

**POLICY NAME:** (REVIEW)  
PRESSURE SEWER

**POLICY REF:** P08

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### OBJECTIVE

This policy provides a framework for the provision of pressure sewer systems within the Shire of Ballina, where the use of such systems is justified.

In particular it details the responsibilities of Council, developers and individual property owners with respect to the construction, maintenance and operation of associated infrastructure and provides a basic guide to Council's expectations from such systems.

### BACKGROUND

Pressure sewer refers to a system of providing sewer services to developed areas, which involves the installation of separate, small sewage pump stations to each property or dwelling. These pump stations are interconnected by a network of small diameter, pressurised pipelines which transfer sewage to a nominated discharge point, usually to a point in Council's existing sewer system. A more detailed explanation of what constitutes a formal pressure sewer system is contained in Attachment No 4 is detailed in the definitions below. These systems should not be confused with private pump up arrangements.

Pressure sewer systems provide an alternative to conventional gravity sewer systems. Gravity sewer systems service properties by a network of large diameter gravity pipelines. This network of gravity pipelines usually discharges to a larger, centralised sewage pump station, serving a large number of properties, which transfers sewage further within the overall sewer system.

As a general rule, gravity sewer systems are preferred to pressure sewer systems in Ballina Shire. However, pressure sewer systems have considerable merit in providing opportunity to sewer areas in which the provision of conventional gravity sewer systems is technically, or economically not feasible.

The use of pressure sewer systems raises several unique issues not normally associated with the operation of conventional sewer schemes. Of prime importance is the need to define responsibilities for the maintenance and operation of the infrastructure (i.e.; small pump stations and related items) installed on individual private properties.

### DEFINITIONS

#### Pressure Sewer System

- An individual pressure sewer pumping unit usually located on each property and draining the individual property.
- Connection of the pumping units to Council's pressure sewer reticulation system.
- Valving that allows the property to be isolated from the system and also provides flow protection, preventing flow from other properties entering into the individual system under pressure.
- A reticulation system capable of supporting a number of such individual pumping units and conveying the domestic sewage to the nominated discharged point in a time frame that minimises any odour generation. This reticulation system will be operating under pressure, not gravity.

- Pumping units that have been specifically designated as pressure sewer pumping units within the wider water industry.

In pressure sewer systems the household (or other) sewer drains flow by gravity into the pumping unit. From the pumping unit, flows are then moved to the designated system discharge point via the collective pressure generated by the pumps in the property pumping units. The pump will also contain a grinder to prevent blockages happening in the pipe systems, and an alarm system to warn the resident that the unit is not operating within preset parameters. Typically these systems are based on much smaller pipelines, laid at minimum depth with no requirement for grade, which do not contain manholes, lampholes, or other conventional sewer system fixtures and fittings.

Council will only accept the handover of systems specifically designed as a pressure sewer system and systems that have been operated at other locations as full pressure sewer system. Newer technology will be expected to overcome any lack of proven performance, with extended warranties.

### SCOPE OF POLICY

This policy applies to:

- Council employees
- Developers/Builders
- Individual Property Owners (see section 2 for exceptions).

### RELATED DOCUMENTATION

Related legislation, policies and documents:

- Environmental Planning and Assessment Act 1979.
- Local Government Act 1993
- The Wastewater Services Association Pressure Sewer Code (WSA – 007)
- Ballina Shire Council Pressure Sewer Guidelines
- Backlog Sewer Program Policy
- Ballina Shire Technical Specification

### POLICY

#### 1. What does this policy apply to?

This policy applies to the design, construction, maintenance and operation of pressure sewer systems within the Ballina Shire.

#### 2. Where does this policy apply?

This policy applies to the whole of the Ballina Shire, with the following exceptions:

- Riverbend manufactured home estate, Lot 12 DP 1092324, Corner Riverbend Drive and Pacific Highway, Ballina.
- Sovereign Gardens aged accommodation development, Lot 10 DP 1105478, North Creek Road, North Ballina.

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- 'Clark Street' industrial estate, (property details listed in table below).

