

15.1 Confidential - Contract number 10039B – Water Proofing the South stage 2 design and construct

This report is seeking Council approval to award contract number 10039B Water Proofing the South stage 2 design and construct.

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Attachments:	<ol style="list-style-type: none">1. WPS2 Early Contractor Involvement Guaranteed Contract Sum proposal – Leed Engineering Pty. Ltd. (8 pages)2. WPS2 Owners Engineer engineering and design validation and review certificate SMEC (2 pages)3. WPS2 – Owners Estimator cost validation and review certificate AQUENTA Consulting (8 pages)

1 Executive Summary

1.1 Topic

This report is seeking Council approval to award contract number 10039B Water Proofing the South stage 2 design and construct.

1.2 Context

A separate non-confidential report has been included in this agenda that provides background information regarding the Water Proofing the South stage 2 (WPS2) early contractor involvement (ECI).

This report presents the WPS2 ECI Guaranteed Contract Sum (GCS) offer made by Leed and a recommendation regarding the award of contract for the WPS2 design and construct phase of the project for Council's consideration and approval.

The recommendation is based on the progressive assessment of engineering design solutions and cost development as carried out by the appointed owners resources SMEC (owners engineer) and AQUENTA (owners estimator) respectively. These assessments confirm that the ECI consortium has developed the project in line with standard industry practice, but with consideration to the specific nature of working within the City of Onkaparinga.

The contract value falls outside the Chief Executive Officer's delegated authority (\$500,000), therefore requiring a decision of Council for approving a tender.

1.3 Financial implications

The financial implications of the project have been presented in the non-confidential reports regarding the award of this contract and the Water Business Unit presented earlier on this agenda.

The alignment of the GCS offer with the project budget and the resulting contingency is presented in Section 3.5 of this report.

1.4 Suggested Outcome

This item is presented as a confidential item as it presents the outcomes of the assessment of commercial tenders for carrying out of works for council's information. Our procurement policy and process focuses on ensuring that the confidentiality of all information in the course of tendering is preserved.

It is suggested that Council consider this item in Confidence. Section 90(3)(d) of the *Local Government Act 1999* is suggested as the most appropriate to use for this purpose.

The possible implications of not considering this item in confidence could reasonably be expected to prejudice the commercial position of the companies that supplied the information, or to confer a commercial advantage on a third party.

2 Recommendation(s)

1. That:

- a. under the provisions of Section 90(2) of the *Local Government Act 1999* an order be made that the public be excluded from attendance at the meeting in order to consider in confidence this item**
- b. the Council is satisfied that it is necessary that the public be excluded to enable the Council to consider this report, its attachments and related tender information at the meeting as it contains:**

Section 90(3)(d) commercial information of a confidential nature (not being a trade secret) the disclosure of which -

- (i) 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; and**
 - (ii) would, on balance, be contrary to the public interest**
 - c. accordingly, on this basis the principle that meetings of the Council should be conducted in a place open to the public has been outweighed by the need to keep the information or discussion confidential.**
- 2. That for the design and construction of the stage 2 Water Proofing the South Scheme, Council:**
- a. accept the Guaranteed Contract Sum offer of \$25,847,133.40 (including GST) proposed by Leed Engineering Pty. Ltd. for Contract Number 10039B Water Proofing the South stage 2 design and construct as outlined in section 3 of this report**
 - b. authorise the Chief Executive Officer to sign all required documentation to:**
 - i. finalise the contract**

- ii. **realise further opportunities for the project including the award of variations to the contract to deliver related works from other funded programs**
 - iii. **approve potential variations to the contract outside of the approved total contract sum but within the identified project contingency.**
 3. **That an order be made under the provisions of Section 91(7) and (9) of the *Local Government Act 1999* that the abovementioned document (or part of such document) including the minutes and the report of the Council relating to discussion of the subject matter of that document, having been dealt with on a confidential basis under Section 90 of the Act, should be kept confidential on the grounds of information contained in 90(3)(d) until the expiry of the term of the Water Proofing the South stage 2 funding agreement being end of June 2013.**
 4. **That, pursuant to section 91(9)(a) of the *Local Government Act 1999*, Council delegates the duty to conduct an annual review of the confidentiality order to the Chief Executive Officer, or their sub-delegate.**
 5. **That, pursuant to section 91(9)(c) of the *Local Government Act 1999*, Council delegates the power to revoke the confidentiality order to the Chief Executive Officer, or their sub-delegate.**

