

## CONFIDENTIAL REPORT

### REPORT RELATING TO: A leader in the delivery of the Community Vision

Originating Officer: John Valentine, Manager Strategic Projects  
Director: Heather Montgomerie  
Subject: City Services Redevelopment  
Award of Construction Tender  
Reference No: SGC190814F01

If the Council so determines, this matter may be considered in confidence under Section 90(3)(b) and 90(3)(k) of the *Local Government Act 1999* on the grounds that the report contains information relating to the tender for the carrying out of works.



Mark Searle  
Chief Executive Officer

#### RECOMMENDATION:

1. That pursuant to Section 90(2) and 90(3)(b) and 90(3)(k) of the *Local Government Act 1999*, the Council orders that all persons present, with the exception of the following persons: Mark Searle, Kathy Jarrett, Vincent Mifsud, Heather Montgomerie, Jamie Thwaites, Craig Clarke, John Valentine, Birgit Stroeher, Colin Heath and Nick Agryos (Thinc Projects) Tony Brewster (WTP Partnerships), be excluded from the meeting as the Council receives and considers information relating to Award of Construction Tender, upon the basis that the Council is satisfied that the requirement for the meeting to be conducted in a place open to the public has been outweighed by the need to keep consideration of the matter confidential given the information relates to the tender for the carrying out of works and disclosure of the information could reasonably be expected to confer a commercial advantage on a person with whom the council is conducting, or proposing to conduct, business, or to prejudice the commercial position of the council.

## **REPORT OBJECTIVES:**

The purpose of this report is to enable Council to consider the recommended contractor for the construction of the City Services redevelopment.

## **EXECUTIVE SUMMARY:**

On 11 February 2014, Council approved a two-staged procurement process for the construction and development of the City Services project, being an open Expression of Interest ("EOI") process, followed by a Select Tender.

The open EOI process concluded on 9<sup>th</sup> April 2014, fifteen (15) construction companies expressed their interest in the project and after an assessment of the EOI's, five contractors were invited to submit a tender to undertake the construction work.

## **RECOMMENDATIONS (6)**

## **DUE DATES**

### **That Council:**

- |          |   |                       |
|----------|---|-----------------------|
| <b>1</b> | <b>authorises the award of the contract for the construction of the City Services redevelopment to Badge Constructions.</b>   | <b>19 August 2014</b> |
| <b>2</b> | <b>authorises the Chief Executive Officer to execute the contract with Badge Constructions and to make minor amendments where necessary to the contract to give effect to Council's awarding of the contract.</b>   | <b>19 August 2014</b> |
| <b>3</b> | <b>note that any changes required to the contract that are not of a minor nature will be brought to Council for consideration.</b>  | <b>19 August 2014</b> |
| <b>4</b> | <b>authorise the Chief Executive Officer to execute a lease for the parking of fleet vehicles for the duration of the City Services construction period, noting that the associated costs are included in the Council approved budget.</b>  | <b>19 August 2014</b> |
| <b>5</b> | <b>note the review and recommendations of Tonkin Consulting in relation to methods to future proof the City Services site against ground vapours.</b>   |                       |
| <b>6</b> | <b>in accordance with Section 91(7) and (9) of the Local Government Act 1999 the Council orders that report SGC190814F01 having been considered in confidence under Section 90(2) and (3)(b) and (3)(k) of the Act be kept confidential and not available for public inspection for a period of 12 months from the date of this meeting. This confidentiality order will be reviewed at the General Council Meeting in August 2015.</b> | <b>December 2014</b>  |

## **BACKGROUND**

On 11 February 2014, Council approved a two-staged procurement process for the construction and development of the City Services, being an open Expression of Interest ("EOI") process, followed by a Select Tender.

The open EOI process concluded in 9<sup>th</sup> April 2014, and five (5) contractors were subsequently invited to tender for the construction of the project.