<i>Lots</i>	<i>DP Number</i>
3,4,10,11,12,22,23,24,25,26	240895
29,30,31,32	244892
17,18	563852
37,38	590312
39,40	591547
41,42	607329
33,34	706854
161,162	788077
1	810524
40	827376

These three areas have previous development consent, to allow pressure sewer systems.

### 3. What factors influence the choice of whether pressure or gravity sewer systems are provided to a given area or development; and how are pressure sewer systems designed?

Factors determining the choice of whether pressure or gravity sewer systems are provided to a given area or development, are outlined within a separate Council document entitled "Ballina Shire Council Pressure Sewer Guidelines". This document also provides details on how pressure sewer systems are to be designed.

**Even though pressure sewer may, in some locations, be a lower cost technology, this will not necessarily mandate its use, as other factors may mitigate against its usage.** Accordingly Subdividers/ Developers proposing to use this technology will need to convince Council as to why this technology should be used in their particular application. The preferred option will always be to install a gravity sewer system in all cases where gravity sewer is able to be installed, even where the cost to do so is higher.

### 4. What are the different components of a pressure sewer scheme?

A pressure sewer system comprises the following elements, which need to be understood in determining the roles to be played by all bodies in relation to the ongoing construction, operation and maintenance of these systems:

- A discharge point that will be nominated by Council.
- A reticulation or common pipe collection system that comprises the pipe network that links this discharge point to the properties served and includes the connection of the individual properties to these reticulation pipelines. Thus the termination point on the property for the reticulation system will be the boundary kit (including the same).
- The on property works that includes the installation of the pumping unit and all of the connections required to make it operational but not including the connection of the existing property sewer system to the pumping unit.

### 5. The Roles of Council and the Home Owner in Connecting Existing Properties to a Pressure Sewer System

The Council and Property Owner's roles may change in respect to the differing applications of pressure sewer systems as set out below:

#### 5.1 Unsewered Existing Urban Developments

Council may elect to connect unsewered areas to its sewerage schemes, using pressure sewer systems, as part of its backlog sewer program. At present this is limited to approximately 130 properties in six distinct precincts. Further details, relating to the definition of these precincts and responsibilities for the construction of pressure sewer infrastructure as part of Council's backlog sewer program; are outlined within a separate policy entitled "Ballina Shire Council - Backlog Sewer Program Policy".

#### 5.2 To Service Unsewered Properties in an Existing Reticulated Area.

The Owner/s of any unsewered properties that may exist in a sewerage area, can apply to Council to be considered for connection to that reticulated system using a pressure sewer unit. Where this is possible and a property owner has been paying an availability sewer rate, due to the proximity of the other sewerage system, Council will provide the sewerage system up to and including the pump well at no cost to the property owner. The reason for this is that the property owner has been paying the availability sewer rate and is therefore entitled to be connected to the sewer system.

The property owner is then required to meet the on property costs to connect to the pump well and would need to approach an accredited installer to carry out these works.

Where the property owners have not been paying sewer rates they will be required to meet all costs to carry out the installation including the extension of any reticulated sewer mains and any connection fees as per Council's Management Plan Fees and Charges. If more than one property is being serviced, then the reticulation costs will be shared equally amongst all of the participants.

Pressure sewer will only be accepted as an option where it is impossible or impractical to install a gravity system. Council will be the sole determiner of this.

The process for applying to service an unsewered property with a pressure sewer system, is shown diagrammatically in figure A1 in Attachment 1.

#### 5.3 To Replace Private "Pump Ups"

Any existing property that discharges into a reticulated main through a private pumping arrangement (pump up) may continue to operate their private system and is not compelled to change to the pressure sewer systems, unless within the identified backlog sewer area as per Council's backlog sewer policy. These pump ups are not covered by this policy and remain the responsibility of the property owner and resident.

Property owners may apply to convert their existing private system to a Council approved pumping unit that will be maintained by Council. Property owners will be responsible for all costs associated with the changeover including any reticulation mains extension that may have been required.

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Once installed, Council will be responsible for the ongoing maintenance up to and including the individual Sewage Pump Stations on each property, inclusive of the pump well, pump, electrical control cabinet and associated fittings.

