 **Cabbage Tree Island - Water and Wastewater Agreement.DOC**

Cabbage Tree Island Water & Sewerage

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls	Consequence	Likelihood	Risk Score	Additional Controls (If existing controls are insufficient)	Operation, Maintenance & Monitoring Schedule			Who	When
							No.	Activity	Target or Critical Limit (Bold indicates CCP)		
Pump Stations											
23	Pump malfunction due to failure of equipment or power supply or unauthorised access.	Up to 24 hr power outage. Council has pumpout trucks. Pumps have electrical connections for Council to connect generators.	2	C	M	Check there actually is sufficient response time between high level alarm being triggered and sewage begins overflowing from lowest point in system.					
24		1.8m dia x 5 m deep = 15 kL = 6 hrs @ AWWF				Regularly check equipment, alarms & security		Hose down pump well	No fats or sediments.	Drain pump well & clean.	Weekly
25		Each pump handles PWWF in case one pump fails.					SK	Check security, pits, probes, pumps & pipes.	Look & sound okay. No leaks.	Repair.	LWU Op. Weekly
26		Telemetry is installed for high level alarm and power failures as standard throughout Shire.					SL	Review pump hrs, amps & starts.	Hrs < 5 /day, amps < 5, starts < 6	Check and repair.	LWU Op. Daily
27	Public safety due to inadequate barriers around the pump stations, potentially leading to severe injury or death.	Children are regularly seen on top of the elevated pump stations. Children have been seen climbing along the overhead powerlines (connected to the PS) and crawling under the concrete slab.				Remove ladders or install covers over the ladders.					
28						Pay locals to give PS a new coat of paint.					
29						Lay power supply underground.					
30						Erect a pool fence or heavy duty fly mesh around top of PS.					
31						Relocate brackets around vent pipes to remove foot holds.					
32						Backfill holes under the concrete slabs with sand.					
33						Seal holes in the wall of the main pump station.					

11.6 Cabbage Tree Island - Water and Wastewater Agreement.DOC

Cabbage Tree Island Water & Sewerage

Ref.	Hazardous Event (An event exposing a risk.)	Existing Controls	Consequence	Likelihood	Risk Score	Additional Controls (If existing controls are insufficient)	Operation, Maintenance & Monitoring Schedule			Who	When	
							No.	Activity	Target or Critical Limit (Bold indicates CCP)			Corrective Action
34	Insufficient capacity to manage peak wet weather flows (PWWF) due worn pump or increased inflow and infiltration or pump on/off switches too high.	Extremely high inflow and infiltration quickly swamps the PS, requiring a tanker to cart away excess. Sewage spreads out underneath the house closest to the main pump station. 1.8m dia x 5 m deep = 15 kL = 40 mins @ PWWF.				Mark Pump Stations with No's A & B.						
35						Reduce Inflow & Infiltration by re-lining or replacing mains. Seal all possible entry points for water. See above in Collection Mains.						
36						If feasible, increase pump capacity by either: 3. automatically running both main pumps together, or 4. installing VSD pumps with higher flows.						
37						If larger pumps and reduction of I/I is insufficient to increase the warning time from 40 minutes to a manageable time, e.g. 4 to 6 hrs, then increase the storage capacity of the main pump station.						
38						Monitor high level alarm to detect when inflows exceed pump capacity.	SN	Monitor high level alarm.	High level is not exceeded, except in extreme wet weather.	Clean up spill. Investigate and truck pump out or generator.	LWU Op.	Event
39						Do regular capacity checks on pumps.	SO	Drop test & record pump rate.	Pump rate stays > Design PWWF.	Repair or upgrade.	LWU Op.	Annually

2.3 Critical Control Points

A CCP is defined as an activity, procedure or process at which control can be applied and which is essential to prevent a hazard or reduce it to an acceptable level. Refer to Glossary for more detail.

Table 17: Summary of CCPs

Location	CCP Number	CCP & Control Measure
Catchment	CCP-1	Flood Protection: the ability to block or re-direct high water from entering sewers during flood events.
Pump Station	CCP-2	Overflow prevention: the ability to prevent the main pump station from causing overflows of sewage.