## **DISCUSSION**

The Tender Evaluation Team ("TET") consisted of:

- Mathew Allen, City of Marion (CoM)
- Birgit Stroeher (CoM)
- Nick Argyros (Thinc Projects – Project Managers)
- Simon Best (Hardy Milazzo Architects)

In addition:

Tony Brewster – WT Partnerships – Quantity Surveyors supported the process in a cost advisory role

Tim Hoggan CoM – was the internal tender facilitator

The above personnel all signed Conflict of Interest/Confidentiality Agreement forms as part of their involvement.

## CRITERIA AND WEIGHTING

Prior to opening tender responses, the TET met and established the tender assessment criteria and weightings, which are reflected in the assessment results at Attachment A.

In summary the assessment criteria and weightings were agreed as follows:

➤ **Capacity**

1. Previous Experience
2. Licences and Accreditations
3. Insurance
4. Work Health & Safety
5. Management Systems

➤ **Capability**

1. Referee Checks
2. Current Workload
3. Availability
4. Organisational Structure
5. Key Personnel
6. Contingency Personnel
7. Sub-contractors
8. Financial

➤ **Methodology**

1. Tender Conformance
2. Works Programme
3. Technical Proposal
4. Environmental Initiatives

➤ **Cost**

1. Lump Sum Price
2. Preliminaries
3. Delay Rates
4. Variations
5. Alternatives
6. Fill & Waste
7. Schedule of Rates

## SUBMISSION OF TENDERS

Strict formal tender processes were put in place, with all contact with Council coming through the Principal's Representative, in the first instance Tim Hoggan.

Details of the tender include:

- Tender was released on 5<sup>th</sup> June 2014 through select tender. Five (5) tenderers were selected from the open expression of interest process.
- Four (4) Tender Addendums were issued to the market through direct email to the select tender field.

- A Site Briefing was conducted on 10<sup>th</sup> June 2014 and all five organisations attended.
- Tenders closed on 15<sup>th</sup> July 2014 at 2pm under formal tender box conditions, and five (5) tenders were received.

### Assessment of Tenders

The TET met on two occasions to assess the responses.

Each member of the TET received a copy of the tender submissions. Members individually scored each tender prior to the assessment meeting, and a discussion was held on the basis upon which scores were allocated and a consensus for each sub-criterion for each submission agreed. The consensus score was multiplied by the weighting to obtain the weighted score.

Pricing was scored using the median price method – the median price allocated 5/10 and each tenderer's score calculated by formula. This method of cost scoring is used by DPTI and is recommended by the Association of Consulting Engineers Australia.

Interviews were conducted with Badge Constructions and Tenderer 2 to clarify elements of their tenders prior to the finalisation of the assessment.

The final summary table below summarises the assessment ranking for the 5 tenderers.

Tenderer	Capacity	Capability	Methodology	Cost	Tendered Cost	Total
	■	■	■	■		■
Badge Constructions	5.4	12.1	23.2	21.7	■	62.4
Tenderer 2	5.2	11.5	22.4	21.6		60.7
Tenderer 3	5.7	11.7	20.2	18.6		56.2
Tenderer 4	5.1	10.8	18.3	21.0		55.2
Tenderer 5	5.2	10.1	17.8	18.1		51.2

### Credit Assessment

The TET engaged Corporate Scorecard to undertake an independent credit assessment on Badge Constructions.

The credit assessment report confirmed the finding of the review carried out by Council's Finance Manager. The findings indicated that Badge Constructions is financially well positioned to carry out and complete the project, and the financial risk associated with Badge Constructions was deemed low.

Key points to note from the assessment include:

### Capacity ■

Following on from the EOI process, little further distinction was made on the Capacity of the tenderers, reflective of its overall percentage ■

Tenderer 3 scored highest on these criteria, largely due to their broad experience and Tier 1 builder systems. Badge was evaluated as second, reflecting sound experience and systems.

