

16.1 PINNAROO COMMUNITY WASTEWATER MANAGEMENT SYSTEM PIPEWORK RENEWAL PROJECT - AWARDING OF CONTRACT

Responsible officer: Matthew Sherman, Manager Infrastructure Services

Attachments: Nil

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Section under the Act	The grounds on which part of the Council or Committee may be closed to the public are listed in Section 90(2) & (3) of the <i>Local Government Act 1999</i> .
Sub-clause and Reason:	(c) and (d)(i) - information the disclosure of which would reveal a trade secret and commercial information of a confidential nature (not being a trade secret) the disclosure of which could reasonably be expected to prejudice the commercial position of the person who supplied the information, or to confer a commercial advantage on a third party.

Executive Summary

Council allocated funds in the 2019/20 budget to carry out stage 1 works on the Pinnaroo Community Waste Water Management System Pipework Renewal Project.

Subsequently Wallbridge Gilbert Aztec (WGA) were engaged to prepare civil documentation, undertake tender call, assessment, construction superintendence and project management services for the project.

The tender was made publically available through the South Australian Tenders and Contractors website (SA Tenders) on 12 November 2019 and closed 5pm Monday 9 December 2019.

Following the tender process there were 4 tenders received from: SADB Directional Drilling; Baker Civil Australia Pty Ltd; Plumbing and Pipeline Solutions (SA) Pty Ltd; and LAKA Earthmoving Contractors Pty Ltd.

WGA, with assistance from Council, has now completed the tender assessment. The purpose of this report is to enable Council to consider contract arrangements for stage 1 of the project.

<p>RECOMMENDATION</p> <p>That Council:</p> <ol style="list-style-type: none"> 1. approves the contract for the Pinnaroo Community Wastewater Management System Pipework Renewal Project Stage 1 Works being completed in two parts (with the initial part including site investigations enabling finalisation of the design and revision of the price based on the findings of the investigations) and then an assessment being made of the final submission before the second more substantial part of the contract is awarded. 2. approves engagement of SADB Directional Drilling (whose indicative contract price for the Pinnaroo Community Wastewater Management System Pipework Renewal Project Stage 1 Works is \$836,605.00 (excluding GST)) to undertake the initial part of the contract for the project.
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3. considers at a future ordinary meeting whether to award the final contract to SADB Directional Drilling for the more substantial part of the Pinnaroo Community Wastewater Management System Pipework Renewal Project Stage 1 Works.
4. notes that the contract amount significantly exceeds the \$580,000 allocated for this project in the 2019/20 budget and would be reliant on a 2020/21 budget allocation.
5. notes that there are significant cost savings to undertaking the whole of stage 1 work as one project, rather than splitting the stage into two portions and only completing one of the portions with this year's budget allocation.

The Chairperson, Deputy Mayor Cr Paul Ireland, requested a suspension of meeting proceedings for 10 minutes to allow for discussion at 7.28pm

Meeting proceedings resumed 7.36pm

**MOVED COUNCILLOR REBECCA BOSELEY
SECONDED COUNCILLOR MICK SPARNON**

That Council:

1. approves the contract for the Pinnaroo Community Wastewater Management System Pipework Renewal Project Stage 1 Works being completed in two parts (with the initial part including site investigations enabling finalisation of the design and revision of the price based on the findings of the investigations) and then an assessment being made of the final submission before the second more substantial part of the contract is awarded.
2. approves engagement of SADB Directional Drilling (whose indicative contract price for the Pinnaroo Community Wastewater Management System Pipework Renewal Project Stage 1 Works is \$836,605.00 (excluding GST)) to undertake the initial part of the contract for the project.
3. considers at a future ordinary meeting whether to award the final contract to SADB Directional Drilling for the more substantial part of the Pinnaroo Community Wastewater Management System Pipework Renewal Project Stage 1 Works.
4. notes that the contract amount significantly exceeds the \$580,000 allocated for this project in the 2019/20 budget and would be reliant on a 2020/21 budget allocation.
5. notes that there are significant cost savings to undertaking the whole of stage 1 work as one project, rather than splitting the stage into two portions and only completing one of the portions with this year's budget allocation.