3 Discussion

3.1 WPS2 ECI tendering process review

As outlined in the 19 April 2011 confidential and non-confidential reports to Council that led to the approval of the appointment of Leed to undertake the ECI phase of WPS2 the ECI tender evaluation process has occurred across the following phases:

- Industry briefing
- Registration of Interest (ROI)
- Request for Tender (RFT).

3.2 WPS2 scheme design and GCS development process

As presented in the non-confidential report on this agenda, the ECI contract has been delivered across the following 'stage-gates':

- 'first cut' project concept and costs
- concept development and community engagement
- 30% design completion
- 70% design solution, which is the foundation for the Guaranteed Contract Sum.

Through the project's development, the governance group and project team have witnessed the project evolve as various options have been explored.

The following table presents the changes in the overall project cost through each of the project stage gates. The level of rigour associated with the cost estimate increased through each stage.

Stage	Anticipated cost (excluding GST) (including \$2.1M ECI cost)	Influence
'First cut' project concept	\$26.9M	Developed using unit rates for final construction cost for the Christie Creek upgrade project for similar scopes of work. The development of the design from 'first cut' to concept resulted in a reduction in cost.
Concept development – community engagement	\$25.1M	
30% design solution	\$26.9M	As presented at the 27 October 2011 briefing. Increase in cost was associated with works required to service anticipated bulk water demands. They include: <ul style="list-style-type: none"> ▪ power augmentation ▪ mechanical (Pumps and Pipes) ▪ cut to spoil disposal paths ▪ latent conditions ▪ earthworks detailing
70% design solution	\$25.6M Including: \$23.5M (GCS offer) +\$2.1M (ECI cost)	As presented at the 30 November 2011 briefing. The final GCS cost is \$23.5M plus the ECI cost of \$2.1M totalling \$25.6M. The detail associated with the GCS offer and its alignment with the project budget is presented in the following sections of this report

3.3 The scope of the GCS offer

The GCS offer and its scope is presented in attachment 1 of this report and has been discussed in the non-confidential report on this agenda.

3.3.1 Project schedule

Attachment 1 presents the proposed project schedule for the delivery of WPS2 design and construct. Subject to Council's approval, the sites will be secured in early December 2011 and made ready for works to commence by 9 January 2012.

Civil works will be predominantly complete by winter 2012 with planting treatments to be installed following the receipt of first water. Following this practical completion is scheduled to be achieved by December 2012 and scheme commissioning thereafter.

Should this schedule be achieved, the project will be delivered 6 months ahead of the required milestones of our funding agreement for WPS2, which requires practical completion by the end of June 2013. Subject to the quality of first water, reuse may be able to commence mid 2012 ahead of the schemes completion.

Regulatory approvals (construction works only)

The Minister for Water, Minister Caica has endorsed the project for the purposes of Section 49 of the *Development Act 1993*, which raises the status of the project for the provision of public infrastructure and therefore is considered Crown Development.

As Crown Development, in accordance with Schedule 14 of the *Development Regulations 2008* as the project includes an aquifer storage and recovery element and does not involve significant tree tree damaging activities it is exempt from the need to obtain development approval.

3.3.2 Risk and opportunity

In line with the expectation from the ECI process there is a greater transfer of risk liability to the contractor. A risk and opportunity assessment was carried out during the ECI including members of council staff.

Within the GCS figure, Leed has assumed responsibility for a number of risks, all of which typically would result in variations to contracts. The main risks are highlighted below:

- Design growth – changes in the design associated with its resolution through to 100% completion. This excludes changes and/or expansion of the scope of works
- Rise and fall associated with fuel costs for the duration of the project
- Costs due to delays associated with inclement weather. Council is however required to grant an extension of time
- Latent conditions within the wetland sites eg: rock.