#### **5.4 Extension of the Existing Reticulated System**

Council will not, as a general principle, extend the reticulated sewer system beyond the boundaries of the designated urban area. The only exceptions to this will be where there are specific and unique reasons such as for public health. Should such an extension be allowed the property owner/s will in these instances meet both the costs of the extension of the reticulation system to their property /properties, as well as the "on property" costs to be incurred and any connection fees as per Council's Management Plan Fees and Charges (including Section 64 Sewer Charges).

Council will design the extension to the mains as part of the process and will carry out these works invoicing the property owners involved. The property owners will organise the on property works.

#### **5.5 The Property Owner's Role - All Instances**

The property owner will be required in all instances, other than those detailed in Council's backlog sewer policy (refer to section 5.1) to arrange for the on property installation of the pumping unit to be carried out by an installer who has been formally accredited by the technology supplier so that all of the warranties and guarantees attached to the pumping unit will not be voided. Council will maintain a list of these "accredited" installers for the information of property owners.

The property owner will also be required to meet the costs of connecting the pressure sewer pumping unit to the house/dwelling on the property. The property owner is further required to meet any costs associated with any upgrade to their points of attachment or the general household drainage systems determined from an audit of an existing property by the accredited installers as part of the installation process.

### **6. The Roles of Council, the Developer and the Home Owner in New Subdivisions being Serviced by a Pressure Sewer System**

#### **6.1 The Developer**

Developers may propose to provide pressure sewer infrastructure to service a proposed development in accordance with this policy statement. Such proposals would be subject to:

- Lodgement of a development application in accordance with Part 4 of the Environmental Planning and Assessment Act.
- Lodgement of an application to carry out sewer work and to connect a private sewer to a public sewer under the control of Council; in accordance with Section 68 of the Local Government Act.
- Council approval of the above applications.

Any proposal would also require justification as to why the provision of conventional gravity sewer systems was infeasible or why the provision of pressure sewer systems was preferable. The process in relation to how a pressure sewer application may apply to a new development is shown diagrammatically in Figure A2 in Attachment 1.

In all such developments the developer is responsible for the provision of the whole pressure sewer system as detailed in this policy. This will include the developer carrying out the following:

- The design for the reticulation sewers and its submission to Council before proceeding. Only pressure sewer experienced designers are to be used.
- The construction of all necessary pressure sewer reticulation infrastructure, including the connection to the property, and
- The payment of an on property levy to allow for those on property works to be carried out after the homes are built. This levy is set out in Council's annual fees and charges. This cost will be notified to the developer as at the time of approval of the development application.
- Ensuring all real estate agents have basic information on what a pressure sewer system is, and what it will mean for the future home buyer.

The developer will also be required to meet the other typical developer charges to Council such as the Section 64 contributions and these will be outside of the property levy.

In some instances Council may be the Developer and will be required to meet all of the above provisions.

### 6.2 Council

Council will in respect to any pressure sewer development application initially advise the developer as to whether pressure sewer will be allowed for their particular development. Subject to the pressure sewer system being allowed, Council will further be responsible for:

- Ensuring that the design is adequate to what Council sees as the minimum requirements for a pressure sewer system.
- Providing the minimum technical standards for the consistent construction of any pressure sewer application in the Ballina Shire.
- Acceptance of the reticulation system subject to it meeting the handover requirements as set out in the technical standards.
- Maintenance of the whole pressure sewer system.
- Administering the ultimate installation of the pressure sewer units on the vacant blocks as these are developed. This will include providing a pumping unit to the accredited installers and making a contribution towards the individual property installation from the property levy fund.
- Maintaining all reticulation and property records into the future.
- Ensuring the property owners are provided with a home owner's manual for the pressure sewer system.



### 6.3 Individual Property owners

Individual property owners will lodge a building application to construct on the property and will be provided with the names of accredited installers of the pressure sewer technology. Thereafter the property owner will be required to organise with one of these accredited installers to carry out the installation on the property.

Once these works have been carried out and the plans have been provided to Council they can make application to Council for refund of that part of the property levy put aside for their "on property" installation.

The individual property owner is responsible for the costs to connect the pumping unit to the dwelling itself plus any additional installation requirements they may have for their unique installation.