CARRIED.

Background

The Pinnaroo Community Wastewater Management System (CWMS) was originally constructed in 1962 as the first septic tank effluent drainage scheme in South Australia. A recent investigation by Council and WGA determined that the majority of original pipe network had significantly deteriorated, observing several issues such as pipe cracking, root intrusion, inundated pipe, high

water ingress during rain events, damaged or poor residential connections as well other obstructions.

The network was then assessed to identify and prioritise critical sections requiring upgrade. Due to the large extent of the network in poor condition and Council's budget restrictions it was proposed to upgrade the entirety of the original vitrified clay pipe gravity network on a staged basis over several years.

Based on WGA's network prioritisation, Stage 1 of the works was designated to a section of back of allotment drains, bordered by Bunday Terrace, Gordon Terrace, Railway Terrace North and Homburg Terrace to the north of the centre of Pinnaroo. The drains are generally located in private property, with no easement. Furthermore, a pumping station (PS5) is located within private property which solely functions as a lift station to transfer effluent between gravity mains at separate elevations, on the same alignment.

Context

Due to the number of unknowns associated with the pipeline replacement (missing data on the as-constructed drawings and incomplete CCTV footage) WGA is recommending that the contract be completed in 2 parts. The initial part includes site investigations enabling finalisation of the design and revision of the price based on the findings of the investigations. An assessment would then be made of the final submission before Council proceeds to award the contract. This approach would reduce Council's risk of cost escalation due to latent conditions during construction.

Policy and statutory implications

The Local Government Act 1999 is relevant to this matter.

Council's current Pinnaroo community waste management system is severely degraded and there is a risk of damage to the environment or property due to leakage, blockage and general system failure. This project would significantly reduce Council's risks related to scheme operation and would help Council to meet its legislative responsibilities.

Council's strategic management plan *Infrastructure Strategy - Invest in hard infrastructure for community benefit* is relevant to this matter.

Council's procurement policy is relevant to this matter.

Issues

Council allocated funds in the 2019/20 budget to carry out works (Stage one) on the Pinnaroo CWMS. WGA has prepared civil documentation, undertaken the tender call, and tender assessment.

The tender was made publically available through the South Australian Tenders and Contractors website (SA Tenders) on 12 November 2019 and closed 5pm Monday 9 December 2019.

WGA, with assistance from Council, has now completed the tender assessment. The purpose of this report is to enable Council to determine how to proceed.

The tender documentation specified a preferred construction methodology of complete line replacement and removal of pumping station (PS5), with the current network to remain active during construction to service the existing properties. However, alternative constructions

methodologies were also encouraged ensuring that the latest technologies for drain rehabilitation could also be considered.

Tender submissions were received from four firms;

- SADB Directional Drilling
- Baker Civil Australia Pty Ltd
- Plumbing and Pipeline Solutions (SA) Pty Ltd
- LAKA Earthmoving Contractors Pty Ltd

The proposed construction methodologies varied between tenderers;

- SADB:** *Proposed to undertake upgrade works predominantly through directional drilling, with trench excavations where possible.
Directionally drilling involves the use of a drilling machine to drill and ream a pilot borehole, allowing the pipe to then be pulled back through. Drilling can be undertaken over large extents with reasonable accuracy. Entry and exits pits are required, typically up to 2m in length.*
- BAKER CIVIL:** *Proposed to undertake upgrade works predominantly through bed boring, with trench excavations where possible. Bed boring is a type of hydraulic boring typically used for under road drilling, involving the use of augers to drill a borehole, before allowing the pipe to be pulled back through.
Drilling is undertaken over short distances up to 30m with high accuracy. Entry and exits pits are required, with entry pits typically up to 6-8m in length.*
- PPS** *Proposed to undertake gravity drain rehabilitation on existing network through Cured-In-Place-Pipe (CIPP) relining.*
- LAKA** *Proposed to undertaken upgrade works predominantly through trench excavation.*

Three tenderers submitted conforming tenders. PPS provided a relining option in lieu of replacement. This option is cheaper than reconstruction, however, does not provide the ability to remove pumping station (PS5). The removal of PS5 was a key objective of the tender as it reduces ongoing maintenance costs, reduces the risk of overflow in high flow or power out events and removes a key piece of Council infrastructure located on private land.