Through the risk and opportunity assessment, council has assumed the following risks associated with the project. It is suggested that these are reasonable risks to assume considering our role as the proponent of the project and as a local government authority:

- socio-political delays
- cultural heritage
- rock encountered in the pipeline delivery (excluding wetland sites)
- land contamination outside of what is known

- inclement weather (time only – costs borne by contractor)

3.4 Review and validation of WPS2 designs and cost proposal

Following a competitive tendering process, council engaged:

- SMEC to act as its 'owners-engineer' (Contract no. 10040). SMEC (Snowy Mountains Engineering Company) is a professional engineering services consultancy group
- Aqenta Consulting (Aqenta) to act as its 'owners-estimator' (Contract no. 11016). Aqenta is a consultancy firm specialising in quantity surveying and cost estimation (formerly Currie and Brown).

3.4.1 Owners engineer review and validation of engineering designs

The scope of service for the owners engineer was to review and validate the ECI consortiums engineering design for the WPS2 scheme through its development.

The process of review involved SMEC participating in design lead meetings, workshops and in discussions with the ECI consortium to ensure that they were kept informed regarding the adopted methodologies and approaches. Formal review was then carried out on reports, drawings and/or specifications submitted by the ECI consortium.

A 70% design validation certificate has been provided in attachment 2.

The certificate certifies that:

- reasonable processes have been undertaken in line with standard industry practice
- SMEC's key comments have been addressed, although some detailed development is still required through the completion of design documentation
- the design will meet its intended use assuming that assumptions within models that underpin the design remain true and correct eg: demand, rainfall and runoff. Sensitivity analysis will be required to be undertaken through the Design and Construct phase of the contract in order to quantify this potential risk, largely so that it can be understood and subsequently managed through the schemes operation.

3.4.2 Owners estimator review and validation of cost estimate

The scope of service for the owners estimator was to carry out a high-level rolling review of the Leed tender estimate with the objectives of:

- validating the project costing
- ensuring the pricing is of a competitive rate
- ensuring the assumptions and allowances are valid

The process of review involved Aqenta reviewing estimate documents on a rolling basis across the three main phases of cost development – 30%, 70% (draft) and 70% (final).

Costs were compared against Aquenta's historical database of past project estimates and tenders received for similar projects. Following these reviews findings were discussed with Leed and where appropriate adjustments were made to reflect those comments.

A 70% cost review report has been provided in attachment 3.

The report certifies that the submitted price is commercially acceptable as:

- labour and plant rates are of industry standards
- the portion of preliminaries are within industry standards
- a range of suppliers have been involved in the cost development as well as ours and Leed's knowledge of stage 1 of the project
- the risk matrix shows an even share of risk divided between the council and the contractor and is considered to be fair and reasonable
- Leed have acted appropriately to adjust the estimate accordingly based on comments received.

Through the contract, Council reserves the right not to award the Design and Construct contract to the ECI consortium and retender the works in an open tender environment. It is Aquenta's recommendation that whilst this may yield a more competitive cost, council would be required to assume greater levels of risk, and there would be greater chance of variation to the costs of the project.

To highlight the magnitude of these potential risks, the cost proposal assumes construction commencing 9 January 2011 (as per the GCS schedule presented in attachment 2) with delivery through summer 2012 in anticipation of the receipt of winter rains. This schedule provides for:

- reasonable costs associated with working in creek environments during dry periods
- maximum utilisation of Leeds plant and equipment, with works occurring on all four sites simultaneously plus the installation of the pipe network
- certainty regarding the achievement of funding milestones
- early commissioning and therefore the early realisation of revenues through the sale of harvested stormwater.

These opportunities would otherwise not be realised, should the project be re-tendered and any potential competitive gain through retendering would be lost.

3.5 WPS2 GCS offer, budget alignment and project contingency

In accordance with Section 48 of the *Local Government Act 1999*, a prudential report is required for projects in excess of \$4million dollars. A report presenting the prudential issues of the project was considered by Council at its 7 September 2010 meeting prior to agreeing to proceed with the project.

