



KEMPSEY
Shire Council

DIRECTOR SUSTAINABLE DEVELOPMENT SERVICES REPORT

11th December 2007

DSDS5

BELLBROOK ON-SITE SEWAGE INVESTIGATION

FILE: 1099 MR

{ Folio No. * }

SUMMARY:

Reporting on the performance of domestic On-site Sewage Disposal System in the township of Bellbrook with consideration into the need for connection of town sewerage

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At its meeting of 10th April 2007 Council resolved that a report be presented to Council relating to the number of failing septic systems in Willawarrin and Bellbrook and associated environmental risks.

Inspection Program

Septic inspections were undertaken throughout the month of June 2007 in the township of Bellbrook.

The aim of the inspection program was to determine the current operational status of the existing systems and investigate the suitability of each site to achieve satisfactory disposal of domestic wastewater within the confines of the owners land. The findings of the report will be used in determining the requirement for town sewerage in Bellbrook.

In total, twenty-five (25) inspections were completed ([Appendix G – Page G22](#)). Only blocks of land less than 2000m² in size were inspected all other blocks exceeding this size were considered to have sufficient land area available for on-site wastewater disposal. The number of bedrooms in each residence was used to determine the potential occupancy and hence the amount of land area required to satisfactory disposal of wastewater.

Depending on the site topography and land area available, consideration was given to which type of wastewater treatment system would be possible for each site. Primary treatments systems involve treatment through a conventional septic tank with absorption trenching and generally require a considerably larger area of land. Secondary treatment systems are another type of wastewater system which provides a further step of treatment, with chlorination or advanced filtration systems. These kinds of system are often more expensive but require less area and have the advantage of an inbuilt pump system to irrigate lawns and gardens. Both types of treatment systems are referred to throughout the report.

Investigation Results

The results from the investigation were compiled and divided into two categories;

1. On-site wastewater disposal achievable;
2. Site unsuitable for on-site disposal.

In the township of Bellbrook it was found that all properties assessed had sufficient area available to achieve satisfactory disposal of wastewater within the confines of their property. The majority of the blocks inspected were around 1500m² in size and had the potential to accommodate both types of wastewater systems.

The majority of properties assessed were categorised as high risk due to their locality in relation to the Macleay River, small block sizes (800 - 2000m²), heavy clay soils and previous issues with failing systems. Of the twenty-five (25) premises inspected, eight (8) properties were found to have non-complying systems with only minor upgrade work required. The remaining seventeen (17) houses were considered to be operating in a satisfactory manner; however issues may arise if the occupancy is increased. In most circumstances only two (2) occupants were residing in the house with the disposal area sufficient in size to accommodate that number of people only.

Each site was also assessed to determine the capability for future septic upgrade work required to facilitate extensions with consideration into the number of bedrooms in each house and the potential for occupancy. As mentioned previously, all premises visited were found to have sufficient land area available to accommodate for on-site disposal. However Six (6) properties were identified as having insufficient area available to facilitate additional occupancy by means of primary treated effluent and disposal trenching. In this situation if maximum occupancy is to be achieved, a secondary treatment system (AWTS) would need to be installed.

All compliant septic systems identified will be issued with an approval that lasts between 1 – 3 years and will be restricted to a certain number of occupants depending on the capability the existing disposal system. In situations where the owner decides to sell the property, upon request, Council provides information to potential purchasers that an occupancy restriction exists through 149 (5) certificates. Building restrictions will need to be enforced on blocks of land less than 2000m² to ensure sufficient disposal area remains for upgrades.

Cost to residents

In order to achieve satisfactory wastewater disposal, non-complying on-site systems will need to be upgraded in order to comply with performance standards outlined in AS1547:2000 and the Environment & Health Protection Guidelines 1998. Eight (8) of the total twenty-five (25) properties surveyed require upgrade work in order to achieve approval. In most cases only minor work is required. It is possible for all eight (8) properties to dispose of wastewater on-site by means of either primary or secondary treatment systems.