An initial tender assessment was undertaken by WGA considering assessment criteria including relevant experience & track record, quality and management, WH&S systems, financial capability, time performance, methodology & innovation and tender price.

The PPS submission was the lowest cost submission, with rehabilitation of the existing pipes reducing additional costs such as installation and reinstatement costs of property connections, PS8 relocation and new flushing points and manholes. This option is worth consideration as it provides Council with a lower cost alternative and would provide the least disruption/disturbance to residents' properties as minimal excavation is required. However, where total pipe collapse is evident, lining is not possible so there are some inherent risks in adopting this approach. The CCTV survey already undertaken did identify some pipe collapse and with these collapses the entire network could not be viewed and as such the actual extent of pipe collapse is not currently known. This has the potential to increase costs during construction as these sections would need to be

excavated and replaced. In addition, lining does reduce the internal diameter of the drains. This is not considered an issue within the 150mm drain sections. However, it would impact the capacity of the 100mm drains and as such a thinner liner would be required, which has a reduced strength from the recommended liner.

SADB, Baker Civil and LAKA all proposed full replacement upgrades. The LAKA submission was double the cost of the mean submission price so was not considered to be a viable alternative.

In terms of program, PPS proposed a construction program of 6 weeks. SADB and Baker Civil had the best program of the full replacement programs, at 13 and 14 weeks respectively. The LAKA submission had the longest construction program at 45 weeks.

As a result, post tender interviews were conducted with SADB, Baker Civil and PPS to further clarify their submissions.

Interviews were undertaken at WGA Offices on 22 January 2020, in the presence of Nathan Silby (WGA), Josh Schiller (WGA) and Matthew Sherman (Council).

A final tender assessment was then undertaken by WGA, considering outcomes of the interview process and revised submissions as part of the post-tender correspondence. As both SADB and Baker Civil provided tender submissions which exceeded Council's current financial year budget, an option to undertake the works as two separable portions was provided as part of the final submission. Separable portions were as follows:

- **Stage 1A:** Railway Terrace – PS8 to Flushing Point in Homburg Terrace and small section South of Manhole within Gordon Terrace (including removal of PS5).
- **Stage 1B:** Gordon / Bunday Terrace – North of Manhole within Gordon Terrace to Manhole within Pethick Street.

Where information was limited and could not be clarified by the tenderer without further site investigation, WGA made several assumptions in order to provide a more equitable comparison and value for money assessment. Final tender prices are summarised below:

Table 1: Final Tender Prices – Stage 1 Overall

	SADB	BAKER CIVIL	PPS	LAKA
PRELIMINARIES	\$133,705.00	\$ 63,560.00	\$ 77,530.00	\$ 306,350.00
CWMS INFRASTRUCTURE	\$622,900.00	\$603,265.00	\$606,400.00	\$1,736,710.54
MISCELLANEOUS (PC ITEMS)	\$ 80,000.00	\$ 85,000.00	\$0 (PS5) ⁽¹⁾	\$ 135,000.00
TOTAL (Ex. GST)	\$836,605.00	\$751,825.00	\$683,930.00	\$2,178,060.54
CITB	\$2,439.54	Incl.	Incl.	\$5,989.62

(1) Pump station 5 would remain operable as part of this system and as such would require refurbishment. The PPS submission does not include any allowances for refurbishment of the pump station. This option does not require an additional deeper chamber at Pump Station 8,

which means the added benefit of additional emergency storage at that station is also not realised. The PPS submission has no allowances for providing this additional emergency storage.

Table 2: Final Tender Prices – Stage 1 Separable Portions.