The capacity criteria are assessed on the relative experience, systems, licences, accreditations, and insurances of each submission.

### **Capability**

Capability considered factors of the organisations personnel, contingency personnel, workload and availability, nominated sub-contractors, and general financial position.

Badge scored highest on Capability due to their key personnel, supported by good contingency personnel, and a sound financial analysis. Tenderer 3 was scored second, Tenderer 2 scored third, impacted by a less favourable financial analysis.

### **Methodology**

The RFT asked tenderers to outline their proposed methodology with particular emphasis on a program of works, and their technical proposal. Tender conformance was also considered.

Badge and Tenderer 2 were scored highest based on their more thorough explanation of how the project would be delivered, acknowledging key interfaces and major factors.

### **Cost**

Areas of distinction were largely based on the competitiveness of stated rates, stated alternatives that were viewed as viable, and the take up of CoM fill and waste option. Badge, Tenderer 2 and 4 scored highest in overall cost comparison.

## **REFEREES**

Referee checks were conducted on all five (5) tenderers as part of the tender evaluation process.

The TET reviewed the referee statements and from this assessment the TET did not make any changes to their assessment.

### Financial Implications:

The **budget** for the City Services project comprises the following elements:

Element	Budget
Construction contract (Badge tendered price)	
Ground contingency	
Building contingency	
Professional fees	
Works by Marion	
<b>TOTAL BUDGET FORECAST</b>	
<b>COUNCIL APPROVED TOTAL BUDGET</b>	

The Council approved project budget is [REDACTED]

The cost of the recommended tenderer (Badge Constructions) is [REDACTED] which together with ground and construction contingencies, professional fees and works by Marion gives an overall project cost of [REDACTED]

Subject to Council approval, the contracts with the preferred tenderer will be signed by the CEO. The contracts will be subject to all necessary statutory approvals.

### Legal / Legislative and Risk Management:

A Section 48 report has been considered by the Audit Committee and adopted by Council (GC250314R01) and the risk management plan has been completed and is regularly monitored and updated as the project progresses.

### Project Timelines

Subject to Council's consideration and approval of the recommended tenderer the timelines for the project would be as follows;

Construction start	September 2014;
Construction finish	December 2015.

### Fleet Parking During Construction

The City Services site will need to keep operating and providing services to the community during construction. Council fleet vehicles will need to be parked off-site to create the space necessary for construction. The adjacent commercial site (formerly occupied by Boart Longyear) is vacant and a lease has been negotiated with the adjacent land owners to lease the property for fleet parking. The cost of the lease is included within the previously approved Council budget of [REDACTED] million. Subject to Council approving the recommendations of this report the CEO will conclude and enter into the lease for the adjacent property.

### **Environmental Management**

In light of recent ground vapour considerations in Clovelly Park, Tonkin Consulting were engaged to independently review the design of the City Services project and to advise on how to manage potential future vapours emanating from ground conditions.

Attached as Appendix 1 is Tonkin Consulting's review. Tonkin recommends the following actions:

- Use a thicker membrane under the floor slabs;
- Ensure correct installation of the membrane, including inspections and sealing at joints and penetrations (for water, gas, sewer etc);
- Undertake frequent and detailed inspections to the subgrade under the membrane and during membrane construction;
- Undertake testing if there is any suspicion of inadequate seals;
- Consider filling services trenches with no fines gravel.

### **CONCLUSION:**

The open Expression of Interest and tender process has been conducted in strict accordance with Council's procurement policies. The recommended contractor for the construction of the City Services facility is Badge Constructions.

The cost of tender and overall project cost is within the Council approved budget. Approval to award the contract to the Badge Constructions will allow the construction of the City Services project to commence.



