



## **DIRECTOR SHIRE SERVICES REPORT**

15<sup>th</sup> November 2005

**DSS8                      JERSEYVILLE SEWERAGE SCHEME**  
**FILE: S8-1            SLM**

### **SUMMARY:**

Reporting on the progress of the Jerseyville sewerage system.



At the Council meeting on 11<sup>th</sup> October 2005 Council resolved to defer a decision on a sewerage system at Jerseyville so that further information including costs could be provided.

There are 6 types of sewerage systems which are commonly used throughout the world, and are capable of sewerage Jerseyville. These are gravity, vacuum, pressure, low pressure (LPGP), pump-out and septic tank. All systems work differently and have certain advantages and disadvantages depending on the location and site specific conditions. These advantages and disadvantages have been listed in the Resident Information Pack, which has previously been supplied to both Council and the residents of Jerseyville.

The location of Jerseyville creates a number of issues, which need to be considered in determining which system is best suited for the area. These issues are:

- Distance to closest existing sewerage system.
- Jerseyville is an existing residential area.
- Situated in a flood zone area and surrounded by waterways.
- A number of houses have floor wastes, toilets etc on the ground floor.
- Acid Sulfate Soil is found 0.8m below surface.
- Water table is found 0.8m below surface.
- Close vicinity to high risk environmental areas.
- Soil structure unsuitable for existing septic system.

For the 6 sewerage systems, preliminary estimated costs have been calculated based on supplied information for material and construction costs. The construction costs cannot be accurately determined due to unknown variables such as the volume and treatment necessary for both Acid Sulphate Soils and the local high water table. The final construction costs for the gravity system in

particular could increase substantially more than shown, due to the depth of the mains and difficulties during construction.

Table 1. Estimated Total Costs for Council and Jerseyville residents

SYSTEM TYPE	RESIDENT COSTS		Council Costs		
	Upfront	Ongoing	Initial Capital	Variables during construction	Ongoing
<b>Low Pressure (LPGP)</b>	\$2,500	\$10 – \$30/year for electricity	\$370,000	\$2,500	\$0 until pump replacements required
<b>Gravity</b>	\$1,500av (varies)	\$0	\$405,000	\$35,000 min.	\$5,000/year
<b>Vacuum</b>	\$1,500 (varies)	\$0	\$1,957,000	\$10,000	\$2,000/year
<b>Pump-Out Tank</b>	\$6,000 (varies)	\$180/month for pumpouts	\$0	\$0	\$0
<b>Septic Tank</b>	\$6,000 (varies)	\$200/year for maintenance	\$0	\$0	\$0

Because of soil and water table conditions, septic tanks are not considered to be environmentally acceptable in this location. Similarly, pump-out tanks are not considered to be viable for residents in this situation because of very high ongoing costs.

As previously reported to Council (January 2005), following the calling of tenders, it was resolved that a vacuum system was not a viable option at this location because of substantial capital infrastructure costs for the system.

At first glance, the cost of a gravity system seems to be similar to the LPGP system, and could be assumed to be the better alternative as it would be cheaper for the residents. But, as has been highlighted previously, the gravity system would be the worst choice in relation to environmental impacts and final construction costs, even though the pump station has already been installed (60% of costs have been recovered) and could easily be reutilised. The gravity system could also impact on the existing South West Rocks sewerage treatment plant, due to the possibility of infiltration of stormwater with the high water table and flooding. This could mean that the treatment plant would require augmentation earlier than originally expected. Therefore it is recommended that the gravity system is not a viable option for this situation.

The upfront (connection) costs to the residents can vary dramatically from household to household for the gravity system. This is dependant on the cost of the plumber, and whether the existing private plumbing pipework is up to current standards. For example for the residents at Hat Head, connections to the recently installed vacuum system, resulted in costs anywhere between \$500

and \$3,000. These costs were paid in full and did not have the advantage of part payments over time which Council is offering with the LPGP system.

Council originally proposed a cost of \$2,000 to install the LPGP system, but wishes to increase this to \$2,500 if other costs are removed. This LPGP connection cost will include these variables and part payment will be available similar to previous sewerage backlog areas where signed agreements for property debt loans are signed by the property owner. The document will state the cost, a maximum payment period (quarterly over 5 years), the interest payable (interest rate for Council's loan) and that the loan is attached to the property and will be recovered if ownership is transferred.