As part of the prudential report, the \$30M project budget was allocated across the major purchases required to deliver the project. The following table presents

changes to those budget allocations that have been identified through the delivery of the project. It also presents the total \$25.6M WPS2 ECI and Design and Construct cost and the resulting impact on the \$30M project budget:

Procurement	Budget	Change	Revised budget
Hydrogeological Services Provider (HSP)	\$500,000	+\$160,953	\$660,953
Drilling Panel	\$3,500,000	-\$2,353,267	\$1,146,733
Civil and Landscape ECI and Design and construct GCS offer	\$23,000,000	+\$2,600,000	<i>\$25,600,000</i> <i>(\$2.1M + \$23.5M)</i>
City of Onkaparinga project costs	\$3,000,000	+\$523,890	\$3,523,890
Total (Actual funding)	\$30,000,000 (\$29,945,000)		\$30,931,576

The following table presents an overview of the influences that led to shifts in the values:

Procurement	Change	Influence
Hydrogeological Services Provider (HSP)	+\$160,953	We adopted an approach whereby we drilled one hole at each site to inform the balance of the program, rather than committing to all sites at once. This resulted in savings in the drilling panel, however required additional input from the HSP.
Drilling Panel	-\$2,353,267	
Civil and Landscape ECI and Design and construct GCS offer	+\$2,600,000	The original figure for the ECI and Design and Construct was an estimate based on best knowledge and assumed operational requirements for the scheme. Actual costs have identified a 11% increase from the budget, but this was as high as 17% prior to negotiation.
City of Onkaparinga project costs	+\$523,890	Through negotiations with Leed, council has assumed responsibility for a \$700,000 purchase for power augmentation to supply the scheme. In doing so, we avoided Leed's mark up of 10% for minimal management responsibility. This purchase has increased the budget for our project costs, but has

Procurement	Change	Influence
		avoided an additional \$70,000 impost on the design and construct cost.

3.5.1 Addressing the project budget shortfall and project contingency

Supplemental advice from Aquenta has indicated that a contingency figure in the order of 5% of the contract value being \$23.5M (\$1.175M) is appropriate considering the nature of the scope of works, the level of transfer of risk to the contractor and assumed risk by council.

The following tables present a summary as to how the project budget shortfall and project contingency are addressed:

Total project cost	\$30,931,576
Budget shortfall	\$986,756
Revenue gains anticipated to be received through early operation	\$900,000 - \$1,200,000
TOTAL	\$986,756 (potential surplus \$213,244)

Project contingency (5% suggested)	\$1,175,000
Contingency reserved	\$384,525
Further opportunities	\$740,000 (up to)
Potential surplus from early operation	\$213,244 (up to)
TOTAL	\$1,337,769 (over 5% of contract value)

The following paragraphs detail how the budget shortfall is addressed, and how we have preserved/established a contingency to support the project.

Revenue gains anticipated to be received through early operation

As presented in the report regarding the Water Business Unit, the early completion of the Christie Creek upgrade has realised the potential to reinvest additional revenues received immediately to offset the increased capital cost associated with the project. The additional revenue available is associated with the water demands

required for the construction activities of the duplication of the Southern Expressway.

The Southern Expressway duplication has a total water demand in excess of 800ML of water. Negotiations are well progressed with the Expressway consortium for the provision of up to 600ML of water. (WPS is not able to service the entire demand as some of the works are occurring within the City of Marion and it is simply too far removed) The business model has used a conservative price of \$1.50 kl (\$900,000 revenue) however it is anticipated that the price will be in the order of \$1.75 - \$2.00 subject to final negotiation. The potential is presented in the following table:

Volume (ML)	Rate (\$/kl)	Revenue potential
600	\$1.50	\$900,000
	\$1.75	\$1,050,000
	\$2.00	\$1,200,000

As per the report on this agenda regarding the Water Business Unit the revenue has been included within the financial model and is proposed to be used in balancing the shortfall in budget rather than seeking additional loan funding.