The six (6) properties where in adequate land is available for primary treated disposal may be facing costs of up to \$14,000 to have a new secondary treatment system (AWTS) fully installed if there is an increase in occupancy or the property is up for sale. Properties where the installation of

disposal trenching is feasible may be up for costs of around \$6000 to upgrade, if an increase in occupancy is proposed.

On-going inspection program

Septic operation approvals are a State Government requirement under Section 68 of the Local Government Act 1993. Council will continue to undertake On-site Sewage Management System inspections in the township of Bellbrook to ensure all systems continue to operate in accordance with relevant guidelines and regulations. Those systems that have been identified as non-compliant will be required to undertake repair or upgrade work and ensure their system is operating in accordance with relevant environmental and health regulations.

Summary

The results compiled from the septic inspection program do not warrant the connection of town sewerage in the township of Bellbrook. The significant financial cost to Council and the residents of Bellbrook in provision of this service is considered to be unjustified as there is no significant risk to public health or the environment, provided failing systems are upgraded. Of the twenty-five (25) properties inspected, all were found to be sufficient in size to accommodate disposal by means of primary or secondary treatment systems. Council will enforce septic compliance on those properties in Bellbrook where upgrade work is required. All septic systems within the Shire are required to operate in accordance with environmental and health standards. Therefore there is a requirement for these landowners to ensure their system is up to standard as is the case with all other areas in the Shire.

Properties at Bellbrook located on blocks less than 2000m² will require controls on new building work to ensure that sufficient land is available in order to achieve satisfactory wastewater disposal on-site.

Septic systems throughout Bellbrook will continue to be monitored under Council's On-site Sewage Management Strategy (DCP32) to ensure continued compliance with regulations. Properties will be categorised into high, medium and low risk depending on the following; current operating condition, occupancy potential, size of disposal area, type and age of system, their potential for future disposal, and other various site constraints (i.e. block size, topography, soil type). Approvals will range between 1-3 years and will undergo regular inspections from Council.

Acting Director Shire Services Review

A concept design of a sewage treatment plant for Bellbrook shows that the demand is 370 equivalent persons. A preliminary cost estimate is \$7M of the provision of the plant and reticulation. The plant would provide tertiary treatment with micro-filtration and recycled water reuse available for agriculture and landscape irrigation. A backup river discharge would be provided. The estimated cost of approximately \$46,000 per dwelling is considered prohibitive and accordingly the provision of a sewage treatment plant at Bellbrook is not recommended. Should Council accept this recommendation then we should notify the Country Towns Program of the deleted project to enable funding of other high priority funding projects.

REPORT IMPLICATIONS:

- *Environmental*

Environmental risks posed by failing septic systems in the Bellbrook area include; increase in nutrient loads in watercourses, ground and surface water contamination, vegetation and soil degradation. The towns close proximity to the Macleay River further exacerbates the need for compliance.

- *Social*

Wastewater discharging onto neighbouring properties often results in feuds between residents.

Failing septic systems pose a threat to the health of residents.

Visual amenity is often affected.

- *Economic (Financial)*

Costs to residents requiring upgrade work may range between \$6000 and \$14,000 depending on the type of system required. When considering that only all twenty-five (25) residential blocks have sufficient area available for on-site waste disposal, the connection of town sewerage in Bellbrook is not warranted. The estimated \$7 million financial burden to Council and the residents of Bellbrook to provide sewerage is unjustifiable.

- *Policy or Statutory*

All septic systems within Kempsey Shire must comply with the following; Council's DCP 32 – OSMS Strategy, Sections 68 & 124 of the Local Government Act 1993, and the Local Government (General) Regulation 2005.

RECOMMENDATION:

1. That a sewage scheme at Bellbrook be deleted from the sewer capital works program.
2. That Country Towns Program be notified of the deletion of this project.

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R B Pitt
DIRECTOR SUSTAINABLE DEVELOPMENT SERVICES