The residents of Jerseyville have previously queried the ownership of the units, and there are a number of options used throughout Australia for the ownership and maintenance of the LPGP system inside the private properties:

- Option 1 – The property owner only owns the gravity main to the pump chamber, and council owns the pump chamber, pump, alarm panel and everything from this to the discharge point. There would be a signed maintenance agreement regarding access and servicing to the pump and pressurised main.
- Option 2 - The property owner owns the gravity main, pump chamber, pump, alarm panel and pressurised main to the boundary. There would be a signed maintenance agreement regarding access and servicing the pump and pressurised main. This agreement is attached to the property deed and is transferable when the property is sold.
- Option 2a – The property owner owns the chamber, alarm panel and pressurised main to the boundary, and council owns the pump. The maintenance agreement is similar to option 2.
- Option 3 – The property owner owns and maintains everything on their property.

Council resolved in January 2005, that Option 2 would be adopted. This was as a result that no easements would be required and that it would give the property owner an advantage if any future development required the system to be relocated.

Council will supply a maintenance agreement with the LPGP system which covers any system maintenance and pump replacements in the future. The signed document includes a detailed description of fault service calls, repair timelines and any access issues. A levy of \$100/yr was originally proposed, but it is now proposed that this cost be removed for this service.

With the LPGP system there is also a running cost of approximately \$10-30 per annum (for an average size household \$20-30) for electricity to the pumps (based on information supplied by other councils). This cost is paid for by the householder, and according to

other councils this is the normal practice and they have not had any difficulties with this arrangement.

In regard to servicing of the outlying properties, a gravity system would not be suitable. A LPGP system could incorporate the servicing of these properties, however costs to provide that service and the existing size of the blocks would mean that these properties would be better served by an onsite sewerage system. If these properties are not included in any scheme, a refund of payments already paid by the residents would be made.

#### **REPORT IMPLICATIONS:**

- ***Environmental***

***Due to the location of Jerseyville adjacent to the Macleay River, the existing septic tank systems are polluting the groundwater, which is just below the surface. This in turn is most likely to affect the adjacent river water quality, both from groundwater and surface water flows.***

***Acid sulphate soils have also been discovered only 0.8m below the surface.***

***Lot sizes are such that the required absorption trenching for septic systems cannot be provided.***

***The LPGP system has pipe work which is considerably shallower to install than normal gravity systems, so there will be less environmental issues. Therefore the LPGP system is the preferred system for Jerseyville from an environmental perspective.***

- ***Social***

***The landowners have been advised that the existing system should be upgraded to a system that has less environmental impacts. Public consultation has resulted in a split response from the local residents on which system is preferred.***

***The major issue appears to be the cost to the property owner in addition to the normal sewerage charge. Ideas such as reducing the connection fee and removing the \$100/year maintenance fee were brought forward in public meetings by the residents. For the number of properties involved, the level of concern and amount recovered, the removal of the maintenance fee seems justifiable.***

- ***Economic (Financial)***

***The current budget for the scheme is \$400,000, with approximately \$250,000 remaining to complete the project.***

*The estimated cost of LPGP sewer is estimated to be \$10,000 per lot. Council has accepted the proposal to charge an upfront installation fee of \$2,000 per lot but this could be increased to \$2,500 per lot to reduce the burden to Council.*

- *Policy or Statutory*

*Nil*

- *Director's Review*

*Council is urged to support the concept of a LPGP sewerage system for Jerseyville. The LPGP system will expose Council and the community to less risk in regards to construction costs and environmental issues.*

**RECOMMENDATION:**

1. That the concept of installing a LPGP sewerage system for Jerseyville be confirmed.
2. That the ownership of the E-ONE system inside the property be by the property owner, with a maintenance agreement with Council regarding Council access and servicing requirements.
3. That the cost for the LPGP maintenance agreement be removed from Council's Fees and Charges.
4. That the installation fee be set at \$2,500 per lot and that the repayments be made over a five year period.