20140862L01B/MRS/PJL

12 August 2014

City of Marion

Attention: Birgit Stroehler

Dear Birgit,

## **MARION WORKS DEPOT UPGRADE – BUILDING ISSUES FOR GAS CONTROL**

### **Project Background**

City of Marion is planning to upgrade its existing works depot on Marion Road, Marion to improve facilities for staff and its service to the community. The current buildings are understood to be predominantly transportable buildings. The proposed building works involve the construction of a new store, workshop, common hub, breezeway, office and carparks. The main building works will be to the south of the existing facilities and hence can be undertaken without providing interim buildings. The proposed site layout was shown on Hardy Milazzo Site Plan Drawing A-051 Rev E.

All buildings will be constructed on bored piles with the concrete slab underlain by a fortecon membrane under all slabs (including the workshop and storage shed) and in contact with the ground. The store is understood to include louvred windows and rooftop ventilation to provide constant draft through the building. The workshop also contains rooftop ventilation and large roller doors for machinery access which will provide draft through the building. The offices/meeting rooms within these areas will be provided with air-conditioning and opening windows. The service pit to be constructed within the workshop is understood to be a pre-cast concrete pit with exhaust extraction as required by current occupational health and safety requirements. The central hub, which contains change rooms, lunch room and meeting rooms, as well as the office building has raked ceilings. The breezeway between the office and central hub will assist in maintaining ventilation and temperature control around the buildings. The carpark is open with landscaping proposed to reduce heat.

With recent focus on the potential for groundwater or deep soil contamination to result in vapour movement into buildings, the City of Marion has asked for Tonkin Consulting to provide advice on the areas of building works which are important in the control of soil vapour accumulation into buildings. There is no suggestion that the current site has a soil vapour problem as the Marion Works Depot was the subject of a site contamination audit from 2000-2003 by a Victorian EPA Accredited Auditor recognised by SA EPA. The investigation was undertaken in accordance with the *National Environment Protection (Assessment of Site Contamination) Measure 1999* with remediation undertaken at that time, including the removal of underground storage tanks for fuel. The site has continued to be used as a works depot; however it has been assumed that current practices for servicing machinery and storage and disposal of semi-volatile and volatile chemicals has been undertaken in accordance with best management practices.

### **Objectives**

The objective of this report is to provide guidance to City of Marion on the important considerations in building construction to minimise the potential for vapours to enter and accumulate in buildings and structures. This report is not intended to be an exhaustive list of construction practices which may be employed but provides advice on the aspects of the proposed construction where appropriate selection of materials or additional care in installation or construction will assist in minimising the potential for soil vapour to enter the building. There is no evidence to suggest that soil vapour is currently an issue on this site but

given the increasing awareness of soil vapour issues, it is prudent to ensure that the adopted construction practices maximise performance with respect to vapour for the budgeted cost.

### Soil Vapour and Buildings

Petroleum hydrocarbons and chlorinated compounds occur and react differently in the soil. Petroleum hydrocarbons are generally lighter than water and hence tend to float on top of the groundwater surface forming a light non-aqueous phase liquid or LNAPL. Vapour released from petroleum hydrocarbons moves through the soil and once in an aerobic environment (as occurs within approximately 0.5 m of the soil/atmosphere interface) the natural soil microorganisms degrade the hydrocarbons releasing carbon dioxide and water. Chlorinated solvents can be heavier than water and hence sink within the groundwater aquifer forming a dense non-aqueous phase liquid (DNAPL). Vapour released from the chlorinated compounds moves through the soil following the path of least resistance to the atmosphere; however little or no microbial degradation occurs within the soil profile and the breakdown products of these compounds does not always reduce its toxicity.

Vapours move into buildings via the path of least resistance. For petroleum hydrocarbons, vapours are often degraded prior to reaching the building with the exception of:

- subsurface construction into areas with low oxygen content, e.g. cellars, basement car parks. The only subsurface structure proposed for the Marion Works Depot is a service pit;
- large slabs creating an anaerobic zone in the centre. For groundwater at approximately 10 m depth slab diameters less than 18 m are unlikely to limit biodegradation of an LNAPL<sup>1</sup>;
- concentrated source of contamination is very close or in contact with to the surface/slab. Given the site audit process undertaken on Marion Works Depot, this is unlikely;
- services acting as rapid transport of vapours and "short circuiting" the soil.