The installation of the pumping unit can only be carried out by an accredited installer using approved technology. Any individual who fails to comply with this requirement will not be issued with a certificate of occupancy and will be made to replace the pumping unit with one that is approved by Council, entirely at their costs.

### 7. Who is responsible for the Operation, Maintenance and Replacement of Pressure Sewer Infrastructure?

The responsibility for the operation, maintenance and possible replacement of pressure sewer infrastructure, following its installation, is a joint responsibility; shared between Council, individual property owners and residents where these differ from the property owners, as outlined below. In the case of infrastructure provided by developers, the developers also share the responsibility for a limited time following its installation up until its eventual handover to Council.

#### 7.1 Council Responsibilities

Council shall be responsible for the operation and maintenance of the following items of infrastructure after it has assumed responsibility for them:

- Individual Sewage Pump Stations on each property, including the pump well, pump, electrical control cabinet and associated fittings.
- All pressurised sewer mains and associated fittings, including boundary kits and boundary kit boxes.
- Ongoing flushing of the pressure sewer mains.
- The discharge point.

Council shall be responsible for the replacement of these items as part of the resident's ongoing maintenance agreement with Council. Council will note the need for that maintenance agreement to be entered into between Council and the Property Owner on any Section 149 Certificates issued for these properties.

Property owners shall be required to inform real estate agents, or prospective purchasers, of the nature of the pressure sewer system located on their property and the need to enter into an agreement with Council for the continued maintenance and operation of this infrastructure. (These requirements are specified within the agreement entered into between

Council and property owners). This agreement will not be required where the property is covered by a positive covenant.

### 7.2 Developer Responsibilities

Until handover is affected, the developer will be responsible for all of the above responsibilities attributed to Council. This will particularly include the ongoing flushing of the mains until sufficient development has occurred. After handover, Council shall assume these responsibilities.

The developer however will be required to provide a positive covenant on each property title that allows Council access to service the units at all times. This shall avoid the need for new maintenance agreements to be signed each time a property is sold. All costs associated with the creation of covenants shall be borne by the developer. The need for creation of covenants shall be addressed through placement of appropriate conditions of development consent on the proposed subdivision.

A pro forma will be developed by Council's solicitor for such a covenant. This wording shall be included within any Section 88 Instruments attached to the linen plan of subdivision at the time of its registration.

### 7.3 Property Owner's Responsibilities

Individual property owners shall be responsible for the following activities with their roles in respect to pressure sewer systems defined in greater detail in the home owner's manual:

- Maintenance of the electrical connection to the electrical control cabinet of the sewage pumping unit located on the property.
- Making the connection of the internal plumbing to the sewage pumping unit.
- Maintenance of the gravity plumbing on the property, up to the inlet of the pumping unit.
- Entering a maintenance agreement with Council where the service is to an existing property. This provides Council with access to their property for the purpose of maintenance or replacement of pressure sewer infrastructure located on their property. Any new property owners will be required to enter into a new agreement with Council, covering the continued operation and maintenance of pressure sewer infrastructure located on the property. The pro forma agreement would apply. This agreement will not be required where the property is covered by a positive covenant.
- Payment of the annual sewer charges, applicable from the time the connection to the sewer is made.

### 7.4 Resident's Responsibilities

Recognising that the resident will not always be the property owner, those resident on the property will be responsible for the following activities

- Provision of electrical power to the pump station, including payment of associated power costs.
- Providing Council access to the property, for the purpose of operation, maintenance or replacement of pressure sewer infrastructure located on their property.

- Notifying Council immediately if any alarms are generated within the electrical control cabinet of the pump station, or of any other problems with the performance of the pressure sewer system.
- Ensuring no deleterious material is discharged to the sewer

The property owner shall be responsible for communicating the above responsibilities to the tenant and will ensure that a copy of the home owner's manual is available to the tenant at the time of occupancy.

### 7.5 How Will The Resident Know How to Operate the Pumping Unit

A Home Owner's Manual will be provided by Council to all home owners to outline the operation and maintenance requirements of the pumping units. The Manual is to include:

- Emergency contact numbers and/or website details for further enquires in respect to this technology.
- What to do if the alarm sounds?
- What to do in the case of a power failure?
- Ensuring access to the unit for operation.
- What can be safely discharged into the sewerage system?