Table 18: Details of CCPs

No	CCP	Monitoring	Critical Limits	Corrective Action
2	<p><u>Location:</u> Catchment</p> <p><u>CCP:</u> Flood Protection - to avoid flood water from entering the sewerage system and causing sewage overflows.</p>	<p><u>What:</u> Flood forecasts from SES</p> <p><u>Who:</u> LWU Operator</p> <p><u>Where:</u> SES in Ballina.</p> <p><u>When:</u> River level reaches 3.35 m at Woodburn, depending on tides.</p> <p><u>Records:</u> N/A</p> <p><u>How:</u> Radio and phone SES.</p>	<p><u>Limit:</u> Flood warning is issued that may affect Cabbage Tree Island.</p>	<p><u>When:</u> Flood warning is issued.</p> <p><u>What:</u> 1) Seal manholes; overflow relief gullies; and laundry floor wastes with plastic sheets & sand bags. Plug and fill laundry sinks with water.</p> <p>2) Pump down pump stations & bring pump out tanker to site.</p> <p>3) If accessible, inspect pump stations daily during floods for sewage level, flood level, pump hours, starts and amps.</p> <p>4) Monitor flood recession to cleanup any sewage overflows.</p> <p><u>Where:</u> all manholes, overflow relief gullies, laundries and pump stations.</p> <p><u>Who:</u> LWU Operator</p> <p><u>Records:</u> Log Book</p>
2	<p><u>Location:</u> Main Pump Station</p> <p><u>CCP:</u> To avoid overflows that may affect community health and cause environmental damage.</p>	<p><u>What:</u> Sewage level</p> <p><u>Who:</u> LWU Operator</p> <p><u>Where:</u> 1) Remotely 2) At Pump Station.</p> <p><u>When:</u> 1) Continuously 2) Weekly</p> <p><u>Records:</u> Log Book</p> <p><u>How:</u> 1) Telemetry 2) Visually</p>	<p><u>Limit:</u> Sewage level stays below high level alarm.</p> <p>(Alarm should be set as low as possible without triggering during moderate storm events).</p>	<p><u>When:</u> Limit is reached.</p> <p><u>What:</u> 1) Visit site to determine problem. 2) If problem cannot be fixed quickly, call in tanker or generator. 3) Advise Health & cleanup spills.</p> <p><u>Who:</u> LWU Operator</p> <p><u>Records:</u> Log Book</p>

2.4 Operational Procedures

No requirements were identified as specific to this scheme.

2.5 Equipment Capability & Maintenance

Refer to Operation and Maintenance Manual and the following table.

Table 19: Equipment Capability & Maintenance Schedule

No	Equipment	Activity	Frequency	Issues/Notes
1	Main Pumps	Drop down test	12 months or when new pump is installed	
		Minor service	6 months	
		Major service	1.5 years	

Table 20: Sewerage Asset Management Table

Component	Amount	Date Built	Design Life	Estimated Renewal Date	Estimated Renewal Cost	Comments
Collection Mains	990m	1977	30 years	Possibly Now		Need to investigate the best option if renewal required after CCTV inspection
Pump Station	2	1977	Pumps 10 years Guide rails 5 years Reflux valves 8 years Internal rising mains 10-15 years	Now	\$40,000 Includes 4 new pumps, guide rails, Reflux Valves, Internal rising mains	Pump station structure will not need replacing. Pumps, guide rails, internal rising mains and reflux valves are the main components that will.

Note any future improvements (e.g. upgrade of effluent reuse scheme):

3 General

3.1 Customer Satisfaction

Monitoring of customer satisfaction can provide valuable information on potential problems that may not be obvious from normal monitoring.

Issues raised by the community, and the response given back to them, need to be recorded in order to assess types and patterns of issues over time.

The Ballina Shire Council will be the 'First Point of Contact' for the community and the 'Manager of the Issues Register'.

The Ballina SC will provide a copy of the Issues Register at the 4-monthly meetings.

3.2 Short-term Evaluation of Results

Operators will use the Critical Limits and Target Parameters to evaluate results.

Operators will immediately advise Council's Manager Water Sewerage & Waste of:

- All exceedances of a Critical Limit;
- 3 near exceedances of Critical Limits;
- Regular exceedances of Target Parameters;
- any potential threat to public health or the environment.

Operators will respond as per the Corrective Action. Council's Manager Water Sewerage & Waste will determine if further action is required or invoke Incident or Emergency Plans.

Council's Manager Water Sewerage & Waste will immediately contact the relevant authority to outline the exceedance value and the Corrective Action. Senior management will also contact the authorities, if further action is proposed.

3.3 Management of Incidents

Background

Some events can not be predicted or controlled. Or, they are too costly and unlikely to justify installation of preventive measures.

Examples of emergency situations may include:

- Chemical spills in the catchment or incorrect dosing at the treatment plant;
- Equipment breakdown or failure;
- Prolonged power outage;
- Extreme weather events, like flash floods causing contamination of water supply;
- Natural disasters, like earthquakes and lightning damage;
- Human causes, like serious error, sabotage or strikes.

Incident & Emergency Response

The service provider/water utility should review preparedness to manage incidents. Effective communication must be maintained between the community, service provider, the Public Health Unit and NOW.

Refer to Water Utility's Disaster Management Plan and NSW Health's website for the following Response Protocols.

- Response Protocol – Physical and Chemical Quality
- Response Protocol – Microbiological Quality.

3.4 Employee awareness and training

No requirements were identified as specific to this scheme.

3.5 Community Consultation & Communication

The Local Aboriginal Land Council – CEO will, in consultation with the Service Provider, be responsible for all Community Consultation and Communication.