For chlorinated compounds, the vapours will move along the path of least resistance to be released into the atmosphere as there is no attenuation in the soil. Instead vapours will enter buildings through cracks, openings, services, etc.

It should be noted that gaseous vapours (as distinct from water vapour) do not accumulate unabated within a building. Although some accumulation does occur, all buildings have some ventilation as required by building codes, either as designed openings (doors, windows) or incidental (cracks and seasonal movement) which result in vapours moving out of the building. In addition, sub-slab membranes can limit or prevent movement of soil gas vapour into buildings when correctly installed. Different materials can be used for membranes and may have variable permeability for movement of vapour; some membranes may be relatively impermeable to one vapour compound but permeable to others. As a result, the correct installation of a membrane is not a guarantee of no future vapour issues. The largest issue regardless of the inherent permeability of the membrane is the potential for vapours to enter through punctures, joints and penetrations. The thinner the membrane the more likely occurrence of punctures. Purpose-designed vapour intrusion membranes are thicker (e.g. 1 – 2 mm high density polyethylene (HDPE)) compared with fortecon (0.15 – 0.3 mm thick). Alternatively spray-on products (e.g. Liquid Boot) may also be used to minimise the potential for punctures to affect the membrane performance. Further to this, all membranes

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<sup>1</sup> CRC Care. (2013). *Petroleum Hydrocarbon Vapour Intrusion Assessment: Australian Guidance*. Technical Report No 23. CRC for Contamination Assessment and Remediation of the Environment.

will degrade over time and hence installing a premium purpose-designed gas membrane now may still not provide adequate protection in the longer term.

### Potential Actions to Incorporate into Current Building Works

Based on the building works proposed, the potential for soil vapours to accumulate within the buildings will be limited by the ventilation proposed and by the positive pressure within the buildings created by air conditioning. In addition, the high ceiling spaces within the Central Hub and Office reduce the potential for workers to come into contact with accumulating vapour. The areas where the potential for vapours to enter the buildings or for inhalation of vapours to occur are:

- Storage Shed - within the office/meeting rooms. The remainder of the space will be continuously ventilated and vapour accumulation is limited by roof ventilation;
- Workshop – the service pit and office/meeting rooms. The remainder of the space will be ventilated during working hours and vapour accumulation is limited by the roof ventilation ;
- Central Hub and Office – all areas.

The elements of the proposed buildings which have the greatest potential to limit soil vapour movement into buildings and hence require most attention are:

- Installation of the sub-slab membrane;
- Construction of the floor slab;
- Construction of Service Pit in Workshop;
- Anaerobic zones beneath slabs.

The sub-slab membrane has potential to be a major mechanism in reducing vapour movement into buildings and particular care and attention is required for membranes under the office and meeting room spaces. Correct installation of this membrane should be the major priority when reducing the potential for soil vapours to enter the building. Firstly it is important to ensure that the subgrade is free from deformations, rocks or other materials that could stress or tear the membrane when placed. If the membrane is punctured or torn they must be carefully and adequately repaired or the section replaced. The membrane sheets must be overlapped by at least the manufacturer-recommended distance and taped carefully to ensure a complete seal, i.e. without creases or bubbles. The joins in the membrane should not be placed to coincide with the concrete construction joints in the slab. Any penetrations, such as the piles and services, must be taped and the membrane completely sealed against the penetration. Care must also be taken where the membrane is being folded or bent to allow for changes in sub-slab elevation. If there is any doubt or question about this, particularly in the office and enclosed space areas, the contractor should be required to prove complete sealing of the membrane, e.g. by smoke testing.