The Resident is expected to familiarise themselves with this document and use it when required. It will be supported by further detail on pressure sewer systems contained on Council's website.

### 8. Can the Resident Repair the Pumping Unit ?

The unit is Council property and is not to be touched by the resident.

### 9. Can the Developer/Property Owner install their own Technology to Service the Properties?

Only Council approved technology will be accepted for handover by Council and this will cover not just the pumping unit but also the boundary kits and the flushing points. The Developer or property owner can procure their own approved technology or can obtain this from Council, which will enter into a long term supply contract to gain the best possible price for residents.

Council will limit the number of technologies it will support to minimise overall maintenance costs and the list of accredited technologies will be contained in the "Ballina Shire Council Pressure Sewer Guidelines".

### 10. Why Does the Property Owner/Developer need to Use an Accredited Installer?

A number of installers in the Shire will be formally accredited by the Technology Supplier and a list of these will be provided to all persons wishing to install a pressure sewer unit on their property. Use of these installers will ensure the warranty provisions provided by the manufacturer are guaranteed and the installer will also be trained in the service diagrams

required by Council as a permanent record of the works on the properties that will be stored by Council. **Please contact Councils Plumbing & Drainage Officer for a list of these installers.**

For those installing the pumping units on properties with existing dwellings these accredited installers have been trained to carry out the home audits required before a connection can be made to the existing buildings. These audits are critical to ensuring the safe connection of the pumping unit and its ongoing operation. The property owner will need to meet the costs of any upgrading works required that is identified from the audit work.

### **11. What are the Minimum Levels of Service that will apply to Pressure Sewer?**

In general Council will endeavour to mirror the services provided for more traditional sewer services, particularly during business hours. However for after hours service, Council will specifically provide the following services:

- Next day repairs or replacement of the pumps for after-hours responses to high level alarms. This is to minimise inconvenience to the resident by utilising the emergency storage in the pumping unit.
- Immediate response to any emergency situation with the potential for an overflow.

### **12. Where can More Detail be Found in Relation to the Design, Construction and Operation of Pressure Sewer Systems?**

Specific details can be found in the "Ballina Shire Council Pressure Sewer Guidelines" and the Ballina Shire Technical Specification for Pressure Sewer as well as documentation set out in Attachment 2. Council will also maintain a more detailed home owners manual to pressure sewer on its website <http://www.ballina.nsw.gov.au/file.asp?i=4185>.

#### **REVIEW**

This policy is to be reviewed every four years.