	SADB		BAKER CIVIL	
	STAGE 1A	STAGE 1B	STAGE 1A	STAGE 1B
PRELIMINARIES	\$106,964.00	\$ 66,852.50	\$ 63,560.00	\$ 20,000.00
CWMS INFRASTRUCTURE	\$376,993.00	\$252,715.00	\$365,275.00	\$237,990.00
MISCELLANEOUS (PC ITEMS)	\$138,500.00	\$ 89,352.50	\$134,500.00	\$ 50,500.00
TOTAL (Ex. GST)	\$622,457.00	\$404,567.50	\$563,335.00	\$308,490.00

A weighted comparison was undertaken between the four final tender submissions. The comparison is separated into two separate elements, Price Scoring and Non-Price Scoring. Both sections are assessed separately, with the tender scores normalised such that the highest rated tender achieves the maximum weighting score for each section. Price Scoring was based on the tender price for the full Stage 1 works.

Table 3: Assessment Summary.

1.	2. WEIGHTING	3. SADB	4. BAKER CIVIL	5. PPS	6. LAKA
7. Price Scoring	8. 30%	9. 26.89	10. 28.64	11. 30.00	12. 1.91
13. Non-Price Scoring	14. 70%	15. 70.00	16. 57.69	17. 65.67	18. 52.14
19. WEIGHTED SCORE	20. 100%	21. 96.89	22. 86.33	23. 95.67	24. 54.05

SADB Directional Drilling achieved the highest overall score and scored considerably higher than all firms on the Non-Price Scoring.

Alternate options

The alternative option is for Council to award PPS the preferred tenderer; with a methodology of rehabilitating the existing lines rather than complete replacement.

The PPS submission provided the lowest cost and shortest construction program with the potential of minimising disturbance to private property (assuming no pipe collapse). However, the proposal does not remove PS5 which would require refurbishment and has ongoing maintenance and power costs. It also does not provide for additional emergency storage at PS8.

The advantage of this methodology is that installation can be undertaken without having to access private properties for property connections. Furthermore, PPS have stated that CIPP lining will provide a 50-year Design Life. Pipe replacement is expected to provide a 70-year design life as per the LGA CWMS program asset life assessment.

The disadvantages are that the network will retain the same alignment, which is highly variable and often diverts between property boundaries, PS5 will need to be retained within a private property and likely refurbished in the short term, as well as the internal diameter of the existing pipe reducing by 10mm.

An additional risk associated with CIPP lining is that areas of pipe collapse cannot be lined and must be replaced through trench excavation. This will be difficult and costly should the failure occur at depth or below structures within private property.

The extent of pipe collapse is difficult to quantify, with recent CCTV footage limited due to the numerous blockages in the drains blocking camera access.

Financial implications

The proposed Stage 1A tender price of \$622,457 (excl. GST) is slightly over Council's budget of \$580,000 when including all provisions sum items.

The proposed full Stage 1 tender price is up to 50% larger than the Council's budget. However, it should be noted that the works were always intended to be a rolling program to suit available funding.

Work Health and Safety and Risk implications

A site-specific Project Safety Plan will be developed by SADB prior the construction works. These are to be reviewed by Council and Superintendent.

A general Work, Health and Safety Management System has been included in the submission.

There are several risks associated with the proposed recommendations and construction methodology provided by SADB:

- Presence of unexpected rock formation. Directional drilling is more expensive in hard rock due to a different drilling rig being required and where a rock shelf or floating or loose rock is present maintaining pipe grade is almost impossible.
- Asbestos within private property. SADB have not allowed for any asbestos removal.
- Site access. Unwillingness of residents to allow access to private property, potentially delaying works.
- Provisional sum allowance for bypass pumping. SADB have assumed that private septic tanks will generally provide sufficient emergency storage to disconnect properties during reconnection to the new line. Undersized, failed or full septic tanks will not provide this volume, requiring additional use of the bypass pumping system.

Furthermore, SADB require Council to provide a location for disposal of all surplus material from construction works.

Consultation

SADB propose a two-phase community management process, in conjunction with Council, including a planned notification process of letter drops and door knocking of directly affected stakeholders.

An example of an SADB customer service plan was included in the submission.

Council has briefed Commshake, our media services provider, on this project.