The floor slab must be constructed in accordance with design specifications to minimise cracks in the slab. In addition, as discussed above, care should be taken to ensure that concrete joints do not coincide with membrane joints. Where this is unavoidable, additional measures should be undertaken to ensure the membrane is completely sealed and the concrete joint is also fully sealed.

The service pit must be completely sealed by the membrane and the precast concrete sealed as required. Extra care must be taken around the service penetrations and the sump to ensure that these do not provide for rapid movement of soil vapours into the service pit.

There is a small potential for anaerobic zones to form under the slabs as the minimum diameter is 20 m for the Office. Under the Office and Central Hub service trenches will be required for the provision of water, sewer and power. Consideration could be given to backfilling these trenches with a "no fines" gravel beneath the sand. Given the narrow width of the trenches, this is unlikely to affect the slab. Care would need to be

taken in ensuring that the trenches do not daylight under windows or ventilation and that the base of the trench is sloped to prevent water movement under the building.

### Conclusions

The potential for the proposed buildings to be affected by soil gas vapour is low. A site audit and remediation were undertaken approximately 10 years ago which limits the potential for volatile and semi-volatile compounds to be present on site in the proposed building area. Also, the Store and Workshop have adequate ventilation which will prevent the accumulation of vapours. The Central Hub and Office will be air conditioned, creating a positive building pressure, and also have raked ceilings which limits the contact of accumulating vapours with workers and opening windows.

There are measures that can be undertaken as part of the proposed building works to further reduce the potential for vapours to enter and accumulate within the buildings if off-site contamination migrates beneath the site. It should be noted that permeability of a membrane varies depending on the material and depending on the vapour. The fortecon membrane proposed is designed to prevent moisture and moisture vapour from entering the slab/building but by ensuring that the membrane is properly installed and particular care taken to minimise punctures and seal all joints, the risk of vapour intrusion in the future may be minimised. The measures which can be undertaken are:

- Utilise a thicker membrane if possible;
- Correct installation of the membrane beneath all slabs but with particular attention to the areas beneath offices within the Store and Workshop and the Central Hub and Office;
- Inspection of placed membrane for punctures with testing undertaken if required;
- Complete and thorough sealing at joints and penetrations in the membrane;
- Installation of the membrane beneath the service pit and sump and sealing of the pre-fabricated concrete.

Consideration can also be given to backfilling of service trenches with no fines gravel; however this should only be considered where appropriate as it is not considered a high priority.

It is recommended that Council:

- Communicate the importance of the membrane installation to the Contractor;
- Investigate the potential to use a thicker membrane;
- Undertake frequent and detailed inspections of the subgrade under the membrane and during membrane installation under the Office and Central Hub. Particular focus should be on the penetrations for services and overlaps, where tape may not have been completely fixed and evenly applied;
- Request testing be undertaken if there is reason to suspect the membrane has not been adequately sealed;
- Consider the potential for service trenches to be backfilled with no fines gravel.

### Statement of Limitations

The report is based on our interpretation of targeted information provided by Council and has been undertaken in accordance with good professional practice and current requirements. The results of this process are set out in this report and any conclusions we have made must be considered in this light.

The scope of the investigations is in accordance with current scientific understanding and standards applied by the relevant authority at the date of the report. It must be recognised that standards for environmental performance are regularly reviewed and the strategies indicated in the report should therefore be reviewed in the light of changing understanding and standards.

A qualified person should always be contacted to advise on any matters involving the interpretation of the groundwater monitoring report.

This report was prepared for the client, on the basis of agreed parameters. Tonkin Consulting takes no responsibility for any reliance a third party places on this report or any of its conclusions. If a third party wants to determine the environmental conditions of the site the services of an appropriately qualified expert should be retained.

If you have any further questions, please contact the undersigned on (08) 8273 3100.

Yours faithfully  
TONKIN CONSULTING

*MM Dutt*

Dr M SALT  
Principal Scientist