Attachment 1 - Diagrammatic Representations of the Pressure Sewer Process

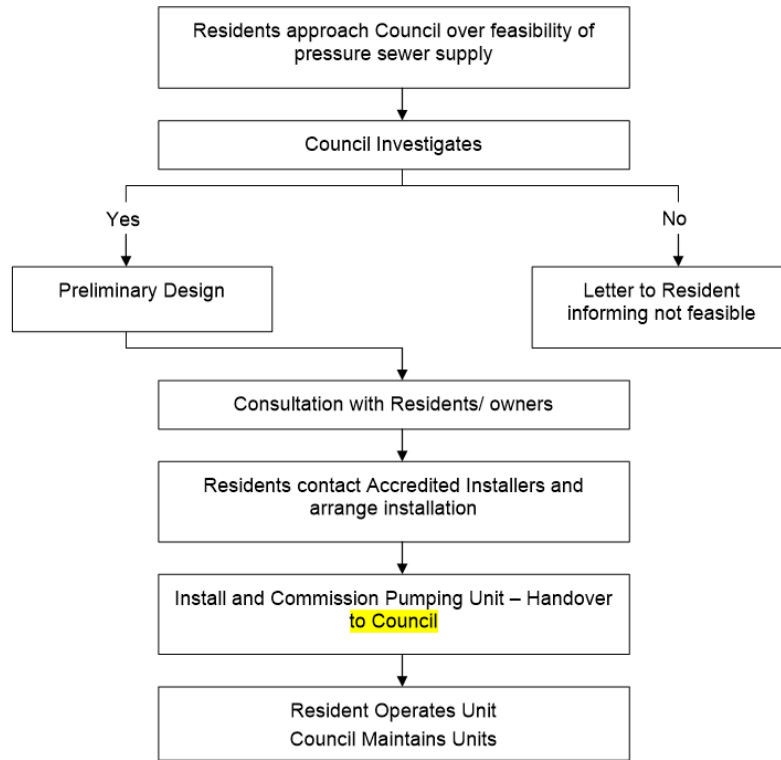
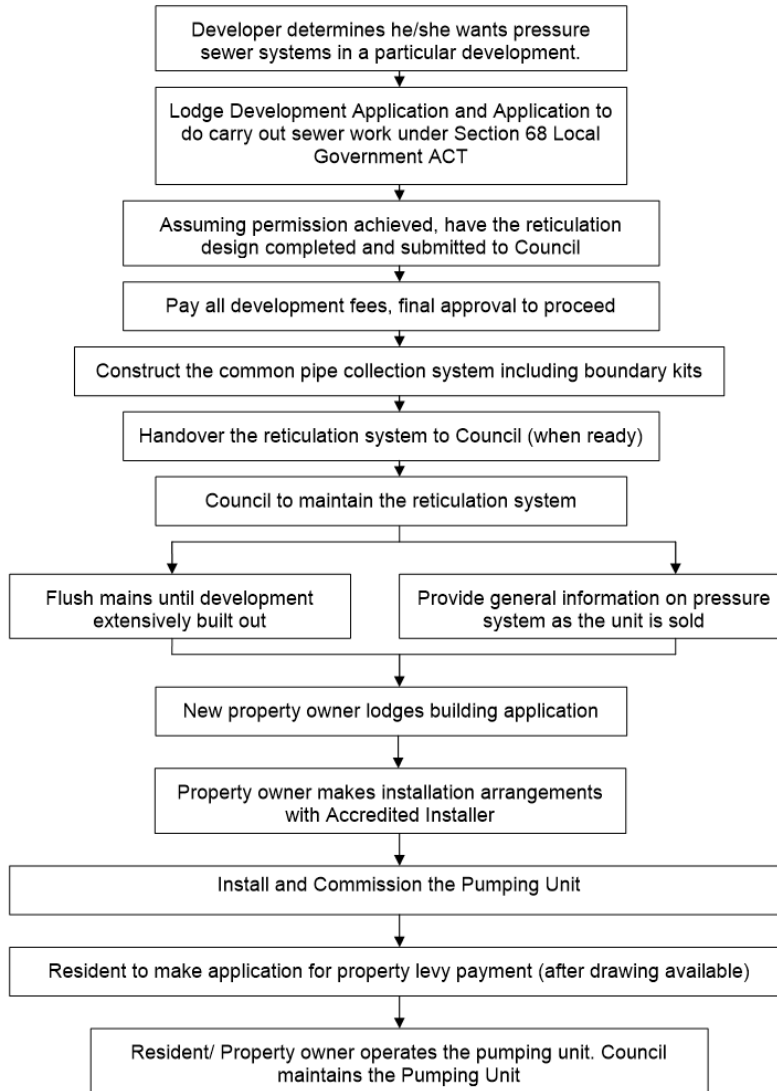


Figure A1. Diagrammatic Representation of the Pressure Sewer Process for an Extension of the Existing Sewer Service

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**Figure A2. Diagrammatic Representation of Pressure Sewer Systems for a New Development**

### **Attachment 2 - Supporting Documentation on Pressure Sewer Systems**

In support of this policy statement, is the following documentation:

- WSA – 007. The Wastewater Services Association Pressure Sewer Code
- The Ballina Shire Technical Specification covering the supply and installation of the pressure sewer pumping units in Ballina Shire in detail.
- A Home Owner's Manual to inform the resident of what they can and cannot do in relation to the pressure sewer system on their property, as well as what to do if their system should fail.
- The Ballina Shire Council Pressure Sewer Guidelines
- General information on the nature and operation of the technology, particularly for potential land on home purchasers where the property is serviced by a pressure sewer system.

In addition to this documentation, Council will also support the residents where approved pressure sewer systems have been installed by the including the pressure systems repairs and maintenance into Council's 24 hour a day call centre arrangements.