The Service Provider is required to:

- o LALC – CEO induct new staff before working on Cabbage Tree Island;
- o Council notify customers by door knock or flyer under the door 2 days prior to short disruptions to services and 2 days prior to an extended period of works;
- o Obtain clearance from the LALC-CEO and resident prior to entering a property.

Refer to Tables 3 and 5 for specific communication issues identified during the workshop.

3.6 Medium & long-term evaluation

Activity	Frequency
NOW Inspector conduct site Audits	4 - monthly
Local Public Health Unit review & advise verification monitoring results prior to audit.	4 - monthly
LALC, LWU, & NOW meet to discuss issues and actions	4 - monthly
Document Updates - Refer to Page 6.	Annual

Appendix A – Community Issues Register (example)

Community Issues Register

Time & Date	Name & Phone	Issue	Response
9:30 am Fri 12/2/2010	John Smith 0406 531 687	Dirty water at 25 Garden Place.	Council saw John's wife and flushed mains.
5:00 pm Tues 16/2/2010	Grace Jones Daughter's mobile 0777 888 999	Sewer overflowed at 36 Eden Court.	Council visited Grace on Wed. Rodded sewer and found tree roots. Council now plan to root trench the offending tree.

e

Appendix B – Agenda/Minute for 4-monthly meetings

Agenda/Minutes for 4-monthly Meetings	
Time:	
Date:	
Venue:	
Attendees:	
Apologies	
Confirmation of previous minutes	
Water Supply	
Previous Action Sheet (NOW)	
Review Issues Register (BSC)	
Health issues (Health)	
Site Inspection Report (NOW)	
Current issues (BSC)	
Community Consultation (LALC)	
Amendments to Mgt Plan (BSC)	
Sewerage	
Previous Action Sheet (NOW)	
Review Issues Register (BSC)	
Health issues (Health)	
Site Inspection Report (NOW)	
Current issues (BSC)	
Community Consultation (LALC)	
Amendments to Mgt Plan (BSC)	
Other Business	
Set next meeting date, time & venue	

Typical attachments to minutes:

- NOW Inspector's Report & covering letter
- Copy of Issues Register for last 4 months
- Updated Action Sheet for Water Supply
- Updated Action Sheet for Sewerage
- Email from NSW Health

Core Invitees: Veronica Williams (LALC), Andrew Swan (BSC), Terry Call (NOW Inspector).

Other Invitees (optional to attend): Rod Dawson (BSC), Geoff Sullivan (Health)

Distribution List: As above, plus Thangamany Balajaru (NOW), Sandy Leask (Health).

Appendix C - Risk Matrix

Table 21: Risk Matrix

Likelihood	Consequence				
	Insignificant <i>(Almost undetectable)</i> 1	Minor <i>(Minor impact on small number of people)</i> 2	Moderate <i>(Minor impact on large number of people)</i> 3	Major <i>(Major impact on small number of people)</i> 4	Catastrophic <i>(Major impact on large number of people)</i> 5
Almost certain <i>(Weekly or daily)</i> A	Moderate	High	Very High	Very High	Very High
Likely <i>(Monthly)</i> B	Moderate	High	High	Very High	Very High
Possible <i>(yearly)</i> C	Low	Moderate	High	Very High	Very High
Unlikely <i>(every 10 years)</i> D	Low	Low	Moderate	High	Very High
Rare <i>(>every 10 years)</i> E	Low	Low	Moderate	High	High

Appendix D – Monthly Record Sheet

Community: _____ Month: _____ Year: _____

Completed by Name: _____ Organisation: _____

Date	Operational Monitoring Results	Work done by Water Utility, Community or Contractors Or Interruptions to Service
	Sample Site	
	pH	
	Free chlorine	
	Turbidity	
	Sample Site	
	pH	
	Free chlorine	
	Turbidity	
	Sample Site	
	pH	
	Free chlorine	
	Turbidity	
	Sample Site	
	pH	
	Free chlorine	
	Turbidity	
	Sample Site	
	pH	
	Free chlorine	
	Turbidity	
	Sample Site	
	pH	
	Free chlorine	
	Turbidity	
	Sample Site	
	pH	
	Free chlorine	
	Turbidity	

General comments on water and sewerage systems

.....

At end of each month, fax or email to (02) 9816 0377 or WATERQUAL@doh.health.nsw.gov.au

Any questions contact NSW Health Water Unit on (02) 9816 0589

Instructions for Completing the Monthly Record Sheet

Please record information in the monthly record sheet:

- 1) During each visit to a community
- 2) When work is reported to the Local Water Utility/Shoalhaven Water by the community or another agency

Please ensure notes are made on all work that has been carried out. Works may include the installation or commissioning of chlorination equipment, installation of new sewer pumps, flushing mains, cleaning reservoirs and servicing AWTS or any other works.

Be sure to record who has carried out the work and when it was completed.

Please use additional pages if required.

If you wish to modify this form please contact the NSW Health Water Unit on (02) 9816 0589 or by email WATERQUAL@doh.health.nsw.gov.au.