Contingency reserved

A contingency amount of \$384,525 has been maintained by council through the following avenues:

Income line	Value
Interest earned on funding received in advance (required under the funding deed to be spent on the project)	\$300,000
Developer contribution associated with the completion of the water distribution scheme at the Hart Road wetland	\$84,525
TOTAL	\$384,525

Further opportunities

Further flexibility in contingency can be realised (up to approximately \$740,000) through savings associated with the successful management of the WPS2 design and construct phase and the integration of scheduled projects with WPS and ongoing management of current programs as tabled below:

Further opportunity	Value
The \$25.6M cost for the project includes provisional sums (PC) totalling \$1.184M. The PC's are associated with consultancy fees to deliver the 100% designs and the pipe connection between Candy Road and Byards Road wetlands. They are presented as PC's as it is not possible to confirm the final sum with accuracy. As	\$110,000

estimates there are opportunities that may yield up to 10% saving on these line items	
The cost of \$25.6M assumes a total ECI cost of \$2.1M. Final accounts are yet to be reconciled but early indications identify further savings.	\$30,000
Reductions in ESTA costs – council has assumed a \$657,320 cost for the augmentation of ETSA power supplies for the project. This was based around a larger bulk water scenario. The power demands are currently being rescoped and a saving is expected.	\$100,000
Further savings on the drilling program (current contingency on the drilling program)	\$50,000
Developer contribution at the Aldinga site (currently being negotiated) - the Hart Road wetland has the capacity to service water quality and detention requirements that are typically required to be serviced by developers. The transfer of water quality and detention obligations to council for their management in the Hart Road wetland provides for the consolidation of our water assets, plus provides scope for commercial negotiations with the developer, who would otherwise not be required to invest in the infrastructure, maintain it for three years post completion and possibly have an increased scope to yield revenue from additional land sales.	\$50,000
Related projects delivered in tandem with the WPS2 design and construct present the opportunity to realise savings on other budgeted council projects, which in turn present additional contingency for the project. They include:	
<ul style="list-style-type: none"> ▪ Kangarilla landfill – offsetting costs for spoil – potentially as much as \$600,000 	\$300,000
<ul style="list-style-type: none"> ▪ Field River flood mitigation – Byards Road culvert upgrade. The current estimate for the project is \$400,000. Through its integration with WPS2 it is suggested that savings can be realised simply through economies of scale and the avoidance of site establishment costs. 	\$50,000
<ul style="list-style-type: none"> ▪ Emerson Boulevard Reserve Upgrade. The current estimate for the project is \$300,000. Through its integration with WPS2 it is suggested that savings can be realised simply through economies of scale and the avoidance of site establishment costs. 	\$50,000
TOTAL (up to approximately)	\$740,000

Potential Budget impacts

Based on the above analysis, should the 'Revenue gains through early operation' (ie Southern Expressway) not be realised the overall budget shortfall is approximately \$600,000 (ie \$986,000 total project cost less \$384,000 contingency reserved).

Should the 'Further opportunities' (ie opportunities detailed above to provide contingency sums) not be realised, any additional project cost increases would need to be funded through an increase in loan funding.

WPS is currently funded within the Major Projects Fund (MPF) under an interim funding approach approved by Council as part of the 2011-12 budget process. A review of this interim funding approach is to be undertaken as part of the 2012-13 budget process to consider the financial capacity for WPS to be self funding and potentially removed from the MPF.

In the event that WPS continues to be funded within the MPF any additional loan funding would impact on the funding capacity of the MPF and effect the scheduling of existing projects.

3.6 Next steps

Subject to Council's approval for the award of the contract, contract documentation will be finalised and executed and the Design and Construct phase of WPS2 will commence immediately.

A copy of the project schedule has been provided in attachment 1. The most immediate steps are:

3.6.1 December 2011

- Distribution of advanced notice of works to residents immediately surrounding each construction site, on the website and via watermail.
- Perimeter fencing established around each contract site providing for public access around the perimeter of each project site.
- Selective removal of vegetation and trees as may be required to support the delivery of the project.

3.6.2 January 2011

- Major civil works commence at all four sites in tandem and at up to 5 separate locations for the installation of the distribution network.
- Continuation of community engagement.

Practical completion of the project is scheduled for December 2012, well ahead of the end of the funding period being June 2013.

Council will be kept informed of the status of this element of the Project via Horizons, Weekly News and the Project Register.

